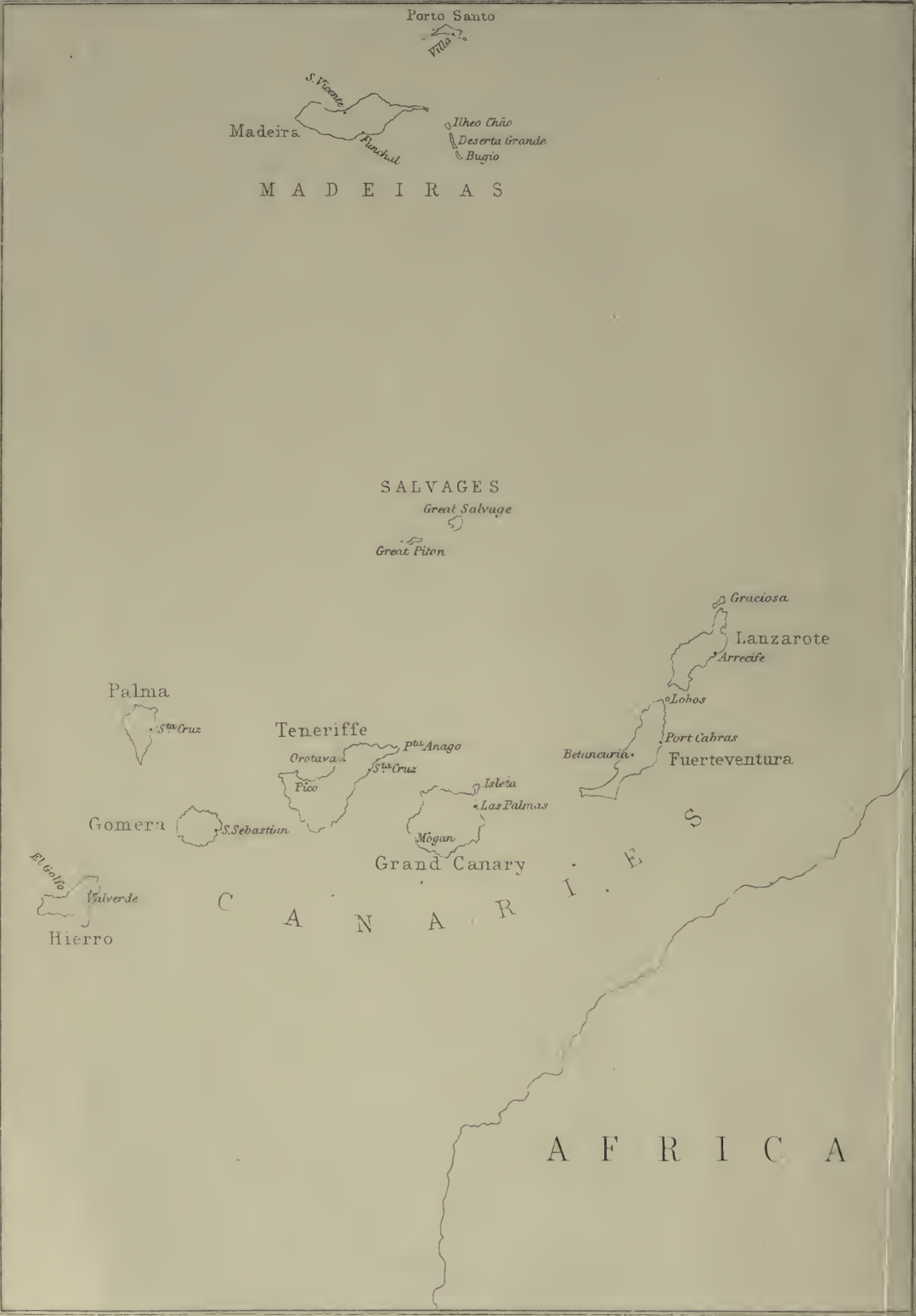




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Porto Santo

Villa

S. Vicente
Madeira
Punchal
Ilheo Chão
Deserta Grande
Bugio

M A D E I R A S

SALVAGES

Great Salvage
Great Piton

Palma

S^{ta} Cruz

Teneriffe

Crotava
Fico
S^{ta} Cruz
P^{ta} Anago

Gomera

S. Sebastian

Grand Canary

Isleña
Las Palmas
Mogan

Betancuria

Port Cabras
Fuerteventura

Graciosa

Lanzarote
Arrecife

Lobos

S

C A N A R I E S

El Golfo
Valverde
Hierro

A F R I C A

Zool.
Insecta

COLEOPTERA ATLANTIDUM,

BEING AN ENUMERATION

OF THE

COLEOPTEROUS INSECTS

OF THE

MADEIRAS, SALVAGES, AND CANARIES.

BY

T. VERNON WOLLASTON, M.A., F.L.S.



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TO

JOHN GRAY, ESQ., M.E.S.,

IN WHOSE YACHT I FIRST VISITED THE CANARIAN ARCHIPELAGO,
AND FROM WHOSE ZEAL IN THE CAUSE OF ENTOMOLOGICAL
SCIENCE I HAVE, AT VARIOUS TIMES, RECEIVED MUCH PRACTICAL
AID, THIS COLEOPTEROUS FAUNA OF THE ISLANDS WHICH WE
EXPLORED IS DEDICATED,

CORDE ET MANU.

P R E F A C E.

CONSIDERING that scarcely more than a year has elapsed since the publication (by the Trustees of the British Museum) of my volume on the Coleopterous insects of the Canaries, I should have been content to let the subject rest for awhile, had not the recent arrival of fresh material from those islands demanded my immediate attention. The material alluded to is the result of the late researches of the Messrs. Crotch; and it is so extensive and important, that I felt it would not be possible to do it complete justice without a thorough revision of the entire catalogue into which the new species would have to be incorporated.

With this somewhat tedious prospect before me, I began to consider whether it might not be desirable to take the opportunity of comparing critically, at the same time, *inter se*, *all* the Coleoptera which have hitherto been detected in those Atlantic Groups; for the Madeiran fauna had been steadily increasing since the appearance (in 1857) of my Madeiran Catalogue, and even the little rocks of the Salvages—so remote, and difficult of access—had been adding their *quota* to the general list. True it is that the greater number of the novelties thus gradually brought to light, both in the Madeiras and the Salvages, had been described by myself, from time to time, in our various scientific periodicals, and thus far there-

fore *secured*; but, in spite of that, there still remained a residuum which had not yet been examined; so that to bring together the species which were widely scattered over the Journals, adding to them these new ones, as well as those above referred to which had been obtained by the Messrs. Crotch in the Canaries, and to amalgamate the whole with the contents of my Catalogues already published—throwing it into systematic order, and correcting whatever might be necessary,—seemed worth the sacrifice, of time and attention, which a task so laborious could scarcely fail to involve.

In the present Treatise therefore I have endeavoured to gather up all that has yet been registered on the Coleoptera of these particular islands, fusing into it the additional matter accumulated by recent explorers, and revising the whole in accordance with the latest conclusions at which I have been able to arrive on the question of classification and affinities.

So far as my own work is concerned, although the elaboration of this volume has occupied but eight or nine months, its *subject-matter* may be said to have been in constant progress since the autumn of 1847—when I commenced my first sojourn at Madeira. Three prolonged visits in that island, undertaken at different periods of the year, supplied the basis for my ‘*Insecta Maderensia*,’ which appeared in 1854; and a subsequent residence there, during the summer of 1855, added to the material which was placed in my hands by various naturalists (including the Rev. R. T. Lowe, the late Mr. Bewicke, Senhor Moniz, the Barão do Castello de Paiva, Messrs. Leacock, Mason, Park, Ross, and others), enabled me to prepare a more complete ‘*Catalogue of the Madeiran Coleoptera*,’ which was published (by the Trustees of the British Museum) in 1857. It was at the close of that same year that my thoughts were first directed to the Canaries,—

my friend John Gray, Esq., having liberally offered to take me, in his yacht 'the Miranda,' on a cruise amongst the islands of that Group. Mr. Gray being equally anxious with myself to investigate the fauna, I felt that this proposal (which included likewise his valuable assistance in matters entomological) was not to be rejected; and accordingly in January of 1858 we reached our destination, and, after being joined by the Rev. R. T. Lowe (who was passing the winter in Teneriffe), began our researches in the Canarian archipelago, visiting the different parts of it in rotation. Although Mr. Gray's continuance with us was cut short by his desire to cross the Atlantic on his homeward route, I nevertheless remained in the Canaries until the following July; and, having become much interested in the result of a six-months' toil, I again left England, at the close of 1858, and spent from February to July of 1859 amongst the same islands—principally, as before, in company with Mr. Lowe.

On my return home in the summer of 1859, I commenced the almost hopeless operation of throwing into systematic order, and examining critically, every single specimen (some 20,000, at the very least) which I had accumulated during these two Canarian campaigns, as well as those which were amassed by Mr. Gray at the beginning of our first trip; and I had likewise the advantage of a few smaller collections, and types, communicated by Dr. Heer, M. Hartung, the Barão do Castello de Paiva, MM. Chevrolat, Schaum, Deyrolle, &c., from the continent. Yet, in spite of this vast amount of combined material, I found that there were some wide gaps in the *local distribution* of the several forms,—owing to certain islands, particularly Gomera, having been visited by us in comparative haste, and during the depth of winter; and it seemed, therefore, well nigh presumptuous to attempt

even an approximate Coleopterous fauna of the whole archipelago. It was at this juncture that my friend Dr. Crotch, with time and energy at his disposal, professed himself ready to be enlisted in a good cause, and to essay the difficult task of exploring Gomera more thoroughly. Consequently in the spring of 1862, having procured a tent and the necessary appendages, he set sail for the islands; and after a few months' residence, chiefly in Gomera but partly in Teneriffe, he brought back a noble memento of his labours—not only in an abundance of careful observations and most extensive material, but by his having added no less than 44 actual novelties to the entire Canarian list. With this great and valuable accession, therefore, from the exact department of the Group whence it was most needed, I felt myself better able to undertake my 'Catalogue of the Canarian Coleoptera;' and it was accordingly published in June of 1864.

I have been induced to go thus at length into the history of the material from which my recent Canarian Catalogue was compiled, in order to show more clearly the exact position in which I now stand with respect to the *data* which have accumulated since its appearance. Whilst its sheets were passing through the press, Dr. Crotch, accompanied this time by his brother Mr. G. R. Crotch (so justly celebrated as one of our most accomplished Coleopterists), was preparing for a second trip to the Canaries—with the intention of revisiting Gomera, and of exploring likewise the still more distant island of Hierro. It would have been useless for me to think of postponing my volume until their return; for it was already nearly in type, and moreover, having been undertaken for the Trustees of the British Museum, I was not at liberty to suspend its progress. But, true to their arrangements, the Messrs. Crotch divided the summer of

1864 between Teneriffe, Gomera, and Hierro,—returning, as indeed might have been anticipated from collectors so accurate and indefatigable, with a goodly booty. I will not venture to speculate on the number of specimens which they amassed; but it must have been more than *half* that of my own, which I estimated (*ore rotundo*) at 20,000. The *species* of course were not nearly so numerous as those which I myself met with—for they were obtained in only three islands, whereas mine were from the whole seven; nevertheless their researches were beyond all expectation successful—for, in addition to swelling out very considerably the *local lists* of the particular islands which they visited (as will be seen by a reference to the pages of this treatise), they increased the *entire fauna* by actually 77 species which had not until then been detected in the Canarian archipelago.

I will now only add that, whilst recording with gratitude the assistance I have received, in different ways, from numerous friends and correspondents, during the several years which have elapsed since my Atlantic labours were commenced, my especial acknowledgements are due, first,

To the Rev. R. T. Lowe—who has been my constant companion, since 1847, whilst encamping in many distant Madeiran localities, and sojourning (at intervals) in the various islands of both Groups, and without whose aid and local advice I could scarcely have attempted any general and continuous work; secondly,

To John Gray, Esq., in whose yacht ‘the Miranda’ I first visited the Canaries—a widely scattered archipelago, which, in all probability, I should never have explored had it not been for his liberality and zeal; and lastly,

To the Messrs. Crotch—whose invaluable and well-directed researches have been made to supplement my own with such

tact and judgment that I am enabled to fill up the exact deficiencies which were most conspicuous in the Canarian fauna ; and who, with characteristic generosity, have entrusted their entire material to my care, and have permitted me to describe their novelties in the Appendix of this volume.

Teignmouth, Oct. 25, 1865.

INTRODUCTORY REMARKS.

THAT the progress of our knowledge on the subject of geographical distribution is mainly dependent on the collecting of accurate *local data*, few will dispute; and when the field of research (however small) from which those data have been gleaned constitutes an entire country, circumscribed by physical barriers, and is not merely a portion of some larger one, its fauna will gather in significance. On this account it is that, for a certain class of naturalists, *islands* possess a charm which is peculiarly their own,—each one being in itself a kind of separate, miniature world, in which we may wander at large, observe, and speculate. Not that the “speculations” to which I would allude will often be worth much; but, constituted as we are, it is next to impossible not to indulge in them, and they certainly have the advantage of riveting our interest on these oceanic centres of creation; whilst the *facts* on which they rely, if carefully and honestly recorded, cannot but prove of real value, sooner or later, in the solution of some of the many intricate questions arising out of the diffusion of animals and plants.

The particular islands which have furnished the material for this Memoir, being many in number, would seem to have many corresponding points of interest—some of which suggest themselves almost intuitively. Such, for example, are their several degrees of similarity *inter se*, and dissimilarity, as evinced by the distribution of the species here enumerated; and not merely the relation (thus far) of the islands to each other in the three separate Groups, but also (which is much more important) of the *Groups themselves*. Then, again, there is the resemblance, or otherwise, of their entire fauna to that of southern Europe and northern Africa; also the proportion which appears to exist of *endemic* creatures (or those which there is the strongest reason for believing are confined exclusively to the islands); and, to what families these latter more especially pertain,—a question of eminent significance, when their modes of life are taken into account, as bearing on the primitive conditions of the various districts which

they inhabit. These, and others, are some of the many problems which a local Catalogue, if even approximately complete, should aid us in discussing. Perhaps however the greatest enigma of all on which the subject of the present volume, and the results therein arrived at, might tempt us to speculate, is the possibility of the Madeiras, Salvages and Canaries being in reality but the remaining portions of a vast continent which was broken up by some overwhelming catastrophe at a very remote epoch—but when *nevertheless* it was tenanted by the same forms which occur (in some instances slightly altered by isolation) on its now detached parts. But as this well-known theory, if referred to again, will be better placed towards the close of my Introductory chapter, I will not comment upon it here; but I will proceed to the consideration of some drier details, about which there can be no room for doubt.

General Statistics.—In the examination of the Coleoptera recorded in this work, I may state broadly, at the outset, that I have had but one object in view—namely, to arrive at the truth. Had I been anxious to augment the list, by straining, in the slightest degree, the importance of minute differences (which my better judgment led me to conclude were in reality the result of variation), I might have had abundant opportunities for doing so; but in each separate case I have tried to take into account all the evidence that was before me, and whilst in some instances comparatively obscure distinctions have seemed sufficient for indicating a true species, in others I have allowed the widest limits for aberration. As a general principle, this must be philosophical,—to any one who believes in species as they are commonly understood by that term; for they cannot all be *equally* plastic, and will therefore vary—each in its own way, and in precise accordance with its inherent capacity for external change. Hence, likewise, I have not failed to act honestly towards *supposed* species (when such happened to present themselves) which I had myself formerly described, but which further and more satisfactory material has since convinced me would be better treated as varieties, or insular states. In all cases where the latest evidence seemed to point towards an amalgamation of forms which I had assumed hitherto to be truly distinct, I have not hesitated to act upon it—whether the forms in question were originally named by myself, or by others*.

* The following, consequently, which until now I had regarded as true species, have been suppressed in this Catalogue: *Hydroporus Lyellii*, W.; *Myrmecoxenus sordidus*, W.; *Phlæxophagus affinis*, W.; *Hypera variabilis*, Hbst; *Bruchus*

It will be seen, on reference, that the total number of species which (so far as I am able to ascertain) have occurred up to the present time in *the whole of these Atlantic islands combined* is exactly 1449. After a careful computation, I find that (of these 1449 species) only 215 have *not* been taken by myself—in some part or other of the three Groups; whilst those which I believe to have been captured by myself *alone* (or which have escaped the *united* researches of the various other naturalists who have collected in different portions of the archipelago) amount to 325*. The 1449 species are distributed as follows:

Madeiras	661
Salvages	24
Canaries	1007

If the *species* enumerated in this volume amount (as just stated) to 1449, the number of *genera* into which they fall I have considered to be 423. Of the 1449 species, I believe that 935 were first described by myself (in different publications and papers), as well as 82 of the 423 genera. Nevertheless, although this be the case, it does not follow that the whole of the species and groups which I happen to have been the first to characterize are necessarily confined to the islands (though it is unquestionably true that the *greater portion* of them appear to be in that predicament); for many have since been detected in Mediterranean latitudes †.

As regards the species which are *exclusively* Atlantic (a somewhat difficult point to ascertain, except in the case of such *ultra-indigenous*

floricola, W.; *Criocephalus pinetorum*, W.; *Longitarsus consanguineus*, W., and *fractus*, W.; *Othius vestitus*, W.; *Platystethus fossor*, W.; and *Conosoma lividum*, Er.?

* I need scarcely add that, next to myself, the Messrs. Crotch secured by far the greatest number of species *which nobody else has hitherto met with in those islands*—namely, 102. The next in order is the late Mr. Bewicke, to whose exertions belong 22. Thirdly follow MM. Webb and Berthelot (concerning many of whose supposed captures, however, I consider that *further evidence is required*) and the Barao do Castello de Paiva, who number 11. Then comes the late Dr. Heineken, who obtained 8 (though most of them are, like those of MM. Webb and Berthelot, extremely doubtful as regards *habitat*). Then succeed Messrs. Leacock and Park, to each of whom pertain 5 which no other collector has yet fallen in with. Mr. Gray is answerable for 4; Senhor Moniz, and Dr. C. Wolff for 3; M. de la Perraudière for 2; and M. Hartung, Mr. J. J. Ross, Mr. F. A. Anderson, and Mrs. Phelps for 1. Those of MM. Webb and Berthelot and Dr. Heineken, which alone contain species of *unsatisfactory habitats*, will be noticed more particularly—further on.

† Only one new genus—namely *Ptinodes*—has been proposed in the present Catalogue, though the *names* of two others (*Nitpus* and *Eremotes*) have been changed; but no less than 75 species, now for the first time defined, have been established in its Appendix. Of these 75 novelties, 57 were found by the Messrs. Crotch.

forms as *Tarphius* and the *Laparoceri*), this appears to be the right place for a remark on which I would desire to lay considerable stress. Of the 1449 species here registered, it will be seen from the Topographical Index that 1039 (or all those in *italics*) are treated as peculiar to the islands, whilst the remaining 410 are looked upon as known elsewhere (chiefly in central and southern Europe, or northern Africa). I need scarcely add, however, that that number (1039) must be greatly reduced if we would gain an approximate idea of the species which are absolutely *endemic* in these oceanic Groups; for many of them will doubtless be found in Mediterranean countries, and a certain proportion may *possibly* be but geographical modifications of species (the names of which I have usually indicated within brackets, prefixing to them an \leftarrow) which are found in higher latitudes. Hence, the italics merely imply that *the species which are entered in that particular type have not hitherto been recorded, so far as I am aware, except for these islands*; but they do *not* indicate my belief that so large an amount of the species are *necessarily peculiar* to the archipelago*.

But since a very considerable number of the forms are most *unmistakeably* aboriginal—being either attached to particular plants which do not grow in other regions, or belonging to types which are manifestly insular, it seems desirable in a tabular catalogue to note all such by some simple mark; and I have, therefore, prefixed to them an asterisk (*). So that whilst *every* species which is italicized will bear the character imposed upon it (seeing that *I have not been able to ascertain* that it has hitherto been recorded elsewhere), and whilst also many *both of those which are italicized and those which are not* appear to be truly *indigenous*, it is only those to which an asterisk is additionally appended that I would regard as (*par excellence*) *endemic*, and therefore not likely to be found in any other country. The number of these last-mentioned species, which may be called “*ultra-indigenous*” (as being the very *αὐτόχθονες* of the soil), appears to be about 700. And hence we may arrive at the conclusion that, of the 1449 species which have been observed (up to the present time) in these three oceanic Groups, *nearly one-half*

* After the above explanation, it will not appear absurd that in a very few (exceptional) instances *even undoubtedly imported* insects (such as the *Rhizopertha bifoveolata* and the *Adelina farinaria*, which are probably American) should be inserted in italics. The fact is, I have no means of knowing *absolutely* that they have yet been met with in any other country; and therefore I had no choice but to italicize them. Yet it is quite certain, nevertheless, that they do *not* belong, in reality, to the Atlantic fauna at all.

would seem to be *peculiar to the province* of which the several islands are detached parts.

If we turn to the tabular list given at the end of this volume, it is interesting to remark that the larger *Sections* into which the Coleoptera are usually supposed to be subdivided retain pretty much the same *relative* proportions (*inter se*) in the Madeiras and Canaries. Thus, in both instances, the *Rhynchophora* (or weevils) take the lead, whilst the *Eucerata* (or Longicorns) occupy the lowest place, and the *Hydradephaga* (or water-beetles) *nearly* the lowest. The other great Divisions (nine in number) change places a *little* in the two Groups; but the alteration is very slight and unimportant, and leads to no general results worth taking into account. But the wonderful prevalence of the Curculionids in all the islands is a salient fact; whilst the extreme scarcity of the *Cerambycidae*—of which I consider that only ten exponents *which are unquestionably indigenous* have yet been brought to light, though (including those which are naturalized) 22 have been admitted into the present Catalogue—is equally remarkable. This being the case, there is little to be said concerning the *difference* presented by the relative proportions of the primary Groups of the Coleoptera in the Madeiras and Canaries respectively—seeing that in both clusters they follow each other in nearly the same order; and therefore I need not occupy space by the insertion of two separate lists, compiled to show this at a glance. But the annexed Table will indicate the numerical development of the different Sections in the *entire archipelago*:

<i>Rhynchophora</i>	282
<i>Necrophaga</i>	219
<i>Brachelytra</i>	215
<i>Geodephaga</i>	188
<i>Heteromera</i>	172
<i>Priocerata</i>	135
<i>Phytophaga</i>	64
<i>Cordylocerata</i>	64
<i>Pseudotrimeria</i>	30
<i>Philhydrida</i>	29
<i>Hydradephaga</i>	29
<i>Eucerata</i>	22
	<hr/>
	1449
	<hr/>

After what has just been said concerning the very great *relative correspondence* (in numerical development) of the 12 primary Sections of the Coleoptera in the Madeiras and Canaries respectively, we should

anticipate that there would be a marvellous similarity in the actual faunas of the two Groups—particularly when we recollect that their physical conditions are nearly alike, and that the distance which separates them is but trifling. And, accordingly, it will be found that the *genera* are, on the whole, pretty much the same in both archipelagos; for although the more extensive list furnished by the Canaries naturally includes within it many well-known forms (such as *Nebria*, *Carabus*, *Silpha*, *Hispa*, *Zophosis*, *Tentyria*, *Pimelia*, *Cossyphus*, and *Ocypus*) which are absent from Madeira, the types which are most esoteric, or peculiar, do decidedly permeate the entire archipelago—giving it a *unity of character* which it is impossible to mistake. And yet, in spite of this, if we descend lower in the scale, and look to the absolute *species*, it is surprising to find that *their* coincidence falls far short of what we should have been led to expect from the above considerations; for whilst (as already stated) the number which has been observed in the Madeiras is 661, and in the Canaries 1007, only 238 have yet been detected which are common to the Groups. Moreover *even of that* number there are exactly 38 which we may properly deduct, as being (like the *Carpophili*, *Silvani*, *Sitophili*, *Alphitobii*, *Gnathoceri* and *Tribolium*) *unmistakeable* importations through the medium of commerce, and which therefore have no real connexion with the Atlantic fauna; in which case there will remain but 200 belonging equally to the Madeiras and Canaries. How we are to interpret this remarkable fact I will not now stop to conjecture; but I may perhaps have occasion, further on, to allude to it again*.

Local Statistics.—In investigating the natural history of an oceanic Group, it should be borne in mind that we have a far more intricate task to achieve than if our field of research had been a continuous land. In the latter case, it is but a *single* (though more or less pro-

* After discarding the 38 species above referred to, which have *without doubt* been introduced through human instrumentality (as indeed is the case with them in almost every country of the civilized world), it is marvellous to note how few there are even of the remaining 200 which I should regard as positively endemic. In fact no less than 66 of these, there can be little question, must have been naturalized within a comparatively recent period; and even the 134 to which we are thus ultimately reduced contains but a small proportion which are purely "Atlantic,"—the majority of them being found equally in Mediterranean countries. So that the actual *species* which range over the entire archipelago would appear to be not only few in number (compared with the extent of the Madeiran and Canarian faunas), but also *on the whole* commonplace,—and that, too, whilst the most peculiar and characteristic *genera* in the two Groups are absolutely identical.

longed) operation with which we are concerned; for the fact of a species having been found *once* in any part of a given country, is sufficient for its name to be entered into that country's fauna. But when it is an archipelago that we have to deal with, instead of an unbroken tract, a Catalogue (if it is to be worth anything, in point of accuracy) must not only record the united productions of the whole, but likewise those of each individual part; and the labour will consequently be increased, in proportion to the number of islands which it is our duty to examine. Nor is the question materially affected whether the latter be extensive or minute, for the real difficulty lies—not so much in prosecuting our researches on them when there as in *reaching them at all*, and that, too, *sufficiently often* to enable us to gain a knowledge of what is found in them at different seasons of the year. Each island is, literally, a *country in itself* (whether large or small), and must be investigated separately,—the commonest species of each having to be added up with as much care and veracity as if that particular island were the only one we had to ransack; and when we consider that, in the present instance, some of the islands are well-nigh inaccessible, and that their extremes are removed from each other by at least 400 miles of stormy ocean, it will be admitted that I do not exaggerate the difficulty which a thorough exploration of the whole of them must of necessity involve.

In the Atlantic clusters which have supplied the material for this monograph, the islands (exclusive of *mere rocks*, which of course cannot be taken into account) are 14 in number; and some of the uninhabited ones are so dangerous to approach that they are scarcely accessible during the winter months. In the case however of the three Desertas of the Madeiran Group, I think that there is no real need to enumerate the species of each of them *separately* (although I *have* done so, nevertheless, and have used the utmost caution in preventing an intermixture); for not only are the islands exceedingly small, so that they could not *singly* be contrasted with the others in the archipelago, but they are likewise so *barely* separated *inter se* that they form a little system of their own, and there can be no possible doubt that they were once united. Perhaps, too, the same might be said of the Salvages; for although *they* are removed from each other by as much as nine or ten miles, the distance is but slight compared with that which isolates them from the Madeiras and Canaries; whilst, as in the instance of the Desertas, their area is so diminutive that we may well be permitted to treat *them* also as one—at any rate until we have acquired a more perfect knowledge of

their fauna. Hence, for the above reasons, and in order somewhat more to *equalize* the different portions of these widely scattered Groups, we will regard the Desertas and Salvages (*each*, collectively) as *one*; in which case the following list will show the exact number of species which have been observed, up to the present date, in the several islands (as thus understood) of the whole archipelago*.

Observed in Madeira proper	598	
————— Porto Santo	160	
————— Northern Deserta 22	} Desertas	87
————— Central ——— 77		
————— Southern ——— 35		
————— Great Salvage .. 20	} Salvages	24
————— Great Piton.... 5		
————— Lanzarote	277	
————— Fuerteventura.....	261	
————— Grand Canary	341	
————— Teneriffe	578	
————— Gomera	396	
————— Palma	258	
————— Hierro	224	

It will be seen that these numbers are very much in accordance with the relative sizes of the islands, and their greater or less fertility; though doubtless they have also been regulated, in some degree, by the fact of certain of them having been better explored than others. And after what has already been stated on the extreme difficulty of filling up the *local lists* of each separate island in so large and scattered an assemblage, I need scarcely repeat, what I insisted upon in my late Canarian Catalogue, that, although of course the faunas of the different islands are *to a great extent* composed of species which are common to them all, nevertheless, so far as the *labour of observation* is concerned, the whole of these numbers (which amount, in the aggregate to 3252) might have represented distinct species! So that when we further recollect that every unit of that number corresponds to the positive assertion of some *habitat-island*, accurately ascertained, and is independent of the *particular localities within the island* (which are recorded for each, either in this or my other volumes), it will be perceived that the “3252” is really the exponent of a vast amount of solid work. In spite of this, however,

* Although it has seemed desirable to treat the Desertas and Salvages in the collective way that I have done, nevertheless, for the sake of accuracy, I have given *likewise* the number of the species which have been met with hitherto on each of the small islands which compose them.

there is yet much to be done in all the islands, though unquestionably *less* in Madeira proper and Teneriffe (which have been comparatively well ransacked) than in any of the remainder. The only ones which I have not myself visited are the Salvages; for although a landing was attempted there by Mr. Gray and myself, from his yacht, in January 1858, the sea was running so high at the time, and the rocks are so dangerous, that we could not accomplish it, and had to pass on to the Canaries. But their area (even combined) is very small, and it can hardly be expected that many species will be found on them. Still, the few that *have* been obtained from thence (hitherto only by Mr. Leacock, of Funchal, and the Barão do Castello da Paiva) I am bound to add are most interesting and significant; and I can but express a hope that some enterprising naturalist may yet arise to take them specially in hand—following the example of the Messrs. Crotch, who so nobly investigated Gomera.

Importance of accuracy.—Before proceeding further, I may perhaps be permitted to call attention to the paramount importance, in preparing a Catalogue like the present one, of the most *perfect truthfulness* on the question of *habitat*. Hence it has been my endeavour to use the greatest possible caution in filling up the lists of the separate islands, and to admit no species into them which rested upon unreliable evidence. In the majority of cases where an insect has been communicated to me with the name of an island appended to it which I had reason to regard as loose and untrustworthy, I have preferred the omission of the species from that island's fauna to the risk of a possible error,—seeing that a mere omission is but trifling, whereas a fault of *commission* would place permanently upon record a serious topographical blunder. If, in spite of this, however, I have in a very few instances conceded a species to an island upon evidence which did not *completely* satisfy me, it will be observed that these exceptional cases are always guarded either by a note of interrogation or an express statement of the authority on which their insertion depends.

This absolute necessity for accuracy (on the subject of localities), in a topographical enumeration, compels me to advert to the grievous want of it displayed by several of my continental correspondents who have from time to time forwarded to me their material. It is chiefly from Paris that the specimens to which I now allude have been sent; and it really does appear as if the label "Teneriffe" was the only one, for Canarian species, that ever suggested itself to our well-intentioned

entomological neighbours. Almost without an exception, the insects of that archipelago which I have hitherto received have been embellished with this universal ticket; yet there is nothing of which I am more sure than that a large proportion of them were never found in Teneriffe at all—being in point of fact from one of the two eastern islands of the Group, Lanzarote and Fuerteventura, where the fauna is unmistakably characteristic, and possesses more of an African element than is the case elsewhere. But these Coleoptera are nevertheless communicated as unquestionably “Teneriffan,” and circulated throughout Europe as such—probably for no better reason than that they had been received from some careless amateur who *made his head quarters* in Teneriffe, and who did not think it worth while to preserve a record of the exact islands whence his material was obtained. And thus a geographical error is at once established in collections, which no amount of after-protest (from those who have studied the distribution *in situ*) can hope to neutralize. It may perhaps be urged that a blunder of that sort is simply inevitable, on account of the specimens having been received as nominally coming from Teneriffe; but I reply that it was the duty of those to whom they were first consigned to sift the evidence for the *habitat* before reasserting the latter in positive terms, and if they found it (as, in this case, they manifestly would) to be untrustworthy, *not* to stereotype them as Teneriffan—but to call them, merely, “Canarian.” This latter would have been perfectly correct, and it entirely satisfies the ordinary requirements of naturalists; whereas the former is absolutely untrue, and perpetuates a falsehood. I am fully aware that these remarks will make no practical difference in their mode of labelling; but is it too much to ask of such Coleopterists whether the omitting to point out some *exact locality*, or island (which is seldom *required to be known*), ought not to be preferable to a downright misstatement?*

The ‘ Histoire Naturelle des Iles Canaries. ’—But before dismissing my plea for accuracy, I feel bound to say a few words, also, on the strange absence of it, so conspicuously exhibited, in the meagre list of Coleoptera (numbering but 179 species!) which was prepared for the ponderous Canarian work of MM. Webb and Berthelot. In the

* On one occasion I received from a Parisian correspondent an Heteromerous insect even from the *Cape de Verdes* (a most unmistakable species, which is quite peculiar to those islands) with the eternal label “Teneriffe” fastened to it! But this *quasi-habitat*, however much insisted upon, was really too ridiculous to do any permanent harm to the cause of entomological geography.

marvellously loose manner in which that list is strung together, as well as in the wrong determination of nearly every species which was not treated as new, in its entire freedom throughout from a single remark of either local or scientific interest, and in its complete silence on the great subject of *habitats*—so essential to every fauna, particularly one which treats of an island-Group, it is perhaps unequalled by any Catalogue (of like pretensions) on record. True it is that the material which sufficed for compiling it was about as poor and unsatisfactory as material could well be; but still, bad as it was, it might have been done more justice to than was the case; for when I examined the specimens in Paris I observed that nearly all of them had the names appended of their *particular islands*, whilst there were many small species amongst them which are not even alluded to in the published list. Moreover I have elsewhere recorded my belief that a few *even of these* 179 species are not Canarian at all, but were brought from Madeira by Mr. Webb, and that others were most likely either obtained from the opposite coast of Morocco or else were captured alive in some of the many trading vessels which ply between the Canarian islands and Mogadore*. And I may further add that this suspicion is supported by the otherwise almost inexplicable fact that the very small collection of MM. Webb and Berthelot contains at least eleven species (after disposing of a few others whose presence as “*novelties*” merely consists in their being *wrongly identified*) which are totally unrepresented in the enormous masses of material, numbering upwards of 30,000 specimens, which have been taken subsequently in the same field of research, and which have passed through my own hands. This compels me to look with distrust on at all events *some* of these eleven species—about seven of which are common European ones. Their names are as follows:—*Dytiscus circumflexus*, F.; *Berosus spinosus*, Stev.; *Attagenus pellio*, L.; *Ootoma obscura*, Br.; *Hesperophanes roridus*, Br.; *Clytus Webbia*, Br. (probably a variety of the *C. 4-punctatus*, F.); *Mononyx variegatus*, Br. (perhaps an *Acalles*); *Tentyria interrupta*, Lat.; *Pimelia fornicata*, Hbst (cited as the *P. obesa*, Sol.), and *sparsa*, Br.; and *Ischnomera melanura*, L. (quoted under the title of “*Dytilus rufus*, Fisch.”). I have nevertheless admitted these eleven species into the fauna, though in each case my reasons for doing so are published; and I have sufficiently guarded myself from recognizing them as positively Atlantic until further material has been brought to light. There are four, however, recorded by

* Cf. ‘Cat. Can. Col.’ *passim*, but especially pp. 8, 55, 438, and 469.

MM. Webb and Berthelot, which I have altogether rejected ; though perhaps they might have been allowed to enter the list *on the same footing with the remainder*—the evidence in each case being equally bad. They are the *Cicindela nilotica*, Dej. ; *Colaspis barbara*, F. ; *Erodius europæus*, F. ; and *Akis acuminata*, F.,—which are nevertheless alluded to, in foot-notes, in their proper places. I really cannot take into account the *Clytus griseus*, which figures, *in addition* to the *C. Webbia*, in MM. Webb and Berthelot's catalogue,—because the *griseus* is acknowledged to be a mere variety of the *4-punctatus*, to which species it seems probable that even the *C. Webbia* equally pertains ! And as it appears likely that there is no *Clytus* at all which is absolutely Canarian, I think that if *one* of these two are admitted on the very questionable evidence of Mr. Webb (*cf.* 'Cat. Can. Col.' p. 390, note), it is quite as much as ought to be ventured upon*.

Dominant Forms.—Reverting to the statistics, it may be interesting to note what the particular forms are which are most dominant throughout the archipelago, as well as a few of those which would seem *par excellence* to be characteristic of certain parts of it. And when the great preponderance of the weevils (to which I have already called attention) is taken into account, we perhaps shall not be surprised that one of the primary features which meet us at the outset should consist in the extraordinary development of some closely allied types of the *Curculionidæ*. It is the subfamily *Laparocerides* to which I refer,—a group which is not only monstrously expressed (though under different species, and slightly different *genera*) both in the Madeiras and Canaries, but one likewise which is so essentially *Atlantic* that the *whole* of its exponents (in these islands) which have

* Some of the above remarks may be applied with equal justice to 8 species of a still smaller collection, which was formed in Madeira by the late Dr. Heineken ; for although I do not doubt that they were really obtained in that island, I suspect nevertheless that all of them (except perhaps *one*—the *Cholovocera Maderæ*) were mere accidental importations from more northern latitudes. And in entire accordance with this hypothesis is a note which was communicated by the late Mr. Bewicke,—who ascertained from a merchant resident on the spot the positive fact that at any rate a few insects were once captured amongst some foreign timber, in a yard on the Funchal beach, and were given to Dr. Heineken ; and that another was found on the roof of the Cathedral, which is situated immediately behind the custom-house. The following are the names of these 8 (more or less doubtful) species of Dr. Heineken—which nobody else has since met with in Madeira, and six of which it will be perceived are ordinary European ones :—*Gyrinus natator*, L. ; *Cholovocera Maderæ*, Westw. ; *Chasmatopterus nigrocinctus*, W. ; *Crioceris asparagi*, L. ; *Gastrophysa polygoni*, L. ; *Cassida nebulosa*, L. ; *Coccinella 14-pustulata*, L. ; and *Tenebrio molitor*, L.

hitherto been detected, amounting to no less than 57, appear to be absolutely endemic! Of these 57, 19 are found in the Madeiras, and the remaining 38 in the Canaries. Of the 19 Madeiran ones, 15 belong to my genus *Atlantis*, and only 4 to *Laparocerus* (even whilst merging *Cyphoscelis* into the latter); whereas of the 38 Canarians, 33 are *Laparoceri*, and merely 5 are *Atlantides*,—from which it follows that *Atlantis* may be regarded as almost exclusively Madeiran, and *Laparocerus* proper as Canarian*.

After *Laparocerus* (and its attendant satellites, *Atlantis* and *Cyphoscelis*—which perhaps ought scarcely to be treated as more than subdivisions of it), the genus *Homalota* has the largest number of exponents—namely 43; but as I believe that the majority of them will be found ultimately to be common European ones, and since these minute Staphylinids are eminently liable to become diffused (by human and other agencies) over the civilized world, I lay but little stress upon this fact. The next in order, however, is most significant and wonderful; for it seems barely credible that the group *Acalles*, of which about 27 species only have as yet been detected in the whole of Europe, should (in conjunction with the closely allied genus *Echinodera*) possess as many as 36 in these Atlantic islands! True it is that some 4 or 5 of them have hitherto been so imperfectly examined (on account of the deficiency of material) that I can scarcely regard their diagnoses as altogether satisfactory; nevertheless I do not believe (so long as slight permanent differences, in sculpture and colouring, are looked upon as necessarily specific) that that number can ever be much reduced, *unless* certain *representative* forms in the Madeiras and Canaries be considered but modifications (brought about by isolation, or local influences) of single species which were aboriginal. For my own part I am inclined to suspect that the real clue to this extraordinary number of apparent species may reside in the fact that insular phases *have* in many cases been matured from primeval types; for the genus *Acalles* seems to be emphatically “sportive,” or subject within reasonable limits to external change. But there is perhaps no Coleopterous group in this entire archipelago which, so far as my own observa-

* So *local* are these 57 exponents of the subfamily *Laparocerides*, or so restricted to their particular islands (and even districts), that I *believe* there is no single instance of any one of them occurring *both* at the Madeiras and Canaries; for although it is true that I have queried for the latter Group the *Laparocerus morio* (which is so abundant throughout the Madeiran archipelago), I nevertheless cannot but feel a suspicion that some mistake may have arisen concerning the *habitat* of the Baron Paiva's two examples of it, which (up to the present time) are all the evidence for its admission into the Canarian fauna.

tions would imply, is altogether so difficult, and concerning which therefore we have yet *so much to learn*, as *Acalles*; and I must consequently be content to leave some of the problems which it suggests unsolved, and will merely refer to certain remarks which I have made on that subject at p. 270 of this work*.

Scarcely less numerous than *Acalles*—in reality perhaps more so (for there must be many still undetected)—are the species of that singular genus *Tarphius*, which (so far as yet brought to light) amount to 34. On the whole, indeed, I should look upon the *Tarphii* as emphatically the *most* characteristic of all the Coleoptera in this widely scattered archipelago, at any rate of those which constitute an extensive generic assemblage; for not only are they (in every instance) unmistakeably *endemic*, and apparently adapted to the particular regions which contain them, but likewise so sedentary and phlegmatic in their modes of life, and so circumscribed in their several areas of diffusion, that it is impossible to resist an inquiry as to what the particular offices may have been which they were originally destined to fulfil in the economy of those remote and elevated sylvan districts which they would seem (almost solely) to inhabit. Though not absolutely peculiar to the islands—for a single representative occurs in the south of Europe, and a second has lately been found in Algeria—there can be little doubt that the Atlantic province of which these Groups are now the detached parts was the great primeval centre whence the *Tarphii* emanated, and to which, in point of fact, they are even still principally confined.

Helops likewise is very largely expressed, and perhaps also more difficult to investigate satisfactorily than even *Acalles*. As in the case of the latter, it seems to be preeminently “sportive;” so that we are often left in doubt as to whether forms which appear, in particular districts and elevations, to be tolerably well-defined are more in reality than local states of species which are plastic and widely spread. Still I believe that there are but few (not more than about five) of those here enumerated which will be likely to have their specific claims called in question; and since it is most improbable that *all* the Atlantic representatives have yet been brought to light,

* Although *often* self-evident, these “representative” species (not only in *Acalles*, but likewise in various genera) are frequently so doubtful that I have thought it safer *not* to attempt to indicate them *universally* in my Tabular Catalogue, lest too much stress should be laid on the subject, and my conclusions should consequently be relied upon too confidently by those who are not disposed to take the trouble to examine for themselves. I have always, however, alluded to them, where the evidence seemed to warrant it, in the body of the work.

I think that the number which I have recorded, namely 27, will not be found, although thus large, to have been exaggerated.

Still more remarkable than *Helops*, because usually less developed in southern countries, is the genus *Calathus*—of which as many as 23 exponents have already been met with. It is however in the Canaries that the *Calathi* are most dominant, no less than 19 of the above number being peculiar to that archipelago. After *Calathus*, the small flower-infesting Malacoderms comprised in the genus *Attalus** are (as observed hitherto) the most numerous—as many as 22 species of them, chiefly Canarian, having been detected. Then follow *Hegeter*†, *Longitarsus*, and *Dromius*‡, each of which is represented by 20 members. The first of these, indeed, namely *Hegeter* (which is principally Canarian), is, like *Helops*, a very puzzling group—the species being singularly variable, and difficult to define. That there are at least, however, ten forms amongst them which were aboriginal I have little doubt; but whether the remainder are more than races, well expressed in the central parts of their several districts but shading off towards the upper and lower limits of them, I consider very questionable.

So far as has been ascertained up to the present date, *Apion* and *Philonthus* have each 18 exponents, a large proportion of which however I believe to be mere introductions from higher latitudes. *Arthrodes* and *Anthicus* have 15, the former representing in the Canaries (to which it seems to be confined) *Erodius* of Mediterranean countries. Of *Trechus*, *Bembidium*, and *Aphanarthrum* 14 species have been brought to light; but of the last—which is an exceedingly interesting little assemblage of minute *Euphorbia*-infesting wood-borers, widely diffused over these various Atlantic islands (to which, apparently, it is peculiar)—we may expect to meet with many others, as yet undetected. In less important genera, *Pterostichus* and *Saprinus* are represented by 13 species; *Hydroporus*, *Sphæricus*, and *Pimelia* (which last does not occur in the Madeiran Group) by 12; *Acrotrichis* (i. e. *Trichopteryx*), *Atomaria*, and *Corticaria* by 11; *Anobium*, *Scymnus*, and *Lithocharis* by 10; *Tarus*, *Cryptophagus*, *Aphodius*, *Lichenophagus*, *Ocypus*, and *Trogophlœus* by 9; and *Liparthrum*, *Caulotrupidis* (a Madeiran group of Phlœophagous *Curculionidæ*), *Lixus*, *Haltica*, *Coccinella*, and *Aleochara* by 8.

* I include *Pecteropos* amongst the *Attali*.

† With *Hegeter* I include *Thalpophila* and *Gnophota*, which are scarcely more than subgeneric groups.

‡ I regard *Dromius* as including *Blechrus* and *Metabletus*.

Deficiency of certain Types.—Although particular genera, which I have just alluded to, are largely indicated throughout the archipelago—a proportion of them being actually endemic, whilst others (such as *Tarphius* and the *Laparocerides*) appear merely to attain their maximum in these various islands—there are nevertheless some striking *deficiencies* in the fauna, consequent on the absence of many well-known and familiar groups. It is mainly, however, in the Madeiras that these *gaps* are noticeable; though I think, perhaps, that the much less extensive surface afforded by the component parts of that cluster, as compared with the Canaries, may supply at all events a *partial* clue to what might otherwise be difficult of explanation. Thus, the great division of the thalero-phagous, flower-infesting Lamellicorns (better known as the Cetoniads, and their allies), although with about ten representatives in the Canaries, seem to have no existence in Madeira; for the unique *Chasmatopterus nigrocinctus*, on the strength of which I originally admitted it into the fauna, is unique still (after a lapse of 18 years), and I have little doubt therefore that it was accidentally imported from some other country. Then, in Madeira proper the monstrous family *Elateridae* appears to have no place; and indeed in the entire Madeiran Group the little *Coptostethus femoratus*, found under stones in Porto Santo, and of excessive rarity, is (so far as observed hitherto) its sole exponent. Even in the Canaries the *Elateridae* are but feebly shadowed forth,—a small assemblage of species, closely simulating each other, and which I have referred to the Porto-Santan genus *Coptostethus*, being all that has yet been brought to light. I have elsewhere recorded my belief that the insertion, by MM. Webb and Berthelot, of the *Cicindelidae* into the Canarian list rested on insufficient evidence; and if this should prove to be the case, that widely-scattered family has not so much as a solitary witness throughout this whole archipelago; for in the Madeiran Group I am quite satisfied that it does *not* occur. In the *latter*, also, the *Buprestidae* are but faintly traceable—their presence being vouched for, *only*, by a unique (but truly indigenous) *Agrilus*, which I captured during the summer of 1855; though in the Canaries, on the other hand, six species have been met with. Amongst certain commonplace genera which seem to be omitted in Madeira, but which have full play on the larger area presented by the Canaries, I may call attention to the following: *Nebria*, *Carabus*, *Silpha*, *Hispa*, *Zophosis*, *Tentyria*, *Pimelia*, *Cossyphus*, and *Ocyppus*.

Anomalous Forms.—Although a considerable majority of the forms which are preeminently *significant*, or characteristic of this Atlantic province, are members of largely developed groups (such as *Laparocerus*, *Atlantis*, *Hegeter*, *Helops*, *Acalles*, and *Tarphius*), the most *anomalous* ones, as indeed might be anticipated, are *not* usually referable to extensive genera—being far oftener single species, for the reception of each of which a separate genus has been founded. Arranged according to the amount of their peculiarity, or departure from the nearest known types to which they respectively approximate, I may call attention to the following 15 which display unusual eccentricity of structure; and I have added, after each, the names of the families to which they severally belong: *Onycholips* (Curculionidæ), *Aglycyderes* (Anthribidæ?), *Cossyphodes* (Colydiadæ?), *Triotemnus* (Tomicidæ), *Stereus* (Anisotomidæ), *Euxestus* (Erotylidæ), *Xenonychus* (Histeridæ), *Xenorchestes* (Anthribidæ), *Xenoscelis* (Cucujidæ), *Lipommata*, *Pentarthrum*, *Torneuma*, and *Echinosoma* (Curculionidæ), *Casopus* (Ptinidæ), and *Pseudanemia* (Trachyscelidæ).

Blind Species.—Considering that blind insects are decidedly scarce in the order Coleoptera, we may be said to have a rather large number of them in these Atlantic islands,—no less than 22 species having been detected, the eyes of which are either totally absent or else so rudimentary and imperfect that they must be practically useless. The genera in which the organs of sight appear to me to be absolutely non-existent are *Anommatus*, *Thorictus*? (represented by four species), *Lipommata*, *Onycholips*, and *Torneuma*; whilst those in which they are exceedingly abortive, or nearly obsolete, are *Cossyphodes*, *Cholovocera*, *Xenonychus*, *Metophthalmus* (5 species), *Pentatennus*, *Mesoxenus* (2 species), *Pselaphus palpiger*, and *Achenium subcæcum*.

Ants'-nest Species.—So far as observed hitherto, the Coleoptera which are associated normally with Ants do not appear to be very numerous in these island-Groups; but this may be partly due to the nests of the latter not having been sufficiently examined, and at the proper seasons of the year. The principal ones are the four *Thoricti*, *Cossyphodes*, and *Sunius formicarum*; but it is likely that many of the smaller species enumerated in the present volume may, in reality, be more abundant in such situations than elsewhere; and we may expect, also, that the hitherto unique *Cholovocera Maderæ* will be found eventually to be of myrmecophilous habits.

Sand-infesting Coleoptera.—Seeing that the whole of these Atlantic Groups are of volcanic origin, and more or less mountainous in character, we should not anticipate the existence of those particular localities which are favourable for species of sand-infesting habits; and accordingly in most parts of the archipelago (as, for instance, the central and western ones) we find but few traces of them. Yet there are districts, nevertheless, towards the *east*, both in the Madeiras and Canaries, which present all the conditions supposed to be necessary for creatures of that peculiar mode of life, and which so far resemble the low and sandy tracts on the opposite coast of Morocco as to introduce a sub-African element into the fauna. Such regions as these constitute a very significant feature, not only in Porto Santo (where the beds of calcareous sand which undulate around the base of the mountains are sometimes extensive), but likewise in Lanzarote, Fuerteventura, and Grand Canary, in each of which there are districts bordering upon the sea-shore which are entirely covered with loose drifting sand—often accumulated into hillocks and slopes of considerable dimensions, and more or less studded with such few plants as are able to maintain themselves in those arid wastes. We may therefore, for the sake of accuracy, class under the two following heads the species of the particular districts in question (each of which, in a *general* way, differs somewhat from the other:—(1) those which occur (beneath marine *rejectamenta*, &c.) along the edges of the sea, or in *other brackish spots*, and which are principally of subsaline habits; and (2) those which are found *either* on the dry sandy hillocks and ridges which commence behind the actual beach, and which often extend to some little distance inland, or in the calcareous localities which are situated for the most part at a distinctly higher (though seldom at a very high) elevation, and in which the triturated sand is liable to become deposited in the inequalities, or depressions, of the exposed weather-beaten surface. Although the regions which I would thus define are apt to merge into each other, they are nevertheless, in a broad sense, so opposite in character that what I term the “*sand-infesting Coleoptera*” could scarcely be enumerated satisfactorily without some rough explanation (such as the above) concerning the nature of their respective *habitats* having first been given; and therefore in the subjoined list I have added the numbers (1) and (2), according as required, after each of the species, so as to afford an idea (occasionally, however, only approximate) of the *kind* of places in which the latter are normally to be found. The 13 which

I have inserted in italics have been met with likewise, at Mogadore, on the opposite coast of Africa; and I may state that the little which has yet been brought to light from the sandy tracts along the western shores of Morocco seems to have so much in common with the species which characterize the lower districts in the eastern islands of these Atlantic Groups that it is impossible not to regard it as a portion of the same fauna*.

<i>Scarites gigas</i> (2).	<i>Baris sellata</i> (2).
<i>Dyschirius armatus</i> (1).	<i>Tychius robustus</i> (2).
<i>Masoreus arenicola</i> (1, 2).	— <i>aridicola</i> (2).
<i>Pogonus salsipotens</i> (1).	<i>Gronops lunatus</i> (2).
— <i>Grayii</i> (1).	<i>Rhytidorhinus brevitarsis</i> (2).
<i>Dichirotrichus levistriatus</i> (1).	<i>Thylacites obesulus</i> (2).
<i>Aëpys gracilicornis</i> (1).	<i>Sitona punctiger</i> (2).
<i>Tachys scutellaris</i> (1).	<i>Epilachna 4-plagiata</i> (2).
— <i>centromaculatus</i> (1).	— <i>bella</i> (2).
<i>Cercyon littorale</i> (1, 2).	<i>Lithophilus deserticola</i> (2).
<i>Acrotrichis fucicola</i> (1).	<i>Zophosis bicarinata</i> (2).
<i>Ptenidium punctatum</i> (1).	<i>Arthrodes subciliatus</i> (2).
<i>Acritis punctum</i> (1).	— <i>subcostatus</i> (2).
<i>Xenonychus fossor</i> (2).	— <i>costifrons</i> (2).
<i>Saprinus lobatus</i> (2).	<i>Tentyria Brullæi</i> (2).
— <i>erosus</i> (2).	<i>Melanochrus Lacordairii</i> (2).
— <i>apricarius</i> (2).	<i>Pimelia granulicollis</i> (2).
— <i>mundus</i> (2).	<i>Sclerum asperulum</i> (2).
— <i>angulosus</i> (2).	<i>Opatrum oblitum</i> (2).
— <i>minyops</i> (2).	<i>Halonomus salinicola</i> (1, 2).
— <i>ignobilis</i> (2).	<i>Pseudanemia brevicollis</i> (2).
— <i>nitidulus</i> (2).	<i>Trachyscelis aphodioides</i> (1, 2).
<i>Hister major</i> (2).	<i>Phaleria bimaculata</i> (1, 2).
<i>Psammодиус sabulosus</i> (2).	— <i>cadaverina</i> (1, 2).
— <i>porcicollis</i> (2).	— <i>ornata</i> (1, 2).
<i>Epicometis femorata</i> (2).	— <i>ciliata</i> (1, 2).
<i>Dignomus gracilipes</i> (2).	<i>Pseudostene fossoria</i> (1, 2).
<i>Lipommata calcaratum</i> (2).	<i>Helops pallidus</i> (2).
<i>Pentatennus arenarius</i> (2).	<i>Mecynotarsus semicinctus</i> (2).
<i>Onycholips bifurcatus</i> (2).	<i>Anthicus humilis</i> (1).

* In addition to the 13, included in the above list, which are common along the sandy shores on the opposite coast of Africa, the following 17 might likewise have been mentioned, had they been as strictly "sand-infesting" species: *Pristonychus complanatus*, *Stenolophus Teutonius*, *Dermestes Frischii*, *Acritis minutus*, *Saprinus chalcites*, *Phyllognathus Silenus*, *Aphodius lividus*, *Corynetes rufipes*, *Mezium sulcatum*, *Anthicus instabilis*, *floralis*, and *hispidus*, *Aleochara puberula* and *crassiuscula*, *Heterothops minutus*, *Stenus guttula*, and *Trogophlæus ruficollis*.

<i>Anthicus opaculus</i> (2).	<i>Aleochara nitida</i> (1, 2).
— <i>dimidiatus</i> (1).	— <i>binotata</i> (1, 2).
<i>Phytosus dimidiatus</i> (1).	<i>Creophilus maxillosus</i> (2).
— <i>nigriventris</i> (1).	<i>Philonthus xantholoma</i> (1).
— <i>balticus</i> (2).	— <i>sericeus</i> (1).
<i>Tachyusa maritima</i> (1).	<i>Achenium salinum</i> (1).
— <i>simillima</i> (1).	<i>Sunius bimaculatus</i> (1).
<i>Homalota plumbea</i> (1).	<i>Bledius januvianus</i> (1).
— <i>gregaria</i> (1, 2).	— <i>cornutissimus</i> (1).
<i>Aleochara littoralis</i> (1, 2).	— <i>galeatus</i> (1).

To these 80 species perhaps several others might have been added, for many which are not noticed amongst them do certainly occur *more* in sandy places than elsewhere; nevertheless as I wish to record those merely which are more particularly characteristic of the localities in question (whether saline, maritime, or calcareous), I believe that the above-mentioned ones will suffice for that purpose. Of the 80 species, there are apparently only 8 which are *peculiar* (so far as these Atlantic islands are concerned) to the Madeiras*, and one (*Phaleria bimaculata*) to the Salvages; so that the remaining 71 (only 10† of which have been observed *also* in the Madeiran Group) are distributed over the Canarian archipelago.

Euphorbian Fauna.—If, as just stated, the low and sandy tracts are sufficiently extensive even in these volcanic Groups, to introduce a distinct element into the fauna, but one which is dependent (secondarily) on the nature of the soil; we shall hardly be surprised if certain peculiarities in the *vegetation* should, in like manner, be connected with species which are characteristic. That there are well-defined areas, and altitudes, in which some particular plant, or set of plants, attains its maximum, and becomes dominant, is but the result of a comprehensive law of distribution which we see indicated, more or less plainly, in most countries of the world—and perhaps nowhere more so than in mountain-islands; but it is seldom that the insects which pertain (often exclusively) to these natural “provinces” have been investigated, as such, with sufficient care. In the Madeiras and Canaries it is clear that the laurel-regions stand preeminent in importance; for the primeval forests, once so

* *Aëpys gracilicornis*, *Lipommata calcaratum*, *Tychius robustus*, *Phaleria ciliata*, *Helops pallidus*, *Tachyusa maritima*, *Phytosus balticus*, and *Sunius bimaculatus*.

† *Cercyon littorale*, *Saprinus nitidulus* and *apricarius*, *Hister major*, *Psammodynus sabulosus* and *porcicollis*, *Homalota gregaria*, *Aleochara nitida* and *binotata*, and *Creophilus maxillosus*.

magnificent and vast, but now rapidly disappearing, were composed mainly of the *Laurineæ*, the bright leaves of which distilled from the surrounding atmosphere an unfailing supply of water—which, in its turn, kept up a luxuriant under-verdure, nourishing an entire fauna of its own*. And so, in the latter Group, the ancient Pinals (or pine-woods), as well as the upland districts occupied by the various species of Broom (there known as the “Retamas”), and those which are clothed with the shrubby *Cisti*, or arborescent Heaths, have each of them their special quota to add to the general list; yet it still remains for me to allude to another, and totally different, race of plants, which play a part so significant amongst the aboriginal vegetation as to invest themselves with an interest second only to that which surrounds the great family of the laurels.

The plants to which I refer are the Euphorbias—a monstrous assemblage of wonderful, and even fantastic, forms, which are widely distributed over this scattered archipelago, and which in the Canarian Group have acquired a marvellous ascendancy. In the latter indeed there are whole tracts (especially towards the south of Grand Canary) absolutely clothed with them; and some will occasionally attain a size so gigantic as to be almost comparable with dwarf gnarled oaks; whilst the prickly stalks of the quaint, *Cactus*-like *E. canariensis* are, at the same time, so abundant on the rocky declivities of Teneriffe, and the islands to the westward of it, as to constitute a really conspicuous feature in the landscape. It is on the dry sunny slopes of rather low and intermediate altitudes that the various Euphorbias seem more particularly to flourish; yet a few of them (as, for instance, the noble *E. mellifera* of Madeira) ascend to a high elevation, and thrive in comparatively damp and cloudy regions at four or five

* I once had a very pretty illustration of the almost magical effect produced even by a *single* tree, in helping to keep up a supply of water through this curious but natural process. Whilst collecting at a high altitude on the mountains of Madeira (in the upland region of the Fanal), a light-drawn cloud, so thin and vapoury as to be barely traceable, and quite insufficient to obscure the full glare of the sun, suddenly made its appearance. Being an ordinary occurrence I took no notice of it, but passed on to an old laurel which stood out, with its extended arms, isolated and vast, on the green park-like lawn, and commenced my researches beneath its shade. In a few minutes I found myself gradually becoming wet, and in a very few more the large drops began to distil upon me, one by one, in a most uncomfortable manner; so that I had to move a *few yards* away, into the *broad sunshine*, to dry myself. If one tree can be made the instrument for effecting so much, even in the merest haze, what must be the result, during the constant alternations of cloud and sunshine, when entire mountain-sides are thickly covered with them? Yet the improvident inhabitants clear away their noble forests, ruthlessly and without hinderance; and ultimately wonder that the streams have gradually diminished, and that the islands themselves, once a jungle of luxuriance, are being slowly reduced to mere heaps of dust and scoriæ.

thousand feet above the sea. The greater number, however, delight in barren, stony places near the coast, where wind and sunshine seldom cease to fight for the mastery in either stunting or developing their growth.

No one who believes in the adaptation of insect life to every special department of the vegetable kingdom could fail to anticipate the existence of a curious fauna attendant upon this remarkable assemblage of viscous shrubs. Yet I must own to considerable disappointment when, in company with Mr. Gray, I first penetrated (at the Canaries) into a thicket of them and found absolutely nothing. Still, however, I felt firmly persuaded that such an important set of plants could hardly occur without, at any rate, a certain number of Coleopterous parasites; and we concluded therefore that the specimens in sound and vigorous health, such as those which we had examined, were not the ones likely to satisfy the requirements of an entomologist. Unfortunately, however, the old and decayed stems are much sought after for fuel, and so were not readily to be met with; but when at length (in the north of Lanzarote) we came upon a quantity of them, erect and undisturbed, all doubt as to their productiveness was at an end. From that time I made it a constant practice to overhaul the dead *Euphorbias*, whenever they came to hand; and it is surprising what a number of Coleopterous insects are supported by them, which we might in vain look for in any other situation. Already indeed about 50 species have been brought to light, which would appear to be *exclusively* of *Euphorbia*-infesting habits; and we may be sure that many others yet remain to be found. But what struck me most, is the incredible mass of *individuals* by which some of them are represented; for the *Aphanarthra*, particularly, are often in such multitudes that the rotten stalks and branches seem absolutely alive with them. And yet, in spite of this, so confined are they to that actual group of plants that, unless the latter be examined rigidly, one might ransack the islands from end to end and not obtain even one of them. And so also the *Mesites euphorbice* in Madeira and the *M. fusiformis* in the Canarian Group, which are well nigh universal amongst the decaying *Euphorbia*-stems, are marvellously abundant; whilst the same might be said of the *Europs impressicollis*, which I feel satisfied will be found to permeate the entire archipelago. The following list, however, will show what the exact species are which have been ascertained to frequent the *Euphorbias*; but as my object is to register everything which (so far as observed hitherto) a collector would be

likely to meet with when investigating those singular shrubs, I have been compelled to admit a few which occur under other circumstances likewise. These latter, which are not numerous, I have indicated by *italics*. There are six, however (captured beneath *Euphorbia*-bark), which have as yet been taken only once; and of these, therefore, to which I have prefixed an *asterisk*, further evidence is required before we can pronounce them to be *exclusively Euphorbian**.

* <i>Carpophilus tersus</i> (C.).	<i>Aphanarthrum euphorbiæ</i> (M.).
<i>Eurois impressicollis</i> (M., C.).	— affine (C.).
— <i>duplicatus</i> (C.).	— <i>glabrum</i> (C.).
<i>Lipaspis caulicola</i> (S., C.).	— <i>bicolor</i> (M., C.).
* <i>Trogosita recta</i> (C.).	— <i>lividum</i> (C.).
— <i>latens</i> (C.).	— <i>pusillum</i> (C.).
<i>Caulonomus rhizophagoides</i> (C.).	<i>Liparthrum inarmatum</i> (M., C.).
<i>Læmophlæus clavicollis</i> (M., C.).	— <i>Loweï</i> (C.).
<i>Xenoscelis deplanatus</i> (C.).	— <i>curtum</i> (M., C.).
<i>Cryptophagus fusiformis</i> (C.).	— <i>bicaudatum</i> (C.).
* <i>Metophtalmus exiguus</i> (M.).	<i>Triotemnus subretusus</i> (C.).
<i>Corticaria maculosa</i> (M., C.).	<i>Phlæophagus caulium</i> (C.).
<i>Thallestus typhæoides</i> (C.).	<i>Mesoxenus Monizianus</i> (C.).
— <i>subellipticus</i> (C.).	<i>Caulotrupis subnitidus</i> (M.).
<i>Eubrachium politum</i> (C.).	<i>Mesites euphorbiæ</i> (M.).
— <i>ovale</i> (C.).	— <i>proximus?</i> (C.).
<i>Eutriptus putricola</i> (M., C.).	— <i>fusiformis</i> (C.).
<i>Teretrius cylindricus</i> (C.).	— <i>pubipennis</i> (C.).
<i>Hololepta Perraudieri</i> (C.).	<i>Acalles fortunatus</i> (C.).
<i>Oryctes prolixus</i> (C.).	— <i>cinereus</i> (M.).
<i>Clerus Paivæ</i> (C.).	<i>Aglycyderes setifer</i> (C.).
<i>Piotes inconstans</i> (C.).	<i>Lepromoris gibba</i> (C.).
<i>Xyletinus flavicollis</i> (C.).	<i>Deucalion oceanicus?</i> (S.).
— <i>latitans</i> (C.).	<i>Stenidea annulicornis</i> (C.).
— <i>desectus</i> (C.).	— <i>albida</i> (C.).
* <i>Anobium oculatum</i> (C.).	— <i>pilosa</i> (C.).
<i>Aphanarthrum Jubæ</i> (C.).	<i>Hypophlæus euphorbiæ</i> (C.).
— <i>tuberculatum</i> (C.).	— <i>ambiguus?</i> (M.).
— <i>armatum</i> (C.).	<i>Tenebrio Crotchii</i> (C.).
— <i>canescens</i> (C.).	<i>Ditylus concolor</i> (S., C.).
— <i>canariense</i> (C.).	<i>Homalota canariensis</i> (C.).
— <i>pygmæum</i> (C.).	— <i>coriaria</i> (M., C.).
— <i>bicinctum</i> (C.).	* — <i>subcoriaria</i> (C.).
— <i>piscatorium</i> (M., C.).	— <i>putrescens</i> (C.).

* In the above list I have used the letters (M.), (S.), and (C.), to indicate the island-Groups to which the several species pertain.

Homalota vagepunctata (C.).*Doliceon ruficollis* (C.).*Xantholinus marginalis* (C.).**Homalium tricolor* (M.).*Doliceon nigricollis* (C.).— *clavicornis* (M.).

I should add that it is under the dead bark, and within the rotten wood, of the various *Euphorbias* that the whole of the above-mentioned species have been obtained; and although there are a few others (mentioned, *passim*, in this volume) which have been found on the *blossoms* of those plants, and which may or may not be peculiar to them (for I have no evidence enabling me to decide), there is but *one* which I have succeeded in satisfying myself lives exclusively upon the *foliage*—namely, the *Haltica Paivana*. It is possible however that the *Longitarsus kleiniiperda* may be in the same predicament; on which subject, see my remarks at page 367.

Pine-destroying Species.—In Madeira I think it is extremely doubtful whether the pines were truly aboriginal—or, at all events, whether they ever played an important part amongst the native vegetation; for although there are now considerable tracts, on the southern and eastern slopes of the mountains, which are covered with them, it is well known that the extensive woods to which I refer are comparatively recent,—the trees having been brought, at various times and in large numbers, from Portugal. Still, I am not prepared to assert that even the *Pinus canariensis* may not have been indigenous in Madeira (though possibly not abundant) when the island was first discovered; and if this should prove to be the case, it will unquestionably give greater significance to the very few pine-infesting insects which yet exist (tenanting the present plantations), but which I am rather disposed to believe have in reality been introduced during the last half-century, and perhaps along with the young trees themselves, from south-western Europe. In the Canarian Group, however, it is far otherwise; for there the ancient pine-forests (or *Pinalis*) constitute a most conspicuous feature in the districts of a lofty altitude, and are often so remote and difficult of access as to be scarcely approachable. It is true that in Lanzarote and Fuerteventura there are not (and perhaps indeed never were) any traces of them; but in the more central and western islands they frequently clothe considerable tracts—at any rate in Grand Canary, Teneriffe, and Palma (for in Gomera and Hierro they are being fast exterminated).

After the above remarks it will not be expected that the pine-destroying *Coleoptera* can be very abundant in, at all events, the Madeiran archipelago; and although it is possible that a few of the

species enumerated in this volume, the exact habits of which I have failed to ascertain, may in reality be attached to the modern fir-woods, I have not satisfied myself of more than *six* which I can regard as unmistakeably peculiar to those localities. They are as follows: *Hylurgus ligniperda* and *destruens*, *Pissodes notatus*, *Oxypleurus Bewickii*, *Criocephalus rusticus*, and *Coccinella Andersoni*,—three of which occur in higher latitudes, whilst it is doubtful whether even the remainder (namely *Hylurgus destruens*, *Oxypleurus Bewickii*, and *Coccinella Andersoni*) are more than geographical phases of ordinary European forms. In the Canaries, on the other hand, where the Pinals were both primeval and vast, there is of course a larger fauna attendant upon the pines; nevertheless even there, although the *individuals* are occasionally very numerous, the number of species appears to be small—in proportion to the extent and magnificence of the regions which they inhabit,—a fact which will at once be admitted when I mention that only 18 species have yet been brought to light of strictly pine-infesting propensities. The following are the species to which I allude:

Rhizophagus pinetorum.	Hylurgus piniperda.
— subopacus.	Hylastes Lowei.
Temnochila pini.	Syntomocerus crassicornis.
Lipaspis pinicola.	Rhyncolus crassirostris.
Aulonium sulcolle.	Brachyderes rugatus.
Buprestis Bertheloti.	— sculpturatus.
Dinoderus brunneus.	Oxypleurus pinicola.
Tomicus nobilis.	Criocephalus rusticus.
Crypturgus concolor.	Hypophœus pini.

Of the above 18 species, detected in the Canaries, two only (*Hylurgus ligniperda* and *Criocephalus rusticus*) have been met with in the Madeiras *likewise*; and since, moreover, *out of the 8 captured in the latter Group* there are four (namely *Hylurgus destruens*, *Pissodes notatus*, *Oxypleurus Bewickii*, and *Coccinella Andersoni*) which have not been observed hitherto in the former, it follows that the species of exclusively pine-infesting habits which have yet been brought to light in these numerous Atlantic islands combined amount to only 22. There are doubtless certain others which are much attached, or partial, to the pine-*districts*, but which can hardly be looked upon as dependent (directly) upon the trees themselves. These, therefore, could scarcely be defined as “pine-destroying;” though perhaps some few of them might have been mentioned as characteristic (from some cause or other) of the regions in question. Such, for

instance, are the common European *Conosoma pubescens*, found both in the Madeiras and Canaries, and the *Catops pinicola* (taken by the Messrs. Crotch in the latter Group); and such, likewise, are the three Ptinellas—namely the *P. Proteus* in Madeira, and the *angustula* and *aptera* in Palma and Hierro.

Species of the "Retamas," Cisti, Semperviva, and Tamarisk.—In addition to the Euphorbian and pine-infesting Coleoptera, there are certain others which attach themselves to the various kinds of vegetation which characterize particular districts and altitudes; but in no instance have I detected a sufficient number of them to be worthy of more than a passing notice. Yet it is probable that the different species of "Retama" (or Broom) which attain their maximum on the upland slopes of Teneriffe and Grand Canary, as well as the shrubby *Cisti* which cover considerable tracts of country (usually at a great height, and often bordering upon the Pinals), especially in those two islands and Palma, would amply repay an investigation, and would supply us (in each case) with a small fauna of their own.

The Retama-districts indeed I have always found to be eminently productive, and to harbour a large assortment of the most striking of the Atlantic forms; but in most instances the latter do not seem to be actually dependent on the *Cytisi*, *Spartia*, and *Genistæ*, and therefore could not be cited as in any way connected directly with those plants,—their presence among them being mainly due, as I imagine, to the loftiness of the several regions, and not to any positive connexion (on their part) with the flora. The common *Genista scoparia*, however, in Madeira, does decidedly support the beautiful little *Coccinella genistæ*, as well as the European *Phlæophthorus rhododactylus* and the *Sitona latipennis* (which is attached to the same plant in Teneriffe, and which is said to occur likewise in Portugal); while the more indigenous Retamas of the Canarian archipelago frequently abound with the inconstant *Coccinella miranda* and the *Acmaødera cisti*—the second of which, according to the Messrs. Crotch, undergoes its transformations within the stems of the yellow "Codæso." Whether any of the numerous species which (like the *Melyrosoma hirtum* and the *Attalus ænescens*) haunt the blossoms of the *Spartia* and *Cytisi* are positively dependent on the latter, I have no evidence to enable me to decide.

The great prevalence of the *Cistus monspeliensis* and *vagans* in the more or less elevated districts of the central and western parts of the Canarian Group, especially in Grand Canary and Palma, would lead

us to expect that at any rate a certain number of Coleopterous forms must exist which are dependent on them exclusively; and perhaps this would be found to be the case, were the upland tracts properly investigated which they frequently almost clothe. Yet hitherto I have not been able to satisfy myself that there are many species in that predicament; though a few there unquestionably are, as even a slight research is sufficient to demonstrate. Thus the *Hispa occator* often abounds in Teneriffe and Palma, upon the foliage of the *Cisti*; and a dark variety of it was met with, under similar circumstances, by M. de la Perraudière, in Hierro. In Grand Canary the *Pseudocolaspis obscuripes* is common, in like situations; and possibly also the *Anthraxia similis* may be of *Cistus*-destroying habits (though I am somewhat doubtful whether the latter is not, rather, attached to the pine trees). The *Apion tubiferum*, which I captured in Grand Canary and Hierro, I believe to be dependent on the *Cisti*—and perhaps the *Melyrosoma costipenne*, the *Bruchus antennatus*, and the *Calomicrus Wollastoni*.

There is another race of plants, both in the Madeiran and Canarian Groups, which constitute a significant feature amongst the native vegetation—their large succulent leaves either drooping gracefully over the rocks, or studding the perpendicular sides of them in flat, rosette-like clusters. I refer to the various species of *Sedum* and *Sempervivum*, which flourish at most elevations, though principally at intermediate ones. It is difficult to conceive that forms so unmistakeably aboriginal, and numerous, should not have a correspondingly important fauna attendant upon them; yet hitherto there are but five representatives of the Coleoptera which have been ascertained positively to require them as a means of actual subsistence. Of these five, no less than four are members of the *Curculionidæ*,—one being the Canarian *Acalles æonii*, and the other three the *Ceuthorhynchus phytobioides*, *hesperus*, and *lineatotessellatus* (the first two of which occur in the Canarian, and the last in the Madeiran archipelago). The fifth species alluded to as being (I believe) of *Sedum*-infesting habits is the *Haltica crassipes*—found in Teneriffe, Gomera, Palma, and Hierro. There are many more however to be met with, particularly during the winter months, harbouring beneath the dry and dead leaves which often (at any rate in the compact, rosette-shaped plants) surround the base of the stems and are matted closely against the rocks; but I have no evidence that any of these are more than casual visitors, which necessity has compelled to take shelter there and to hibernate. Nevertheless some few of them (as, for instance,

the *Laparocerus subopacus* and *Lichenophagus buccatrix*, discovered by the Messrs. Crotch in Gomera) may *perhaps* be strictly attendant on the *Semperviva*; though it is impossible to assert this, until further material shall have decided the question.

A very small assemblage of species still remains to be noticed, of totally different habits, which are peculiar to the shrubs of the common Tamarisk (the *Tamarix gallica* of European latitudes); and it is far from unlikely that the few yet detected (only four in number) may all of them occur in Mediterranean countries. They are *Nanophyes lunulatus*, *Coniatus tamarisci*, *Stylosomus biplagiatus*, and *Coccinella Doublieri*,—the first two of which I captured in Grand Canary, and the last two in Fuerteventura. Although it is not probable that many other species will be met with of a similar mode of life, I think it almost certain that these will be found, when searched for in the right situations, to be more widely spread over the archipelago; but, whether truly native or originally introduced, it is chiefly in spots near the coast, of low or but slightly elevated districts, that the Tamarisk may be said to flourish.

General Considerations.—In reviewing some of the preceding remarks, it will not be deemed out of place if I offer a few observations on one or two points which appear to present themselves for notice. We have seen that there are certain districts and altitudes characterized by the presence of Coleopterous forms which are dependent on the *kind* of vegetation which attains its maximum there and has become dominant. Yet it remains for us to ask whether there is reason for suspecting that any of the latter are but mere states of well-known species which have acquired their present peculiarities through long attachment to the particular plants in connexion with which they are now found. I am fully aware that an inquiry of this nature must open up questions of great difficulty, and concerning which there would be much variety of opinion. In the consideration, however, of all such problems (which are perhaps unsolvable) we can but use the evidence that we possess; and surely, if the latter is admitted to be necessary at all in attempting their solution, it can scarcely be more available than when gathered into a focus on small insular areas which have been so long and carefully explored. That there are positive limits (even though, *by the nature of the case*, undefinable) between which all species are free to become modified has generally been received as an axiom; nor has this primary truth been so much as touched by the ascertained fact that the permitted range

for certain forms (when systematically acted upon by the skill and intellect of man) is so extremely wide, in comparison with that allowed in the case of others, as to be practically *almost infinite**. And consequently, if it ever should be shown that we have fallen largely into error in regarding certain closely allied organisms as specifically distinct, I would surmise that it proves absolutely nothing except the fact of our own ignorance as to where the proper lines of demarcation are to be drawn. But that those lines have an (abstract) existence somewhere I take for granted; and it is the province of the naturalist to endeavour to obtain an approximate idea, so far as may be, and so far as his limited experience will permit, of their several positions.

After these remarks I shall not be misunderstood when I express my belief, that *some* of the forms enumerated in this volume, which differ but slightly (though permanently) from those of European latitudes, will perhaps prove to be but local phases of the latter—brought about either by isolation, or a difference in the exact chemical properties of the plants on which they have long been compelled to subsist. And hence, for instance, when I find attached to the *Pinus canariensis* Coleoptera which recede but minutely from those which destroy the fir trees of more northern countries, I cannot but feel it *probable*—even whilst (on account of the fixedness of their characters) registering them as distinct—that they do in reality repre-

* It seems often assumed that if variation is acknowledged to be “infinite,” we tacitly imply that it must needs be also *monstrous*; but this appears to me a very gratuitous conclusion. Although common circumstances are sometimes apt to be overlooked, they nevertheless will frequently supply evidence more satisfactory than we can gather elsewhere; and even in the present case, therefore, we may perhaps venture to appeal to them. Although incapable of ocular demonstration (for it is a truth of reason and not of sense), there are probably few reflecting minds which would reject the dogma that no two human beings ever have existed, or ever will exist, which are *absolutely* alike in every single part, and combination, of their entire structure. Yet, in spite of this individual variability, which is strictly infinite, we are *not* driven to believe in forms which are in any degree “monstrous.” On the contrary, *so unmistakably are they included within the morphotic limits* assigned for the human frame, that (whilst those “limits” are by us *undefinable*, and the variations *infinite*) the forms themselves seldom strike us as even *extraordinary*, and therefore never (*à fortiori*) as *monstrous*. And if this be true for “individual variability,” it is true also for “variation” (as commonly understood by that term); for distinct *varieties* are as much a fact in the human family as “individual variability.” From which I infer that *variation may have full play, and be by us undefinable*, and yet positively restrained within the limits which were imposed upon it aboriginally for each separate species; and, therefore, conversely, that a species may be indefinitely plastic, and yet remain *true to its type*. Those naturalists therefore who tell us that we have no logical right to believe in “species” (as hitherto enunciated) *whilst we are unable to define their limits*, merely appeal to an impossibility, or our want of omniscience, as the evidence for overthrowing a fundamental truth.

sent no more than geographical states of the latter; though to *act*, always and without discrimination, upon that hypothesis might involve errors of a worse kind than the mere insertion (into a Catalogue) of an occasional form which has been wrongly entered as specific. I believe however that the instances are not very numerous in which an accurate and experienced naturalist would have much difficulty in satisfying himself concerning the proper rank of the various creatures with which he has here to deal; for the greater number of them are most clearly defined, whilst even in the case of the obscurer ones there are often local considerations by which apparent discrepancies may be explained.

But if we admit the *probability* that a small proportion of the forms which are treated in this volume as specific may be but geographical modifications of others which are already known, I must at the same time express my conviction that an overwhelming majority of them are quite in the opposite predicament, and owe next to nothing (so far as their specific features are concerned) to the action of the external influences by which they are surrounded. Especially will this apply to the *Euphorbia*-infesting group—an assemblage of marvellous types which (as lately insinuated) are nearly without a parallel, both as regards the number of the *individuals* by which they are severally represented, and the greater or less eccentricity of their structure. It is true that a few of the *species* (if indeed I am correct in regarding them as such) display a certain amount of correlation with the particular *kind* of *Euphorbia* to which they are attached. Thus, in the *Aphanarthra* the development of tubercles on the anterior edge of the pronotum seems, in some mysterious manner, to be connected with the “sweeter,” or less pungent, members of that curious race of plants; for those species which are nourished within the acrid stalks of the *E. canariensis* have no indication of prothoracic pustules, whereas those which feed on the less caustic, or more palatable, *E. balsamifera* and *regis-Jubæ* show a decided tendency (more or less expressed) to be armed with them. This however is but a trifling circumstance (although undoubtedly interesting), and one which leaves untouched the wonderful dissimilarity (*inter se*) of these Euphorbian *types*, and their wide divergence from every other organism of the same geographical domain.

As above stated, however, the vast multitude of quaint and grotesque shrubs on which this esoteric assemblage depends for subsistence is becoming gradually exterminated. True it is that the

process of annihilation is extremely slow ; yet year after year sees portions of the rocky declivities brought into rude cultivation, whilst the constant search which is made after the dead plants for fuel still further operates to direct the axe of the destroyer. Here then we have an unmistakeable fact, and one over which it is worth while to pause,—not of a single species, but of a *whole fauna* surely dying out before circumstances which are adverse to its continuance. Already upwards of 50 members have been ascertained to inhabit the Euphorbias ; and (as I recently mentioned) some of them literally swarm, to an extent which is well nigh incredible. Yet in vain do we look around for anything like an adaptation to altered, and ever altering, conditions ; and I will indeed venture to affirm that no one instance can be produced, throughout this noble fauna, in which the slightest *tendency* is shown by even a single species, to accommodate itself to the change of circumstances, and to become modified accordingly. In Lanzarote and Fuerteventura the *E. canariensis* seems to have already gone ; and what is the consequence ? Simply that not *one* of the numerous species which characterize that plant appears to have adapted itself even to the *other Euphorbias* ! And if this be the case, Can we wonder that the extinction of the latter should result in the complete disappearance, and for ever, of their entire fauna ? I do not adduce this as any *anomalous* effect of the gradual change which has long been going on in the vegetation of these Atlantic Groups ; for it is precisely what I should have anticipated, and in perfect accordance with what we cannot but observe equally in the case of the great *laurel*-fauna—which is slowly becoming exterminated, leaving no trace behind it of its many, and very peculiar, forms.

Yet, whilst the majority of the species appear unable to survive the loss (however gradual) of the particular kind of vegetation on which they were originally destined to subsist, there is some reason for suspecting that a considerable number may nevertheless have braved many a physical change in the extent and altitude of the several areas over which they had spread. For if catastrophes are admitted to have had any place at all in the geological record, it is clear that *some* result *must* have been afterwards traceable in the regions which were disturbed—and if in the regions themselves, also in the economy of their occupants. Yet, provided that *instability* (to a greater or less degree) is an element in every organism, it seems impossible to realize events such as those to which I now allude without being struck with the conviction *that some slight*

departure from their normal standards, consequent upon the alteration of surrounding circumstances, *must ere long have become (more or less) apparent in most of the creatures which had been thus indirectly operated upon*. And if this be granted, I think we have all that we require to account for many of the trifling (though permanent) deviations from central types which are seldom so conspicuous as on the broken-up portions of a once continuous land.

It will be seen that the above remarks have a direct bearing on the conclusion at which I arrived (*vide p. xvi.*), when discussing the Coleopterous statistics of these Atlantic Groups—namely, that whilst the *genera* are, on the whole, pretty much the same in the Madeiras, Salvages, and Canaries, the actual *species* (using that term, however, as expressing *only* a mere *assortment of individuals* more or less abruptly differing from those of every other assemblage—and *not* in its absolute, theoretical, and practically more difficult sense) *which permeate the entire archipelago* are marvellously few in number, compared with the extent of the respective faunas. This indeed would seem almost to follow from the premises which I have assumed; for we should naturally be prepared to expect that the individuals (for instance) which might chance to become isolated on a small and barren rock would probably initiate a race which *in a very few generations** would have acquired some trifling peculiarity, serving thenceforth to distinguish its exponents from those of *another* conclave (specifically identical with them) which had remained unmolested amidst the more favourable conditions of a comparatively elevated central tract. I believe that it is mainly upon some such principle as this that we can hope to understand that most puzzling

* I say "in a very few generations," because I cannot but think that a vast deal too much is made of what is called "the argument from time." Where an organism has been ascertained positively to be advancing steadily onwards in one undeviating direction (and it would indeed be a marvellous fact), I then admit that time (as an element) is all-important. But this self-acquired, self-directed progress is in most instances quite imaginary, and is merely assumed for the sake of upholding a theory which could have no existence without its aid. To say that alternations and changes are constantly going on in organic nature is but asserting a truism, for perfect quiescence seems to be impossible; but that is a very different thing from a continued and uniform advancement in a given course. My own belief is that in the feral world all such *systematic progression* is the exception, rather than the rule, and is seldom prolonged (if ever) beyond a few generations, and that its existence, as a universal fact, is a myth. I hope to state shortly that, at any rate in these Atlantic islands, if there is one thing which is more striking than another, and in proof of which we have some real evidence to adduce, it is the apparent unchangeability of the great mass of the endemic forms. And if this be the case, of what use (when there is nothing to "add up") is the argument from *time*? Nothing, multiplied by ten or ten-million, is the *same thing*. In both instances it equals *nothing*, and can never be made to represent a positive quantity.

phasis of certain insular phenomena, in which nearly every detached islet appears on first investigation to add its own particular "species" to the general list; and certainly it seems to me to offer a clue to much that might otherwise be unintelligible in the fauna of this scattered archipelago.

In estimating the action of physical changes in the earth's surface on its fauna, I would not wish to give them an undue importance, or to exclude a consideration of the countless other methods by which species may (and have) become established on even the remotest rocks,—where, be it observed, they would be as much subject to the same modifying influences as if they had been left there by some overwhelming geological crisis. Yet in ventilating all such questions, it is not by the assumption of "general laws" (which are sometimes imaginary), but by the actual evidence before us, that we are compelled at last to form our judgment; and I must confess that all the varied means of dispersion (often so anomalous and unlooked-for) do not appear to me, in these Atlantic islands, to have done much (if indeed anything) towards determining the present distribution of the *truly endemic* species. Yet a natural catastrophe, on a scale sufficiently gigantic to break-up a continuous land which was already stocked with its own aboriginal organisms, would in all probability lay the foundation of phenomena (as regards the latter) exactly parallel to what we now meet with in the various component parts of these oceanic Groups.

Although it is true that numerous slight modifications, or insular states (for the most part unimportant), appear to have been brought about (probably at a very remote epoch) in many of the species, I can detect no trace of anything like a law of development which could be regarded as still operating *to intensify* (however gradually) the peculiarities of the forms which now exist. On the contrary, indeed, if there is one thing which strikes us more than another, it is their permanence, or apparent freedom from all tendency to further change,—the extremely sedentary nature, and phlegmatic habits, of a large proportion of them (as in the case of *Deucalion* and most of the *Tarphii*) seeming almost to place them *beyond* the influence of those external circumstances and conditions which might be supposed to have some infinitesimal power over the outward configuration of creatures which are more nervously organized. Amongst the Land-shells, indeed (in which the insular races are still better defined, and also far more numerous, in proportion to the extent of the fauna, than is the case amongst the Coleoptera), this fixedness of

their present characteristics is proved to a demonstration; for in various parts of the Madeiran Group there are thick beds of indurated mud and calcareous sand, which literally teem with them in a semi-fossilized state, and yet (except in a few cases, involving *mere size*, on which I shall have soon to comment) the latter specimens (distributed over upwards of *one hundred* species) display no perceptible differences from their recent homologues. Geologically speaking, these deposits (which occur in Madeira proper, Porto Santo, and even on the top of the southern Deserta) may perhaps be comparatively recent; but as there is strong reason for suspecting that they were formed (at any rate) *previous to the dissolution of the intermediate land*, and since it is the opinion of Sir Charles Lyell that these oceanic Groups *were islands in a miocene sea*, we have at least a monstrous period during which we may be quite sure that no appreciable change has taken place. And since moreover it is equally a fact that the semifossilized forms of the several species are found *only* in the immediate vicinity of the areas (often very limited ones) which are occupied by their descendants, we possess likewise conclusive evidence concerning the *sedentary* modes of life which would seem to have formed at that distant epoch as much a part of their history as they do now*. I have alluded to the shells, simply because the particular phenomena, in connexion with them, to which I would call attention are capable of actual proof; but, as already implied, I believe that the majority of the Coleoptera which are truly endemic will be found to be in an exactly similar predicament. Hence I infer that the "insular phases" which we are now discussing have *not* been matured in accordance with any law of development, or an imaginary process of "natural selection," † *but*

* Cf. 'Variation of Species,' pp. 127-135.

† It has always seemed to me that "Natural Selection," so-called (if indeed it has ever more than an occasional, or intermittent, existence in the feral world), is, on the whole, *conservative*, rather than *progressive*; for being emphatically and confessedly *utilitarian*, or dependent on the principle that the strongest shall prevail, it is clear that the question "which is the strongest?" must be solved before we can form an opinion on its supposed action. It is but asserting a truism to say that sound and vigorous health, with proper room for the exercise of its various endowments and faculties, are a *sine quâ non* to the perfection of every species, and that we may consequently expect the race which possesses those advantages to be not only the most perfect, but likewise, in a general sense, the most successful. For I think there cannot be much doubt that the specimens which have *all* their organs developed, simultaneously, *to the utmost* are the really strong ones, and *not* those which have one (or more) of them increased at the expense of the remainder. I will not deny that creatures in the latter predicament *may* enjoy some temporary advantage against (perhaps) a particular foe, and may even transmit it to their immediate descendants; but still that does not prevent the structure itself (if important enough to be worth notice)

were dependent upon circumstances altogether exceptional—probably at (or following upon) the very remote period when this great Atlantic province was rent asunder.

We have seen that there are strong reasons for believing that a vast majority of the true insular modifications which now present themselves have *not* been matured by any process of slow development, which might be supposed to have operated imperceptibly, and to be acting still—but, on the contrary, that they have remained unchanged through an immeasurable period, *at the commencement of which* they were probably brought about in obedience to a combination of circumstances and conditions which are altogether unprecedented and exceptional. And this conclusion appears to be supported by the fact that, whilst there is not the faintest trace, amongst the existing forms, of anything like a law of *gradual advancement*, unmistakable signs of *deterioration* are nevertheless conspicuous everywhere: or, in other words, the *departures* (whenever they may have occurred) from their respective types, nearly always seem to be of a *retrograde* character, and therefore in precisely the opposite direction to what would be required by any theory of general *progressive tendencies*. In nearly every instance (and there are plenty of them) where two forms are *almost* identical with each other *except as regards size*, the one being monstrous and the other comparatively diminutive, it is the larger state which is the scarcer and more typical; and so decidedly is this sometimes expressed that it is difficult to avoid the suspicion that the latter

from being abnormal; and all experience shows us that it is the *tendency* of what is *irregular* to die out, and to revert to what is *typical* (wherein resides the true *maximum*, the *beau idéal*, of every type). So that if strength and full muscular development are to be the vouchers for ultimate success, the “naturally selected” race would certainly be the *most normal* one, and not the most *aberrant*. I believe that this must be true, in a broad and general sense, if the principle of “natural selection” can be supposed to enter permanently, and incessantly, into the great scheme of nature. But for my own part I can see nothing to warrant that hypothesis, even whilst admitting (as I have done elsewhere, and often) that *to a very limited extent* there appears no reason, but quite the reverse, why some such process (call it what we please) *may* not have been silently at work—even if only at particular epochs, and in special regions; for if eccentricities of structure can with difficulty be made to move on in one undeviating path by the unwearied skill, and forethought, of an active, living intelligence, it seems preposterous to suppose that an imaginary agency which nobody has yet defined can both exaggerate and stereotype them. Moreover mere *utilitarianism* could not be made to fulfil more than *one* of the many final causes of Creation—amongst which stand preeminently *Beauty* (in its widest sense, and as the universal index, everywhere expressed, of the existence of a Master-Mind), and the fact, strangely ignored, of *universal enjoyment* for all created beings. That “*might is right*” may satisfy the requirements of “natural selection;” but, happily for the world, a more comprehensive, and merciful, law prevails.

may be in reality but a depauperated phasis of the former, consequent upon an alteration (at some distant period) in the various local influences by which the species was originally surrounded. And I might again appeal to the Land-shells, in support of this hypothesis; for there we have ocular demonstration, in the deposits above referred to, that certain gigantic forms, now well nigh extinct but which absolutely teemed in those early days, are represented at the present time by others which are *equally common*, only reduced to *about half the size*. Yet there is no case here of a *gradual transmutation*; for the intermediate links do not exist, even though both forms are found under both conditions—the smaller ones being as rare *semifossilized* as the larger ones are *recent*. The transition from one state to the other appears to have been *sudden*, as though occasioned by some radical change in the physical conditions of the area overspread; and the result is now before us, in the deteriorated race occupying the deteriorated region.

There are several other points, in connexion with this immediate subject, to which I might properly call attention; but space will not permit me to do so. A few words, however, I will just add on the general character of the fauna. That the eastern parts of the Canarian, and even (though less decidedly) of the Madeiran, Group appear to have much in common with the sandy districts on the opposite coast of Morocco, I have already expressed my belief; yet, in spite of this, I think that a *truly* "African" element is perhaps scarcely indicated. Nearly all the species *which are not absolutely peculiar* to the islands seem to be (what would be termed) "Mediterranean"—being found (more or less) on one side or both of the Great Mediterranean basin, and extending down the western limits of Barbary and Morocco, but *not* (so far as I can ascertain), on the central African continent, south of the Atlas range. Yet, at the same time, there is reason to suspect that so large a proportion of the forms are positively *endemic*, that to define the fauna as simply, and purely, Mediterranean, would be wanting in accuracy; for the most significant, and esoteric, genera do so thoroughly permeate the entire archipelago (represented, however, on the different islands by different species) that the *unity of character* which they impart to it is perhaps more suggestive of a separate "Atlantic province," than of a component part of the *quondam* "Mediterranean" area.

With respect to the Groups themselves, so completely do they seem to constitute (when combined) a single system, that, be the geological difficulties what they may, I must be excused if I have

occasionally spoken of them, without hesitation, as the "fragments of a broken-up land." So far as any evidence can be gleaned from their Coleopterous statistics, I am bound to repeat that I can see no *more* difference between the Madeiras and Canaries than what would naturally be looked for at stations distant from each other *to an equal extent* on a continuous tract; and it is somewhat to the purpose that the little rocks of the Salvages, which are nearer to the latter, are (as regards most of the few species, as yet found upon them, which are in the least degree characteristic) essentially *Canarian*. That there *are* features distinctive of the Madeiras and Canaries, as *Groups*, it is certain; but (as just affirmed) the same kind of differences might also be apparent in the separate departments of many a continent; whilst the mere fact that a far more extensive surface is presented by the Canaries would in itself account for the presence in that archipelago of numerous well-known types (lately alluded to) which are absent from Madeira: so that the "discrepancies" which have sometimes been insisted upon, between the faunas in question, I am inclined to think, are, *in a great measure*, more superficially-conspicuous than they are truly and geographically significant. If *anything*, however, it would seem as if the Canarian Coleoptera were more European (or, on the whole, less isolated in their character) than those of the Madeiras; which, considering the more northern position of the latter Group, is contrary to what we should have anticipated.

What relation the fauna of the entire archipelago may bear to that of the Azores, and of the Cape de Verdes, remains yet to be seen.

COLEOPTERA ATLANTIDUM.

Fam. 1. CARABIDÆ*.

(Subfam. I. ELAPHRIDES.)

Genus 1. NOTIOPHILUS.

Duméril, *Consid. Gén. sur les Ins.* 169 (1823).

1. *Notiophilus geminatus*.

Notiophilus geminatus, *Dej., Spec. Gén. des Col.* v. 589 (1831).

— —, *Brullé, in Webb et Berth. (Col.)* 58 (1838).

— —, *Woll., Ins. Mad.* 17 (1854).

— —, *Id., Cat. Mad. Col.* 9 (1857).

— —, *Id., Cat. Can. Col.* 1 (1864).

Habitat ins. Maderenses (*Mad., Des., Bugio*) et Canarienses (in *Palmá* solâ adhuc haud detectus), sub lapidibus quisquiliisque, passim.

The *N. geminatus*, which is widely spread over Mediterranean countries (but which is somewhat scarcer in central Europe), is probably universal, though nowhere very common, in the Madeiran and

* I do not think it would be prudent, without further evidence, to admit the *Cicindelidæ* into this volume; for although the north-African *Cicindela nilotica* is included by M. Brullé in the short and inaccurate list of Coleoptera which he compiled for MM. Webb and Berthelot's gigantic 'Histoire Naturelle des îles Canaries,' nevertheless, since he gives us no kind of information about it, and the very meagre collection of those naturalists contained so large a proportion of species the *habitats* of which I consider to be most questionable [Cf. pp. 7, 8, 55, 56, 320, 390, 437, 438, 469, 501, &c., of my late Catalogue], I cannot but look with unbounded distrust on the reputed existence of the member of a *Family* of which I have seen hitherto no trace whatsoever in *any* of these Atlantic islands. At the same time, however, I must candidly confess that some of the low and sandy regions of Lanzarote, Fuerteventura and Grand Canary do certainly afford all the *apparent* conditions for the presence of a *Cicindela*; and therefore whilst feeling it unsafe to admit the insect in question on evidence which is altogether so slight and unsatisfactory, I am nevertheless far from wishing to record my belief that it *may* not perhaps occur in some one of the districts to which I have just alluded.

Canarian Groups. Nevertheless at the former it has been observed hitherto only in Madeira proper and on the two southern Desertas; at the latter it has been met with in all the islands except Palma.

(Subfam. II. LORICERIDES.)

Genus 2. **ELLIPTOSOMA.**

Wollaston, *Ins. Mad.* 18, tab. i. f. 2 (1854).

2. **Elliptosoma Wollastonii.**

Loricera Wollastonii, *Javet, Bull. de la Soc. Ent. de France*, 23 (1852).

— —, *Woll., Ins. Mad.* 19, tab. i. f. 2 (1854).

Elliptosoma Wollastonii, *Woll., Cat. Mad. Col.* 10 (1857).

Habitat Maderenses (Mad.), in humidis sylvaticis excelsis, rarissimum.

This remarkable insect appears to be essentially Madeiran, occurring at a high elevation within the moist sylvan districts of Madeira proper—where it is both rare and local.

(Subfam. III. CARABIDES.)

Genus 3. **LEISTUS.**

Frölich, *Naturf.* xxviii. 9 (1794).

3. **Leistus nubivagus.**

Leistus nubivagus, *Woll., Cat. Can. Col.* 1 (1864).

Habitat Canarienses (Ten.), in humidis sylvaticis excelsis, rarissimus.

This interesting little *Leistus* has been observed hitherto only in the lofty sylvan districts of Teneriffe—where it was taken by myself (during May of 1858 and 1859) in the region of the Agua Mansa, and more sparingly by Dr. Crotch (during the summer of 1864) in the Pinal above Yeod el Alto. It is one of the rarest of the Canarian Coleoptera.

4. **Leistus ellipticus.**

Leistus ellipticus, *Woll., Cat. Mad. Col.* 8 (1857).

Habitat Maderenses (Mad.), in humidis sylvaticis excelsis, rarissimus.

A most anomalous *Leistus*, occurring in precisely the same sort of places at Madeira as the *L. nubivagus* does at Teneriffe—within the damp sylvan districts, at a high elevation. Like the Teneriffan species, it is extremely rare.

Genus 4. **NEBRIA.**

Latreille, *Gen. Crust. et Ins.* i. 225 (1806).

5. **Nebria dilatata.**

Nebria dilatata, *Dej., Spec. Gén. des Col.* v. 580 (1831).

— —, *Brullé, in Webb et Berth. (Col.)* 58, pl. ii. f. 7 (1838).

— —, *Woll., Cat. Can. Col.* 2 (1864).

Habitat Canarienses (*Ten.*), ad rupes aquosas in montibus excelsis, hinc inde haud infrequens.

A superb *Nebria* which has been detected hitherto only in the higher altitudes of Teneriffe, where it occurs about the wet rocks and trickling streams. In such situations I met with it (during April and May of 1859) in the Pinal above Ycod el Alto, as well as in the district of the Agua Mansa; and it was taken by the Messrs. Crotch (during the summer of 1864) in the Barranco at Ycod el Alto itself, "under the waterfall, where the water splashes."

6. **Nebria currax.**

Nebria currax, *Woll., Cat. Can. Col.* 3 (1864).

Habitat Canarienses (*Can.*), in aquosis intermediis, rarissimus.

Apparently very rare, the only two specimens which I have seen having been taken by myself in Grand Canary (during April 1858) —from amongst wet stones and rubbish at the edges of the little river at Teror.

Genus 5. **CALOSOMA.**

Weber, *Observat. Ent.* 20 [script. *Callisoma*] (1801).

7. **Calosoma indagator.**

Carabus Maderæ, *Fab., Syst. Ent.* 237 (1775).

— *indagator*, *Fab., Mant. Ins.* i. 197 (1787).

Calosoma Maderæ, *Brullé, in Webb et Berth. (Col.)* 58 (1838).

— —, *Woll., Ins. Mad.* 15 (1854).

— —, *Id., Cat. Mad. Col.* 7 (1857).

— *indagator*, *Id., Cat. Can. Col.* 3 (1864).

Habitat Maderenses (in ins. "Chão" solâ adhuc haud observatum) et Canarienses (*Can., Ten., Palma*), passim.

The *C. indagator*, which is widely spread over (though apparently somewhat scarce in) Mediterranean latitudes, is rather common in the Madeiran Group, where there can be little doubt that it is universal—the Flat Deserta, or Ilheo Chão, being the only island of the

five in which it does not happen to have been observed. At the Canaries it is decidedly scarcer; but it is probably general in, at all events, the central and western portions of the archipelago. Nevertheless hitherto it has been detected only in Grand Canary, Teneriffe, and Palma; and it is certainly remarkable that the late indefatigable researches of the Messrs. Crotch in Gomera did *not* bring it to light in that island: indeed they state that no one with whom they conversed at Gomera seemed to be acquainted with it.

8. *Calosoma azoricum*.

Calosoma azoricum?, *Heer, Fossil. Calosom.* 5 (note).

— —, *Woll., Cat. Can. Col.* 4 (1864).

Habitat Canarienses (*Lanz., Fuert.*), minus frequens.

This *Calosoma* seems to replace the *C. indagator* in the two eastern islands of the Canarian Group—Lanzarote and Fuerteventura; but I must add that the features (alluded to, *seriatim*, in my recent Catalogue) which separate it from that insect do not appear to me to be very important ones. Nevertheless it was the opinion of Dr. Schaum that they are sufficient to indicate a distinct species; and it seemed, both to him and to myself, that that species was *probably* the one from the Azores which Dr. Heer has described under the name of *azoricum*, and which occurs likewise at the Cape de Verdes,—the two examples (captured by Mr. Fry) on the strength of which I admitted it (*vide* ‘*Ann. of Nat. Hist.*’ 1861, vii. 95) into the fauna of St. Vincent appearing, on further inspection, to belong to the *azoricum* rather than the *indagator*.

Genus 6. CARABUS.

Linnæus, *Syst. Nat.* ii. 668 (1767).

9. *Carabus faustus*.

Carabus faustus, *Brullé, in Webb et Berth. (Col.)* 57, pl. ii. f. 3 (1838).

— —, *Woll., Cat. Can. Col.* 6 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis intermediis, rarissimus.

Apparently peculiar to the intermediate sylvan districts of Teneriffe, where moreover it must be not only very rare but also extremely local,—seeing that it has *not* been met with either by myself or the Messrs. Crotch, during our continued researches in that island. It was, however, taken by M. Hartung; and it has been communicated “from the Agua Garcia” by the Barão do Castello de Paiva.

10. *Carabus interruptus*.

Carabus interruptus (Lat.), *Dej., Spec. Gén. des Col.* v. 547 (1831).

— abbreviatus, *Brullé, in Silb. Rev. Ent.* iii. 298 (1835).

— interruptus, *Woll., Cat. Can. Col.* 6 (1864).

Habitat Canarienses (*Ten.*), in montibus excelsis circiter ad 7000' s. m. ascendens.

Like the *C. faustus*, this *Carabus* has been observed only in the higher elevations of Teneriffe—where, however, it is not uncommon in certain regions difficult of access. I have taken it in the district of the Agua Mansa, and from thence to the lofty Cumbre above it; as well as above Ycod el Alto, where it has subsequently been captured by the Messrs. Crotch.

11. *Carabus coarctatus*.

Carabus coarctatus, *Brullé, in Webb et Berth. (Col.)* 57, pl. ii. f. 2 (1838).

— —, *Woll., Cat. Can. Col.* 5 (1864).

Habitat Canarienses (*Can.*), in intermediis et elevatis, rarissimus.

This fine and distinct *Carabus* has been observed hitherto only in the intermediate and higher elevations of Grand Canary, where (during March and April of 1858) I took it in the region of El Monte and on the ascent to the Roca del Soucilho.

(Subfam. IV. SCARITIDES.)

Genus 7. SCARITES.

Fabricius, *Syst. Ent.* 249 (1775).

12. *Scarites gigas*.

Scarites gigas, *Fab., Spec. Ins.* i. 314 (1781).

— *Pyraemon, Bon., Obs. Ent.* ii. 33 (1813).

— —, *Hartung, Geolog. Verhältn. Lanz. und Fuert.* 140.

— *gigas*, *Woll., Cat. Can. Col.* 7 (1864).

Habitat Canarienses (*Lanz., Can.*), in aridis submaritimis, rarissimus.

The *S. gigas* of Mediterranean latitudes (which is also tolerably common at Mogadore, on the coast of Morocco) occurs rarely at the Canaries, where however it is probably universal in the more eastern portions of the Group. It was taken by Mr. Gray and myself in the low arid district around Arrecife in Lanzarote; and by myself in the little island of Graciosa (off the north of Lanzarote), as well as at Maspalomas in the extreme south of Grand Canary.

13. *Scarites humeralis*.

Scarites humeralis, *Woll., Ins. Mad.* 12 (1854).

— —, *Id., Cat. Mad. Col.* 6 (1857).

Habitat Maderenses (*P^{to} S^{to}*), rarissimus.

Apparently peculiar to Porto Santo, where it occurs (though rarely) in company with the *S. abbreviatus*,—more particularly on the slopes of the Pico do Castello. I have taken it, sparingly, on several occasions; and examples have been also communicated by the Barão do Castello de Paiva.

14. *Scarites abbreviatus*.

Scarites abbreviatus (*Koll., Dej., Spec. Gén. des Col.* i. 379 (1825).

— dimidiatus, *Brullé, in Webb et Berth. (Col.)* 57, pl. ii. f. 6 (1838).

— abbreviatus, *Woll., Ins. Mad.* 11 (1854).

— —, *Id., Cat. Mad. Col.* 6 (1857).

Habitat Maderenses (ins. omnes) vulgaris, ab orâ maritimâ usque ad summos montes ascendens.

This (rather variable) *Scarites* is universal in the Madeiran Group, occurring in every island and at all elevations; but it has not yet been observed either at the Canaries or on the rocks of the Salvages. It is true that a *Scarites* is described by M. Brullé (under the trivial name of *dimidiatus*) as Canarian, which is clearly identical with this species; but I have recorded at some length [*vide* 'Cat. Can. Col.' 7 (note)] the reasons why I consider that an error undoubtedly arose with regard to it—feeling satisfied that the example which served M. Brullé for a diagnosis was in reality brought by Mr. Webb from Madeira, and was accidentally mixed up with the Canarian material which he afterwards amassed. I considered the evidence on this point so conclusive that I had (and still have) no hesitation whatever in rejecting the insect as a Canarian one.

Genus 8. *DYSCHIRIUS*.

Bonelli, *Observ. Ent.* i. (1809).

15. *Dyschirius armatus*.

Dyschirius armatus, *Woll., Cat. Can. Col.* 8 (1864).

Habitat Canarienses (*Lanz.*), in salinis parcissime degens.

The only specimens which I have seen of this *Dyschirius* were taken by myself (during March 1859) in Lanzarote, of the Canarian Group—along the sandy shores of the salt lake of Januvio, adjoining the south-western coast of that island.

16. *Dyschirius subæneus*.

Dyschirius subæneus, *Woll., Cat. Can. Col.* 9 (1864).

Habitat Canarienses (*Can.*), in lutosis (nec salinis) ad Arguiniguin repertus.

Very closely allied to the European *D. cæneus*, of which it may possibly be but a geographical state. It is evidently rare, the few specimens as yet detected having been captured by myself (in April 1858) at Arguiniguin in the south of Grand Canary.

17. *Dyschirius pauxillus*.

Dyschirius pauxillus, *Woll., Cat. Can. Col.* 9 (1864).

Habitat Canarienses (*Ten.*), ad Portum Orotavæ captus.

Like the last, this may possibly be a modification of a European species—the *D. misellus*, Schaum, from Mediterranean latitudes. It would seem to be quite as scarce as the *subæneus*, two examples only—taken by myself at the Puerto Orotava in Teneriffe—being all that I have as yet seen.

(Subfam. V. APOTOMIDES.)

Genus 9. APOTOMUS.

(Hoffmansegg) Illig., *Mag. für Ins.* vi. 348 (1807).

18. *Apotomus Chaudoirii*.

Apotomus rufus, *Woll.* [nec *Rossi*, 1790], *Ins. Mad.* 14 (1854).

— — —, *Id.*, *Cat. Mad. Col.* 6 (1857).

— *Chaudoirii*, *Id.*, *Ann. Nat. Hist.* v. 217 (1860).

Habitat Maderenses (*Mad.*, *P^{to} S^{to}*), sub lapidibus in locis inferioribus, parum rarus.

This is perhaps a mere state of the *A. rufus* of Mediterranean latitudes, with which indeed I had always identified it until 1860,—when the Baron de Chaudoir, who has paid great attention to the *Carabidæ*, informed me that he believed it to be specifically distinct. Induced therefore by such high authority, I described it as new (though not without some hesitation) in the ‘Annals of Natural History.’ It unquestionably possesses a few features of its own, but they appear to me to be of such trifling importance that I doubt if they are indicative of more than a slight geographical variety. It seems to differ from the ordinary type of the *A. rufus*, merely, in having its limbs extremely pallid, whilst at the same time the fifth,

sixth, and seventh joints of its antennæ are very much darker than the remaining ones (the basal four and apical four being always pale).

Whether specifically distinct or not, the *A. Chaudoirii* is decidedly rare,—occurring, however, sparingly at low elevations in Madeira and Porto Santo; but it has not yet been observed in either the Salvages or the Canarian Group.

19. *Apotomus testaceus*.

Apotomus testaceus, Dej., *Spec. Gén. des Col.* i. 451 (1825).

— —, Woll., *App. hujus op.* 1.

Habitat Salvages (ins. *majorem*, *borealem*), a Barone “Castello de Paiva” nuper communicatus.

As will be seen by a reference to the Appendix of this work, the present *Apotomus* has been communicated recently from the Great Salvage by the Baron Paiva. And, as there stated, it is a most interesting addition to our fauna, from supplying another instance of an Egyptian species (which in this case, however, occurs likewise in the south-east of Europe) inhabiting these Atlantic islands. The example sent by the Baron Paiva I have placed in the collection of the British Museum.

(Subfam. VI. DITOMIDES.)

Genus 10. **ARISTUS**.

(Ziegler) Latr., *Règne Anim.* (éd. 2) iv. 387 (1829).

20. *Aristus subopacus*.

Ditomus clypeatus?, Brullé [nec Rossi], in Webb et Ber. (*Col.*) 57 (1838).

Aristus subopacus, Woll., *Cat. Can. Col.* 53 (1864).

Habitat Canarienses (*Fuert.*) rarissimus, à meipso semel lectus.

Apparently very rare, the only specimen which I have seen having been captured by myself on the summit of La Atalaya (above Betancuria)—the loftiest mountain of Fuerteventura. *Primo visu* it might almost be regarded as the Canarian representative of the *Ditomus opacus*, of the southern parts of Algeria.

(Subfam. VII. SIAGONIDES.)

Genus 11. **SIAGONA**.

Latreille, *Consid. Gén.* 160 (1810).

21. *Siagona europæa*.

Siagona Europæa, *Dej., Spec. Gén. des Col.* ii. 468 (1826).

Habitat Canarienses (*Can.*), mihi non obvia, specimine unico à Barone "Castello de Paiva" nuperrime communicato.

A single specimen of the *S. europæa* of Mediterranean latitudes has lately been communicated by the Barão do Castello de Paiva, who obtained it (as he positively assures me) from a correspondent in Grand Canary. It is the only example of the genus which I have yet seen from these Atlantic islands; but as it was associated (in the bottle of spirits which contained it) with the ordinary Canarian insects, I can have little doubt that its asserted *habitat* is a correct one.

(Subfam. VIII. BRACHINIDES.)

Genus 12. *PHEROPSOPHUS*.

Solier, *Ann. de la Soc. Ent. de France*, ii. 461 (1833).

22. *Pheropsophus hispanicus*.

Brachinus hispanicus, *Dej., Spec. Gén. des Col.* i. 303 (1825).

— —, *Brullé, in Webb et Berth. (Col.)* 55 (1838).

Pheropsophus hispanicus, *Woll., Cat. Can. Col.* 10 (1864).

Habitat Canarienses (*Can., Ten.?*), in humidis rarissimus.

The noble *P. hispanicus* (which occurs in the south of Spain and the north of Africa) is found, though very rarely, at the Canaries. I have met with it at Arguineguin, in the south of Grand Canary; and a single example has been communicated by M. Chevrolat purporting to have been taken in Teneriffe—a locality, however, which requires further corroboration. Grand-Canarian specimens have also been obtained by the Barão do Castello de Paiva.

(Subfam. IX. DRYPTIDES.)

Genus 13. *POLYSTICHUS*.

Bonelli, *Observat. Ent.* tab. (1809).

23. *Polystichus brunneus*.

Polistichus brunneus, *Dej., Spec. Gén. des Col.* v. 298 (1831).

— unicolor, *Brullé, Hist. Nat. des Ins.* iv. 179, pl. 6. f. 2 (1834).

Polystichus brunneus, *Woll., Cat. Can. Col.* 10 (1864).

Habitat Canarienses (*Ten., Gom.*), in locis elevatis usque ad 9000' s. m. ascendens.

This distinct and interesting *Polystichus* appears to be essentially

Canarian, and confined to very lofty elevations. I have taken it on the Cumbre adjoining the Cañadas, in Teneriffe; and it was found (during the summer of 1864) by the Messrs. Crotch at a high altitude on the mountains above Hermigua, in Gomera,—“above the cataract; between it and Monte Fuerte.”

The Gomeran specimens seem on the average to be a trifle larger than the Teneriffan ones, with their prothorax and limbs a little more elongated, and with the apices of their elytra more rounded off (separately). Their punctation also is not *quite* the same,—it being, if anything, at all events on the forehead, a little more remote, and on the prothorax and interstices not *quite* so deep. But such slight differences cannot, I think, indicate more, at the utmost, than an unimportant insular phasis of the species. Nevertheless having pointed out the distinctions (such as they are), I would at any rate cite the Gomeran form as “var. β . *aptinoides*.”

(Subfam. X. LEBIADES.)

Genus 14. **TARUS.**

Clairville, *Ent. Helv.* ii. 94 (1806).

24. **Tarus suturalis.**

Cymindis suturalis, *Dej., Spec. Gén. des Col.* i. 206 (1825).

Tarus suturalis, *Woll., Ins. Mad.* 3 (1854).

— —, *Id., Cat. Mad. Col.* 2 (1857).

— —, *Id., Cat. Can. Col.* 19 (1864).

Cymindis suturalis, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 140.

Habitat Maderenses (*Mad., P^{to} S^{to}, Des.*), Salvages (ins. *majorem*, *borealem*) et Canarienses (*Lanz., Fuert., Can.*), hinc inde sub lapidibus, præcipue in inferioribus, vulgaris.

The *T. suturalis* was supposed formerly to be peculiarly an Egyptian insect, whereas in reality it is well nigh universal throughout these Atlantic islands—having been taken in the whole three groups. At the Madeiras it is more especially abundant in the low arid districts of Porto Santo; nevertheless it is found likewise on the Ponta de São Lourenço (the extreme eastern promontory) of Madeira proper, and on the Deserta Grande. From the Salvages a single example was obtained by the Barão do Castello de Paiva, from the larger (or northern) island; whilst at the Canaries it teems in certain dry and sandy places of Lanzarote, Fuerteventura, and Grand Canary. So that, both at the Madeiras and Canaries, it would seem to be common in the eastern parts of the respective archipelagos, and to disappear gradually as we approach the west.

25. *Tarus discoideus*.

Cymindis discoidea, *Dej., Icon. i. 78, t. 8. f. 5* (1829).

— *discordea*, *Brullé, in Webb et Berth. (Col.) 55* (1838).

— —, *Hart., Geolog. Verhältn. Lanz. und Fuert. 140, 141.*

Tarus discoideus, *Woll., Cat. Can. Col. 19* (1864).

Habitat Canarienses (*Lanz., Fuert.*), sub lapidibus hinc inde vulgaris.

This elegant *Tarus* is essentially Canarian,—occurring, *I believe*, only in the more eastern portion of the Group. It is abundant under stones in Lanzarote and Fuerteventura; and we may expect it to be found likewise in the sandy parts of Grand Canary, though it has not yet been observed in that island. I have indeed received two examples from the Barão do Castello de Paiva as even *Teneriffan*; but as he had many insects sent to him from Fuerteventura, I am inclined to suspect that some mistake arose as to the *habitat*. At least further evidence is necessary before I can believe that the species exists in so central a portion of the archipelago.

26. *Tarus Paivanus*.

Tarus Paivanus, *Woll., Journ. of Ent. i. 85* (1860).

Habitat Salvages (ins. *majorem, borealem*), à Barone “Castello de Paiva” communicatus.

A beautiful *Tarus*, appearing to represent at the Salvages the *T. discoideus* (just enumerated) which is so general in the eastern portion of the Canarian Group. It has been received on several occasions from the Great Salvage by the Baron Paiva, to whom I had much pleasure in dedicating the species*.

27. *Tarus Maderæ*.

Tarus lineatus, *Woll. [nec Schön. 1806], Ins. Mad. 2* (1854).

— *Maderæ*, *Id., Cat. Mad. Col. 1* (1857).

Habitat Maderenses (*Mad.*), in montibus vulgaris.

This *Tarus* is somewhat akin to the *T. lineatus* of southern Europe, with which indeed I had originally identified it; and it was Schaum who first called my attention to certain characters which must nevertheless separate it entirely from that insect. Hitherto it

* The *T. Paivanus* is smaller and narrower than the *discoideus*, its head and (differently shaped) prothorax are darker, and its elytra are flatter and less shining, with their humeral angles less obtuse, their striæ much more crenated, the impressions on their third interstice larger and deeper, and the fascia across their hinder disk very much more developed.

has been detected only in Madeira proper, where it is essentially a mountain species,—occurring, sometimes abundantly, from about 2000 feet above the sea to the summits of the peaks.

28. *Tarus marginellus*.

Cymindis marginella, *Brullé, in Webb et Berth. (Col.)* 55 (1838).

Tarus marginellus, *Woll., Cat. Can. Col.* 20 (1864).

Habitat Canarienses (*Lanz.*), sub lapidibus in aridis parce occurrens.

Hitherto this *Tarus* has been observed only in the north of Lanzarote, of the Canarian Group—where it occurs sparingly, beneath stones, on the barren rocky ground immediately behind the Salinas, towards the Risco.

29. *Tarus cinctus*.

Cymindis cincta, *Brullé, in Webb et Berth. (Col.)* 55 (1838).

Tarus cinctus, *Woll., Cat. Can. Col.* 20 (1864).

Habitat Canarienses (*Can., Ten.?*), in montibus excelsis degens.

A few specimens of this remarkable *Tarus*, taken by myself at a high elevation on the mountains of Grand Canary (in a lofty Pinal of the district of Tarajana), are all—with the exception of M. Brullé's type, and an example which has just been communicated by M. de Marseul—that I have yet seen. It must therefore be considered both local and rare. De Marseul's specimen, which was captured by M. de la Perraudière, is labelled as coming from "Teneriffe." It is very possible that this *habitat* may be correct; nevertheless since many of the insects in the same consignment have (without doubt) wrong localities indicated for them, I think it safer to query Teneriffe for the species. The prothorax of this particular example is just perceptibly wider, and its punctation is (if anything) not quite so deep as in the Grand-Canarian ones; so that it is far from unlikely that it may represent some slight insular (Teneriffan) modification of the species.

30. *Tarus velatus*.

Tarus velatus, *Woll., App. huj. op. 2.*

Habitat Canarienses (*Gom.*), in lauretis humidis editioribus degens.

A Canarian *Tarus*, apparently peculiar to the sylvan regions of Gomera—where it was detected by the Messrs. Crotch, during the summer of 1864, at a high elevation on the laurel-clad mountains above Hermigua.

31. *Tarus amictus*.

Tarus amictus, *Woll., Cat. Can. Col.* 21 (1864).

— —, *Id., App. huj. op.* 2.

Habitat Canarienses (*Can., Gom.*), in locis similibus ac præcedens.

Likewise a Canarian species, and one which has been observed hitherto only in the sylvan districts of Grand Canary and Gomera. In the former it was taken by myself, on the wooded mountains near Osorio; and in the latter by the Messrs. Crotch, in the laurel-forests above Hermigua. As will be seen from the amended diagnosis of it which I have given in the Appendix, it presents in Gomera two slightly different forms, both of which have much in common with the *T. velatus*.

32. *Tarus zargoides*.

Tarus zargoides, *Woll., Ann. Nat. Hist.* xi. 214 (1863).

— —, *Id., Cat. Can. Col.* 21 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis editioribus humidis præsertim lauretis parce occurrens.

This interesting little *Tarus*, which may perhaps be regarded as the Canarian representative of the *T. cordatus* of southern Europe, has been detected hitherto only in the sylvan regions of Teneriffe—where moreover it is decidedly scarce, occurring sparingly at intermediate and lofty altitudes.

Genus 15. **DROMIUS.**

Bonelli, *Observ. Ent.* ii. tab. syn. (1813).

33. *Dromius agilis*.

Carabus agilis?, *Fab., Ent. Syst.* i. 139 (1792).

Dromius agilis?, *Schaum, Nat. der Ins. Deutsch.* i. 268 (1860).

— —, *Woll., Cat. Can. Col.* 11 (1864).

Habitat Canarienses (*Fuert.*), rarissimus; semel tantum captus.

The sole authority for the admission of this European *Dromius* into the Atlantic fauna is a single immature specimen which I captured in the Rio Palmas of Fuerteventura. And although I am nearly certain that it is referable to the *agilis* of more northern latitudes, and quite satisfied that it cannot be conspecific with any of the other forms here enumerated, I nevertheless cannot but feel that further evidence is greatly wanted before its identification can be regarded as absolutely settled.

34. *Dromius plagipennis*.

Dromius plagipennis, *Woll., Append. huj. op.* 3.

Habitat Canarienses (*Ten., Hierro*), in intermediis rarissimus.

This large *Dromius* was detected by the Messrs. Crotch in Teneriffe and Hierro, during their late Canarian campaign—where it seems to be very rare and confined to intermediate altitudes. It has apparently a close affinity with the *D. meridionalis* of southern Europe.

35. *Dromius alutaceus*.

Dromius alutaceus, *Woll., Cat. Mad. Col.* 2 (1857).

Habitat Maderenses (*Mad.*), sub cortice laxo præsertim *Ericæ* et *Taxi* in intermediis parce degens.

Although extremely local, not very uncommon in certain places in Madeira proper—harbouring principally beneath the bark of yew trees, and the dry outer fibre of heaths, at intermediate altitudes. In such situations it has been taken at “the Mount” (above Funchal), at Camacha, and at S. Antonio da Serra. It belongs to the same type as the last species, to which indeed (although unquestionably distinct from it) it is closely allied*.

36. *Dromius oceanicus*.

Dromius insularis (p.), *Woll., Ins. Mad.* 4 (1854).

— — (p.), *Id., Cat. Mad. Col.* 2 (1857).

— — *oceanicus*, *Id., Append. huj. op.* 3.

Habitat Maderenses (*Chão, Des.*), sub lapidibus in aridis rarissimus.

Observed hitherto only on the Northern and Central Desertas (*i. e.* the Ilheo Chão and the Deserta Grande) of the Madeiran Group, where it occurs (though very rarely) beneath stones in arid spots.

37. *Dromius insularis*.

Dromius insularis, *Woll., Ins. Mad.* 4 (1854).

— —, *Id., Cat. Mad. Col.* 2 (1857).

— —, *Id., Append. huj. op.* 4.

Habitat Maderenses (*Mad.*), in sylvaticis humidis editioribus sub cortice laxo præcipue latitans.

* In the *D. alutaceus* the head and prothorax (the former of which is a little rounder, or more suddenly narrowed behind the eyes, whilst the latter is a trifle smaller and more quadrate) are less shining than in the *plagipennis*, being in fact alutaceous (though less coarsely so than the elytra), and the pale blotch on the fore part of each elytron is so increased in length as to cover the larger portion of either disk. The entire insect also is somewhat smaller and slenderer, and its elytra are straighter at the sides and more depressed.

Occurs in the damp sylvan regions of Madeira proper, where it is extremely scarce and ascends to a rather high altitude.

38. *Dromius strigifrons*.

Dromius strigifrons, *Woll., Append. huj. op. 5.*

Habitat Canarienses (*Ten.*), sub quisquiliis in editioribus à DD.
Crotch æstate A.D. 1864 parce detectus.

Found sparingly in Teneriffe by the Messrs. Crotch, during their late Canarian campaign,—I believe, under leaves and refuse, at Yeod el Alto.

39. *Dromius amœnus*.

Dromius amœnus, *Woll., Cat. Can. Col. 12 (1864).*

— —, *Id., Append. huj. op. 5.*

Habitat Canarienses (*Ten.*), sub cortice laxo in sylvaticis humidis editioribus parum rarus.

Inhabits the sylvan regions of a rather high elevation in Teneriffe, where it occurs sparingly beneath the loosened bark of the laurels in damp spots.

40. *Dromius elliptipennis*.

Dromius sigma (p.), *Woll. [nec Rossi], Ins. Mad. 5 (1854).*

— — (—), *Id., Cat. Mad. Col. 3 (1857).*

— *elliptipennis*, *Id., Cat. Can. Col. 12 (1864).*

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom., Hierro*), plerumque in sylvaticis intermediis, sed interdum etiam in inferioribus, occurrens.

Found both in the Madeiran and Canarian Groups, though perhaps (on the average) at a rather lower elevation than the *D. sigma*, and more frequently (though by no means always) within the sylvan districts than elsewhere. I believe it to be truly distinct from the *sigma*, and I may add that it was so regarded by Schaum; nevertheless occasional specimens approach the latter very closely. It is apparently as inconstant as that insect, both in the exact shape and colour of its prothorax and in the depth of its fascia. Nevertheless the latter is nearly always more developed than is the case in the *sigma*, its elytra are more elliptical (or rounded off at the shoulders) and have their scutellary region generally a little infuscated, and its surface is frequently subopaque*. In the Teneriffan examples (which

* A single example which I captured (during March 1849) at a low elevation in Madeira proper—namely on the little islet known as the Ilheo de Fora, which

supplied the *type* from which my diagnosis of the species was drawn out) the prothorax is a little wider behind than in either the ordinary Gomeran ones or in those from Madeira (which last constitute the vars. “ β ” and “ γ ,” in my ‘*Ins. Mad.*,’ of the *D. sigma*)*.

Assuming therefore that no second species is indicated amongst the many slightly different forms which I have treated (and, I believe, correctly) as but local states, or modifications, of the *elliptipennis*, the present *Dromius* may be said to have been captured in Madeira proper, as well as in Teneriffe, Gomera, and Hierro, of the Canarian Group.

41. *Dromius sigma*.

Carabus sigma, *Rossi, Fna Etrusc.* i. 226 (1790).

Dromius sigma (p.), *Woll., Ins. Mad.* 5 (1854).

— — (—), *Id., Cat. Mad. Col.* 3 (1857).

— —, *Id., Cat. Can. Col.* 13 (1864).

Habitat Maderenses (*Mad.*, *P^{to} S^{to}*, *Des.*) et Canarienses (*Can.*, *Ten.*), in intermediis et valde elevatis, usque ad 9000' s. m. parce ascendens.

The European *D. sigma* occurs sparingly both at the Madeiras and Canaries, principally (beneath stones) in open spots of a rather high elevation; but I think that the examples from the former Group (especially the Porto-Santan ones) are more typical than those from the latter. It is essentially, however, a variable insect—not only in the development of its zigzag fascia, but even in the exact shape and tint of its prothorax. Thus the Madeiran specimens would seem on the average to have the former narrower, and their prothorax a trifle wider (and more margined) behind, than is the case with the Canarian ones; but I can see nothing about any of them to warrant the suspicion that they are more than geographical, or insular, states of

constitutes the detached extremity of the São Lourenço promontory—has the above characters, of opacity and the development of its darker portions, so much exaggerated that I at first thought that it must be the representative of a distinct species. Ultimately, however, I recorded it (in my ‘*Ins. Mad.*’) as a “var. γ ” of the *D. sigma*.

* A considerable series of Gomeran specimens, which were captured by the Messrs. Crotch, seem to me to present sufficient differences from the ordinary Teneriffan type to render it desirable to treat them as an insular variety. They differ in being a little smaller—the prothorax especially being less developed, as well as relatively narrower and more cordate (or attenuated behind) and less margined at the sides,—and in their elytra being if anything a *trifle* less elliptical, with the fascia a little less broad or thickened. This particular state may be recorded, briefly, thus:—

Var. β . *parvicollis*. Vix minor, prothorace sensim minore, paulo magis cordato, postice ad latera minus explanate marginato, elytrorum fasciâ paulo minore (*i. e.* longitudinaliter angustiore).

a single species. There are few questions, however, bearing on our present subject, which are more difficult to decide than the amount of importance which should be attached to the many slightly differing forms which arrange themselves around the *D. sigma*; and unless therefore we are prepared to acknowledge an indefinite number of closely allied species, I think we shall be compelled to regard that insect not merely as eminently variable but as *varying* (more or less appreciably, though doubtless within fixed limits) in nearly every country and district in which it is found*.

Taking it for granted therefore (as in the case of the *D. elliptipennis*) that the numerous modifications to which I have just referred are but local states of the *sigma*, I may add that the species has been taken in Madeira proper, Porto Santo, and the Deserta Grande, of the Madeiran Group, and in Grand Canary and Teneriffe, at the Canaries. It ascends occasionally to a very lofty altitude,—indeed in Teneriffe to nearly 9000 feet above the sea, in which elevated district it represents the “var. β ” (found on the Cumbre adjoining the Cañadas) of my Canarian Catalogue.

42. *Dromius umbratus*.

Dromius umbratus, *Woll., Append. huj. op. 6.*

Habitat Maderenses (*Mad.*), rarior; à Dom. Bewicke parcissime lectus.

Two examples of this *Dromius*, which were captured by the late Mr. Bewicke in Madeira proper, are all that I have yet seen. The species is closely allied to the *D. sigma*; but it appears to be considerably larger, with the head and prothorax wider and more developed, with the elytral fascia *very* much thicker and straighter (or less dentate), and with the limbs more rufescent (or less testaceous). It is certain, however, that further material is required, in order to ascertain that these various characters are constant.

* Two Teneriffan examples, however, which were collected by the Messrs. Crotel, if not specifically distinct from the *sigma*, appear to be worth recording as representing at any rate a very remarkable variety. They differ in the head and prothorax being a little more developed, in the latter being also very appreciably longer and of a paler testaceous hue, and in the elytral fascia being a great deal thicker and less dentate. They have much the general colouring of the *D. oblitus*, Boield., of more northern latitudes; but their head is rather larger, their prothorax considerably more elongated, and their elytra are more conspicuously striate. The state (or species?) of which they are the exponents may be enunciated as follows:—

Var. γ . *longicollis*. Capite prothoraceque paulo majoribus, hoc sensim longiore et clare testaceo, elytrorum fasciâ multo crassiore, rectius transversâ vel multo minus dentatâ.

43. *Dromius pervenustus*.

Dromius pervenustus, *Woll., Cat. Can. Col.* 14 (1864).

Habitat Canarienses (*Ten., Gom., Palma*), sub foliis dejectis præcipue in intermediis parce degens.

Occurs beneath fallen leaves, and other dry refuse, in the Canarian Group, principally at intermediate elevations. It has been observed in Teneriffe, Gomera, and Palma; but it is both local and rather scarce.

44. *Dromius incertus*.

Dromius incertus, *Woll., Cat. Can. Col.* 13 (1864).

Habitat Canarienses (*Lanz.*), rarissimus; specimina duo hactenus sola vidi.

The only two examples which I have yet seen of this *Dromius* were taken by myself in Lanzarote, of the Canarian Group. The species appears to be allied to the European *D. nigriventris*, Thoms. (= *fasciatus*, Dej.)

Genus 16. BLECHRUS.

Motschulsky, *Bull. de Mosc.* iii. 219 (1847).

45. *Blechrus glabratus*.

Lebia glabrata (*Meg.*), *Dufts., Fna Austr.* ii. 248 (1812).

Dromius glabratus, *Brullé, in Webb et Berth. (Col.)* 55 (1838).

— *negrita*, *Woll., Ins. Mad.* 9 (1854).

— *glabratus*, *Id., Cat. Mad. Col.* 4 (1857).

Blechrus glabratus, *Schaum, Nat. der Ins. Deutsch.* i. 275 (1860).

— —, *Woll., Cat. Can. Col.* 15 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), in intermediis rarior.

The European *B. glabratus* is not uncommon in the intermediate elevations of Madeira proper; but from the Canaries I have seen hitherto only a single example, which was taken by myself at the Agua Garcia in Teneriffe. It is certainly very closely allied to the *B. maurus*, from which, indeed, small specimens are occasionally not easy to separate.

46. *Blechrus maurus*.

Dromius maurus, *Sturm, Deutsch. Fna*, vii. 55, t. 171. f. D (1827).

— *glabratus*, *Woll., Ins. Mad.* 9 (1854).

— *maurus*, *Id., Cat. Mad. Col.* 5 (1857).

Blechrus maurus, *Schaum, Nat. der Ins. Deutsch.* i. 276 (1860).

— —, *Woll., Cat. Can. Col.* 15 (1864).

Habitat Maderenses (*Mad., P^{to} S^{to}, Des.*) et Canarienses (*Can., Ten., Palma*), passim.

The *B. maurus*, so abundant throughout Europe, is widely spread over these Atlantic islands—where, indeed, most probably it is universal. As yet, however, it has been observed only in Madeira proper, Porto Santo, and the Deserta Grande, of the Madeiran Group, and in Grand Canary, Teneriffe, and Palma, of the Canaries.

47. *Blechrus plagiatus*.

Lebia plagiata (Meg.), *Dufts., Fna Austr.* ii. 249 (1812).

Dromius plagiatus, *Woll., Cat. Mad. Col.* 5 (1857).

Blechrus plagiatus, *Schaum, Nat. der Ins. Deutsch.* i. 277 (1860).

— —, *Woll., Cat. Can. Col.* 15 (1864).

Habitat Maderenses (*P^{to} S^{to}*) et Canarienses (*Lanz., Fuert., Can., Ten., Gom.*), hinc inde occurrens.

The *B. plagiatus* of central and southern Europe is, like the last species, widely spread over these Atlantic Groups. It is certainly, however, scarcer than the *B. maurus*—at any rate in the Madeiran archipelago, whence two examples collected by the late Mr. Bewicke in Porto Santo are all that I have yet seen. But at the Canaries it is far more common, and may perhaps be universal; though hitherto it does not happen to have been observed in either Palma or Hierro. In the other five islands, however, although local, it is not by any means rare.

Genus 17. **METABLETUS.**

Schm.-Göbel, *Ent. Zeit. Stett.* 390 (1846).

48. *Metabletus patruelis*.

Dromius patruelis, *Chaud., Enum. des Carab. de Cauc.* 60 (1846).

— exclamationis, *Ménétr., Ins. rec. p. Lehm.* i. 6. f. 4 (1849).

— arenicolus, *Woll., Ins. Mad.* 6 (1854).

— arenicola, *Id., Cat. Mad. Col.* 4 (1857).

— obscuroguttatus, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 141.

Metabletus patruelis, *Woll., Cat. Can. Col.* 16 (1864).

Habitat Maderenses (*Mad., P^{to} S^{to}*) et Canarienses (*Lanz., Fuert.*), hinc inde in aridis arenosis et calcareis vulgaris.

The *M. patruelis*, which is widely spread over Mediterranean latitudes, occurs in at any rate the eastern parts both of the Madeiran and Canarian archipelagos—particularly in arid, sandy, and calcareous spots. It abounds in Porto Santo, and is found on the Ponta de São Lourenço (the eastern promontory) of Madeira proper; whilst at the Canarian Group it has been observed hitherto only in Lanzarote and Fuerteventura.

49. *Metabletus obscuroguttatus*.

Lebia obscuroguttata (*Anders.*), *Dufts., Fna Austr.* ii. 249 (1812).

Dromius obscuroguttatus, *Woll., Ins. Mad.* 7 (1854).

— —, *Id., Cat. Mad. Col.* 4 (1857).

Metabletus obscuroguttatus, *Sch., Nat. der Ins. Deutsch.* i. 279 (1860).

Habitat Maderenses (*Mad.*), in montibus valde elevatis sub lapidibus vulgaris.

The very widely spread *M. obscuroguttatus* occasionally abounds in Madeira proper, at a high elevation—occurring beneath stones on the exposed mountain-slopes, from about 3000 feet above the sea to the summits of the peaks; but it has not yet been detected in any of the other islands. It is a species which is stated to exist in many distant parts of the world, having been reported even from the Himalayas.

50. *Metabletus inæqualis*.

Metabletus inæqualis, *Woll., Ann. Nat. Hist.* xi. 214 (1863).

— —, *Id., Cat. Can. Col.* 16 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma, Hierro*), præsertim in sylvaticis intermediis vulgaris.

Found in the sylvan districts of the Canarian islands, at intermediate and lofty elevations, where it occasionally abounds. It is universal in the central and western portions of the Group—having been detected in Grand Canary, Teneriffe, Gomera, Palma, and Hierro (in the last of which it was met with recently by the Messrs. Crotch). It is closely allied to the *M. foveolatus*, Dej. (*cupreus*, Waltl), found in the south of Spain and at Tangiers, and which I have taken at Mogadore on the opposite coast of Morocco; but, apart from minor differences, it entirely wants the pale humeral patch which is always more or less conspicuous in that insect.

51. *Metabletus lancerotensis*.

Metabletus lancerotensis, *Woll., Cat. Can. Col.* 17 (1864).

Habitat Canarienses (*Lanz.*), sub lapidibus, præsertim in intermediis, passim.

The present *Metabletus* would appear to represent in Lanzarote (and, we may expect, in Fuerteventura also, though it does not happen as yet to have been observed there) the *M. inæqualis*, which is so general throughout the central and western portions of the Canarian Group. It is not uncommon (beneath stones) at intermediate elevations, particularly in the north of the island.

52. *Metabletus brevipennis*.

Metabletus brevipennis, *Woll., Cat. Can. Col.* 18 (1864).

Habitat Canarienses (*Ten.*), rarissimus; à W. D. Crotch semel repertus.

The only specimen which I have yet seen of this *Metabletus* was taken by Dr. Crotch, during the spring of 1862, in Teneriffe. Its distinctive characters have been fully pointed out in my *Canarian Catalogue*; and although apparently well defined, more examples are nevertheless much required in order to ascertain that the features which characterize it as a species are true and constant.

Genus 18. *MASOREUS*.

(Ziegler) *Dej., Spec. Gén. des Col.* iii. 538 (1828).

53. *Masoreus nobilis*.

Masoreus nobilis, *Woll., Cat. Can. Col.* 22 (1864).

Habitat Canarienses (*Fuert.*), rarissimus; juxta Olivam captus.

This large *Masoreus* occurs in Fuerteventura, of the Canarian Group, though very rarely—the only three examples which I have seen having been taken by myself, during March 1859, near Oliva.

54. *Masoreus arenicola*.

Masoreus arenicola, *Woll., Ann. Nat. Hist.* xi. 214 (1863).

— —, *Id., Cat. Can. Col.* 22 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in arenosis maritimis plus minus salinis hinc inde vulgaris.

Found in sandy and saline places (on and near the shore) of the two eastern islands of the Canarian Group, Lanzarote and Fuerteventura, where it is occasionally abundant. Both it and the *M. alticola* are closely allied to the European *M. Wetterhalii*; but the characters which separate them from that species, as well as *inter se*, have been fully pointed out in my *Canarian Catalogue*.

55. *Masoreus alticola*.

Masoreus alticola, *Woll., Cat. Can. Col.* 24 (1864).

Habitat Canarienses (*Ten.*), rarissimus, in humidis elevatis usque ad 8000' s. m. ascendens.

Likewise a Canarian insect, but one which has been observed hitherto only in the lofty elevations of Teneriffe—where it occurs, very sparingly, in damp sylvan (and subsylvan) spots, ascending to at least 8000 feet above the sea.

(Subfam. XI. CHLÆNIIDES.)

Genus 19. **CHLÆNIUS.**

Bonelli, *Observ. Ent.* i. tab. syn. (1813).

56. **Chlænium spoliatus.**

Carabus spoliatus, Rossi, *Mant. Ins.* i. 79 (1792).

Chlænium spoliatus, Dej., *Spec. Gén. des Col.* ii. 312 (1826).

— —, Schaum, *Nat. der Ins. Deutsch.* i. 329 (1860).

— —, Woll., *Cat. Can. Col.* 25 (1864).

Habitat Canarienses (*Can., Ten., Gom.*) rarior, in aquosis inferioribus præcipue occurrens.

The *C. spoliatus* of Mediterranean latitudes occurs sparingly at the Canaries, along the edges of streams, principally at low elevations. I have taken it in Grand Canary and Teneriffe, and it was found by Dr. Crotch in Gomera.

57. **Chlænium canariensis.**

Chlænium canariensis (*Klug*), Dej., *Spec. Gén. des Col.* v. 657 (1831).

— —, Brullé, in *Webb et Berth.* (*Col.*) 57, pl. ii. f. 5 (1838).

— —, Woll., *Cat. Can. Col.* 25 (1864).

Habitat Canarienses (*Can., Ten.*), hinc inde in aquosis parum vulgaris.

This fine *Chlænium* appears to be peculiarly Canarian, occurring in similar spots as (though more plentifully than) the preceding species. Hitherto it has been observed only in Grand Canary and Teneriffe.

(Subfam. XII. LICINIDES.)

Genus 20. **LICINUS.**

Latreille, *Gen. Crust. et Ins.* i. 199 (1806).

58. **Licinus Manriquianus.**

Licinus Manriquianus, Woll., *Ann. Nat. Hist.* ix. 438 (1862).

— —, *Id.*, *Cat. Can. Col.* 25 (1864).

— spec. (agricolæ affinis), Hart., *Geol. Verh. Lanz. u. Fuert.* 140, 141.

Habitat Canarienses (*Lanz., Fuert.*), sub lapidibus in intermediis haud infrequens.

Detected hitherto only in Lanzarote and Fuerteventura, in the east of the Canarian Group, where it is far from uncommon (during the winter and spring) at intermediate elevations. It is not improbable that it may exist also in Grand Canary. I have, indeed, received it from Paris with the label "Teneriffe" appended to it; but as it seems to be a custom with many of the French collectors to cite everything (from these islands) as Teneriffan for which they have no precise *habitat*, I cannot lay any stress upon a fact which seems to be the result of mere inaccuracy and carelessness.

Genus 21. **EURYGNATHUS.**

Wollaston, *Ins. Mad.* tab. i. f. 1 et 3 (1854).

59. **Eurygnathus Latreillii.**

Licinus Latreillei, *Laporte, Etud. Ent.* i. 83 (1834).

— —, *Casteln., Hist. Nat. des Ins. Col.* i. tab. 8. f. 9 (1840).

Eurygnathus Latreillei, *Woll., Ins. Mad.* 21, tab. 1. f. 1 et 3 (1854).

— —, *Id., Cat. Mad. Col.* 10 (1857).

Habitat Maderenses (*P^{to} Sto, Des.*), in intermediis et subelevatis degens.

This large and remarkable *Licinid* appears to be confined to the Madeiran Group, and to occur principally in the intermediate elevations of Porto Santo and the adjacent islet known as the Ilheo Debaixo. It is found, however, sparingly, on the Deserta Grande likewise—where, moreover, it assumes a slightly altered state, being, on the average, a little larger, with its elytra rather more parallel at the sides. In Porto Santo I have taken it abundantly during the winter months; and specimens from the same island have recently been communicated by the Barão do Castello de Paiva.

(Subfam. XIII. BROSCIDES).

Genus 22. **BROSCUS.**

Panzer, *Index Ent.* i. 62 (1813).

60. **Broscus crassimargo.**

Broscus crassimargo, *Woll., Append. huj. op.* 6.

Habitat Canarienses (*Gom.*), in lauretis humidis excelsis à DD. Crotch parce deprehensus.

A large *Broscus* which was detected by the Messrs. Crotch at a

high elevation in the laurel-districts of Gomera, during their late Canarian campaign. It appears to be extremely rare, and (like the *B. rutilans* of Teneriffe) to occur in wet places.

61. *Broscus glaber*.

Feronia (Percus) *glabra*, *Brullé*, in *Webb et Berth. (Col.)* 57, pl. ii. f. 4 (1838).

Broscus glaber, *Woll., Cat. Can. Col.* 26 (1864).

Habitat Canarienses (*Can.*), sub lapidibus in collibus aridis, præsertim calcareis, sat rarus.

The only island in which I have observed this *Broscus* is Grand Canary, where (during March 1858) I took it beneath stones on the dry calcareous hills above Las Palmas.

62. *Broscus rutilans*.

Broscus rutilans, *Woll., Ann. Nat. Hist.* ix. 438 (1862).

— —, *Id., Cat. Can. Col.* 27 (1864).

Habitat Canarienses (*Ten.*), in montibus excelsis usque ad 7000' s. m. ascendens.

Likewise peculiar to the Canarian Group, but detected hitherto only in Teneriffe—where it occurs at very lofty altitudes, principally about wet rocks. In such situations I obtained it, rather abundantly, on the mountain-ridges above the Agua Mansa (at an elevation of at least 7000 feet).

(Subfam. XIV. PTEROSTICHIDES.)

Genus 23. *POGONUS*.

(Ziegler) *Dej., Spec. Gén. des Col.* iii. b. (1828).

63. *Pogonus salsipotens*.

Pogonus salsipotens, *Woll., Cat. Can. Col.* 27 (1864).

Habitat Canarienses (*Lanz.*), in salinis juxta oram maritimam parum vulgaris.

Common (in saline places) in Lanzarote, of the Canarian Group, but it has not yet been detected in any of the other islands; though we may expect to find it in Fuerteventura, and perhaps also in Grand Canary. It is not peculiar, however, to the Canaries, having been taken by myself and the Messrs. Crotch on the opposite coast of Africa.

64. *Pogonus Grayii*.

Pogonus Grayii, *Woll., Ann. Nat. Hist.* ix. 438 (1862).

— —, *Id., Cat. Can. Col.* 28 (1864).

Habitat Canarienses (*Lanz.*), in iisdem locis ac præcedens, sed rarior.

This pallid and extremely narrow little *Pogonus* inhabits Lanzarote, occurring in the same spots as the last species (and indeed in company with it, though more rarely). It appears to be found likewise on the opposite coast of Morocco, for the Messrs. Crotch captured it (during the past summer) near Mogadore. In shape it much resembles *P. filiformis* from Sardinia, but its colour is more that of the *testaceus* (likewise of Mediterranean latitudes).

Genus 24. ZARGUS.

Wollaston, *Ins. Mad.* 22 (1854).

65. *Zargus Schaumii*.

Zargus Schaumii, *Woll., Ins. Mad.* 23, tab. i. f. 5 (1854).

— —, *Id., Cat. Mad. Col.* 11 (1857).

Habitat Maderenses (*Mad.*), in intermediis parum vulgaris.

Observed hitherto only in Madeira proper, where it is tolerably common at intermediate (and occasionally rather lofty) elevations. On the northern side of the island, however, it descends to the sea-level.

66. *Zargus Desertæ*.

Zargus Desertæ, *Woll., Ins. Mad.* 24, tab. i. f. 4 (1854).

— —, *Id., Cat. Mad. Col.* 11 (1857).

Habitat Maderenses (*Des., Bugio*), in summis insularum Desertarum degens.

Apparently peculiar to the two southern Desertas (namely the Deserta Grande and the Bugio) of the Madeiran Group, where it occurs on the extreme summits of the islands.

67. *Zargus Crotchianus*.

Zargus Crotchianus, *Woll., Append. huj. op.* 7.

Habitat Canarienses (*Gom.*), in lauretis humidis elevatis rarissimus.

In the Appendix to the present Catalogue I have given a diagnosis of this large and distinct *Zargus*, which has lately been discovered by the Messrs. Crotch in the lofty sylvan districts of Gomera. It

is extremely rare, for in spite of their careful researches three specimens only were obtained; and moreover it is peculiarly interesting, as introducing the (hitherto Madeiran) genus of which it is a member into the Canarian fauna. I have had much pleasure in naming it after my friend Mr. G. R. Crotch, to whose investigations (in conjunction with those of his brother) I am so greatly indebted for the majority of the species described in the Appendix to this volume.

68. *Zargus Monizii*.

Zargus Monizii, *Woll., Ann. Nat. Hist.* v. 217 (1860).

Habitat Maderenses (*Mad.*), rarissimus; à cl. Moniz in inferioribus repertus.

Discovered in Madeira proper by Senhor Moniz, who met with several examples of it (during December 1858) on the cindery slope behind the sea-beach in the little bay immediately within the Cabo Garajão, or Brazen Head. It is possible that it may be but an extremely developed state of the *Z. pellucidus*, its larger size and darker hue being the principal characters which separate it from that species.

69. *Zargus pellucidus*.

Zargus pellucidus, *Woll., Ins. Mad.* 25, tab. i. f. 6 (1854).

— —, *Id., Cat. Mad. Col.* 11 (1857).

Habitat Maderenses (*Mad., Des.*), late diffusus sed rarissimus.

Inhabits Madeira proper and the Deserta Grande, occurring sparingly at most elevations.

Genus 25. SPHODRUS.

Clairville, *Ent. Helv.* ii. 86 (1806).

70. *Sphodrus leucophthalmus*.

Carabus leucophthalmus, *Linn., Fna Suec.* 784 (1761).

Sphodrus leucophthalmus, *Clairv., Ent. Helv.* ii. 86 (1806).

— —, *Schaum, Nat. der Ins. Deutsch.* i. 381 (1860).

— —, *Woll., Cat. Can. Col.* 29 (1864).

Habitat Canarienses (*Lanz.*) rarissimus; forsan ex Europâ introductus.

This common European insect is found in Lanzarote, of the Canarian Group, where, however, it is extremely rare. Possibly it may have been introduced accidentally from more northern latitudes, since it occurs for the most part near the towns.

Genus 26. **PRISTONYCHUS.**

Dejean, *Spec. Gén. des Col.* iii. 43 (1828).

71. **Pristonychus alternans.**

Pristonychus alternans, *Dej., Spec. Gén. des Col.* iii. 61 (1828).

Sphodrus alternans, *Brullé, in W. et B. (Col.)* 56, pl. ii. f. 8 (1838).

Pristonychus alternans, *Woll., Cat. Can. Col.* 29 (1864).

Habitat Canarienses (*Ten., Gom.*), sub lapidibus præsertim in montibus parce sed late diffusus.

This fine Canarian *Pristonychus* has been observed in a typical state only in Teneriffe, where it occurs sparingly (beneath stones) from about 700 to 7000 feet above the sea. Three specimens, however, are now before me, which were captured by the Messrs. Crotch in Gomera, on the mountains above Hermigua. They differ from the Teneriffan ones in having their prothorax a trifle less coarsely punctured, and in their elytra being a little less acuminate behind, with the punctures of the alternate interstices considerably reduced in number; but as these are all points which are essentially variable in the nearly allied group of *Calathus*, I have no hesitation in regarding these examples as the exponents of a mere insular phasis of the Teneriffan species. Nevertheless I would here cite them under the name of "var. β . *obliterata*," in the event of subsequent inquiries proving them to be truly distinct.

72. **Pristonychus picescens.**

Pristonychus picescens, *Woll., Cat. Can. Col.* 30 (1864).

Habitat Canarienses (*Hierro*), rarissimus; semel tantum repertus.

I have seen but a single example as yet of this distinct *Pristonychus*. It was captured by myself in the sylvan district of Hierro, the most western island of the Canarian Group.

73. **Pristonychus complanatus.**

Pristonychus complanatus, *Dej., Spec. Gén. des Col.* iii. 58 (1828).

Sphodrus complanatus, *Brullé, in Webb et Berth. (Col.)* 56 (1838).

Pristonychus alatus, *Woll., Ins. Mad.* 27 (1854).

— —, *Id., Cat. Mad. Col.* 11 (1857).

— *complanatus*, *Woll., Cat. Can. Col.* 29 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*Lanz., Ten., Palma*), sub lapidibus præsertim in cavernis tufæ apertis hinc inde latens.

The *P. complanatus* of Mediterranean latitudes is widely spread

over these Atlantic islands, where it is very probably universal. Nevertheless hitherto it has been observed only in Madeira proper and Porto Santo, of the Madeiran Group, and in Lanzarote, Teneriffe, and Palma, of the Canaries. It is recorded also at the Azores, and was captured by the late Mr. Bewicke even at St. Helena.

Genus 27. **CALATHUS.**

Bonelli, *Observ. Ent.* i. tab. syn. (1809).

§ I. *Tibiæ in utroque sexu (omnino vel fere) simplices.*

a. *Corpus magnum, prothorace postice plus minus angustiore, punctis elytrorum discalibus obsolete.*

74. **Calathus sphodroides.**

Calathus sphodroides, Woll., *Ann. Nat. Hist.* ix. 342 (1862).

— —, *Id.*, *Cat. Can. Col.* 30 (1864).

Habitat Canarienses (*Ten.*), in lauretis humidis editioribus præsertim sub cortice laxo putrido rarissimus.

Hitherto I have observed this fine *Calathus* only in the laurel-regions of Teneriffe, where it occurs (though very sparingly) at intermediate and lofty altitudes.

75. **Calathus acuminatus.**

Calathus acuminatus, Woll., *Ann. Nat. Hist.* ix. 342 (1862).

— —, *Id.*, *Cat. Can. Col.* 31 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis humidis editioribus hinc inde haud infrequens.

Likewise a Canarian *Calathus*, and peculiar (so far as observed hitherto) to the moist sylvan districts of Teneriffe at a high elevation. In such places it is not particularly uncommon, though, on account of their being more or less difficult of access, the species must be regarded practically as rare.

b. *Corpus minoris magnitudinis, prothorace postice (ut in Calathis typicis) plus minus latiore, punctis elytrorum discalibus plus minus distinctis.*

76. **Calathus rufocastaneus.**

Calathus rufocastaneus, Woll., *Ann. Nat. Hist.* ix. 343 (1862).

— —, *Id.*, *Cat. Can. Col.* 31 (1864).

Habitat Canarienses (*Ten.*), in locis similibus ac præcedens rarissimus.

Inhabits much the same regions as the last two species, being apparently peculiar to the damp wooded parts of Teneriffe. It is

decidedly scarce, the only district in which I have captured it being above the Agua Mansa.

77. *Calathus carinatus*.

Calathus carinatus?, *Brullé, in Webb et Berth. (Col.)* 55 (1838).

— —, *Woll., Ann. Nat. Hist.* ix. 343 (1862).

— —, *Id., Cat. Can. Col.* 32 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis parum vulgaris.

A species which seems to be pretty common (though scarcely abundant) throughout the sylvan districts of Teneriffe, at intermediate and lofty elevations; but it has not yet been observed in any of the other islands.

78. *Calathus advena*.

Calathus advena, *Woll., Ann. Nat. Hist.* ix. 344 (1862).

— —, *Id., Cat. Can. Col.* 32 (1864).

Habitat Canarienses (*Can.*), in intermediis degens.

Apparently peculiar to Grand Canary; though, since hitherto I have seen but a single example of it (which was taken by myself in the region of El Monte), further material would be desirable in order to establish its specific characters more completely. Like most of the *Calathi*, it will doubtless be found commonly where it occurs at all.

79. *Calathus abacoides*.

Calathus abaxoides?, *Brullé, in Webb et Berth. Col.* 56 (1838).

— —, *Woll., Ann. Nat. Hist.* ix. 345 (1862).

— abacoides, *Id., Cat. Can. Col.* 33 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis intermediis haud infrequens.

A small Canarian *Calathus* which has been observed hitherto only in the sylvan regions of Teneriffe, where, however, it is locally rather abundant.

80. *Calathus obliteratus*.

Calathus obliteratus, *Woll., Append. huj. op.* 8.

Habitat Canarienses (*Gom.*), in lauretis editioribus à DD. Crotch lectus.

Apparently peculiar to Gomera, of the Canarian Group, whence the single example described in the Appendix to this volume was obtained by the Messrs. Crotch.

81. *Calathus cognatus*.

Calathus cognatus, *Woll., Cat. Can. Col.* 34 (1864).

Habitat Canarienses (*Gom.*), in lauretis editoribus vulgatissimus.

The present *Calathus* is strictly a Gomeran one, having been taken in profusion by the Messrs. Crotch during their late Canarian researches. From the report which they give, it would seem to abound everywhere within the laurel-districts of that island, at a high elevation*.

82. *Calathus rectus*.

Calathus fulvipes?, *Brullé* [nec *Lat.*], in *Webb et Berth. (Col.)* 56 (1838).

— *rectus*, *Woll., Ann. Nat. Hist.* ix. 346 (1862).

— —, *Id., Cat. Can. Col.* 34 (1864).

Habitat Canarienses (*Ten.*), in inferioribus intermediisque, passim.

Peculiar apparently to Teneriffe, where it is found sparingly at low and intermediate altitudes.

83. *Calathus simplicicollis*.

Calathus simplicicollis, *Woll., Ann. Nat. Hist.* ix. 347 (1862).

— —, *Id., Cat. Can. Col.* 35 (1864).

Habitat Canarienses (*Lanz.*), in inferioribus aridis saxosis rarior.

Detected hitherto only in the north of Lanzarote, of the Canarian Group—where it occurs sparingly at a low elevation on the rocky ground between the Salinas and the Risco. In size and general contour it a good deal resembles the common European *C. melanocephalus*; nevertheless I do not believe that its affinities are in reality with that species.

84. *Calathus ascendens*.

Calathus ascendens, *Woll., Ann. Nat. Hist.* ix. 345 (1862).

— —, *Id., Cat. Can. Col.* 33 (1864).

Habitat Canarienses (*Ten.*), in montibus valde excelsis vulgatissimus; usque ad 8000' vel etiam 9000' s. m. ascendit.

Strictly an alpine *Calathus*, occurring in profusion throughout almost the loftiest districts of Teneriffe—where it ascends to 8000 or even 9000 feet above the sea, and but seldom descends into the sylvan regions.

* The range in size of the *C. cognatus* is more than I indicated in my Canarian Catalogue, where the diagnosis was compiled from only *two* examples which were taken by Dr. Crotch in 1862. Instead, therefore, of "Long. corp. lin. 5," read Long. corp. lin. 4½-6.

85. *Calathus subfuscus*.

Calathus fuscus, *Woll.* [nec *Fab.*], *Ins. Mad.* 31 (1854).
 ———, *Id.*, *Cat. Mad. Col.* 12 (1857).

Habitat Maderenses (Mad.), in montibus valde excelsis sub lapidibus vulgaris.

Occupies much the same position in Madeira proper (the only island in which this *Calathus* has been detected) as the Canarian *C. ascendens* does at Teneriffe—abounding beneath stones on the exposed mountain-slopes above the limits of even the sylvan districts, and ascending thence to the very summits of the peaks*.

86. *Calathus complanatus*.

Calathus complanatus (Kollar), *Dej., Spec. Gén. des Col.* iii. 73 (1828).
 ———, *Woll., Ins. Mad.* 30 (1854).
 ———, *Id.*, *Cat. Mad. Col.* 11 (1857).

Habitat Maderenses (Mad., Chão, Des., Bugio), ab orâ maritimâ usque ad summos montes ascendens.

A most abundant *Calathus* in the Madeiran Group (to which it is peculiar), teeming on every island except Porto Santo (where it is represented by the *fimbriatus*)—from the sea-level to the summits of the peaks. It is decidedly a variable insect, presenting many slight modifications according to the locality and altitude at which it is found.

87. *Calathus vividus*.

Carabus vividus, Fab., Syst. Eleu. i. 194 (1801).
 ———, *Schön., Syn. Ins.* i. 199 (1806).
Calathus vividus, Woll., Ins. Mad. 29 (1854).
 ———, *Id.*, *Cat. Mad. Col.* 11 (1857).

Habitat Maderenses (Mad.), in sylvaticis editioribus præcipue degens.

Apparently peculiar to Madeira proper, where, however, it is universal throughout the sylvan districts of intermediate and (more especially) lofty elevations.

* Although so closely resembling at first sight the European *C. fuscus* that I have hitherto regarded it as a geographical modification of that insect, a recent and more accurate comparison of this Madeiran *Calathus* has induced me to believe that (after all) it is not absolutely conspecific with its more northern ally. For not only does it differ in having its under-wings obsolete, but it is likewise not quite the same even in its external features. Thus, its prothorax is rather convexer and a little more equally rounded at the sides, with the extreme posterior angles very decidedly obtuser or less sharply defined; and the basal rim of its elytra is not minutely-prominent at the humeral angles (so as to shape out a small projecting denticle) as in that insect. Indeed the shape of its prothorax is more on the type of that which obtains in the Teneriffan *C. ascendens* than in the European *fuscus*; and I strongly suspect that its affinities are rather with the former than with the latter.

§ II. *Tibiæ posteriores maris intus plus minus dense fimbriatæ.*88. *Calathus ciliatus.*

Calathus ciliatus, *Woll., Ann. Nat. Hist.* ix. 348 (1862).

— —, *Id., Cat. Can. Col.* 36 (1864).

Habitat Canarienses (*Ten.*), in montibus excelsis plus minus sylvaticis hinc inde parum vulgaris.

A large *Calathus* which may be regarded as the Canarian representative of the *C. vividus* of Madeira. It has been observed hitherto only in the higher elevations of Teneriffe, where it is locally far from uncommon on the upper limits of the sylvan districts.

89. *Calathus auctus.*

Calathus auctus, *Woll., Ann. Nat. Hist.* ix. 349 (1862).

— —, *Id., Cat. Can. Col.* 37 (1864).

Habitat Canarienses (*Ten.*), in iisdem locis ac præcedens.

Likewise a Teneriffan *Calathus*, residing in precisely the same sort of places as the last species—indeed for the most part in company with it. It is in fact very closely allied to the *ciliatus*; and although I believe it to be permanently distinct, yet examples do occasionally occur which are so far intermediate between the two that I cannot but feel it *possible* that it may be in reality but an extreme modification of that species.

90. *Calathus angustulus.*

Calathus angustulus, *Woll., Ann. Nat. Hist.* ix. 349 (1862).

— —, *Id., Cat. Can. Col.* 37 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis editioribus præsertim sub truncis corticeque arborum laxo putrido parce latens.

Attached to the damp sylvan regions of Teneriffe, particularly at a high altitude; occurring, sparingly, under wet logs of wood, and beneath the loose rotting bark of trees.

91. *Calathus depressus.*

Calathus depressus?, *Brullé in Webb et Berth. (Col.)* 55, pl. 2. f. 1 (1838).

— —, *Woll., Ann. Nat. Hist.* ix. 350 (1862).

— —, *Id., Cat. Can. Col.* 38 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis vulgatissimus.

Abounds throughout the wooded districts of Teneriffe, being perhaps the most common of the Canarian *Calathi*; but it has not yet been observed in any of the other islands.

92. *Calathus fimbriatus*.

Calathus complanatus, var. γ , *Woll., Ins. Mad.* 30 (1854).

— — (p.), *Id., Cat. Mad. Col.* 11 (1857).

— *fimbriatus*, *Id., Ann. Nat. Hist.* i. 18 (1858).

— —, *Id., Append. huj. op.* 8.

Habitat Maderenses (*P^o S^{to}*), sub lapidibus præsertim in inferioribus vulgaris.

Apparently peculiar to Porto Santo, where it is strictly the representative of the *C. complanatus* which is so universal throughout the other islands of the Madeiran Group. Indeed, until within the last few years, I had recorded it as an insular modification ("var. γ ") of that species; and it was not until my attention had been called by Mr. Janson to the fact of its posterior tibiæ being internally fringed (an important character which had nevertheless escaped my notice) that I felt compelled, when its other slight differences (alluded to in my diagnosis) were taken into account, to treat it as truly and specifically distinct.

93. *Calathus appendiculatus*.

Calathus appendiculatus, *Woll., Ann. Nat. Hist.* ix. 351 (1862).

— —, *Id., Cat. Can. Col.* 38 (1864).

Habitat Canarienses (*Can.*), in sylvaticis intermediis occurrens.

The only specimens which I have seen of this distinct *Calathus* were taken by myself in the laurel-districts of Grand Canary, between Osorio and Galdar. There can be little doubt that it must occur abundantly in, at all events, that particular region.

94. *Calathus laureticola*.

Calathus laureticola, *Append. huj. op.* 9.

Habitat Canarienses (*Gom.*), in lauretis humidis excelsis à DD. Crotch captus.

Found by the Messrs. Crotch, during their late Canarian campaign, in the sylvan regions of Gomera—to which it seems to be peculiar. It was taken at a high altitude in the laurel-districts above Hermigua, "under Monte Fuerte."

95. *Calathus barbatus*.

Calathus barbatus, *Woll., Ann. Nat. Hist.* ix. 352 (1862).

— —, *Id., Cat. Can. Col.* 39 (1864).

Habitat Canarienses (*Can.*), in intermediis editioribusque degens.

Taken hitherto only in Grand Canary, where it occurs both in sylvan and subsylvan spots of intermediate and lofty elevations.

96. *Calathus spretus*.

Calathus spretus, *Woll., Ann. Nat. Hist.* ix. 352 (1862).

— — —, *Id., Cat. Can. Col.* 39 (1864).

Habitat Canarienses (*Hierro*), præcipue in intermediis vulgaris.

A Canarian *Calathus* which is common throughout the intermediate elevations of Hierro, to which island it would seem to be peculiar. It bears a considerable *primâ facie* resemblance to the *C. barbatus* from Grand Canary; and it is the only exponent of the genus which has been detected in Hierro.

Genus 28. ANCHOMENUS.

Bonelli, *Observ. Ent.* i. tab. syn. (1809).

97. *Anchomenus Nichollsii*.

Anchomenus Nichollsii, *Woll., Cat. Can. Col.* 40 (1864).

Habitat Canarienses (*Ten., Gom.*), inter lapillos et sub lapidibus per margines rivulorum in editioribus vulgaris.

A Canarian *Anchomenus* which was discovered by Dr. Crotch and S. T. Nicholls, Esq., in the spring of 1862; and which has since been captured in profusion, not only by the former but also by his brother, Mr. G. R. Crotch, during their late expedition to those islands. From the report before me, it seems to abound in the higher districts of Gomera—occurring “by the edges of every stream”; but it is clearly much more scarce in Teneriffe (where I myself indeed have never met with it), though it was certainly found there by Dr. Crotch—above Ycod el Alto—during his first Canarian campaign.

98. *Anchomenus debilis*.

Anchomenus debilis, *Woll., Cat. Can. Col.* 41 (1864).

Habitat Canarienses (*Can.*), inter lapillos ad margines rivulorum rarissimus.

The only specimens which I have seen of this insect I captured at the edges of a stream at Teror, in Grand Canary. Having now had an opportunity of comparing it with a more extensive series of the *A. Nichollsii*, I am quite satisfied that the two species (although closely allied to each other) are totally distinct.

99. *Anchomenus albipes*.

Carabus albipes, *Fab., Ent. Syst.* iv. ind. alph. 33.

Anchomenus pallipes, *Woll., Ins. Mad.* 33 (1854).

— —, *Id., Cat. Mad. Col.* 12 (1857).

— *albipes*, *Schaum, Nat. der Ins. Deutsch.* i. 408 (1860).

— —, *Woll., Cat. Can. Col.* 42 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Fuert.*), per margines aquarum hinc inde vulgatissimus.

The common European *A. albipes* abounds in damp spots generally (particularly along the edges of the streams) in Madeira proper, and also in Fuerteventura of the Canarian Group; but it is somewhat remarkable that, although thus universal in those two islands, it has not yet been observed elsewhere throughout the archipelago.

100. *Anchomenus marginatus*.

Carabus marginatus, *Linn., Fna Succ.* 222 (1761).

Platynus marginatus, *Brullé, in Webb et Berth. (Col.)* 56 (1838).

Anchomenus marginatus, *Woll., Ins. Mad.* 33 (1854).

— —, *Id., Cat. Mad. Col.* 12 (1857).

— —, *Id., Cat. Can. Col.* 42 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can., Ten., Gom.*), in humidis et aquis hinc inde vulgaris.

The *A. marginatus*, so universal throughout Europe, occurs sparingly at high elevations in Madeira proper, but is more abundant at the Canaries—where it has been detected in Grand Canary, Teneriffe, and Gomera.

Genus 29. *OLISTHOPUS*.

Dejean, *Spec. Gén. des Col.* iii. 176 (1828).

101. *Olisthopus humerosus*.

Olisthopus maderensis, var. β , *Woll., Ins. Mad.* 35 (1854).

— — (p.), *Id., Cat. Mad. Col.* 12 (1857).

— *humerosus*, *Schaum, in litt.*

— —, *Woll., Ann. Nat. Hist.* ii. 407 (1858).

Habitat Maderenses (*Des., Bugio*), in summis insularum Desertarum sub lapidibus necnon etiam in rupium fissuris degens.

Apparently peculiar to the Desertas, of the Madeiran Group, occurring on the summits of the two southern islands—the Deserta Grande and the Bugio; but it has not yet been observed on the northern one, or Ilheo Chão. In the 'Ins. Mad.' I regarded it as a large, insular modification of the *O. maderensis*—in which the colour

is paler, the surface less shining, or more alutaceous (though free from the very lightly impressed, remote additional punctules which are always more or less traceable in that species, when viewed beneath a high magnifying power), and the humeral angles of the elytra are more porrected or acute; but I was subsequently induced, through the strongly expressed opinion of Schaum, to record it as distinct.

102. *Olisthopus maderensis*.

Olisthopus maderensis, *Woll., Ins. Mad.* 35, tab. i. f. 7 (1854).

— — —, *Id., Cat. Mad. Col.* 12 (1857).

Habitat Maderenses (*Mad.*), in locis editioribus præsertim vulgarissimus, usque ad summos montes ascendens.

This is the universal *Olisthopus* of Madeira proper, though it has not yet been observed in any of the other islands of the Group. It abounds at intermediate and lofty elevations, particularly the latter, ascending to the very summits of the peaks.

103. *Olisthopus acutangulus*.

Olisthopus acutangulus, *Woll., Cat. Mad. Col.* 13 (1857).

Habitat Maderenses (*Mad.*), rarissimus; a Dom. M. Park semel captus.

A single example only of this *Olisthopus*, taken by Mr. M. Park in Madeira proper (I believe near Funchal), has hitherto been brought to light; and it is possible that it may be merely some local state of the *O. maderensis* in which the elytra are a little more coarsely alutaceous and deeply striated, with their shoulders a trifle more acute, and in which the prothorax is smoother and more finely margined, and the limbs are a shade darker in tint; but until further material has been obtained to judge from, I do not think it would be safe to treat it as such.

104. *Olisthopus glabratus*.

Olisthopus glabratus, *Brullé, in Webb et Berth. (Col.)* 56 (1838).

Olisthopus glabratus, *Woll., Cat. Can. Col.* 43 (1864).

Habitat Canarienses (*Can., Ten., Gom., Hierro*), ubique vulgaris.

Strictly the representative at the Canaries of the Madeiran *O. maderensis*, to which indeed it is very closely allied. Still, I have elsewhere expressed my conviction that it is no modification of that species (however nearly resembling it); for it retains its characters unchanged throughout all the islands (four in number) of the Canarian archipelago in which it has been observed, and under many

different and opposite local conditions—which would scarcely be the case had its inherent tendency for variation occasioned it to assume a separate state in Madeira, whilst remaining constant in four other islands which are more or less remote *inter se*.

The *O. glabratus* is common in Grand Canary, Teneriffe, Gomera, and Hierro, occurring independently of altitude; but in Palma it has not yet been observed, its place being there supplied by the following species. In the two eastern islands of the Group, Lanzarote and Fuerteventura, I do not expect that it will be found to exist.

105. *Olisthopus palmensis*.

Olisthopus palmensis, *Woll., Cat. Can. Col. 42* (1864).

Habitat Canarienses (*Palma*), in sylvaticis subsylvaticisque degens.

Found only, hitherto, in Palma, of the Canarian Group—where it is locally common at intermediate altitudes, particularly within the sylvan regions. Although so distinct from the *glabratus* as to remove all doubt concerning the specific value of its characters, it is nevertheless very remarkable that it should take the place apparently of that insect in the above-mentioned island. I may add, however, on the other hand, that we are scarcely yet perhaps in a position to assert positively that the *glabratus* proper does *not* occur (simultaneously with the *palmensis*) in some of the remoter districts of Palma.

106. *Olisthopus ericæ*.

Olisthopus Ericæ, *Woll., Ins. Mad. 37*, tab. i. f. 8 (1854).

— — —, *Id., Cat. Mad. Col. 13* (1857).

Habitat Maderenses (*Mad.*), in sylvaticis editioribus hinc inde vulgaris; præsertim sub fibris *Ericarum* laxis aridis congregans.

Occurs in the higher elevations of Madeira proper, principally on the upper limits of the sylvan districts, from about 4000 to 5000 feet above the sea. It may often be found in abundance, harbouring beneath the loose outer fibre of the gigantic Heaths—the *Erica arborea* and *scoparia*, Linn.

107. *Olisthopus elongatus*.

Olisthopus elongatus, *Woll., Ins. Mad. 38* (1854).

— — —, *Id., Cat. Mad. Col. 14* (1857).

— — —, *Id., Cat. Can. Col. 44* (1864).

— *glabratus*, *Hart. [nec Brullé], Geolog. Verhältn. Lanz. und Fuert. 140, 141.*

Habitat Maderenses (*Mad., P^{to} S^{to}*) et Canarienses (*Lanz., Fuert.*), hinc inde sub lapidibus parum vulgaris.

Found, though not abundantly, both in the Madeiran and Canarian Groups—namely, in Madeira proper and Porto Santo of the former, and in Lanzarote and Fuerteventura of the latter. It occurs principally under stones in hot and arid places, at rather low and intermediate elevations.

Genus 30. **PLATYDERUS.**

Stephens, *Ill. Brit. Ent.* i. 101 (1828).

108. **Platyderus alticola.**

Platyderus alticola, *Woll., Cat. Can. Col.* 45 (1864).

Habitat Canarienses (*Ten.*), in montibus præcipue valde excelsis sub lapidibus in aperto rarissimus.

Observed hitherto only at very lofty altitudes on the mountains of Teneriffe, where I have taken it sparingly (from beneath stones) on the elevated Cumbre overlooking the Cañadas, at nearly 9000 feet above the sea; and I have little doubt that two Teneriffan specimens now before me, from the collection of M. de la Perraudière, are from the same district. A single example which was captured on a comparatively low maritime ridge in the vicinity of Sta Cruz differs slightly from the ordinary type, and may possibly prove to be the exponent of a closely allied species.

109. **Platyderus tenuistriatus.**

Platyderus tenuistriatus, *Woll., Cat. Can. Col.* 45 (1864).

Habitat Canarienses (*Ten.*), sub lapidibus rarissimus.

A Canarian insect of the greatest rarity—a single example only, captured by Dr. Crotch in Teneriffe (during the spring of 1862), having as yet been brought to light.

Genus 31. **PTEROSTICHUS, Auct.**

(Subgenus *Pœcilus*, *Bon.*)

110. **Pterostichus crenatus.**

Feronia crenata (*Hoffm.*), *Dej., Spec. Gén. des Col.* iii. 226 (1828).

— —, *Brullé, in Webb et Berth. (Col.)* 56 (1838).

Pterostichus crenatus, *Woll., Cat. Can. Col.* 46 (1864).

Habitat Canarienses (*Lanz., Fuert.*), sub lapidibus in intermediis rarior.

A south-European insect which occurs very sparingly in Lanzarote

and Fuerteventura, the two eastern islands of the Canarian Group, where it was taken both by Mr. Gray and myself. It is found under stones at intermediate elevations, making its appearance after the winter-rains.

(Subgenus *Lagarus*, *Chaud.*)

111. *Pterostichus figuratus*.

Pterostichus figuratus, *Woll., Cat. Can. Col.* 46 (1864).

Habitat Canarienses (*Ten.*), rarissimus; à W. D. Crotch semel tantum deprehensus.

A single specimen of this Canarian insect is all that I have yet seen. It was captured by Dr. Crotch "in Teneriffe," during the spring of 1862.

(Subgenus *Orthomus*, *Chaud.*)

112. *Pterostichus longulus*.

Feronia barbara, *Brullé* [nec *Dej.*], in *Webb et Berth (Col.)* 56 (1838).

— *longula*, *berytensis* et *prælonga*, *Reiche*, *Ann. de la Soc. Ent. de France*, iii. 616, 618, 619 (1855).

— *elongata* (*Klug*), *Chaud., Stett. ent. Zeit.* 116 (1859).

— *canariensis*, *Hart.* [nec *Brullé*], *Geol. Verh. Lanz. u. Fuert.* 140, 141.

Pterostichus longulus, *Woll., Cat. Can. Col.* 47 (1864).

Habitat Canarienses (*Lanz., Fuert., Can., Ten.*?), sub lapidibus hinc inde vulgaris.

An insect widely spread over Mediterranean latitudes, assuming several slight (and very unimportant) local modifications which have been described as species. It occurs abundantly in the eastern part of the Canarian Group, but seems gradually to disappear as we approach even the central islands. Thus in Lanzarote and Fuerteventura it is exceedingly common, and moreover quite universal; whilst in Grand Canary it appears to be confined to a few sandy places along the coast. Whether it exists at all in Teneriffe I have not been able completely to satisfy myself; but I think perhaps that it may just make its appearance in one or two spots. At any rate I have received examples professing to be Teneriffan both from the Baron Paiva and M. Hartung; but as I have never met with it in that island, and since I have so often found the material transmitted to me from those two sources to be remarkable for its inaccuracy, I cannot but feel that the Teneriffan *habitat* of the species requires at least further corroboration.

113. *Pterostichus haligena*.

Pterostichus haligena, *Woll., Journ. of Ent.* i. 87 (1860).

Habitat Salvages (ins. *majorem*, *borealem*), sub *lapidibus vulgaris*.

Common beneath stones on the Great Salvage, whence it has on several occasions been received by the Baron Paiva. It is closely related to the preceding species, but the characters which separate it therefrom have been fully pointed out in my *Canarian Catalogue* [*vide* p. 48, note].

(Subgenus *Lyperus*, *Chaud.*)

114. *Pterostichus nigerrimus*.

Feronia nigerrima, *Dej., Spec. Gén. des Col.* iii. 291 (1828).

Pterostichus simplicipunctatus, *Kollar, in litt.*

Omasus nigerrimus, *Woll., Ins. Mad.* 45 (1854).

— —, *Id., Cat. Mad. Col.* 15 (1857).

Habitat Maderenses (*Mad.*), in *humidis inferioribus rarissimus*.

The *P. nigerrimus* of south-western Europe, which may perhaps be but a geographical modification of the more northern *aterrimus*, occurs sparingly in Madeira proper (in swampy places around Funchal); but it has not yet been detected in any of the other islands.

115. *Pterostichus Wollastoni*.

Pterostichus Wollastoni, *Heer, in litt.*

Omasus Wollastoni, *Woll., Ins. Mad.* 46, tab. i. f. 9 (1854).

— —, *Id., Cat. Mad. Col.* 15 (1857).

Habitat Maderenses (*Mad., Pto S^{to}*), in *subinferioribus rarissimus*.

Peculiar to the Madeiran Group—where it occurs very rarely, at rather low elevations, both in Madeira proper and Porto Santo. In the former it has been taken principally on and near the Cabo Garajão, or Brazen Head.

(Subgenus *Haptoderus*, *Chaud.*)

116. *Pterostichus harpaloides*.

Pterostichus harpaloides, *Woll., Cat. Can. Col.* 50 (1864).

Habitat Canarienses (*Hierro*), in *sylvaticis editoribus rarissimus*.

A Canarian species which appears to be peculiar to Hierro, where moreover it is extremely scarce. The few examples which I have seen were captured by myself at a high elevation in the upper part

of the wooded district of El Golfo, on the western slopes of that island.

117. *Pterostichus angularis*.

♀. *Calathus angularis*, *Brullé, in Webb et Berth. (Col.)* 56 (1838).

♂. *Feronia canariensis*, *Id., in Webb et Berth. (Col.)* 56 (1838).

Pterostichus angularis, *Woll., Cat. Can. Col.* 49 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis præsertim lauretis sat vulgaris.

A rather common insect within the sylvan districts of Teneriffe; but it has not yet been found elsewhere.

118. *Pterostichus robustus*.

Argutor robustus, *Woll., Ins. Mad.* 40 (1854).

— —, *Id., Cat. Mad. Col.* 14 (1857).

Habitat Maderenses (*Mad.*), in intermediis editioribusque haud infrequens.

Inhabits the mountains of Madeira proper, occurring in the sylvan and subsylvan districts, and being often comparatively common in the fir-woods of intermediate altitudes.

119. *Pterostichus gracilipes*.

Argutor gracilipes, *Woll., Ins. Mad.* 41 (1854).

— —, *Id., Cat. Mad. Col.* 14 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus in intermediis præcipue degens.

Likewise peculiar to Madeira proper, and with (on the average) a somewhat lower range than the preceding species,—occurring principally at intermediate elevations, but descending occasionally (at any rate on the northern side of the island) to nearly (or even quite) the sea-level.

120. *Pterostichus calathiformis*.

Pterostichus calathiformis, *Woll., Append. huj. op.* 9.

Habitat Canarienses (*Gom.*), in locis elevatis rarissimus; à DD.

Crotch æstate A.D. 1864 parcissime lectus.

Discovered at a high elevation (above Hermigua) in Gomera by the Messrs. Crotch, during their late Canarian expedition—"above the cataract, at the foot of Monte Fuerte." It is evidently extremely rare, three examples being all that they obtained.

121. *Pterostichus dilaticollis*.

Argutor dilaticollis, *Woll., Ins. Mad.* 42 (1854).

— —, *Id., Cat. Mad. Col.* 14 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis humidis editioribus hinc inde sat vulgaris.

Occurs in the damp sylvan districts of Madeira proper (especially in the laurel-forests in the north of the island), where it is locally rather abundant at intermediate and lofty elevations.

122. *Pterostichus curtus*.

Argutor curtus, *Woll., Ins. Mad.* 43 (1854).

— —, *Id., Cat. Mad. Col.* 14 (1857).

Habitat Maderenses (*Mad.*), hinc inde in intermediis occurrens.

Likewise peculiar to Madeira proper, but with a rather lower range than the last species,—occurring for the most part at intermediate altitudes, but sometimes descending into less elevated districts.

Genus 32. **AMARA.**

Bonelli, *Observat. Ent.* i. (1809).

123. *Amara trivialis*.

Harpalus trivialis, *Gyll. [nec Duft.], Ins. Succ.* ii. 140 (1810).

Amara trivialis, *Woll., Ins. Mad.* 47 (1854).

— —, *Id., Cat. Mad. Col.* 15 (1857).

— —, *Schaum, Nat. der Ins. Deutsch.* i. 531 (1860).

Habitat Maderenses (*Mad., Pto Sto*), sub lapidibus sat vulgaris.

The *A. trivialis*, so common throughout Europe and in the north of Africa (and which has been recorded from North America, and even Siberia), is rather abundant in the Madeiran Group—where, however, it has been observed hitherto only in Madeira proper and Porto Santo; but it has not yet been detected in any other of these Atlantic islands.

(Subgenus *Leiocnemis*, *Zimm.*)

124. *Amara versuta*.

Amara bifrons, *Hart. [nec Gyll.], Geol. Verhältn. Lanz. und Fuert.* 141.

— *versuta*, *Woll., Ann. Nat. Hist.* xi. 215 (1863).

— —, *Id., Cat. Can. Col.* 51 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in intermediis parum rara.

A Canarian species, which has been captured hitherto only in Lan-

zarote and Fuerteventura—the two eastern islands of the Group. It appears to be rather scarce, and to occur at intermediate elevations.

(Subgenus *Triæna*?, *Le Conte*.)

125. *Amara superans*.

Amara superans, *Woll., Ins. Mad.* 48 (1854).

— —, *Id., Cat. Mad. Col.* 15 (1857).

Habitat Maderenses (*Mad.*), rarissima; in summos montes sub lapidibus parcissime occurrens.

A large Madeiran *Amara* which has been detected hitherto only near the summits of two of the highest mountains in Madeira proper, —the “Ice House Peak” and the Pico do Areiro, where, moreover, it is of the greatest rarity.

Genus 33. **ZABRUS.**

Clairville, *Ent. Helv.* ii. 80 (1806).

126. *Zabrus crassus*.

Zabrus crassus, *Dej., Spec. Gén. des Col.* iii. 451 (1828).

— —, *Zimm., Mon. der Carab.* 42 (1831).

— —, *Brullé, in Webb et Berth. (Col.)* 57 (1838).

— —, *Woll., Cat. Can. Col.* 52 (1864).

Habitat Canarienses (*Ten.*), præcipue in intermediis sed parum rarus.

Apparently peculiar to Teneriffe, where, however, it is both local and rather scarce,—occurring principally at intermediate and somewhat lofty altitudes.

127. *Zabrus lævigatus*.

Zabrus lævigatus, *Zimm., Mon. der Carab.* 43 (1831).

— —, *Woll., Cat. Can. Col.* 52 (1864).

Habitat Canarienses (*Ten., Gom.*), paulo magis vulgaris necnon plerumque in locis paulo inferioribus occurrens.

Likewise a Canarian species, but one which has been found both in Teneriffe and Gomera. It has a rather lower range than the *crassus*—occurring more particularly in the dry and cindery regions of intermediate, and even low, altitudes. Its existence in Gomera is stated on the authority of the Messrs. Crotch, who obtained two dead specimens from under stones upon the sea-shore below Hermigua. One of these is now before me, and has its prothorax a *little* more broadly margined, and the elytral striæ a trifle deeper, than is the case in

the ordinary Teneriffan type; nevertheless although thus far approaching the *crassus*, I believe that it is truly referable to the *lævigatus*—the less basally-impressed prothorax, which has its anterior angles less porrected, being more in accordance with what obtains in the latter.

(Subfam. XV. HARPALIDES.)

Genus 34. **ANISODACTYLUS.**

Dejean, *Spec. Gén. des Col.* iv. 132 (1829).

128. **Anisodactylus binotatus.**

Carabus binotatus, *Fab., Ent. Syst.* i. 151 (1792).

Anisodactylus binotatus, *Dej., Spec. Gén. des Col.* iv. 140 (1829).

— —, *Woll., Ins. Mad.* 49 (1854).

— —, *Id., Cat. Mad. Col.* 15 (1857).

Habitat Maderenses (*Mad.*), in humidis et aquosis vulgaris.

This common European insect is universal in Madeira proper, principally in damp places of intermediate elevations; but it is remarkable that it has not yet been observed in any other of these Atlantic islands.

Genus 35. **CRATOGNATHUS.**

Dejean, *Spec. Gén. des Col.* iv. 46 (1829).

129. **Cratognathus solitarius.**

Harpalus consentaneus, *Hart.* [nec *Dej.*], *G. V. Lanz. u. Fuert.* 140, 141.

Cratognathus solitarius, *Woll., Ann. Nat. Hist.* xi. 215 (1863).

— —, *Id., Cat. Can. Col.* 54 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in intermediis vulgaris.

Apparently peculiar to the two eastern islands of the Canarian archipelago—Lanzarote and Fuerteventura, where it is locally abundant at intermediate and lofty elevations.

130. **Cratognathus pelagicus.**

Harpalus pelagicus, *Woll., Journ. of Ent.* i. 88 (1860).

Habitat Salvages (*ins. majorem, borealem*), vulgaris.

This large and broad *Cratognathus* (the prothorax of which is wide, transverse and convex, and not at all constricted behind, the edges being rounded in a continuous curve) is peculiar to the Salvages,

from the larger island of which (known as the Great Salvage) it has on several occasions been received by the Baron Paiva.

131. *Cratognathus fortunatus*.

Cratognathus fortunatus, *Woll., Ann. Nat. Hist.* xi. 215 (1863).

— —, *Id., Cat. Can. Col.* 55 (1864).

Habitat Canarienses (*Can.*), in montibus excelsis hinc inde vulgaris.

Detected hitherto only on the mountains of Grand Canary, where it would seem to represent in that island the *C. micans* of Teneriffe and Gomera, and the *solitarius* of Lanzarote and Fuerteventura. During April 1858 I met with it in abundance in one of the lofty Pinals in the central district of Tarajana.

132. *Cratognathus micans*.

Harpalus vividus, *Hart. [nec Dej.], Geol. Verh. Lanz. und Fuert.* 140.

Cratognathus micans, *Woll., Ann. Nat. Hist.* xi. 215 (1863).

— —, *Id., Cat. Can. Col.* 56 (1864).

Habitat Canarienses (*Ten., Gom.*), in inferioribus et intermediis præsertim illis prædominans.

This seems to be the common *Cratognathus* in Teneriffe and Gomera, where it abounds in certain (usually exposed) places of intermediate and (more especially) rather low altitudes, assuming a slightly different aspect in each of those islands.

133. *Cratognathus empiricus*.

Cratognathus empiricus, *Woll., Append. huj. op.* 10.

Habitat Canarienses (*Gom.*), à DD. Crotch nuper deprehensus.

Detected in Gomera by the Messrs. Crotch during their late Canarian campaign—namely, at the base of the cataract (about 2000 feet above the sea) in the sylvan district above Hermigua. It is very closely allied to the *C. micans*; nevertheless I have stated in the Appendix to this volume what the exact characters are which seem to separate it from both states (the Teneriffan and Gomeran ones) of that species.

134. *Cratognathus æmulus*.

Cratognathus æmulus, *Woll., Cat. Can. Col.* 57 (1864).

Habitat Canarienses (*Ten.*), in humidis sylvaticis editioribus rarior.

The only two examples which I have yet seen of this very

Harpalus-like *Cratognathus* were taken by myself in Teneriffe, in the sylvan region above Taganana.

135. *Cratognathus vividus*.

Harpalus vividus, *Dej., Spec. Gén. des Col.* iv. 332 (1829).

— —, *Woll., Ins. Mad.* 53 (1854).

— —, *Id., Cat. Mad. Col.* 16 (1857).

Habitat Maderenses (ins. omnes), ab orâ maritimâ usque ad summos montes vulgaris.

Abounds in the whole five islands of the Madeiran Group (as well as on the small adjacent rocks), from the sea-level to the summits of the peaks, and presenting many slight variations according to the exact locality in which it is found*.

Dejean, who described this insect (as a *Harpalus*) at considerable length, was mistaken in referring it to the *Carabus vividus* of Fabricius—the latter being in reality a *Calathus*. However, I do not think it necessary, on that account, to propose for it a fresh specific title; which of course I should have been compelled to do had Dejean published it as a *Carabus* instead of a *Harpalus*, and therefore under the same actual name (both in *genus* and *species*) as Fabricius did; for where two different insects are recorded under an absolutely similar title, it is clear that one of them must be re-named, even when in reality they belong (as afterwards ascertained) to distinct genera.

Genus 36. HARPALUS.

Latreille, *Gen. Crust. et Ins.* i. 201 (1806).

136. *Harpalus distinguendus*.

Carabus distinguendus, *Dufst., Fna Austr.* ii. 76 (1812).

Harpalus distinguendus, *Dej., Spec. Gén. des Col.* iv. 274 (1829).

— rubripes?, *Brullé [nec Creutz.] in Webb et Berth. (Col.)* 57 (1838).

— distinguendus, *Woll., Ins. Mad.* 52 (1854).

— —, *Id., Cat. Mad. Col.* 16 (1857).

Habitat Maderenses (*Mad., Pto Sto*), sub lapidibus ubique vulgaris.

This European *Harpalus* is common, at nearly all elevations, in Madeira proper and Porto Santo; but it has not yet been detected at the Canaries—though I have reason for suspecting that the species

* The Porto-Santan specimens of the *C. vividus* have their prothorax almost (or entirely) unpunctulated, and a little less narrowed behind; but as both the punctuation (at the utmost very faint) and the exact outline of the pronotum are characters eminently variable, I do not consider that the Porto-Santan form has any claim to be regarded as specific.

which is cited by M. Brullé, in his short and inaccurate list, as the *rubripes* of Creutzer was founded on an example of the *distinguendus* which had been brought by Mr. Webb from Madeira*.

137. *Harpalus attenuatus*.

- Harpalus attenuatus*, *Steph., Ill. Brit. Ent.* i. 152 (1828).
 — consentaneus, *Dej., Spec. Gén. des Col.* iv. 302 (1829).
 — attenuatus, *Woll., Ins. Mad.* 51 (1854).
 — —, *Id., Cat. Mad. Col.* 16 (1857).

Habitat Maderenses (*Mad., Pto Sto, Des.*), sub lapidibus parum vulgaris.

A common European species, which is widely spread over (and probably universal in) the Madeiran Group; but it has not yet been observed at the Canaries*. In Madeira proper, however, Porto Santo, and the Deserta Grande it occurs at most elevations; and we may expect it to be found likewise on the Ilheo Chão and the Bugio.

138. *Harpalus Schaumii*.

- Harpalus consentaneus*?, *Brullé* [nec *Dej.*], in *W. et B. (Col.)* 57 (1838).
 — *Schaumii*, *Woll., Cat. Can. Col.* 58 (1864).

Habitat Canarienses (*Ten., Palma, Hierro*), sub lapidibus passim.

Apparently peculiar to the Canarian Group, where it occurs (rather sparingly) beneath stones in Teneriffe, Palma, and Hierro.

139. *Harpalus tenebrosus*.

- Harpalus tenebrosus*, *Dej., Spec. Gén. des Col.* iv. 378 (1829).
 — —, *Brullé*, in *Webb et Berth. (Col.)* 57 (1838).
 — *Wollastoni*, *Daws., Geol. Brit.* 144 (1854).
 — litigiosus, *Woll.* [nec *Dej.*], *Ins. Mad.* 52 (1854).
 — —, *Id., Cat. Mad. Col.* 16 (1857).
 — —, *Schaum, Nat. der Ins. Deutsch.* i. 598 (1860).
 — tenebrosus, *Woll., Cat. Can. Col.* 58 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*Lanz., Fuert., Palma*), sub lapidibus hine inde vulgaris.

An insect widely spread throughout Europe, and one which is found (chiefly in sunny spots of a rather low elevation) both in the Madeiran and Canarian Groups. It is, however, more common in the former than in the latter, being tolerably abundant in Porto Santo and on the Ponta de São Lourenço of Madeira proper. At the Canaries it has been observed sparingly in Lanzarote, Fuerteventura, and Palma.

* Cf. 'Cat. Can. Col.' p. 55 (note).

Genus 37. **OPHONUS.**(Ziegler) Steph., *Ill. Brit. Ent.* i. 159 (1828).140. **Ophonus rotundicollis.**Harpalus rotundicollis, *Fairm., Faun. Ent. Franç.* i. 121 (1854).Ophonus obscurus, *Woll. [nec Fab.], Ins. Mad.* 58 (1854).———, *Id., Cat. Mad. Col.* 17 (1857).Harpalus rotundicollis, *Schaum, Nat. der Ins. Deutsch.* i. 574 (1860).*Habitat* Maderenses (*Mad.*) et Salvages (ins. *majorem*, borealem), rarissimus.

A single specimen of this European *Ophonus* was captured by myself (during July 1850) at the edge of the little stream at the Forno da Cal, in the north of Madeira proper; and two more have lately been communicated, from the same island, by the Barão do Castello de Paiva, who has also obtained a third from the Great Salvage. I had formerly identified it with the *O. obscurus*, Fab.; but I am informed that it is more properly referable to the *rotundicollis*, of Fairmaire. The example from the Salvages differs from the Madeiran one in being more brightly cyaneous, and in its prothorax (which is more deeply channelled) being rather more densely and coarsely punctured.

Genus 38. **DICHIROTRICHUS.**Jacq. Duval, *Gen. des Col.* i. 35 (1857).141. **Dichirotrichus levistriatus.**Dichirotrichus levistriatus, *Woll., Cat. Can. Col.* 60 (1864).*Habitat* Canarienses (*Lanz.*), in salinis semel captus.

Hitherto I have seen but a single example of this insect,—which was taken by myself (at the Salinas) in the extreme north of Lanzarote, in the Canarian Group. It is a good deal allied to the European *D. obsoletus*, though scarcely (I think) any geographical modification of that species.

Genus 39. **STENOLOPHUS.**(Megerle) Steph., *Ill. Brit. Ent.* i. 165 (1828).142. **Stenolophus Teutonius.**Carabus vaporariorum, *Fab. [nec Linn. 1761], Syst. Ent.* 247 (1775).——— teutonius, *Schrank, Enum. Ins. Austr.* 214 (1781).Stenolophus vaporariorum, *Brullé, in Webb et Berth. (Col.)* 57 (1838).

- Stenolophus Teutonus*, *Woll., Ins. Mad.* 59 (1854).
 ———, *Id., Cat. Mad. Col.* 17 (1857).
 ———, *Schaum, Nat. der Ins. Deutsch.* i. 613 (1860).
 ——— *vaporariorum*, *Woll., Cat. Can. Col.* 60 (1864.)

Habitat Maderenses (*Mad.*) et Canarienses (*Fuert., Can., Ten., Gom., Palma*), in humidis vulgaris.

The European *S. Teutonus* (which I possess also from the Azores, and which I met with at Mogadore on the opposite coast of Africa) is probably nearly universal throughout these Atlantic islands. At the Madeiran Group, however, it has been observed hitherto only in Madeira proper, where it is common in damp places at most elevations. But at the Canaries it has been captured in all the seven islands except Fuerteventura and Hierro (in both of which, however, we may be pretty sure that it exists)*. It is a species of a very wide geographical range.

143. *Stenolophus discophorus*.

- Stenolophus discophorus*, *Fischer, Ent. de la Russ.* ii. 141 (1824).
 ———, *Dej., Spec. Gén. des Col.* iv. 409 (1829).
 ———, *Heer, Fna Helv.* 115 (1841).
 ———, *Schaum, Nat. der Ins. Deutsch.* i. 615 (1860).

Habitat Salvages (ins. *majorem*, borealem), à Barone de Paiva semel communicatus.

The only Atlantic example which I have yet seen of this European *Stenolophus* has been communicated by the Barão do Castello de Paiva, by whom it was obtained from the Great Salvage; and although I have no reason to question the correctness of its stated *habitat*, yet I cannot but feel that further material would be desirable in order to establish it beyond the possibility of a doubt†. It appears to be found, chiefly, in Mediterranean latitudes.

* The principle of priority in nomenclature (which seems to be, in a general sense, the only just one) has occasioned some little confusion regarding the synonymy of this species. It appears to have been first described by Fabricius (in 1775) as the *Carabus vaporariorum* (as he supposed) of Linnæus. But inasmuch as Linnæus's insect was in reality totally distinct, and two beetles cannot at any time be allowed to bear the same name in the same genus (even though they be *subsequently* placed in different genera), it follows that the later of them (which in this case is Fabricius's) must be suppressed, and that the next published title (in this instance by Schrank) should be accepted in lieu of it.

† The *S. discophorus* would seem to differ from the *Teutonus* in its paler hue, in the dark portion of its elytra (which have their short second stria rather less abbreviated) being so far reduced in size as to form a *comparatively* small patch on the hinder disk, and in its prothorax being more narrowed posteriorly, and therefore less evenly rounded at the sides.

144. *Stenolophus marginatus*.

- Stenolophus marginatus*, *Dej., Spec. Gén. des Col.* iv. 427 (1829).
 ———, *Brullé, in Webb et Berth. (Col.)* 57 (1838).
 ———, *Woll., Ann. Nat. Hist.* ii. 407 (1858).
 ———, *Id., Cat. Can. Col.* 61 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can., Ten.*), sub lapidibus rarissimus.

A species, of Mediterranean latitudes, which appears to be exceedingly rare in these Atlantic islands. It has, however, been taken, very sparingly, in Madeira proper; as also in Grand Canary and Teneriffe.

145. *Stenolophus dorsalis*.

- Carabus dorsalis*, *Fab., Ent. Syst.* i. 165 (1792).
Acupalpus dorsalis, *Brullé, in Webb et Berth. (Col.)* 57 (1838).
Stenolophus dorsalis, *Woll., Ins. Mad.* 60 (1854).
 ———, *Id., Cat. Mad. Col.* 17 (1857).
 ———, *Id., Cat. Can. Col.* 61 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can., Ten., Gom.*), in humidis hinc inde parum vulgaris.

The European *S. dorsalis* is both local and rather scarce in Madeira proper; but at the Canaries it is much more common, where it has been detected in Grand Canary, Teneriffe, and Gomera.

Genus 40. **BRADYCELLUS.**

Erichson, *Käf. der Mark Brand.* i. 64 (1837).

146. *Bradycellus harpalinus*.

- Acupalpus harpalinus*, *Dej., Spéc. Gén. des Col.* iv. 471 (1829).
 ———, *Heer, Fna Col. Helv.* 118 (1841).
Bradycellus fulvus, *Woll.* [nec *Mshm* 1802], *Ins. Mad.* 61 (1854).
 ———, *Id., Cat. Mad. Col.* 17 (1857).
 ——— *harpalinus*, *Schaum, Nat. der Ins. Deutsch.* i. 627 (1860).

Habitat Maderenses (*Mad.*), in montibus parce degens.

Occurs sparingly on the mountains of Madeira proper, principally at a rather high elevation. I had formerly regarded it as the *B. fulvus* of more northern latitudes, though aware of certain slight discrepencies which it presented from the normal state of that species; but Mr. Rye has lately informed me that he believes it will be better associated with the European *B. harpalinus*. Still it does not *completely* agree even with the latter, though its differences are very trifling and unimportant ones.

147. *Bradycellus excultus*.

Bradycellus excultus, *Woll., Ins. Mad.* 61, tab. ii. f. 4 (1854).

— — —, *Id., Cat. Mad. Col.* 18 (1857).

Habitat Maderenses (Mad.), in sylvaticis editioribus sat rarus.

Inhabits the sylvan districts of Madeira proper, occurring sparingly in damp spots of a rather high altitude.

148. *Bradycellus ventricosus*.

Bradycellus ventricosus, *Woll., Cat. Can. Col.* 61 (1864).

Habitat Canarienses (Ten.), in sylvaticis humidis parce occurrens.

Clearly the representative at the Canaries of the Madeiran *B. excultus*, though most distinct from it specifically. It occurs in similar situations (within the sylvan districts at a rather high altitude), but has been observed hitherto only in Teneriffe.

Genus 41. *TRECHICHUS*.

Leconte, *Trans. Am. Phil. Soc.* x. 386 (1853).

149. *Trechichus fimicola*.

Trechus fimicolus, *Woll., Ins. Mad.* 63 (1854).

— *fimicola*, *Id., Cat. Mad. Col.* 18 (1857).

Habitat Maderenses (Mad.), sub quisquiliis in cultis hinc inde vulgaris.

Observed hitherto only in Madeira proper, where it occurs, under various kinds of refuse (chiefly in cultivated grounds), at low and intermediate elevations. Its freedom from flexuose frontal furrows, and an *apically-recurved* sutural stria, will at once distinguish it from the normal *Trechi*.

150. *Trechichus Jansonianus*.

Trechus Jansonianus, *Woll., Ann. Nat. Hist.* i. 19 (1858).

Habitat Maderenses (Mad.), inter plantas à Dom. Mason ab insulâ olim deportatas etiam in urbe Londinensi repertus.

Likewise peculiar (apparently) to Madeira proper, being very closely allied to the last species—of which, indeed, it is barely possible that it may be some extreme local state. The history of its discovery is rather a singular one—it having been captured in London, amongst the refuse which had accumulated around the trunk of a Dragon-tree, and other plants, which had been brought from Madeira by Mr. Mason. It was in tolerable abundance; and

from being accompanied by various undoubted Madeiran insects, there could be no question as to its *habitat* (which indeed its near affinity with the *T. fimicola* would have made sufficiently evident)*.

Genus 42. **TRECHUS.**

Clairville, *Ent. Helv.* ii. 23 (1806).

151. **Trechus detersus.**

Trechus detersus, *Woll., Cat. Can. Col.* 62 (1864).

Habitat Canarienses (*Lanz., Fuert.*), sub lapidibus, passim.

Occurs in Lanzarote and Fuerteventura, of the Canarian Group, where it may be regarded as the representative of the common European *T. minutus* (which at first sight it greatly resembles). As stated elsewhere, however, I believe it to be truly distinct from that species.

152. **Trechus umbricola.**

Trechus umbricola, *Woll., Ins. Mad.* 67, tab. ii. f. 3 (1854).

— —, *Id., Cat. Mad. Col.* 20 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis humidis editioribus haud infrequens.

Peculiar to the higher elevations of Madeira proper,—occurring in the moist sylvan districts, but by no means abundantly.

153. **Trechus nigrocruciatus.**

Trechus nigro-cruciatus, *Woll., Ins. Mad.* 64, tab. ii. f. 1 (1854).

— —, *Id., Cat. Mad. Col.* 18 (1857).

Habitat Maderenses (*Mad.*), in humidis editioribus sylvaticis rarus.

This fine *Trechus* is peculiar to Madeira proper, where it occurs (for the most part sparingly) in the damp sylvan districts of a high elevation.

154. **Trechus lævis.**

Trechus lævis, *Woll., Cat. Mad. Col.* 18 (1857).

Habitat Maderenses (*Mad.*), in locis similibus ac præcedens.

It is just possible that this *Trechus* may be but a large, polished, somewhat flattened, and lightly striated form of the *flavomarginatus*;

* The *T. Jansonianus* seems to differ from the *fimicola*, principally, in having its prothorax and elytra darker (though never *black* like the head), and the latter shorter behind—so as to expose more of the pygidium. Its head and prothorax also are just perceptibly narrower; and the former has a minute, rounded, punctiform fovea in the centre of the forehead.

nevertheless I believe that it is really a distinct, though closely allied, species. It occurs, rather sparingly, in much the same spots as the *nigrocruciatus*—within the sylvan districts of Madeira proper, at a high elevation.

155. *Trechus flavomarginatus*.

Trechus flavomarginatus, *Woll., Ins. Mad.* 65, tab. ii. f. 2 (1854).

—— —, *Id., Cat. Mad. Col.* 19 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis et subsylvaticis ubique vulgatissimus.

The present *Trechus* is the universal one in the sylvan and subsylvan districts of Madeira proper, occurring in profusion from about 2000 to 5000 feet above the sea; but it has not yet been observed in any of the other islands of the Group.

156. *Trechus flavolimbatus*.

Trechus flavolimbatus (*Schaum*), *Woll., Ann. Nat. Hist.* xi. 216 (1863).

—— —, *Id., Cat. Can. Col.* 63 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma, Hierro*), in sylvaticis et subsylvaticis vulgatissimus.

This is strictly the Canarian representative of the Madeiran *T. flavomarginatus*; indeed I am far from satisfied that it is more than a topographical modification of that insect. Nevertheless as the slight features which characterize it remain quite constant throughout the *whole five* islands of the Canarian archipelago in which it has been observed, it is difficult to regard its small peculiarities as the result of any combination of *local* influences; and it was on this account that, at the instigation of Schaum, I described it as a distinct species. It abounds, in sylvan and subsylvan spots, throughout every portion of the Canarian Group except Lanzarote and Fuerteventura—where it has not yet been detected, and where I suspect that it does not exist.

157. *Trechus signatus*.

Trechus signatus, *Woll., Cat. Mad. Col.* 19 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis parce occurrrens.

Occurs sparingly within the sylvan districts of Madeira proper, the few examples which I have yet seen having been captured by myself (during June 1855) from beneath fallen leaves at the extreme head of the S^{ta} Cruz ravine.

158. *Trechus dilutus*.

Trechus dilutus, *Woll., Ins. Mad.* 66 (1854).

— —, *Id., Cat. Mad. Col.* 20 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis humidis editioribus sat rarus.

Inhabits the sylvan regions of Madeira proper, occurring sparingly in damp spots at a high elevation.

159. *Trechus felix*.

Trechus felix, *Woll., Cat. Can. Col.* 63 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis humidis editioribus rarissimus.

Apparently peculiar to the sylvan regions of Teneriffe, where it may perhaps be regarded as the Canarian representative of the *T. custos* of Madeira. It is extremely rare, the few specimens which I have seen having been taken by myself (during May 1859) in the damp laurel-woods on the mountains above Taganana.

160. *Trechus quadricollis*.

Trechus quadricollis, *Woll., Ins. Mad.* 68 (1854).

— —, *Id., Cat. Mad. Col.* 20 (1857).

Habitat Maderenses (*Mad.*), in montibus supra urbem Funchalensem semel tantum repertus.

The only example which I have seen of this *Trechus* was taken by myself (during the autumn of 1847) in Madeira proper, on the mountains above Funchal; and it is just possible that it may represent some aberrant state of the *T. custos*, peculiar to the southern slopes of the island. It would be necessary, however, to inspect further material before such could be assumed as probable.

161. *Trechus custos*.

Trechus custos, *Woll., Ins. Mad.* 68 (1854).

— —, *Id., Cat. Mad. Col.* 20 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis præsertim editioribus vulgaris.

A rather common insect in the sylvan regions of Madeira proper, to which island it appears to be peculiar.

162. *Trechus alticola*.

Trechus alticola, *Woll., Ins. Mad.* 69 (1854).

— —, *Id., Cat. Mad. Col.* 20 (1857).

Habitat Maderenses (*Mad.*), in locis valde elevatis extrasylvaticis hinc inde parce occurrens.

Inhabits the loftiest elevations of Madeira proper, above the sylvan

districts,—occurring sparingly, beneath stones, in open grassy spots towards the summits of the peaks. In such situations I have met with it between the Ice House Peak and the Pico do Azeiro, as well as on the Boca das Torrinhas. It may possibly be an aberrant form of the *T. custos* peculiar to the highest altitudes; but I have stated elsewhere that I do not believe such to be the case.

163. *Trechus cautus*.

Trechus cautus, *Woll., Ins. Mad.* 70 (1854).

— —, *Id., Cat. Mad. Col.* (1857).

Habitat Maderenses (*P^{to} S^{to}*), in gramineis editioribus apertis sub lapidibus parce degens.

Apparently peculiar to Porto Santo, of the Madeiran Group, where moreover it is extremely local,—occurring, beneath stones, on the open grassy slopes of a high elevation.

164. *Trechus minyops*.

Trechus minyops, *Woll., Ann. Nat. Hist.* x. 287 (1862).

Habitat Maderenses (*Mad.*), rarissimus à Dom. Moniz in montibus captus.

Only two specimens of this curious little *Trechus* (so remarkable for its minute eyes, the almost aciculated last joint of its maxillary palpi, and the rather short and moniliform subapical articulations of its somewhat abbreviated antennæ) have as yet come beneath my notice. They were both of them captured by Senhor Moniz at S. Antonio da Serra, in Madeira proper.

Genus 43. THALASSOPHILUS.

Wollaston, *Ins. Mad.* 71 (1854).

165. *Thalassophilus Whitii*.

Trechus littoralis? *Brullé* [nec *Dej.*], in *Webb et Berth.* (*Col.*) 58 (1838).

Thalassophilus Whitei, *Woll., Ins. Mad.* 71, tab. ii. f. 5 (1854).

— —, *Id., Cat. Mad. Col.* 21 (1857).

— *Whitæi*, *Id., Cat. Can. Col.* 64 (1864).

Habitat Maderenses (*Mad.*, *P^{to} S^{to}*) et Canarienses (*Can.*, *Ten.*, *Gom.*, *Palma*), inter lapillos per margines rivulorum, passim.

Widely diffused over these Atlantic islands, where it may be regarded as the representative of the European *T. longicornis*. It is found beneath wet stones and shingle at the edges of the small streams, as well as about the dripping rocks, at low and intermediate

altitudes. In the Madeiran Group it is extremely rare, occurring however both in Madeira proper and Porto Santo; but at the Canaries—where it has been taken in Grand Canary, Teneriffe, Gomera, and Palma—it is less scarce (being in some places indeed almost common).

Genus 44. **ÆPYS.**

(Leach), Samouelle, *Usef. Comp.* 149 [script. *Æpus*] (1819).

166. **Æpys gracilicornis.**

Æpys gracilicornis, Woll., *Ann. Nat. Hist.* v. 218 (1860).

— —, *Id.*, *Append. huj. op.* 11.

Habitat Maderenses (*Mad.*), in lutosiis maritimis subsalinis necnon inter lapillos per oram ipsam, rarissimus.

This most interesting little *Æpys* has been observed only (in two localities) along the edges of the sea-shore in Madeira proper; and it must therefore be regarded as extremely rare, even though by no means uncommon in the few spots which harbour it. It was detected by myself (during December 1858) in the crevices of a low muddy bank, facing the beach, which terminates the marshy ground at the mouth of the São Vicente ravine, in the north of the island, as also from beneath the shingle and stones which must have been submerged at high tides. And the late Mr. Bewicke subsequently obtained it on the opposite side of the island, in the vicinity of Funchal—"in wet sea-sand near the Gorgulho, below high-water mark." From which it will be gathered that its habits are precisely similar to those of its more northern ally, the *A. marinus* (from which, however, specifically, it is most distinct).

Genus 45. **PERILEPTUS.**

Schaum, *Nat. der Ins. Deutsch.* i. 663 (1860).

167. **Perileptus nigrutilus.**

Perileptus nigrutilus, Woll., *Ann. Nat. Hist.* xi. 216 (1863).

— —, *Id.*, *Cat. Can. Col.* 65 (1864).

Habitat Canarienses (*Ten.*, *Gom.*), inter lapillos per margines aquarum hinc inde sat vulgaris.

Detected hitherto only in Teneriffe and Gomera, of the Canarian Group,—in the former of which it was taken by myself (at the edges of a small pool near S^{ta} Cruz), and in the latter (during the summer of 1864) by the Messrs. Crotch. Possibly it may be merely a dark

state of the European *P. areolatus*; nevertheless it possesses a few other minute distinctive characters, apart from colour, which I have fully alluded to in my diagnosis.

(Subfam. XVI. BEMBIDIADÆS.)

Genus 46. **TACHYS.**

(Ziegler), Steph., *Ill. Brit. Ent.* ii. 4 (1829).

168. **Tachys Fockii.**

Bembidium Fockii, Hummel, *Ess. Ent.* ii. 27 (1822).

— silaceum, Dej., *Spec. Gén. des Col.* v. 50 (1831).

— numidicum, Luc., *Col. de l'Algérie*, 79, pl. 10. f. 3 (1849).

— Fockii, Woll., *Cat. Mad. Col.* 21 (1857).

Tachys Fockii, Schaum, *Nat. des Ins. Deutsch.* i. 751 (1860).

Habitat Maderenses (*Mad.*), semel tantum repertus.

The *T. Fockii*, of central and southern Europe and the north of Africa, occurs very rarely in Madeira proper. Indeed only a single example, which was taken by myself at the edge of the stream in the Ribeira do Alcaide near Feijã d'Ovelha, has hitherto been detected.

169. **Tachys bistriatus.**

Elaphrus bistriatus (Meg.), Duft., *Fna Austr.* ii. 205 (1812).

Bembidium bistriatum, Woll., *Ins. Mad.* 73 (1854).

— —, *Id.*, *Cat. Mad. Col.* 22 (1857).

Tachys bistriatus, Schaum, *Nat. der Ins. Deutsch.* i. 746 (1860).

— —, Woll., *Cat. Can. Col.* 66 (1864).

Habitat Maderenses (*Mad.*), et Canarienses (*Gom.*), in humidis sat rarus.

This European *Tachys* occurs both at the Madeiras and Canaries. At the former it is tolerably common in Madeira proper, in wet places at low and intermediate elevations; but at the latter it is extremely rare—two specimens only, taken by Dr. Crotch in Gomera (during the spring of 1862), being all that have yet been observed.

170. **Tachys scutellaris.**

Trechus scutellaris, Germ., Thon, *Ent. Archiv*, ii. fasc. i. 11 (1829).

Tachys scutellaris, Steph., *Ill. Brit. Ent.* ii. 5 (1829).

— —, Schaum, *Nat. der Ins. Deutsch.* i. 745 (1860).

— —, Woll., *Cat. Can. Col.* 66 (1864).

Habitat Canarienses (*Lanz.*), in salinis hinc inde vulgaris.

The common European *T. scutellaris* is rather abundant in certain

salt places in Lanzarote, of the Canarian Group; but it has not yet been detected in any of the other islands. It occurs also at Mogadore, on the opposite coast of Africa.

171. *Tachys centromaculatus*.

Tachys centromaculatus, *Woll., Cat. Can. Col.* 67 (1864).

Habitat Canarienses (*Lanz.*), in locis similibus ac præcedens, sed rarior.

Likewise peculiar, so far as has been observed hitherto, to Lanzarote of the Canarian Group—having been detected by myself at the edges of the salt lake of Januvio, adjoining the south-western coast of that island.

172. *Tachys curvimanus*.

Bembidium curvimanum, *Woll., Ins. Mad.* 74, tab. ii. f. 6 (1854).

— —, *Id., Cat. Mad. Col.* 22 (1857).

— —, *Id., Cat. Can. Col.* 67 (1864).

Habitat Maderenses (*Mad., P^{to} S^{to}*) et Canarienses (in *Hierro* solâ adhuc haud observatus), sub lapidibus per margines rivulorum necnon in aquosis, ab orâ maritimâ usque ad 8000' s.m. ascendens.

This *Tachys*, which may possibly be but a small state of the *T. 4-signatus* of southern Europe, is nearly universal throughout these Atlantic islands—occurring at the edges of the streams, and in wet places generally, at most elevations. At the Madeiran Group I have taken it sparingly in Madeira proper, and rather abundantly in Porto Santo; whilst at the Canaries it has been captured in the whole seven islands except Hierro, where, however, it will doubtless be found to exist.

173. *Tachys Lucasii*.

Bembidium Lucasii, *Duv., Ann. de la Soc. Ent. de France*, x. 137 (1852).

— —, *Woll., Ins. Mad.* 75 (1854).

— —, *Id., Cat. Mad. Col.* 22 (1857).

Habitat Maderenses (*Mad.*), in humidis præcipue inferioribus degens.

The *T. Lucasii* of Mediterranean latitudes occurs rather commonly, at low and intermediate elevations, in Madeira proper; but it has not yet been detected in any of the other islands.

174. *Tachys hæmorrhoidalis*.

Bembidium hæmorrhoidale, *Dej., Spec. Gén. des Col.* v. 58 (1831).

— —, *Duv., Ann. de la Soc. Ent. de France*, x. 193 (1852).

Tachys hæmorrhoidalis, *Schaum, Nat. der Ins. Deutsch.* i. 750 (1860).

— —, *Woll., Cat. Can. Col.* 68 (1864).

Habitat Canarienses (*Can., Ten., Gom.*), in aquosis haud infrequens.

A species of southern Europe which is widely spread over the Canarian Group, though somewhat scarce. It occurs at low and intermediate altitudes, and has been captured in Grand Canary, Teneriffe, and Gomera.

Genus 47. **BEMBIDIUM.**

Latreille, *Gen. Crust. et Ins.* i. 183 (1806).

(Subgenus **Philochthus**, *Steph.*)

175. **Bembidium obtusum.**

Bembidium obtusum, *Sturm, Deutsch. Fna*, vi. 165 (1825).

— —, *Woll., Ins. Mad.* 75 (1854).

— —, *Id., Cat. Mad. Col.* 22 (1857).

— —, *Schaum, Nat. der Ins. Deutsch.* i. 741 (1860).

Habitat Maderenses (in *Chão solâ* haud detectum), sub lapidibus vulgare.

The European *B. obtusum* is probably universal at the Madeiran Group, the northern Deserta being the only island of the five in which it does not happen to have been detected; but it is somewhat remarkable that it should not yet have been brought to light at the Canaries. In the Madeiras it is decidedly common, and occurs at most elevations—assuming a rather large form, which is found likewise in southern Europe.

176. **Bembidium biguttatum.**

Carabus biguttatus, *Fab., Mant. Ins.* i. 205 (1787).

Bembidium vulneratum, *Dej., Spec. Gén. des Col.* v. 182 (1831).

— *biguttatum*, *Schaum, Nat. der Ins. Deutsch.* i. 737 (1860).

— —, *Woll., Cat. Can. Col.* 69 (1864).

Habitat Canarienses (*Can.*), rarissimum; semel tantum lectum.

A single example (which presents scarcely any appreciable difference from the ordinary type) of this common European insect is all that I have yet seen from these various Atlantic islands. It was taken by myself, near Teror, in Grand Canary.

177. **Bembidium vicinum.**

Bembidium vicinum, *Luc., Col. de l'Algérie*, 86, pl. 10. f. 9 (1849).

— —, *Duv., Ann. de la Soc. Ent. de France*, x. 178 (1852).

— —, *Woll., Cat. Can. Col.* 69 (1864).

Habitat Canarienses (*Lanz., Fuert.*), per margines rivulorum in locis intermediis parce occurrens.

Observed hitherto only in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group—where it occurs, sparingly, along the edges of the streams at intermediate elevations. It is a species of Mediterranean latitudes; and the Canarian examples seem to differ a little from the few which I have had an opportunity of inspecting from more northern countries.

(Subgenus *Ocys*, *Steph.*)

178. *Bembidium dubium*.

Bembidium dubium, *Woll., Cat. Mad. Col. 23* (1857).

Habitat Maderenses (*Mad.*), rarissimum; semel tantum deprehensum.

Detected by Mr. M. Park in the south of Madeira proper, and apparently of the greatest rarity. It is closely related to the European *B. rufescens*, of which indeed it is possible that it may be but a geographical state.

(Subgenus *Peryphus*, *Meg.*)

179. *Bembidium atlanticum*.

Bembidium decorum, *Brullé[nec Dej.] in Webb et Berth. (Col.) 58* (1838).

— *atlanticum*, *Woll., Ins. Mad. 77* (1854).

— —, *Id., Cat. Mad. Col. 23* (1857).

— —, *Id., Cat. Can. Col. 70* (1864).

Habitat Maderenses (*Mad., P^{to} Sto*) et Canarienses (in *Hierro* solâ adhuc haud observatum), ad margines aquarum vulgare.

The universal *Bembidium* throughout these Atlantic islands, occurring at the edges of the streams and pools at nearly all elevations. At the Madeiran Group, it abounds in Madeira proper and Porto Santo; whilst at the Canaries, Hierro is the only island of the seven in which it does not happen to have been observed (though there can be little doubt that it must exist there likewise). It is a most unstable insect as regards colour,—varying from a dark and almost spotless green to a pale, maculated state; and it is the latter which is especially characteristic of the more arid (or eastern) islands of the archipelago, both in the Madeiras and Canaries.

180. *Bembidium tabellatum*.

Bembidium tabellatum, *Woll., Ins. Mad. 79* (1854).

— —, *Id., Cat. Mad. Col. 23* (1857).

Habitat Maderenses (*Mad.*), per margines rivulorum in locis intermediis parce occurrans.

Apparently peculiar to Madeira proper, where it occurs (though sparingly) along the edges of the streams at intermediate altitudes. It is the representative of the European *B. tibiale*, from which nevertheless it seems (and such is likewise the opinion of Schaum) to be truly distinct.

(Subgenus **Lopha**, *Meg.*)

181. *Bembidium elongatum*.

Bembidium elongatum, *Dej., Spec. Gén. des Col.* v. 148 (1831).

— —, *Woll., Ins. Mad.* 79 (1854).

— —, *Id., Cat. Mad. Col.* 24 (1857).

— —, *Schaum, Nat. der Ins. Deutsch.* i. 692 (1860).

Habitat Maderenses (*Mad.*), per margines aquarum in intermediis editioribusque degens.

A European species, which occurs (though by no means commonly) along the margins of the streams in Madeira proper—at intermediate and lofty elevations.

182. *Bembidium concolor*.

Bembidium concolor, *Brullé, in Webb et Berth. (Col.)* 58 (1838).

— —, *Woll., Cat. Can. Col.* 70 (1864).

Habitat Canarienses (in *Fuert.* solâ hactenus haud observatum), per margines aquarum necnon ad rupes aquosas hinc inde vulgare.

Peculiar to the Canarian archipelago, where it is doubtless universal, though hitherto it does not happen to have been observed in Fuerteventura. But in the remaining six islands of the Group it is more or less abundant, occurring along the edges of the streams and about dripping rocks at intermediate altitudes.

183. *Bembidium subcallosum*.

Bembidium 4-guttatum, *Brullé [nee Fab.], in Webb et Berth. (Col.)* 58 (1838).

— *subcallosum*, *Woll., Cat. Can. Col.* 71 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma, Hierro*), in aquis et humidis vulgatissimum.

The representative at the Canaries of the European *B. callosum*, in like manner as the *B. Schmidti* represents that insect in the Madeiran Group. From which it follows that the *B. callosum*, *subcallosum*, and *Schmidti* may possibly be but geographical modifications of a single species, though it is of course difficult to regard

this as probable. Indeed practically it would be most rash to act upon the latter hypothesis; for the *topographical* evidence would rather tend perhaps to uphold their specific distinctness, seeing that the Canarian insect occurs *unchanged* in no less than five separate islands of the archipelago, and the Madeiran one in two—each of them retaining its peculiar features unaltered by surrounding influences and the most opposite *local* conditions.

The *B. subcallosum* is universal in all the islands of the Canarian Group except the two eastern ones, Lanzarote and Fuerteventura (in which it has not yet been observed),—abounding at the edges of the streams, and in damp places generally, at most elevations.

184. *Bembidium Schmidtii*.

Bembidium Schmidtii, *Woll., Ins. Mad.* 80 (1854).

— — —, *Id., Cat. Mad. Col.* 24 (1857).

Habitat Maderenses (*Mad., P^{to} Sto*) in aquosis præsertim intermediis sat rarum.

Occurs (though somewhat rarely) at the edges of the streams, and about wet rocks, in Madeira proper and Porto Santo. It is closely allied to the European *B. callosum*, and about equally so to the *subcallosum* of the Canaries; nevertheless, as already stated, I believe the three forms to be specifically distinct.

185. *Bembidium inconspicuum*.

Bembidium inconspicuum, *Woll., Cat. Can. Col.* 72 (1864).

Habitat Canarienses (*Ten.*), rarissimum; à W. D. Crotch semel captum.

Somewhat allied to the European *B. 4-maculatum*, and captured by Dr. Crotch (during the spring of 1862) in Teneriffe.

(Subgenus *Leja*, *Meg.*)

186. *Bembidium lætum*.

Bembidium lætum, *Brullé, in Webb et Berth. (Col.)* 58, pl. ii. f. 9 (1838).

— dives, *Lucas, Col. de l'Algérie*, 82, pl. 10. f. 6 (1849).

— lætum, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 141.

— — —, *Woll., Cat. Can. Col.* 72 (1864).

Habitat Canarienses (*Lanz., Fuert., Ten.*), late sed parce diffusum.

Widely spread over the Canarian archipelago, where perhaps eventually it may be found to be universal, though hitherto it has

been observed only in Lanzarote, Fuerteventura, and Teneriffe. It is decidedly scarce, or at any rate very local, occurring in wet places at low and intermediate altitudes. It appears to exist in the south of Europe also (having been taken by Kiesenwetter in Greece), and in the north of Africa; but I have not had an opportunity of comparing one of the more northern examples with the Canarian type.

(Subgenus **Bembidium**, *Auct.*)

187. **Bembidium Crotchii.**

Bembidium Crotchii, *Woll., Cat. Can. Col.* 73 (1864).

Habitat Canarienses (*Palman*), in humidis rarissimum.

A Canarian *Bembidium*, detected by Dr. Crotch in Palma,—where it would appear to represent the *B. pallidipenne* of more northern latitudes. It is evidently extremely rare, and was captured at the edges of a Levada on the mountain-slopes above S^{ta} Cruz.

(Subgenus **Notaphus**, *Meg.*)

188. **Bembidium marginicolle.**

Bembidium marginicolle, *Woll., Cat. Can. Col.* 74 (1864).

Habitat Canarienses (*Ten.*), rarissimum.

Detected in Teneriffe, during the spring of 1862, by Dr. Crotch; but whether it is more than a geographical modification of the European *B. varium* I will not undertake, from the evidence afforded by only two specimens, to decide. Further material, when procured, must settle the point.

Fam. 2. DYTISCIDÆ.

Genus 48. **HALIPLUS.**

Latreille, *Gen. Crust. et Ins.* i. 234 (1806).

189. **Haliplus suffusus.**

Haliplus suffusus, *Woll., Cat. Can. Col.* 74 (1864).

Habitat Canarienses (*Can., Gom.*), hinc inde in aquis parum vulgaris.

A Canarian *Haliplus*, which has been detected hitherto only in Grand Canary and Teneriffe. It much resembles the common European *H. lineatocollis*, though I believe it to be truly distinct therefrom.

Genus 49. **HYDROPORUS.**Clairville, *Ent. Helv.* ii. 183 (1806).190. **Hydroporus musicus.**Hydroporus musicus, *Klug, Symb. Phys.* pl. 33. f. 12 (1829).— —, *Aubé, Hydrocanth.* 475 (1838).— —, *Woll., Cat. Can. Col.* 75 (1864).*Habitat* Canarienses (*Can.*), in aquis rarissimus.

Observed hitherto only in Grand Canary, where it appears to be scarce. I possess examples from Egypt, which, however, differ a little from the Canarian ones.

191. **Hydroporus confluens.**Dytiscus confluens, *Fab., Ent. Syst.* i. 198 (1792).Hydroporus confluens, *Woll., Ins. Mad.* 87 (1854).— —, *Id. Cat. Mad. Col.* 27 (1857).— —, *Id., Cat. Can. Col.* 75 (1864).

Habitat Maderenses (in *Bugio* solâ haud detectus) et Canarienses (*Fuert., Gom.*), hinc inde vulgaris.

The common European *H. confluens* is widely spread over these Atlantic islands, in which it will most likely be found to be universal wherever there are pools or streams. It is, however, far more abundant at the Madeiran Group (where it has been taken in *all* the islands except the Southern Deserta) than at the Canaries,—in the latter of which it has been found as yet only in Fuerteventura and Gomera.

192. **Hydroporus geminus.**Dytiscus geminus, *Fab., Ent. Syst.* i. 199 (1792).Hydroporus geminus, *Steph., Ill. Brit. Ent.* ii. 57 (1829).— —, *Aubé, Hydrocanth.* 491 (1838).— —, *Woll., Cat. Can. Col.* 76 (1864).*Habitat* Canarienses (*Fuert.*), rarissimus.

Captured by myself in Fuerteventura, of the Canarian Group, but it has not yet been observed in any other of the islands. It is a common species throughout Europe.

193. **Hydroporus minutissimus.**Hydroporus minutissimus, *Germ., Ins. Spec. Nov.* 31 (1824).— —, *Aubé, Hydrocanth.* 493 (1838).— trifasciatus, *Woll., Ann. Nat. Hist.* xviii. 453, pl. 9. f. 3 (1846).— minutissimus, *Id., Cat. Can. Col.* 76 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma*), hinc inde vulgarissimus.

The *H. minutissimus* of central and southern Europe is locally abundant in the Canarian Group. It has been taken in Grand Canary, Teneriffe, Gomera, and Palma.

194. *Hydroporus delectus*.

Hydroporus delectus, *Woll., Cat. Can. Col.* 76 (1864).

Habitat Canarienses (*Ten.*), minus frequens.

Taken hitherto only in Teneriffe, where it appears to be scarce. It may be regarded as the representative at the Canaries of the European *H. flavipes*, to which it is closely allied.

195. *Hydroporus compunctus*.

Hydroporus compunctus, *Woll., Append. huj. op.* 11.

Habitat Canarienses (*Ten.*), à DD. Crotch semel tantum repertus.

The only specimen which I have seen of this *Hydroporus* was taken by the Messrs. Crotch, during the summer of 1864, in Teneriffe—I believe, in the Barranco at Yeod el Alto.

196. *Hydroporus xanthopus*.

Hydroporus xanthopus, *Steph., Ill. Brit. Ent.* v. 393 (1832).

— *lituratus*, *Aubé, Hydrocanth.* 589 (1838).

— *xanthopus*, *Woll., Cat. Can. Col.* 77 (1864).

Habitat Canarienses (*Ten., Gom.*), usque ad 8000' s. m. ascendens.

Found in Teneriffe and Gomera (in the latter by the Messrs. Crotch), of the Canarian Group, and ascending to at least 8000 feet above the sea. The Canarian specimens differ a little from the ordinary European ones; but the discrepancies are so small and unimportant that I do not think they indicate more than a slight geographical variety.

197. *Hydroporus planus*.

Dytiscus planus, *Fab., Ent. Syst.* i. 195 (1792).

Hydroporus holosericeus, *Steph., Ill. Brit. Ent.* ii. 61 (1829).

— *planus*, *Aubé, Hydrocanth.* 583 (1838).

— —, *Woll., Cat. Can. Col.* 77 (1864).

Habitat Canarienses (*Ten.*), hinc inde vulgaris.

Occurs abundantly in certain streams of Teneriffe, at intermediate elevations, but it has not yet been detected in any of the other islands. As in the case of the last species, the Canarian examples are not *quite*

similar to those of more northern latitudes ; but I do not believe that they can be regarded as specifically distinct from the latter.

198. *Hydroporus Clarkii*.

- Hydroporus Clarkii*, *Woll., Ann. Nat. Hist.* ix. 438 [June] (1862).
 — Andalusiae, *Clark, Journ. of Ent.* i. 469 [Sept.] (1862).
 — *Clarkii*, *Woll., Cat. Can. Col.* 77 (1864).

Habitat Canarienses (*Fuert.*), in rivulis vulgatissimus.

Abundant in all the streams of Fuerteventura, of the Canarian Group, though it has not yet been observed in any of the other islands. We may, however, expect it to exist in at any rate Lanzarote. It is very closely allied to the *H. affinis*, from Sardinia ; but I am assured, nevertheless, by Schaum that he believes it to be truly distinct from that species.

199. *Hydroporus Ceresyi*.

- Hydroporus Ceresyi*, *Aubé, Hydrocanth.* 543 (1838).
 — *Lyellii*, *Woll., Cat. Mad. Col.* 26 (1857).
 — *Ceresyi*, *Id., Cat. Can. Col.* 78 (1864).

Habitat Maderenses (*Pto Sto*) et Canarienses (*Lanz.*), in aquis salinis subsalinisque interdum stagnantibus sed plerumque fluentibus, rarior.

The *H. Ceresyi* of southern Europe I have taken sparingly in Porto Santo of the Madeiran Group and in Lanzarote of the Canaries, where it seems to occur for the most part in waters which are more or less brackish. In the former I met with it towards the northern side of the island, beyond the little village of Camacha, and in the latter in the saline lake of Januvio adjoining the south-western coast.

Judging from the few individuals which I have seen from Porto Santo it would appear to be (on the average) a trifle smaller and darker in that island than is usually the case elsewhere, and consequently in my Madeiran Catalogue I described the Porto-Santan examples under the title of *H. Lyellii* ; but I now believe that that particular form ought not to be treated as more than a slight and unimportant insular variety, and I have therefore suppressed it as a species. Nevertheless if future material should prove it to be really distinct (which I cannot but consider most unlikely), the trivial name of *Lyellii* will in that case have to remain for it as hitherto.

200. *Hydroporus vigilans*.

- Hydroporus vigilans*, *Woll., Ins. Mad.* 86 (1854).
 — —, *Id., Cat. Mad. Col.* 25 (1857).

Habitat Maderenses (*Mad.*), in aquis fluentibus vulgaris.

Apparently peculiar to Madeira proper, where it occurs in the streams at most elevations.

201. *Hydroporus tessellatus*.

Hydroporus tessellatus (*Dej.*), *Aubé, Hydrocanth.* 516 (1838).

— —, *Woll., Cat. Can. Col.* 79 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma*), in rivulis vulgaris.

This species would seem to represent at the Canaries the *H. vigilans*, of Madeira; and it is equally abundant wherever there are streams. In the two eastern islands, however, of the Group it has not yet been observed; and the absence of water in Hierro has prevented its being detected there. But in Grand Canary, Teneriffe, Gomera, and Palma it is common, at nearly all elevations.

Genus 50. **LACCOPHILUS.**

Leach, *Zool. Miscell.* iii. 69 (1817).

202. *Laccophilus inflatus*.

Laccophilus inflatus, *Woll., Cat. Can. Col.* 79 (1864).

Habitat Canarienses (*Can., Ten., Gom.*), in aquis hinc inde haud infrequens.

A Canarian *Laccophilus*, which has been observed hitherto in Grand Canary, Teneriffe, and Gomera. Although differing a little from both of them, it is not impossible that it may be in reality a geographical modification of either the *minutus* or *hyalinus* of more northern latitudes; but as the acknowledged distinctions between so many allied species in these groups of the *Hydrocantharidæ* are extremely slight, I think that the *L. inflatus* has at least as much claim for separation as many other forms which are universally recognized.

Genus 51. **COLYMBETES.**

Clairville, *Ent. Helv.* ii. 198 (1806).

203. *Colymbetes coriaceus*.

Dytiscus coriaceus, *Hoffm. in litt.*

Meladema coriacea, *Lap., Etud. Ent.* 98 (1834).

Colymbetes coriaceus, *Aubé, Hydrocanth.* 220 (1838).

Dytiscus coriaceus, *Brullé, in Webb et Berth. (Col.)* 58 (1838).

Colymbetes coriaceus, *Woll., Cat. Can. Col.* 80 (1864).

Habitat Canarienses (*Can., Ten.*), in aquis præsertim fluentibus sat frequens.

The *C. coriaceus* of Mediterranean latitudes occurs, not unfrequently, at the Canaries; though hitherto it has been observed only in Grand Canary and Teneriffe.

204. *Colymbetes lanio*.

- Dytiscus Lanio*, *Fab., Ent. Syst.* i. 190 (1792).
Colymbetes Loweï, *G. R. Gray, Griff. A. K. Ins.* i. pl. 32. f. 2 (1830).
 — *Lanio*, *Aubé, Hydrocanth.* 221 (1838).
 — —, *Woll., Ins. Mad.* 82 (1854).
 — —, *Id., Cat. Mad. Col.* 24 (1857).

Habitat Maderenses (Mad.), in rivulis parum vulgaris.

This species would seem to be the Madeiran representative of the *C. coriaceus* of the Canaries and southern Europe, which indeed it greatly resembles. It is not uncommon in the streams of Madeira proper, at intermediate and lofty elevations.

Genus 52. *AGABUS*.

Leach, *Zool. Miscell.* iii. 69, 72 (1817).

205. *Agabus bipustulatus*.

- Dytiscus bipustulatus*, *Linn., Syst. Nat.* ii. 667 (1767).
Agabus bipustulatus, *Aubé, Hydrocanth.* 357 (1838).
 — —, *Woll., Ins. Mad.* 83 (1854).
 — —, *Id., Cat. Mad. Col.* 25 (1857).

Habitat Maderenses (Mad.), in aquis præsertim fluentibus vulgaris.

The common European *A. bipustulatus* is universal in Madeira proper, occurring at nearly all elevations; but it has not yet been detected in any other of these Atlantic islands.

206. *Agabus nebulosus*.

- Dytiscus nebulosus*, *Forst., Nov. Spec. Ins.* 56 (1771).
 — *bipunctatus*, *Fab., Mant. Ins.* 190 (1787).
Colymbetes bipunctatus, *Brullé, in Webb et Berth. (Col.)* 58 (1838).
Agabus nebulosus, *Woll., Ins. Mad.* 84 (1854).
 — —, *Id., Cat. Mad. Col.* 25 (1857).
 — —, *Id., Cat. Can. Col.* 80 (1864).

Habitat Maderenses (Mad., Chão, Des.) et Canarienses (Can., Ten.), hinc inde vulgaris.

The *A. nebulosus*, so common throughout Europe, is locally abundant in these Atlantic islands. It has been captured in Madeira proper and the two northern Desertas, of the Madeiran Group, and in Grand Canary and Teneriffe at the Canaries.

207. *Agabus biguttatus*.

Dytiscus biguttatus, *Oliv.*, *Ent.* iii. 40. 26, pl. 4, f. 36 (1795).

Agabus biguttatus, *Aubé*, *Hydrocanth.* 341 (1838).

Colymbetes biguttatus?, *Brullé*, in *Webb et Berth.* (*Col.*) 58 (1838).

Agabus biguttatus, *Woll.*, *Cat. Can.* Col. 81 (1864).

Habitat Canarienses (*Can.*), in aquis minus frequens.

I am not altogether satisfied that the present *Agabus* is truly distinct from the following one; nevertheless if further material should prove that the small (and not very important) features which appeared to me (when I compiled my Canarian Catalogue) to separate it from that species are constant ones, it will follow that the *A. biguttatus* of southern Europe has been observed hitherto only in Grand Canary, of all these Atlantic islands. But if, on the other hand, we are compelled ultimately to regard it as identical with the *consanguineus*, the insect will then be seen to be pretty generally distributed throughout the Canarian archipelago.

208. *Agabus consanguineus*.

Agabus consanguineus, *Woll.*, *Cat. Can.* Col. 81 (1864).

Habitat Canarienses (*Ten.*, *Gom.*, *Palma*), in intermediis aquas fluentes colens.

A locally abundant *Agabus* in the streams of intermediate elevations in Teneriffe, Gomera, and Palma (in the second of which it has been captured in profusion by the Messrs. Crotch, during their late Canarian campaign). As already stated, it may perhaps prove ultimately to be conspecific with the preceding one; in which case (whether it be the true *biguttatus* of Olivier, or not) the insect will be perceived to have a still wider range throughout the Canarian Group.

209. *Agabus maderensis*.

Agabus Maderensis, *Woll.*, *Ins. Mad.* 85 (1854).

— — —, *Id.*, *Cat. Mad.* Col. 25 (1857).

Habitat Maderenses (*Mad.*), in aquis præsertim editioribus passim.

Apparently peculiar to Madeira proper, where it occurs (here and there in tolerable abundance) in the streams of intermediate and lofty elevations.

Genus 53. CYBISTER.

Curtis, *Brit. Ent.* iv. 151 (1827).

210. *Cybister africanus*.

Cybister africanus, Laporte, *Etud. Ent.* 99 (1834).

Trochalus meridionalis, Gené, *De quib. Ins. Sard.* i. 10 (1836).

Cybister africanus, Aubé, *Hydrocanth.* 71 (1838).

— —, Woll., *Cat. Can. Col.* 83 (1864).

Habitat Canarienses (*Can.*), in aquis quietis rarissimus.

The *C. africanus* of Mediterranean latitudes occurs, though very sparingly, in the Canarian Group. Indeed the only examples which I have seen were taken by myself (during April 1858) in the pools at Arguiniquin, in the south of Grand Canary.

Genus 54. **DYTISCUS**.

Linnæus, *Syst. Nat.* ii. 664 (1767).

211. *Dytiscus circumflexus*.

Dytiscus circumflexus, Fab., *Syst. Eleu.* i. 258 (1801).

— —, Aubé, *Hydrocanth.* 113 (1838).

Dytiscus circumflexus, Brullé, in *Webb et Berth.* (*Col.*) 58 (1838).

Dytiscus circumflexus, Woll., *Cat. Can. Col.* 83 (1864).

Habitat Canarienses (?), mihi non obvius; à Dom. Brullé in faunam Canariensem admissus.

This common European *Dytiscus* is admitted by M. Brullé into the Canarian fauna, on the evidence of specimens presumed to have been captured by Messrs. Webb and Berthelot. I have not myself met with it, nor was it found by the Messrs. Croteh; and I am consequently unable to say from what island it was supposed to have been obtained. M. Brullé of course gives us no information, for it was not his habit (in the meagre list compiled for the gigantic 'Histoire Naturelle des îles Canaries') ever to record a single fact of either local or geographical interest.

Genus 55. **EUNETES**.

Erichson, *Gen. Dytic.* 23 (1832).

212. *Eunectes subdiaphanus*.

Eunectes subdiaphanus, Woll., *Ann. Nat. Hist.* viii. 100 (1861).

— —, *Id.*, *Cat. Can. Col.* 84 (1864).

— —, *Id.*, *Append. huj. op.* 11.

Habitat Canarienses (*Can.*), in aquis quietis rarissimus.

A Canarian insect, and apparently of the greatest rarity, having been taken only by myself in the pools at El Charco in the extreme south of Grand Canary.

213. *Eunectes subcoriaceus*.

Eunectes subcoriaceus, *Woll., Ann. Nat. Hist.* viii. 99 (1861).

— —, *Id., Append. huj. op.* 12.

Habitat Maderenses (*Mad.*), in cisternâ quadam supra urbem Funchalensem à Dom. Bewicke parcissime captus.

Detected by the late Mr. Bewicke near Funchal in Madeira proper, and apparently quite as rare in the Madeiran Group as the preceding species is at the Canaries. Although, I believe, truly distinct from it, they are both of them closely allied to the widely spread *E. sticticus*.

Fam. 3. GYRINIDÆ.

Genus 56. GYRINUS.

Geoffroy, *Hist. Abr. des Ins.* i. 193 (1762).

214. *Gyrinus striatus*.

Gyrinus striatus, *Fab., Ent. Syst.* i. 203 (1792).

— strigosus, *Aubé, Hydrocanth.* 719 (1838).

— striatus, *Brullé, in Webb et Berth. (Col.)* 58 (1838).

— —, *Woll., Cat. Can. Col.* 84 (1864).

Habitat Canarienses (*Can., Ten.*), hinc inde haud infrequens.

The *G. striatus* of central and southern Europe is locally abundant in the Canarian Group, though hitherto it has been detected only in Grand Canary and Teneriffe.

215. *Gyrinus urinator*.

Gyrinus urinator, *Illig., Mag. für Ins.* vi. 299 (1807).

— —, *Aubé, Hydrocanth.* 704 (1838).

— —, *Brullé, in Webb et Berth. (Col.)* 58 (1838).

— —, *Woll., Cat. Can. Col.* 84 (1864).

Habitat Canarienses (*Can., Ten., Gom.*), in aquis sat vulgaris.

This common European *Gyrinus* is widely spread over the Canarian Group, where it is decidedly more abundant than the last species. It has been taken in Grand Canary, Teneriffe, and Gomera.

216. *Gyrinus Dejeanii*.

Gyrinus Dejeanii, *Brullé, Exp. scient. en Morée*, iii. (1^{re} part.) 128.

— æneus, *Aubé [nec Steph.], Hydrocanth.* 690 (1838).

— Dejeanii, *Woll., Cat. Can. Col.* 85 (1864).

Habitat Canarienses (*Can., Ten.*), in aquis vulgaris.

Likewise a common European species, and one which is locally

abundant in the Canarian Group. Hitherto however it has been observed only in Grand Canary and Teneriffe.

217. *Gyrinus natator*.

- Dytiscus natator*, *Linn., Fna Suec.* 779 (1761).
Gyrinus natator, *Aubé, Hydrocanth.* 664 (1838).
 ———, *Woll., Ins. Mad.* 88 (1854).
 ———, *Id., Cat. Mad. Col.* 27 (1857). "

Habitat Maderenses (*Mad.*)? olim à Dom. Heineken, M.D., semel repertus; forsan ex Europâ introductus.

I feel very doubtful whether this common European *Gyrinus* should any longer be included in the fauna of these Atlantic islands, the single specimen captured many years ago in Madeira proper by the late Dr. Heineken embodying still the sole evidence on which its claim for admission rests. As, however, it has been recognized hitherto, I will not suppress it; though I must record my belief that the insect does not occur in Madeira, and that the example alluded to (if really taken there) was a mere accidental introduction from more northern latitudes.

Fam. 4. PARNIDÆ.

Genus 57. PARNUS.

Fabricius, *Ent. Syst.* i. 245 (1792).

218. *Parnus prolifericornis*.

- Parnus prolifericornis*, *Fab., Ent. Syst.* i. 245 (1792).
 ———, *Woll., Ins. Mad.* 90 (1854).
 ———, *Id., Cat. Mad. Col.* 28 (1857).
 ———, *Id., Cat. Can. Col.* 85 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can., Ten., Gom., Palma*), in aquosis vulgaris.

This widely spread European insect is common in these Atlantic islands, where in all probability it will be found to be nearly universal. It is abundant in wet places in Madeira proper; and it has been taken in Grand Canary, Teneriffe, Gomera, and Palma, of the Canarian Group. It occurs likewise at the Azores.

Fam. 5. HELOPHORIDÆ.

Genus 58. HELOPHORUS.

Fabricius, *Syst. Eleu.* i. 277 (1801).

219. *Helophorus longitarsis*.

Helophorus longitarsis, *Woll., Cat. Can. Col.* 86 (1864).

Habitat Canarienses (*Fuert.*), rarissimus; semel tantum repertus.

Taken by myself in Fuerteventura, of the Canarian Group, where, however, it would seem to be very scarce. My unique specimen was captured in a tank in the Rio Palmas.

Genus 59. **CALOBIUS.**

Wollaston, *Ins. Mad.* 92 (1854):

220. *Calobius Heeri*.

Calobius Heeri, *Woll., Ins. Mad.* 92. tab. ii. f. 7 (1854).

— —, *Id., Cat. Mad. Col.* 30 (1857).

Habitat Maderenses (*Mad., P^{to} Sto*) et Canarienses (*Gom.*), in aquis omnino salinis inter *Confervas* marinas degens; hinc inde vulgaris.

Occurs amongst marine *Confervæ* in unadulterated sea-water, chiefly in the still pools left by the tide on the rocks. In such situations it is locally abundant in Madeira proper, and Porto Santo, of the Madeiran Group; and a single example was taken by Dr. Crotch at Gomera, in the Canaries (adhering to his skin whilst bathing at San Sebastian).

Genus 60. **OCHTHEBIUS.**

Leach, *Zool. Miscell.* iii. 91 (1817).

221. *Ochthebius 4-foveolatus*.

Ochthebius 4-foveolatus, *Woll., Ins. Mad.* 91 (1854).

— —, *Id., Cat. Mad. Col.* 28 (1857).

— —, *Id., Cat. Can. Col.* 86 (1864).

Habitat Maderenses (*Mad., P^{to} Sto*) et Canarienses (*Fuert., Can., Ten., Gom., Palma*), in rivulis vulgaris.

Widely spread over the Madeiran and Canarian Groups, in which it will probably be found to be universal wherever there are streams. It is common in Madeira proper and Porto Santo; as well as in Fuerteventura, Grand Canary, Teneriffe, Gomera, and Palma, of the Canarian archipelago.

222. *Ochthebius pygmæus*.

Helophorus pygmæus, *Fab., Ent. Syst.* i. 205 (1792).

Ochthebius pygmæus, *Steph., Ill. Brit. Ent.* ii. 115 (1829).

Ochthebius riparius, *Sturm, Deutsch. Fna*, x. 59, tab. 222. f. a. A (1836).
 —, *pygmæus*, *Woll., Cat. Can. Col.* 87 (1864).

Habitat Canarienses (*Fuert., Ten., Gom., Palma*), hinc inde vulgaris.

The common European *O. pygmæus* is locally abundant at the Canaries, where most likely it will be found to be universal. I have taken it in Fuerteventura, Teneriffe, and Palma; and in Gomera it has been captured lately by the Messrs. Crotch. But hitherto it has not been observed in the Madeiran Group.

223. *Ochthebius subpictus*.

Ochthebius subpictus, *Woll., Cat. Mad. Col.* 29 (1857).

Habitat Maderenses (*P^{to} S^{to}*), in aquis vix subsalinis rarior.

Observed hitherto only in the somewhat brackish streams in the north of Porto Santo, of the Madeiran Group; and perhaps (although abundantly distinct from it) it may be regarded as the representative in that island of the *O. marinus* of more northern latitudes.

224. *Ochthebius rugulosus*.

Ochthebius rugulosus, *Woll., Cat. Mad. Col.* 28 (1857).

Habitat Maderenses (*P^{to} S^{to}*), unà cum specie præcedente in aquis occurs.

Likewise Porto-Santan, and found in company with the *subpictus*, both species having been detected by myself during April 1855.

225. *Ochthebius lapidicola*.

Ochthebius lapidicola, *Woll., Cat. Can. Col.* 87 (1864).

Habitat Canarienses (*Ten., Gom., Palma, Hierro*), in aquis et aquosis late sed parce diffusus.

Widely spread over the Canarian archipelago, to which (so far as observed hitherto) it is peculiar. I have taken it in Palma; and it has been met with sparingly by the Messrs. Crotch in Teneriffe (at Souzal and Ycod el Alto), Gomera, and Hierro. The examples from the last-mentioned island were found about the wet rocks at the Fountain (on the descent from the Cumbre) in the upper part of the sylvan region of El Golfo.

Genus 61. HYDRÆNA.

Kugelann, in *Schneid. Mag.* i. 578 (1794).

226. *Hydræna serricollis*.

Hydræna sinuaticollis et serricollis, *Woll., Cat. Can. Col.* 87, 88 (1864).

Habitat Canarienses (*Ten., Gom.*), in intermediis editioribusque vulgaris.

A Canarian *Hydræna*, which is locally abundant in the streams of intermediate and rather lofty altitudes. When searched for in the proper situations, it will most probably be found to be widely spread over the archipelago; yet hitherto I have myself observed it only in Teneriffe. It has, however, been captured, more recently, by the Messrs. Crotch both in that island and Gomera. It varies a little, in the greater or less exaggeration of its several characters; and I now perceive (from more satisfactory material) that the single example which I described under the trivial name of *sinuaticollis* cannot be regarded as more than a somewhat largely developed one of our present species. That particular individual was taken by Dr. Crotch at Ycod el Alto, in Teneriffe, during the spring of 1862; and I have a series now before me which were captured lately, by himself and his brother, at the same place.

227. *Hydræna quadricollis*.

Hydræna quadricollis, *Woll., Cat. Can. Col.* 89 (1864).

Habitat Canarienses (*Ten.*), in inferioribus prope urbem Sanctam Crucem parce capta.

This minute Canarian *Hydræna* I have observed hitherto only near S^{ta} Cruz, in Teneriffe; and it would seem, consequently, to be peculiar to the lower elevations.

Fam. 6. HYDROPHILIDÆ.

Genus 62. LIMNOBIUS.

Leach, *Zool. Miscell.* iii. 93 [script. *Limnebius*] (1817).

228. *Limnobius gracilipes*.

Limnebius gracilipes, *Woll., Cat. Can. Col.* 89 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma*), in inferioribus intermediiisque late diffusus.

Widely spread over the Canarian Group, where it occurs in the streams of low and intermediate altitudes. It has been taken in

Grand Canary, Teneriffe, Gomera, and Palma. It is about the size of the European *L. nitidus*; but it is more oblong (being less acute behind), blacker, less brilliant, and not quite so convex, its punctuation is appreciably closer and stronger, and its prothorax is relatively a little more developed and not quite so rounded at the sides.

229. *Limnobius grandicollis*.

Limnobius grandicollis, *Woll., Ins. Mad.* 94 (1854).
 ———, *Id., Cat. Mad. Col.* 30 (1857).

Habitat Maderenses (*Mad.*), in aquis et aquosis editioribus occurrens.

Peculiar to the higher districts of Madeira proper, where it ascends to at least 5000 feet above the sea, occurring principally about wet rocks and small trickling streams. It is a species which is well distinguished by its coarsely alutaceous, remotely and minutely punctulated, and finely pubescent surface, by its medially-broad elliptic outline, and by its deep-black hue—its lateral margins being but *very* obscurely (often, indeed, not at all) diluted or subpicescent.

230. *Limnobius punctatus*.

Limnobius punctatus, *Woll., Cat. Can. Col.* 90 (1864).

Habitat Canarienses (*Ten., Gom.*), aquas et aquosos in intermediis colens.

A Canarian *Limnobius* which occurs in the streams of intermediate altitudes. I have taken it abundantly at the Agua Garcia in Teneriffe, and examples are now before me (differing a little from the Teneriffan ones) which were captured by the Messrs. Crotch in Gomera. It is not only a trifle smaller and convexer than the Madeiran *grandicollis*, but it is likewise much more shining (there being no appearance of the alutaceous sculpture which is so conspicuous in that insect); it is also rather more closely, and *very* much more deeply, punctured, as well as more thickly clothed with a *coarse silken fulvescent* pile; its colour is less black—its sides, particularly of the prothorax and towards the apex of the elytra, being for the most part brightly ferruginous; and its feet are, if anything, somewhat shorter.

The Gomeran examples appear to be altogether a little narrower than the ordinary Teneriffan ones (particularly at the junction of the prothorax and elytra); and their punctures, when viewed beneath the microscope, will be seen to be not quite so coarse. But I

cannot think that they are the exponents of more than a slight insular modification of the *L. punctatus**.

Genus 63. **LACCOBIUS.**

Erichson, *Käf. der Mark Brand.* i. 202 (1837).

231. **Laccobius minutus.**

Chrysomela minuta, *Linn., Fna Suec.* 166 (1761).

Laccobius minutus, *Woll., Ins. Mad.* 95 (1854).

— —, *Id., Cat. Mad. Col.* 31 (1857).

— —, *Id., Cat. Can. Col.* 90 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (in *Hierro* solâ adhuc haud observatus), in aquis et aquosis vulgaris.

This common European insect would seem to exist in nearly all parts of these Atlantic Groups where water is to be found, though the absence of streams and pools from some of the smaller islands (at any rate during the greater part of the year) renders it doubtful whether it will ever be met with quite universally. In Madeira proper and Porto Santo it is locally abundant; whilst at the Canaries it has been detected in all the seven islands except Hierro (though even there probably there are places sufficiently moist for its occurrence).

Genus 64. **PHILHYDRUS.**

Solier, *Ann. de la Soc. Ent. de France*, iii. 315 (1834).

232. **Philhydrus melanocephalus.**

Hydrophilus melanocephalus, *Oliv., Ent.* iii. 39. 14 (1795).

— —, *Brullé, in Webb et Berth. (Col.)* 58 (1838).

Philhydrus melanocephalus, *Woll., Ins. Mad.* 98 (1854).

— —, *Id., Cat. Mad. Col.* 32 (1857).

— —, *Id., Cat. Can. Col.* 91 (1864).

Habitat Maderenses (*Pto Sto*) et Canarienses (*Lanz., Fuert., Can., Ten., Gom.*), in aquis et aquosis hinc inde vulgaris.

Almost as common, both throughout Europe and in these Atlantic islands, as the *Laccobius minutus*. At the Madeiran Group, however, I have observed it hitherto only in Porto Santo, though we may expect it to occur in Madeira proper likewise. But at the Canaries

* I would, however, just record this Gomeran *Limnobioides* in the following short formula, since it is not impossible that further material may prove it to be specifically distinct from the *L. punctatus* of Teneriffe:—Var. β . *similis*. Subangustior, oblongior (minus obovatus), punctis omnibus (oculo fortissime armato) paulo subtilioribus.

it has been detected in Lanzarote, Fuerteventura, Grand Canary, Teneriffe, and Gomera.

Genus 65. **BEROSUS.**

Leach, *Zool. Miscell.* iii. 92 (1817).

233. **Berosus spinosus.**

Hydrophilus spinosus (Stev.), *Schön., Syn. Ins.* ii. 8 (1808).

Berosus spinosus, *Ahr., Fna Ins. Eur.* iii. f. 5 (1816).

— —, *Brullé, in Webb et Berth.* (Col.) 59 (1838).

— —, *Woll., Cat. Can. Col.* 91 (1864).

Habitat Canarienses (sec. MM. Webb et Berthelot), mihi non obvius.

I have not myself met with this European *Berosus* in any of these Atlantic islands; but since it was included in the Canarian list of M. Brullé, on the evidence of specimens (which I have carefully examined) supposed to have been captured by MM. Webb and Berthelot, and since there seems no reason why it should not occur in (for instance) some of the brackish streams and pools of Lanzarote or Fuerteventura, I think perhaps that it should scarcely be refused admission into our Catalogue. At the same time I cannot but call attention to the unsatisfactory nature of the evidence for its occurrence, M. Brullé (as in the case of every single species which his meagre list includes) giving us no word of information concerning either its *habitat* or anything else.

Genus 66. **HYDROBIUS.**

Leach, *Zool. Miscell.* iii. 93 (1817).

234. **Hydrobius hæmorrhous.**

Hydrobius hæmorrhous, *Woll., Cat. Can. Col.* 92 (1864).

Habitat Canarienses (*Can., Gom.*), ad rupes aquosas in locis editioribus hinc inde vulgaris.

A Canarian species, which occurs about damp rocks and small trickling streams at high and intermediate altitudes. In such situations I met with it sparingly in Grand Canary, and it has been found subsequently in Gomera (much more abundantly) by the Messrs. Crotch*.

* The *H. hæmorrhous* differs from the Madeiran *H. marchantiæ* in its more oval and much less convex body, in the more rounded edges of its prothorax, in its *very* much coarser punctation, its considerably deeper and longer sutural stria, and in the *extreme* tip of its palpi being black.

235. *Hydrobius marchantiæ*.

Hydrobius Marchantiæ, Woll., *Cat. Mad. Col.* 31 (1857).

Habitat Maderenses (*Mad.*), ad rupes aquosas inter plantas humidias *Marchantiæ polymorphæ*, L., præcipue in locis inferioribus parce degens.

Apparently peculiar to Madeira proper, where it may be regarded as the representative in that island of the Canarian *H. hæmorrhous*. I have observed it hitherto only in wet places along the north coast, principally at low elevations, where it resides amongst the dripping masses of *Marchantia polymorpha* which mat the rocks at the edges of the waterfalls and trickling streams.

236. *Hydrobius conglobatus*.

Hydrobius conglobatus, Woll., *Ins. Mad.* 97 (1854).

— — —, *Id.*, *Cat. Mad. Col.* 32 (1857).

Habitat Maderenses (*Mad.*), ad rupes et cæt. in aquosis editioribus rarissimus.

Likewise peculiar (so far as observed hitherto) to Madeira proper, where it occurs very sparingly about wet rocks and trickling streams at a high elevation on the upper limits of the sylvan districts*.

Genus 67. **CHÆTARTHRIA.**

(Waterhouse) Steph., *Ill. Brit. Ent.* v. 401 (1832).

237. *Chætarthria similis*.

Chætarthria similis, Woll., *Cat. Can. Col.* 93 (1864).

Habitat Canarienses (*Can.*, *Ten.*, *Gom.*, *Palma*), hinc inde in aquosis et humidis haud infrequens.

This may possibly be a geographical modification peculiar to the Canarian archipelago of the common European *C. seminulum*; nevertheless it has a few small distinctions of its own, alluded to in my diagnosis. It is not very abundant, but occurs in moist places and about trickling streams in Grand Canary, Teneriffe, Gomera, and Palma.

* The *H. conglobatus* differs from the *marchantiæ*, mainly, in its smaller size and more finely punctulated surface (at any rate of the head and prothorax), and in its elytra (which are a trifle obtuser, and less cariniform, behind) having their sutural stria a little finer but nevertheless continued rather further towards the middle (from the apex).

Fam. 7. SPHÆRIDIDÆ.

Genus 68. CYCLONOTUM.

(Dejean) *Erich., Käf. der Mark Brand.* i. 212 (1837).

238. *Cyclonotum orbiculare*.

Hydrophilus orbicularis, *Fab., Ent. Syst.* i. 184 (1792).

Cyclonotum orbiculare, *Erich., loc. cit.* 214 (1837).

Cœlostoma orbiculare, *Brullé, in Webb et Berth. (Col.)* 58 (1838).

Cyclonotum orbiculare, *Woll., Cat. Can. Col.* 93 (1864).

Habitat Canarienses (*Fuert., Can., Ten., Gom., Palma*), in aquis vulgaris.

The common European *C. orbiculare* is probably universal throughout the Canarian archipelago, in all the islands of which, except Lanzarote and Hierro (where, however, it most likely exists), it has been taken plentifully. Although so abundant at the Canaries, it is somewhat singular that it has not been detected yet in the Madeiran Group.

Genus 69. DACTYLOSTERNUM.

Wollaston, *Ins. Mad.* 99 (1854).

239. *Dactylosternum abdominale*.

Sphæridium abdominale, *Fab., Ent. Syst.* i. 79 (1792).

Cœlostoma abdominale, *Brullé, in Webb et Berth. (Col.)* 58 (1838).

Dactylosternum Roussetii, *Woll., Ins. Mad.* 100, tab. iii. f. 1 (1854).

— — —, *Id., Cat. Mad. Col.* 32 (1857).

— — — *abdominale*, *Id., Cat. Can. Col.* 94 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can., Ten., Gom.*), putrida varia in inferioribus destruens.

An insect of Mediterranean latitudes, and widely spread over these Atlantic islands. Possibly, indeed, it will be found to be almost universal,—its *habitat*, amongst putrid substances generally (whether vegetable or animal), enabling it to attach itself to many different kinds of localities. It is found usually at low elevations, about the towns and gardens. Thus at the Madeiran Group it is occasionally common in the immediate vicinity of Funchal, amongst filthy *rejectamenta* (such as the empty shells of crabs, &c.) in the neighbourhood of the drains and sewers; whilst at the Canaries it more often attacks the putrid leaves of the Prickly Pear (*Opuntia Tuna*, Mill.) which have been thrown away to rot, as well as the various accumulations in the yam-grounds. In such like places it has been observed hitherto in Grand Canary, Teneriffe, and Gomera.

Genus 70. SPHÆRIDIDIUM.

Fabricius, *Syst. Eleu.* i. 92 (1801).

240. Sphærididium bipustulatum.

Sphærididium bipustulatum, *Fab., Spec. Ins.* i. 78 (1781).— —, *Muls., Palpic. de France*, 154, var. B (1844).— —, *Woll., Ins. Mad.* 101 (1854).— —, *Id., Cat. Mad. Col.* 33 (1857).*Habitat* Maderenses (*Mad., Pto Sto*), in stercore bovino parum vulgare.

The *S. bipustulatum*, so common throughout Europe, occurs in the dung of cattle both in Madeira proper and Porto Santo; but it has not yet been observed at the Canaries. Very possibly it may have been naturalized in the Madeiran Group from more northern latitudes.

Genus 71. CERCYON.

Leach, *Zool. Miscell.* iii. 95 (1817).

241. Cercyon littorale.

Sphærididium littorale, *Gyll., Ins. Suec.* i. 111 (1808).Cercyon littorale, *Steph., Ill. Brit. Ent.* ii. 137 (1829).— —, *Muls., Palpic. de France*, 172 (1844).— —, *Woll., Cat. Mad. Col.* 33 (1857).*Habitat* Maderenses (*Mad.*) et Canarienses (*Can.*), sub fucis necnon in putridis per oras maritimas parce fodiens.

A common European insect which occurs sparingly amongst putrid substances on and near the Funchal beach, in Madeira proper; and a single example was captured by the Messrs. Crotch, during the summer of 1864, near Las Palmas in Grand Canary.

242. Cercyon inquinatum.

Cercyon inquinatum, *Woll., Ins. Mad.* 103 (1854).— —, *Id., Cat. Mad. Col.* 34 (1857).— —, *Id., Cat. Can. Col.* 94 (1864).*Habitat* Maderenses (*Mad.*) et Canarienses (*Ten.*), in putridis præsertim juxta oras maritimas parce occurrens.

Occasionally not uncommon in Madeira proper, amongst putrid substances in the vicinity of the sea-beach, near Funchal; but at the Canaries I have taken hitherto only a single specimen, close to the Puerto Orotava, in the north of Teneriffe. We may, however, expect it to be met with more generally when searched for in the proper localities.

243. *Cercyon fimetarium*.

Cercyon fimetarium, *Woll., Ins. Mad.* 103 (1854).

— — —, *Id., Cat. Mad. Col.* 34 (1857).

Habitat Maderenses (*Mad., P^{to} S^{to}*), in stercore bovino et equino, passim.

Found in the dung of cattle in Madeira proper and Porto Santo, of the Madeiran Group,—at most elevations, but nowhere abundantly.

244. *Cercyon lepidum*.

Cercyon lepidum, *Woll., Cat. Can. Col.* 94 (1864).

Habitat Canarienses (*Fuert., Gom.*), in stercore bovino, equino, camelino, minus frequens.

Observed hitherto only in Fuerteventura and Gomera, of the Canarian Group,—in the former of which it was taken by myself (from beneath the refuse of a camels' stable in the Rio Palmas), and in the latter by Dr. Crotch.

245. *Cercyon nigriceps*.

Dermestes nigriceps, *Mshn, Ent. Brit.* 72 (1802).

Sphæridium centrimaculatum, *Sturm, Deutsch. Fna*, ii. 23 (1807).

Cercyon centrimaculatum, *Woll., Ins. Mad.* 104 (1854).

— — —, *Id., Cat. Mad. Col.* 34 (1857).

— — — *nigriceps*, *Id., Cat. Can. Col.* 95 (1864).

Habitat Maderenses (*Mad., P^{to} S^{to}*), Salvages (ins. *majorem*, borealem) et Canarienses (*Lanz., Can., Ten., Gom., Palma*), in stercore bovino parum vulgare.

A common European *Cercyon* which is in all probability nearly universal throughout these Atlantic islands, occurring in dung independently of elevation. It is abundant in Madeira proper and Porto Santo, of the Madeiran Group; and it has been captured in all the Canarian islands except Fuerteventura and Hierro (where doubtless, however, it must exist). And a single example has been communicated by the Baron Paiva, obtained by him from even the Great Salvage. Being, from its habits, a species of easy transportation, in various ways, we can scarcely be surprised at its having become so generally diffused amongst the islands.

246. *Cercyon quisquilius*.

Scarabæus quisquilius, *Linn., Fna Suec.* 138 (1761).

Cercyon quisquilius, *Woll., Ins. Mad.* 105 (1854).

Cercyon quisquilius, *Woll., Cat. Mad. Col.* 34 (1857).

— — —, *Id., Cat. Can. Col.* 95 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*Lanz., Fuert., Ten., Gom., Palma*), in stercore bovino et equino vulgare.

Likewise an abundant European *Cercyon*, and equally general in these Atlantic Groups—where most probably indeed it is universal. It is common in Madeira proper and Porto Santo, in the dung of cattle; and it has been detected in all the islands of the Canarian archipelago except Grand Canary and Hierro, in both of which, however, there can be little doubt that it must occur.

Fam. 8. SILPHIDÆ.

Genus 72. CATOPS.

Paykull, *Fna Succ.* i. 342 (1798).

247. *Catops Murrayi*.

Catops Murrayi, *Woll., Ann. Nat. Hist.* v. 219 (1860).

— — —, *Id., Append. huj. op.* 12.

Habitat Maderenses (*Mad.*), in sylvaticis humidis editoribus rarissimus.

The only specimen which I have seen of this very distinct *Catops* was captured by myself at a high elevation in the sylvan districts of Madeira proper, during December 1858. There can be no doubt, therefore, that the species is both thoroughly indigenous and extremely scarce.

248. *Catops putridus*.

Catops putridus, *Woll., Cat. Can. Col.* 96 (1864).

Habitat Canarienses (*Palmas*), sub cortice laxo putrido in lauretis editoribus semel repertus.

The only specimen of this *Catops* which I have yet seen was taken by myself in Palma, of the Canarian Group,—from beneath the damp rotting bark of an old laurel, at a high elevation, in the Baranco de Galga.

249. *Catops velox*.

Choleva velox, *Spence, Trans. Linn. Soc.* xi. 154 (1809).

Ptomophagus velox, *Steph., Ill. Brit. Ent.* iii. 6 (1830).

Catops velox, *Woll., Ins. Mad.* 106 (1854).

— — —, *Id., Cat. Mad. Col.* 34 (1857).

Habitat Maderenses (*Mad.*), in humidis editoribus præsertim sylvaticis parce occurrens.

The common European *C. velox* occurs sparingly in moist spots of a high elevation in Madeira proper, particularly within the sylvan districts; but it has not yet been observed in any of the other islands.

250. *Catops pinicola*.

Catops pinicola, *Woll., Append. huj. op.* 12.

Habitat Canarienses (*Ten.*), à DD. Crotch sub foliis aridis dejectis in pinetis editioribus deprehensus.

A Canarian species (closely allied to, but, I believe, nevertheless truly distinct from, the *C. velox*) which was taken by the Messrs. Crotch, rather abundantly, at a high elevation in Teneriffe—by sifting fallen leaves, in the pine-woods above Ycod el Alto.

Genus 73. SILPHA.

Linnæus, *Syst. Nat.* ii. 569 (1767).

(Subgenus *Heterotemna*, *Woll.*)

251. *Silpha simplicicornis*.

Silpha simplicicornis, *Brullé, in Webb et Berth. (Col.)* 59, pl. ii. f. 10 [script. *tenuicornis**] (1838).

— —, *Woll., Cat. Can. Col.* 97 (1864).

Habitat Canarienses (*Ten.*), in humidis sylvaticis hinc inde non infrequens.

This noble Canarian *Silpha* has been observed hitherto only in Teneriffe, where it occurs (though by no means plentifully) in the wooded districts of intermediate and lofty elevations.

252. *Silpha figurata*.

Silpha figurata, *Brullé, in Webb et Berth. (Col.)* 59, pl. ii. f. 11 [script. *costata**] (1838).

— —, *Woll., Cat. Can. Col.* 97 (1864).

Habitat Canarienses (*Ten.*), mihi non obvia.

Likewise a Canarian species; but, not having myself taken it, I can give no information as to either its proper island or its *habitat*. Still, I have every reason to conclude that the former is Teneriffe, inasmuch as an example (the only one that I have seen) has been given to me by Mr. A. Fry, of London, who received it from a friend by whom it was professedly captured in that island. It is of course needless to add that M. Brullé supplies no information on the subject, so as to enable us to solve the doubt.

* Cf. 'Cat. Can. Col.' p. 97 (note).

Fam. 9. ANISOTOMIDÆ.**Genus 74. STEREUS.**

Wollaston, *Cat. Mad. Col.* 148 (1857).

253. Stereus cercyonides.

Stereus Cercyonides, *Woll., op. cit.* 149, pl. fig. 1 (1857).

Habitat Maderenses (*Mad.*), sub foliis marcidis in lauretis humidis editioribus rarissimus.

Peculiar to the sylvan regions in Madeira proper, where it burrows beneath fallen leaves and other vegetable refuse lying on the damp ground—a mode of life for which its robust, spinose tibiæ eminently fit it. It is extremely rare, and was detected by myself during the summer of 1855 in the laurel-woods at the head of the S^{ta} Cruz ravine, at S. Antonio da Serra. And I subsequently met with it, under decaying rubbish, at the Lombarda das Vacas (on the mountains to the east of São Vicente).

Genus 75. ANISOTOMA.

(Knoch) Illig., *Käf. Preuss.* 69 (1798).

254. Anisotoma canariensis.

Anisotoma canariensis, *Woll., Ann. Nat. Hist.* xi. 216 (1863).

— — —, *Id., Cat. Can. Col.* 98 (1864).

Habitat Canarienses (*Can. ?*, *Hierro*), in intermediis rarissima.

A small Canarian *Anisotoma* of great rarity, and of which I captured a few examples in the sylvan district of El Golfo on the western slopes of Hierro. An immature specimen, which I obtained in the region of El Monte in Grand Canary, I believe to be conspecific with the Hierro ones; but since it is impossible without more satisfactory material to decide this for certain, I have thought it safer to query the occurrence of the species in that island.

255. Anisotoma oceanica.

Anisotoma oceanica, *Woll., Cat. Can. Col.* 99 (1864).

Habitat Canarienses (*Ten., Gom.*), rarissima; in sylvaticis subeditioribus parcissime capta.

Likewise a Canarian species, and equally scarce with the last one. Indeed only three examples of it have hitherto come beneath my

notice—one of which I captured in Teneriffe (in the highest part of the forest of Las Mercedes), whilst the remaining two were found by the Messrs. Crotch in Gomera (in the wooded district above Hiermigua).

Genus 76. **AGATHIDIUM.**

Illiger, *Käf. Preuss.* 81 (1798).

256. **Agathidium globulum.**

Agathidium globulum, Woll., *Cat. Can. Col.* 99 (1864).

Habitat Canarienses (*Can., Ten., Gom., Hierro*), in sylvaticis subsylvaticisque intermediis hinc inde haud infrequens.

A Canarian *Agathidium* which resides, though very locally, in the sylvan districts of intermediate elevations. It will probably be found to be universal in the central and western islands of the Group, though hitherto it has not been observed in Palma; but in Grand Canary, Teneriffe, Gomera, and Hierro (in the last two of which it was captured by the Messrs. Crotch) it occurs, more or less sparingly. It varies a little in its sculpture, the Teneriffan examples being rather more perceptibly punctured (and with their head and prothorax more evidently alutaceous) than those from the other islands.

I have tried hard indeed to find a specific distinction between the Teneriffan specimens (always very appreciably punctured) and those from the other islands of the Group, but have entirely failed. In some of the *lightly* sculptured examples (particularly Gomeran ones) I have occasionally thought that the lopping-off of the shoulders was more oblique than is the case in those from Teneriffe; but even this I now believe to be more apparent than real, for the greater or less *horizontality* in the *mounting* of the *Agathidia* completely alters the aspect of their humeral region (in specimens of undoubtedly the same species); so that I can really find nothing except the relative strength of the punctation in which the two forms differ from each other*.

I imagine that the Teneriffan individuals of this *Agathidium* which I have placed under the microscope are males; but in a female speci-

* I would not wish, however, to imply by the above remark that the oblique truncation of the humeral angles is an unimportant feature, for I believe that it is one of the *most* important which distinguishes the various species of the *Agathidia*; only I think we must be very cautious in our practical employment of it, for it is surprising how much the contour of the same individual insect is altered (in that respect) according to the exact manner in which its abdominal region is mounted upon the card, and according therefore as the upper surface of its elytra is more or less overlapped by the pronotum (or upper surface of the prothorax).

men from Gomera which I have just examined, I perceive that *all* the tarsi are 4-articulate—a fact which would remove the species into the same Section as the European *A. marginatum*.

257. *Agathidium integricolle*.

Agathidium integricolle, *Woll., Cat. Can. Col.* 100 (1864).

Habitat Canarienses (*Ten.?, Gom.*), rarissimum; exemplaria duo, mortua, fracta, cepit oculatissimus W. D. Crotch.

Likewise a Canarian species, and one which is doubtless distinct from the *globulum*, though further material is required in order to complete its diagnosis—for it is somewhat remarkable that the only two examples which have yet been detected are both of them exceedingly imperfect. They were found by Dr. Crotch—one of them (during the spring of 1862), I believe, in Teneriffe, and the other (during the summer of 1864) *undoubtedly* in Gomera*.

Fam. 10. CYBOCEPHALIDÆ.

Genus 77. CYBOCEPHALUS.

Erichson, in *Germ. Zeitsch.* v. 441 (1844).

The affinities of this little genus have been, and still are, the subject of dispute. In my 'Ins. Mad.' I assigned it to the *Anisotomidae* (as then broadly defined), and gave reasons [*vide* p. 483] which seemed to me, at the time, to be sufficient for indicating its approximate position. But as I there enunciated it as a new group (*Stagonomorpha*), being unaware that it was already acknowledged under the name of *Cybocephalus*, I of course did not think of referring to the diagnosis of the latter in order to ascertain what had been said by others on its supposed relationship. So that it was not until I had gathered the information that *Stagonomorpha* and *Cybocephalus* were identical, that the opinion of Erichson, who had placed it in the same family as *Nitidula*, became known to me. Yet, acting on the assumption of Erichson's usual accuracy, I endorsed his views in

* Of the latter island there can be no question; for in a letter now before me, received from Mr. G. R. Crotch *whilst collecting in Gomera*, he adds the following short remark concerning the *A. integricolle*: "one *body* only! which is most extraordinary." And indeed it is through the certainty of this *habitat* that I feel it just possible that Dr. Crotch's former specimen may perhaps have been Gomeran likewise; for he could not recall where it was, in Teneriffe, that he met with it. Nevertheless it was certainly amongst his Teneriffan material on his return (in 1862), and I have no other reason than the above for querying its locality.

my Canarian Catalogue, without further inquiry, even whilst feeling far from satisfied that my own were not, in reality, more in accordance with the truth [*vide* 'Cat. Can. Col.' p. 115]. But the recent publication by Mr. A. Murray of his extensive monograph, in which he excludes *Cybocephalus*, without the slightest hesitation (and, as I believe, with perfect justice), from the *Nitidulidæ*, has induced me to reconsider its structure; and the result is that I am more firmly persuaded than ever that it is *better* retained in the neighbourhood of the *Anisotomidæ* and *Clambidæ* than in that of any other known groups. The mere fact of Erichson's verdict having been subscribed to implicitly by most subsequent naturalists does not militate against this conclusion, but is simply in accordance with what we should have been led to anticipate; whilst the plain fact that Erichson was mistaken in regarding the *quadriarticulate* feet of *Cybocephalus* as pentamerous immediately disposes of the most significant point of the *very few* which he adduced in support of his thesis. Whilst, therefore, I would not wish to pronounce positively on its exact location in a natural system (for in some respects it is unquestionably anomalous), I am satisfied that the one which is here assigned to it is at any rate *more* in harmony with the details of its entire structure than could be obtained by admitting it amongst forms from which in *most* of its characters it is totally dissimilar.

258. *Cybocephalus sphærula*.

Stagonomorpha sphærula et unicolor, *Woll., Ins. Mad.* 484, 485, tab. x. f. 8 (1854).

———, *Id., Cat. Mad. Col.* 148 (1857).

Cybocephalus sphærula, *Id., Cat. Can. Col.* 116 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (in *Fuert. solâ* haud detectus) præcipue in herbidis, passim.

Widely spread over these Atlantic Groups. In the Madeiras, however, it is extremely rare, though occurring in the damp sylvan districts of Madeira proper at intermediate altitudes; but at the Canaries it is locally abundant, and doubtless universal, though hitherto it does not happen to have been taken in Fuerteventura. We may be pretty sure, however, that it exists in that island, as it does in the other six—where it is more or less common. Its detection in Hierro is due to the late researches of the Messrs. Crotch. In Grand Canary I have observed that it is very partial to the foliage of the narrow-leaved Myrtle of the gardens.

259. *Cybocephalus lævis*.

Cybocephalus lævis, *Woll., Cat. Can. Col.* 117 (1864).

Habitat Canarienses (*Lanz.*), rarissimus; in maritimis parce captus.

The few examples which I have yet seen of this very distinct little species were captured by myself in Lanzarote, of the Canarian Group. They were taken on the sea-shore near Arrecife; but it is probable that that *habitat* was merely an accidental one, and that they had found their way there from some kind of plant not far distant.

Fam. 11. CLAMBIDÆ.

Genus 78. CLAMBUS.

Fischer, *Entomog.* i. 52 (1820).

260. *Clambus complicans*.

Clambus complicans, *Woll., Cat. Can. Col.* 101 (1864).

Habitat Canarienses (*Can., Ten., Gom.*), in intermediis hinc inde vulgaris. Sub foliis dejectis interdum abundat.

Observed only at the Canaries, where it is probably universal in the central and western islands of the Group. It occurs beneath rubbish and fallen leaves, at intermediate elevations, and has been detected in Grand Canary, Teneriffe, and Gomera. I did not, myself, meet with it very abundantly; but the Messrs. Crotch, during the summer of 1864, found it in profusion.

Genus 79. CALYPTOMERUS.

Redtenbacher, *Fna Austr.* 159 (1849).

261. *Calyptomerus dubius*.

Scaphidium dubium, *Mshn, Ent. Brit.* 234 (1802).

Clambus enshamensis (*Westw.*), *Steph., Ill. Brit. Ent.* ii. 184 (1829).

Comazus enshamensis, *Fairm., Faun. Franç.* i. 328 (1854).

Calyptomerus dubius, *Woll., Cat. Mad. Col.* 147 (1857).

— —, *Id., Cat. Can. Col.* 102 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom.*), in intermediis et editioribus hinc inde vulgaris. Sæpe in domibus, sed præsertim in aperto sub foliis dejectis, occurrit.

This European insect is widely spread over these Atlantic Islands. I have taken it crawling on the damp inner walls of houses, at intermediate elevations, in Madeira; and I likewise met with it,

sparingly, in Teneriffe. But the Messrs. Crotch, during their late Canarian researches, found it in profusion, by sifting rubbish and dead leaves, both in Teneriffe and Gomera. In the former island, they obtained their specimens chiefly at Ycod el Alto and in the lofty Pinal above it.

Fam. 12. CORYLOPHIDÆ.

After re-examining the structural *minutice* of this family, with reference to the difficult question of its affinities, I have come to the conclusion that it is more natural to keep it in the neighbourhood of the *Anisotomidæ* and *Trichopterygidæ* than to force it into juxtaposition with the groups which follow upon *Coccinella* and *Rhizobius*—to which, as it now appears to me, its resemblance is perhaps more fanciful than real. Not to enter into the secondary features of the diminutive insects which compose it (such, for example, as their tetramerous *simple* feet, and the tendency which they possess to have their antennal joints reduced in number), I believe there is one point which binds them so closely to the *Anisotomidæ* that it might well nigh render superfluous the consideration of every other—namely, the more or less diminished size, which obtains in *most* of the genera, of the second joint of their elongated club*. The importance of this little character, which may be regarded as diagnostic of the various forms which arrange themselves around *Anisotoma*, and which I am not aware is indicative of any other Coleopterous family whatsoever, need scarcely be insisted upon; for it can hardly fail to be acknowledged. And when, therefore, we find *other* peculiarities likewise which either tend to or do not militate against the same conclusions, I think we may accept the place here assigned to the *Corylophidæ* as at all events more in harmony with the several details of its structure than any that could be obtained by granting it a doubtful admission into the *Pseudotrimeræ*.

With the exception of *Moronillus*—which (if its antennæ be *really* 11-articulate, so as to separate it from my previously published *Gleosomesoma*) I consider to be still unenunciated, seeing that Duval compiled his diagnosis of it from two totally different insects—it is worthy of remark that our Atlantic Catalogue contains exponents of *all* the genera which, so far as I am aware, have hitherto been characterized

* *Sacium* and *Arthrolips* are the only forms in which this peculiarity of the antennal club is not indicated; and in some other respects also they are perhaps less typical of the *Corylophidæ* than the remaining groups which have hitherto been characterized.

in this interesting family. Thus, arranging them according to the number of their antennal joints, we have *Sacium* (= *Clypeaster olim*) and *Microstagetus* in which there are eleven articulations, *Arthrolips*, *Glaeosoma*, and *Sericoderus* (= *Gryphinus*, Redt.) in which there are ten, and *Corylophus* and *Orthoperus* (= *Pithophilus*, Heer, and *Microsphæra*, Redt.) where there are only nine.

Genus 80. SACIUM.

Leconte, *Proc. Acad. Nat. Sc. Philadelph.* 129 (1852).

262. *Sacium pusillum*.

Cossyphus pusillus, *Gyll., Ins. Suec.* ii. 576 (1810).

Clypeaster pusillus, *Germ., Fna Col. Eur.* fasc. viii. 10 (1822).

— —, *Woll., Ins. Mad.* 474, tab. x. f. 4 (1854).

— —, *Id., Cat. Mad. Col.* 140 (1857).

Habitat Maderenses (*Mad., Des.*), hinc inde in graminosis intermediis.

A European insect which occurs in the Madeiran Group, principally in grassy spots of intermediate altitudes. I have taken it in the chestnut-woods in the north of Madeira proper, and more sparingly on the Deserta Grande.

Genus 81. ARTHROLIPS.

Wollaston, *Ins. Mad.* 475 (1854).

263. *Arthrolips æqualis*.

Arthrolips æquale, *Woll., Cat. Mad. Col.* 140 (1857).

Habitat Maderenses (*Mad.*), rarior, in subinferioribus præsertim cultis et graminosis.

Detected by myself in grassy places, of but a slight elevation, in the south of Madeira proper—by brushing the coarse herbage near the base of the Pico do Cardo, about three miles from Funchal; and it was subsequently found by the late Mr. Bewicke*.

264. *Arthrolips obscurus*.

Clypeaster obscurus, *Dej., Cat.* 129 (1821).

Cossyphus obscurus, *Sahlb., Ins. Fenn.* i. 474 (1834).

* M. Duval's *A. rufithorax*, which he captured at Montpellier in the south of France, is closely allied to my *æqualis*; but it is a little smaller (being in fact scarcely larger than the *obscurus*), more shining and convex, and relatively not quite so broad; and its scutellum is more triangular, or pointed at the apex. But I have not examined its antennæ, in order to ascertain if it possesses any structural difference in the exact proportions of the joints.

Clypeaster piceus (*Kunze*), *Comolli, De Col. Nov.* 50 (1837).

Gryphinus piceus, *Redt., Fna Austr.* 574 (1849).

Arthrolips piceum, *Woll., Ins. Mad.* 476, tab. x. f. 6 (1854).

— —, *Id., Cat. Mad. Col.* 142 (1857).

— — *obscurus*, *Duval, Gen. des Col. d' Eur.* ii. 232, pl. 57. f. 279 (1859).

Habitat Maderenses (*Mad., Des.*), et Canarienses (*Ten.*), in subinferioribus intermediisque hinc inde vulgare.

An insect of Mediterranean latitudes which in all probability will be found to be widely spread over these Atlantic islands. In the Madeiran Group I have taken it (at a rather low elevation) in the south and east of Madeira proper and abundantly on the Deserta Grande; but from the Canaries I have seen hitherto only a single example—which was captured by the Messrs. Crotch, “amongst rubbish, in a cave, at Ycod el Alto,” in Teneriffe.

Genus 82. **CORYLOPHUS.**

(Leach) *Steph., Man. Brit. Col.* 99 (1839).

265. *Corylophus tectiformis.*

Corylophus tectiformis, *Woll., Ins. Mad.* 480, tab. x. f. 9 (1854).

— —, *Id., Cat. Mad. Col.* 142 (1857).

Habitat Maderenses (*Mad.*), in intermediis editioribusque sylvaticis humidis parce occurrens.

A rather large and apterous *Corylophus* which has been observed hitherto only in the moist sylvan districts of Madeira proper, where it occurs very sparingly at intermediate and lofty elevations.

Genus 83. **ORTHOPERUS.**

Stephens, Ill. Brit. Ent. ii. 186 (1829).

266. *Orthoperus atomus.*

Cryptophagus atomus, *Gyll., Ins. Suec.* i. 185 (1808).

Orthoperus atomus, *Woll., Cat. Mad. Col.* 144 (1857).

— —, *Duval, Gen. des Col. d' Eur.* ii. 236 (1859).

Habitat Maderenses (*Mad.*), plerumque ad muros domuum internos rarissimus.

The European *O. atomus* is found sparingly on the inner walls of houses and outhouses in Madeira proper, particularly when in a damp and neglected state—a mode of life which is precisely similar to that which it usually leads in our own country.

267. *Orthoperus atomarius*.

Pithophilus atomarius, Heer, *Fna Col. Helv.* 433 (1841).

Orthoperus atomarius, Woll., *Cat. Mad. Col.* 145, f. 3 (1857).

— — —, Duval, *Gen. des Col. d'Eur.* ii. 236, pl. 57. f. 283 (1859).

Habitat Maderenses (*Mad.*), ad muros in domibus cellisque, passim.

Likewise a European species, and one which is met with in Madeira proper. Its habits appear to be much the same as those of the *O. atomus*, the insect occurring for the most part on the damp inner walls of houses which have been long shut up and untenanted. In the "Pilgrims' House" at S. Antonio da Serra I once met with it abundantly, crawling out of the crevices of the wainscot and white-wash—in company with the *Calyptomerus dubius* and the *Mycetæa hirta*; and I likewise captured it in a house at Feijãa d'Ovelha.

Genus 84. GLÆOSOMA.

Wollaston, *Ins. Mad.* 480 (July, 1854).

M. Jacq. Duval, in the 'Gen. des Coléopt. d'Europe,' has cited this genus as identical with his *Moronillus*; and the subsequent European Catalogues have acted on his conclusions, assuming them to be necessarily correct. Yet it is not only a fact that he had never even seen *Glæosoma*, but equally true that both my description and figure of it give the antennæ as 10-articulate, whilst he distinctly claims eleven joints for *Moronillus*. And, not content with thus ignoring altogether this important structural discrepancy, he then proceeds to make use of my published details of *Glæosoma* to fill up the gaps in his own imperfect diagnosis of *Moronillus*! Unfortunately the only specimen of the latter which (through the kindness of Mr. G. R. Crotch) I have been enabled to dissect has its antennæ broken off, so that I cannot speak of those organs from personal observation; but I have re-examined *Glæosoma* with great care, and I am not only satisfied that its antennæ are composed of merely ten joints, but also that the admirable drawing which Professor Westwood prepared for my 'Ins. Mad.' is (as regards the very curious proportions of the joints themselves) remarkably correct. Now, although Duval appears to have failed in extracting the entire oral organs of *Moronillus*, he at least obtained a perfect view of an antenna; and the figure which he has given of it in his 'Genera,' when compared with the corresponding one of *Glæosoma* in my 'Ins. Mad.,' will not only show its articulations to be eleven in number but also of a different shape *inter se* from those of the latter; so that, unless

Duval's diagnosis and figure are both of them absolutely wrong, it is impossible to regard these two genera as identical.

Yet, on the other hand, they have so much in common that I can scarcely resist the suspicion that he possibly *may* have been mistaken, even on so plain a question as the precise number of antennal joints; though, if this should prove ultimately to have been the case, even then the name of *Glaeosoma* will not have to be suppressed (as he would fain imply), it being several months prior in publication to that of *Moronillus**.

268. *Glaeosoma velox*.

Glaeosoma velox, *Woll., Ins. Mad.* 482, tab. x. f. 7 (1854).

— — —, *Id., Cat. Mud. Col.* 142 (1857).

Habitat Maderenses (*Mad.*), sub lapide in inferioribus semel tantum lectum.

Hitherto unique—a single example which was captured by myself (on the 8th of May 1848) at a low elevation, immediately above the Praia Formosa, in Madeira proper being all that I have yet seen.

If, as already stated, the present genus is probably distinct from *Moronillus* (which must needs be the case, *unless the published diagnosis of the latter is absolutely erroneous*), it follows *à priori* that the *species* cannot be identical with the *M. ruficollis*, to which Duval, nevertheless, unhesitatingly assigned it. But, indeed, were it to be shown ultimately that he was mistaken concerning the details of *Moronillus*, and that it is in reality congeneric with *Glaeosoma*, still, even then, I do not think that the *velox* could be made to quadrate with the *ruficollis*—even though it undoubtedly possesses the same very peculiar sculpture, and has much in common with that insect; for not only is it a little smaller and paler, and more *obovate* in outline (or rather more pointed behind), but its elytra are more shortened (as well as diluted in hue) posteriorly. Nevertheless it yet remains for me to add that, if *both the genus and species* could be proved (in direct opposition to the recorded evidence) to be identical,

* My 'Ins. Mad.,' which contains *Glaeosoma*, was published in July 1854; whereas Duval's diagnosis of *Moronillus* was only *read* before the French Entomological Society on the 28th of the *preceding month*, so that it *could* not have been published (at soonest) before quite the end of the year—perhaps not before the commencement of 1855. In addition to which fact, his notice was but a short one and unaccompanied by a figure; whereas my volume gave not only the various details, but an elaborate plate. Yet, in spite of this, Duval quietly sinks *Glaeosoma* (in his subsequent work) as a mere synonym of *Moronillus*!—and that, too, whilst the *recorded minutiae* of the genera were absolutely at variance.

still (as I have already shown) the name of *Gleosoma velox* has the priority*.

Genus 85. **MICROSTAGETUS.**

Wollaston, *Ann. Nat. Hist.* viii. 103 (1861).

269. *Microstagetus parvulus.*

Microstagetus parvulus, *Woll., loc. cit.* 106 (1861).

— —, *Id., Append. huj. op.* 14.

Habitat Maderenses (*Mad.*), sub quisquiliis in inferioribus intermediisque captus.

A very minute insect which has been taken sparingly in Madeira proper, beneath vegetable refuse at low and intermediate altitudes. I met with it near Funchal; and it was captured subsequently by the late Mr. Bewicke at the Praia Formosa, and at S. Antonio da Serra.

Genus 86. **SERICODERUS.**

Stephens, *Ill. Brit. Ent.* ii. 188 (1828).

270. *Sericoderus lateralis.*

Cossyphus lateralis (*Meg.*), *Gyll., Ins. Suec.* iv. 516 (1827).

Sericoderus thoracicus, *Steph., loc. cit.* 188 (1828).

Glypeaster lividus, *Dej., Cat.* (edit. 3) 455 (1837).

Gryphinus lateralis, *Redt., Fauna Austr.* 573 (1849).

Sericoderus lateralis, *Woll., Ins. Mad.* 478 (1854).

— —, *Id., Cat. Mad. Col.* 142 (1857).

— —, *Duval, Gen. des Col. d'Eur.* ii. 232, pl. 56. f. 280 (1859).

— —, *Woll., Cat. Can. Col.* 431 (1864).

Habitat Maderenses (*Mad., Des.*) et Canarienses (*Fuert., Can., Ten., Gom.*), sub quisquiliis necnon in herbis humidiusculis vulgaris.

There are few insects more widely spread over these Atlantic islands than the common European *S. lateralis*. Indeed I think it far from improbable that it will be found ultimately to be universal,

* Happily it is not often that we are compelled to call attention to such a string of evasions as that which M. Duval allowed himself to be led into concerning my *Gleosoma velox* (which he misquotes as *Glocosoma*). For, in the first place, he did not hesitate to identify the genus positively with his *Moronillus*, whilst my *diagnosis* and *figure* both showed it to be totally distinct. Then, he referred the species also to his *ruficollis*—with which, even had the genera coincided, it could not be made to agree. And lastly, he had the duplicity to suppress both my genus and species, in favour of his own, when he was perfectly well aware that it had the priority in publication by at least several months,—and that, too, whilst his notice of *Moronillus* was short and incomplete, and mine of *Gleosoma* was comparatively full and accompanied by an elaborate figure, both of the insect and its oral organs!

though its minute size renders it liable to escape observation. It abounds in Madeira proper, under vegetable refuse and amongst dense herbage, at low and intermediate altitudes; and I met with it even on the Deserta Grande. At the Canarian Group it has been found in Fuerteventura, Grand Canary, Teneriffe, and Gomera. In Teneriffe it was captured in profusion by the Messrs. Crotch.

Fam. 13. PTILIADÆ*.

Genus 87. ACROTRICHIS.

Motschulsky, *Bull. de Mosc.* xxi. 569 [script. *Acratrichis*] (1848).

271. *Acrotrichis fucicola*.

Trichopteryx fucicola, *Allibert*, in *Rev. Zool.* 52 (1844).

— —, *Faun. et Lab., Faun. Franç.* 332 (1854).

— — *mollis*, *Habiday*, in *Nat. Hist. Rev.* ii. (*Proc.*) 123 (1855).

Acrotrichis fucicola, *Woll., Cat. Can. Col.* 102 (1864).

Habitat Canarienses (*Lanz., Fuert., Can., Ten.*), sub fucis per oras arenosas maritimas hinc inde sat vulgaris.

This European insect occurs beneath marine *rejectamenta* along the sea-shores at the Canaries, but it has not yet been observed in the Madeiran Group. I have taken it commonly in Lanzarote and Fuerteventura; and it was found by the Messrs. Crotch (during the summer of 1864) near Las Palmas in Grand Canary, as well as by Dr. Crotch previously in Teneriffe,—in both instances, however, sparingly.

272. *Acrotrichis umbricola*.

Acratrichis umbricola, *Woll., Ins. Mad.* 108 (1854).

— —, *Id., Cat. Mad. Col.* 35 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis editoribus sub quisquiliis foliisque dejectis.

A large and distinct species which appears to be peculiar to the sylvan regions of Madeira proper, where it occurs (under fallen leaves, &c.) principally at a high altitude.

From a communication which I have lately received from the Rev. A. Matthews, I gather the remarkable fact that the present

* I should state that all the species which are here recorded for the *Ptiliadæ* have been examined most critically by the Rev. A. Matthews, who is well known to have studied these minute forms with greater care than any other naturalist, and I believe therefore that their synonymy, as now corrected, will be found in accordance with the conclusions at which he has elsewhere arrived in this difficult family of the Coleoptera.

Acrotrichis is so closely allied to a species from Ceylon! (the *A. orientalis*, Mots., *Etud. Ent.* vii. 52, A.D. 1858) that he does not feel at all satisfied (despite the existence of a few *very* minute, and unimportant, differences) that the two are not absolutely identical. If this should be true, it will certainly afford a difficult problem on the subject of geographical distribution; for there is no member of the fauna more unmistakeably indigenous to Madeira, or less likely to become accidentally diffused (even to a short distance, and therefore *à fortiori* to a country so remote as southern India), as the *A. umbricola*—which seems to be confined to the higher elevations of that island, above the inhabited districts. In that case it will supply another fact, of a small category, for which the usual laws of insect-migration afford us no kind of clue; and a somewhat analogous instance may be adduced in the common European *Metabletus obscuroguttatus* (likewise abundant on the mountains of Madeira proper), which is stated to occur on the Himalayas.

273. *Acrotrichis Matthewsii*.

Acrotrichis Matthewsii, *Woll., Cat. Can. Col.* 103 (1864).

Habitat Canarienses (*Palmam*), sub foliis dejectis in humidis sylvaticis editoribus copiose occurrrens.

Observed hitherto only in Palma of the Canarian Group, where, however, it is so general and abundant that it is difficult to suppose that it does not occur in the other islands likewise, though undoubtedly it has not yet been detected in any of them. In Palma it is universally diffused over the sylvan regions of a rather high altitude—occurring beneath fallen leaves (particularly in the laurel-woods), where it would seem to supply the place of the *A. Wollastoni* which is so common in similar situations throughout the greater portion of the Canarian archipelago.

274. *Acrotrichis atomaria*.

Dermestes atomarius, *De Geer, Ins.* iv. 218 (1774).

Trichopteryx atomaria, *Gillm., in Sturm, D. F.* xvii. 46 (1845).

Acrotrichis quadrata, *Mots., Bull. de Moscou*, ii. 528 (1845).

— fascicularis, *Woll. [nec Hbst], Ins. Mad.* 108 (1854).

— —, *Id. [— —], Cat. Mad. Col.* 35 (1857).

Habitat Maderenses (*Mad.*), sub quisquiliis foliisque dejectis per regiones sylvaticas vulgatissima.

The European *A. atomaria* abounds beneath fallen leaves, and other vegetable refuse, in Madeira proper,—principally at inter-

mediate altitudes and within the sylvan districts; but it has not yet been observed in any of the other islands. I am informed by Mr. Matthews that the Madeiran specimens which he examined are identical with the particular state which Motschulsky separated from the *atomaria* under the name of *quadrata*, but which he believes cannot be upheld as specifically distinct. Indeed, judging from a note now before me, Mr. Matthews appeared to think it far from improbable that the very slight differential characters which serve to separate the *quadrata* from the *atomaria* proper are in reality but sexual ones; for he remarks "I have again looked into the *quadrata*-question, and I am inclined to think that *quadrata* and *atomaria* are but sexes of the same species; the difference between them is analogous to, and not greater than, that which exists between individuals of the *fascicularis*."

275. *Acrotrichis anthracina*.

Trichopteryx anthracina, *Matth.*, in *Ent. Month. Mag.* ii. 35 (July 1865).
Acrotrichis anthracina, *Woll.*, *Append. huj. op.* 14.

Habitat Canarienses (*Gom.*), à DD. Crotch lecta.

Three examples of this small Canarian *Acrotrichis* were taken by the Messrs. Crotch in Gomera; and Mr. Matthews, who detected them amongst their other material, makes the following observation concerning them:—"I feel convinced that they represent a new species belonging to the *atomaria*-group (*i. e.* with a wide thorax and attenuated elytra), but differing from all in having nearly black antennæ, a jet-black colour, and a very minute size*; and moreover their sculpture is remarkable, and very distinct. I do not think it possible to refer them to any known species."

276. *Acrotrichis Wollastoni*.

Acrotrichis fascicularis, *Woll.* [nec *Herbst*], *Cat. Can. Col.* 103 (1864).
Trichopteryx Wollastoni, *Matth.*, in *Ent. Month. Mag.* i. 248 (April 1865).
Acrotrichis Wollastoni, *Woll.*, *Append. huj. op.* 14.

Habitat Canarienses (*Can.*, *Ten.*, *Gom.*, *Hierro*), vulgatissima; per regiones intermedias præsertim sylvaticas sub quisquiliis folisque dejectis.

Abounds in the intermediate altitudes of the Canarian Group, where it occurs in much the same kind of places as *A. atomaria*

* Mr. Matthews further states, under his published diagnosis, "This species is the *smallest* I have seen with the thorax largely dilated towards the base, and the posterior angles much produced."

does at Madeira—beneath fallen leaves, and other vegetable refuse, in sylvan and subsylvan spots. It has been taken hitherto in Grand Canary, Teneriffe, Gomera, and Hierro; but it is somewhat remarkable that it has not yet been observed in Palma, in which island it appears to be represented by the *A. Matthewsii*.

The present *Acrotrichis* is closely allied to the European *A. fascicularis*—with which, indeed, in my Canarian Catalogue I identified it, and of which even Mr. Matthews then thought that it should be regarded as a geographical variety. A more careful inspection, however, of a greater number of examples, in all of which he found its small peculiarities to be quite persistent, induced him to believe that it is truly distinct from that species; and he therefore described it under the trivial name of *Wollastoni**.

277. *Acrotrichis Crotchii*.

Trichopteryx Crotchii, *Math.*, in *Ent. Month. Mag.* i. 248 (April 1864).
Acrotrichis Crotchii, *Woll.*, *Append. huj. op.* 15.

Habitat Canarienses (*Gom.*), à DD. Crotch parcissime deprehensa.

A brownish species, allied to the *fenestrata*, Gillm., five examples of which were taken by the Messrs. Crotch in Gomera, during their late Canarian campaign. In all probability, therefore, it is scarce.

278. *Acrotrichis sericans*.

Trichopteryx sericans, *Heer*, *Fna Helv.* i. 374 (1841).
— *depressa*, *Gillm.*, in *Sturm*, *D. F.* xvii. 51 (1845).
Acrotrichis sericans, *Woll.*, *Cat. Can. Col.* 104 (1864).

Habitat Canarienses (*Can.*, *Ten.*, *Gom.*, *Hierro*) inter quisquilias, passim.

The European *A. sericans* occurs rather sparingly in the Canarian Group, where, however, it is widely diffused. It has been taken in Grand Canary, Teneriffe, Gomera, and Hierro.

279. *Acrotrichis Montandonii*.

Trichopteryx Montandonii, *Allib.*, in *Rev. Zool.* 51 (1844).
— *similis*, *Gillm.*, in *Sturm*, *D. F.* xvii. 53 (1845).

* In a letter now before me, written immediately after his final examination of these Atlantic *Ptiliadæ*, Mr. Matthews makes the following remark concerning the *A. Wollastoni*: "I think that this species *must* stand: there is an immense series of it, varying somewhat in *primâ facie* appearance, but (so far as I can see) inseparable. You will observe that the same *long yellow* antennæ, and the same superficial sculpture, obtain throughout the whole of them. The variation of shape is mainly sexual, and can be traced *gradatim*; indeed often it is only *apparent*, owing to the peculiar position of the individual specimen."

Acrotrichis pumila, Woll. [nec *Erich.*], *Ins. Mad.* 109 (1854).

— — — *Id.*, [— —], *Cat. Mad. Col.* 35 (1857).

— *insularis*, *Id.* [nec *Mann.*], *Ann. Nat. Hist.* viii. 109 (1861).

Habitat Maderenses (*Mad.*), hinc inde in subinferioribus intermediisque, inter quisquilias et folia dejecta.

Likewise a European *Acrotrichis*, and one which occurs (though not very abundantly) in Madeira proper—at rather low and intermediate altitudes; but it has not yet been detected in any of the other islands*.

280. *Acrotrichis Guerinii*.

Trichopteryx Guerinii, *Allib.*, in *Rev. Zool.* 52 (1844).

— — —, *Faun. et Lab.*, *Faun. Franç.* i. 333 (1854).

Acrotrichis obscœna, Woll., *Cat. Mad. Col.* 35 (1857).

Habitat Maderenses (*Mad.*), et Canarienses (*Gom.*), præcipue sub stercore bovino et equino in locis inferioribus parce occurrens.

Like the two preceding species, a European *Acrotrichis* and one which seems to be comparatively rare in these islands—where it occurs, for the most part, at rather low elevations. In Madeira proper however I met with it somewhat commonly, under (and within) the dung of cattle, about a mile to the westward of Funchal—towards the Praia Formosa; and two examples of it were captured by Dr. Crotch in Gomera, during his first trip to the Canaries.

281. *Acrotrichis canariensis*.

Trichopteryx canariensis, *Matth.*, in *Ent. Month. Mag.* i. 249 (April 1865).

Acrotrichis canariensis, Woll. *Append. huj. op.* 15.

Habitat Canarienses (*Ten.*, *Gom.*), à W. D. Crotch A.D. 1862 detecta.

A small and deep-black *Acrotrichis*—remarkable for its rather short and parallel, or even (at any rate in one sex) somewhat posteriorly widened outline, and for the almost unproduced hinder angles of its prothorax. It is a Canarian species, several examples of it having been captured by Dr. Crotch (during the spring of 1862) in Teneriffe and Gomera.

Genus 88. NEPHANES.

Thomson, *Skandin. Coleopt.* i. 62 (1859).

* The *A. Montandoni* appears to be very nearly allied to the *Chevrierii* of Allibert; but Mr. Matthews remarks that in the former the prothoracic granules "are further apart from each other, and the interstices more coarsely alutaceous [or, rather, as it seems to me, *reticulose*]; whereas in the *Chevrierii* they are closer together and more numerous, and the interspaces are finely alutaceous."

282. *Nephanes Titan*.

- Trichopteryx Titan*, *Newm., in Ent. Mag.* ii. 201 (1835).
 — abbreviatellus, *Heer, Fna Helv.* i. 375 (1841).
 — curta, *Gillm. in Sturm, D. F.* xvii. 92 (1845).
Elachys abbreviatellus, *Woll., Ann. Nat. Hist.* v. 221 (1860).
Nephanes abbreviatella, *Id., Cat. Can. Col.* 104 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom.*), hinc inde inter *quisquilias vulgaris*.

A European insect which occurs both in the Madeiran and Canarian Groups,—perhaps (considering how liable these minute species are to accidental transportation) introduced originally from more northern latitudes. It abounds occasionally (beneath dead leaves, and other vegetable refuse) around Funchal, in Madeira proper; and, although it escaped my own observation at the Canaries, it was detected by Dr. Crotch both in Teneriffe and Gomera.

Genus 89. *PTENIDIUM*.

Erichson, *Nat. der Ins. Deutsch.* iii. 34 (1845).

283. *Ptenidium lævigatum*.

- Trichopteryx lævigata*, *Gillm. in Sturm, D. F.* xvii. 87 (1845).
Ptenidium lævigatum, *Erich., loc. cit.* 36 (1845).
 — —, *Faun. et Lab., Faun. Franç.* i. 340 (1854).
 — —, *Woll., Cat. Can. Col.* 104 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma, Hierro*), sub *quisquiliis* in inferioribus intermediisque late sed parce diffusum.

A European *Ptenidium*, and widely though sparingly distributed over the Canarian archipelago—in all the islands of which it has been captured except the two eastern ones, Lanzarote and Fuerteventura. But it has not yet been observed in the Madeiran Group.

284. *Ptenidium apicale*.

- Trichopteryx apicalis*, (*Sturm*) *Gillm., in Sturm, D. F.* xvii. 85 (1845).
Ptenidium apicale, *Erich., loc. cit.* 36 (1845).
 — —, *Woll., Ins. Mad.* 110 (1854).
 — —, *Id., Cat. Mad. Col.* 37 (1857).
 — —, *Id., Cat. Can. Col.* 104 (1864).

Habitat Maderenses (*Mad., Des.*) et Canarienses (*Fuert., Can., Ten., Gom.*), vulgare.

This common European insect will probably be found universally throughout these Atlantic islands, though hitherto it does not happen (partly, perhaps, on account of its minute size) to have been observed

in more than about half of them. At the Madeiran Group it has been taken in Madeira proper and the Deserta Grande, and at the Canaries in Fuerteventura, Grand Canary, Teneriffe, and Gomera. It occurs beneath vegetable refuse, often in profusion, and principally at intermediate altitudes.

285. *Ptenidium punctatum*.

Scaphidium punctatum, Gyll., *Ins. Suec.* iv. 293 (1827).

Trichopteryx alutacea, Gillm., in Sturm, *D. F.* xvii. 84 (1845).

Ptenidium punctatum, Fairm. et Lab., *Faun. Franç.* i. 341 (1854).

— —, Woll., *Cat. Can. Col.* 105 (1864).

Habitat Canarienses (Lanz.), per oras arenosas maritimas sub fucis parce degens.

The only locality in these islands in which I have observed the European *P. punctatum* is (beneath marine *rejectamenta*) along the sandy shores of Lanzarote; so that its habits at the Canaries are precisely similar to those which obtain in higher latitudes. Doubtless, however, it will be found to be more general if searched for in the proper situations.

Genus 90. PTINELLA.

(Motschulsky) *Matth. in Zool.* xvi. 6106 (1858).

286. *Ptinella aptera*.

Ptilium apterum, Guér., in *Rev. Zool.* 90 (1839).

Trichopteryx aptera, Gillm., in Sturm, *D. F.* xvii. 63 (1845).

Ptilium apterum, Fairm. et Lab., *Faun. Franç.* i. 339 (1854).

Habitat Canarienses (*Hierro*), sub cortice *Pini canariensis* in pineto quodam antiquo excelso à DD. Crotch parcissime lecta.

Two examples of this minute *Ptinella*, which in the opinion of Mr. Matthews does not differ from the European *P. aptera*, were captured by the Messrs. Crotch at a high elevation in Hierro—the most western island of the Canarian Group. Considering the remoteness of its *habitat*, it is a most important addition to our Atlantic fauna; and it is interesting to observe that its mode of life appears to be much the same as in more northern countries; for the Hierro specimens were taken from beneath the bark of some old *pine* trees (in this instance, however, the *Pinus canariensis*) constituting the remains of the ancient Pinal which once clothed the southern extremity of the lofty Cumbre, or central ridge, of that island. We may, expect it, therefore, to occur in the Pinals generally.

287. *Ptinella Proteus*.

Ptinella aptera, Woll. [nec Guér], *Ann. Nat. Hist.* viii. 101 (1861).

— *ratisbonensis*, Id. [nec Gillm.], *ibid.* x. 341 (1862).

— *Proteus*, Matth., in *Zool.* xx. 8262 (1862).

— —, Woll., *Append. huj. op.* 15.

Habitat Maderenses (*Mad.*), sub cortice prope urbem Funchalensem à Dom. Bewicke deprehensa.

Captured in tolerable abundance by the late Mr. Bewicke in Madeira proper—amongst “a blue mould, under bark,” near Funchal. It seems to agree perfectly with English examples of the *P. Proteus*, with which it has been compared both by Mr. Matthews and myself; but its synonymy has been the subject of much confusion (I having already recorded it, in my Papers on “Additions to the Madeiran Coleoptera,” under two distinct titles),—owing entirely, however, to the fact of Mr. Matthews, who originally identified it with the British species, having received types from Paris which were falsely named.

288. *Ptinella angustula*.

Ptilium angustulum, Gillm., in *Sturm, D. F.* xvii. 66 (1845).

Ptinella angustula, Woll., *Cat. Can. Col.* 106 (1864).

Habitat Canarienses (*Palma*), sub cortice *Pini canariensis* à meipso parcissime deprehensa.

Three specimens of the European *P. angustula*, which is totally distinct from the two preceding species, were captured by myself in the island of Palma in the Canarian Group. They were all taken beneath the loosened bark of the *Pinus canariensis*,—one of them high up in the Barranco above S^{ta} Cruz, and the other two (in the great Pinal of the Banda) near the edges of the Caldeira.

Fam. 14. PHALACRIDÆ.

Genus 91. PHALACRUS.

Paykull, *Fna Suec.* iii. 438 (1800).

289. *Phalacrus coruscus*.

Phalacrus coruscus, Payk., *Fna Suec.* iii. 438 (1800).

— —, Steph., *Ill. Brit. Ent.* ii. 161 (1829).

— *coruscus*, Erich., *Nat. der Ins. Deutsch.* iii. 110 (1845).

— *coruscus*, Woll., *Cat. Can. Col.* 106 (1864).

Habitat Canarienses (ins. omnes), hinc inde parum vulgaris.

This common European insect is universal (at low and intermediate elevations) at the Canaries—in the whole seven islands of which it has been taken, more or less abundantly. But although thus general at the Canaries, it is somewhat remarkable that it has not yet been detected in the Madeiran Group.

Genus 92. **OLIBRUS.**

Erichson, *Nat. der Ins. Deutsch.* iii. 113 (1848).

290. **Olibrus cinerariæ.**

Olibrus cinerariæ, *Woll., Ins. Mad.* 112, tab. ii. fig. 9 (1854).
 ———, *Id., Cat. Mad. Col.* 37 (1857).

Habitat Maderenses (*Mad.*), in locis editioribus rarissimus; floribus *Cinerariæ auritæ* (*Senecionis maderensis*, De Cand.) ad rupes excelsas præcipue gaudet.

Apparently peculiar to the lofty sylvan districts of Madeira proper, where, however, it is extremely rare,—infesting the flowers of the *Cineraria aurita*, the large clusters of which are so conspicuous on the damp rocks of a high altitude.

291. **Olibrus florum.**

Olibrus florum, *Woll., Cat. Can. Col.* 106 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma, Hierro*), præsertim super flores *Cinerariæ* in intermediis hinc inde vulgaris.

A Canarian *Olibrus*, with much the same habits as the preceding one in Madeira—infesting the flowers of a large and pale *Cineraria* (quite distinct from the Madeiran plant) at intermediate elevations. It has been detected in all the islands of the Group except the two eastern ones, Lanzarote and Fuerteventura—appearing to become gradually commoner as we approach the west. And, accordingly, in Hierro, the most western of them all, I have seen the *Cinerarias* around Valverde absolutely teeming with it. In Gomera it was taken, during the summer of 1864, by the Messrs. Crotch. It has very much the colour and aspect of the European *O. corticalis*; nevertheless I believe that its true affinities are rather with the Madeiran *cinerariæ* than with that species.

292. **Olibrus bicolor.**

Sphæridium bicolor, *Fab., Ent. Syst.* i. 82 (1792).

- Olibrus bicolor*, *Erich., Nat. der Ins. Deutsch.* iii. 116 (1845).
 ———, *Woll., Ins. Mad.* 113 (1854).
 ———, *Id., Cat. Mad. Col.* 37 (1857).

Habitat Maderenses (*Mad.*), ad flores in subinferioribus vulgaris.

A European species, which abounds on flowers in Madeira proper at rather low and intermediate elevations; but it has not yet been detected in any of the other islands.

293. *Olibrus Stephensii*.

- Phalacrus Stephensii*, *Leach, in litt.*
 ———, *Steph., Ill. Brit. Ent.* ii. 164 (1829).
Olibrus liquidus, *Erich., Nat. der Ins. Deutsch.* iii. 117 (1845).
 ———, *Woll., Ins. Mad.* 114 (1854).
 ———, *Id., Cat. Mad. Col.* 37 (1857).

Habitat Maderenses (*Mad.*), unà cum præcedente degens vel in locis similibus occurrens.

Likewise a European *Olibrus*, and one which occurs in precisely the same sort of places in Madeira proper as the last species—indeed, usually in company with it.

294. *Olibrus congener*.

- Olibrus congener*, *Woll., Cat. Can. Col.* 107 (1864).

Habitat Canarienses (*Lanz.*), ad flores parum rarus.

Detected hitherto only in Lanzarote, of the Canarian Group, though we may certainly expect it to occur in, at all events, Fuerteventura likewise. It is rather an insignificant species, the characters of which, however, I have fully pointed out in my diagnosis.

295. *Olibrus subæreus*.

- Olibrus subæreus*, *Woll., Cat. Can. Col.* 107 (1864).

Habitat Canarienses (*Can., Ten., Hierro*), super flores varios, rarior.

A small Canarian species, having much the *primâ facie* aspect of the European *O. millefolii*. It occurs at intermediate altitudes, and is apparently rare,—having been detected hitherto in Grand Canary, Teneriffe (where it was found, at Souzal, by the Messrs. Crotch), and Hierro.

296. *Olibrus consimilis*.

- Dermestes consimilis*, *Mshn, Ent. Brit.* i. 75 (1802).
Phalacrus geminus, *Illig., in Panz. Krit. Rev.* i. 27 (1805).

- Olibrus geminus, *Erich., Nat. der Ins. Deutsch.* iii. 120 (1845).
 ——— consimilis, *Woll., Ins. Mad.* 115 (1854).
 ——— ———, *Id., Cat. Mad. Col.* 37 (1857).
 ——— ———, *Id., Cat. Can. Col.* 108 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can., Ten., Gom.*), ad flores, passim.

This common European insect is widely spread over these Atlantic islands, though apparently nowhere abundant. It occurs in the intermediate elevations of Madeira proper, as also in Grand Canary, Teneriffe, and Gomera, of the Canarian Group. In all probability, however, it will be found to be universal; yet, in spite of this, I believe it to be a naturalized species.

Fam. 15. NITIDULIDÆ.

• (Subfam. I. BRACHYPTERIDES.)

Genus 93. HETEROBRACHIUM.

Wollaston, *Cat. Can. Col.* 108 (1864).

297. *Heterobrachium longimanum.*

Heterobrachium longimanum, *Woll., Cat. Can. Col.* 109 (1864).

Habitat Canarienses (*Ten., Palma*), in sylvaticis humidis editioribus rarissimum.

Found hitherto only in Teneriffe and Palma, of the Canarian Group, where it appears to be extremely rare,—occurring at a high elevation within the sylvan districts.

Genus 94. BRACHYPTERUS.

Kugelann, in *Schneid. Mag.* 506 (1794).

298. *Brachypterus æneomicans.*

Brachypterus æneomicans, *Woll., Append. huj. op.* 16.

Habitat Canarienses (*Gom.*), à DD. Crotch parce lectus.

Two specimens of this *Brachypterus* were captured in Gomera by the Messrs. Crotch, during their recent expedition to the Canaries. The species appears to be quite distinct from the (somewhat variable) *B. velatus*, the characters which separate it therefrom having been fully pointed out in the Appendix.

299. *Brachypterus velatus*.

Brachypterus velatus, *Woll., Ann. Nat. Hist.* xi. 217 (1863).

— —, *Id., Cat. Can. Col.* 110 (1864).

Habitat Canarienses (*Lanz.?*, *Can.*, *Ten.*, *Gom.*, *Hierro*), præcipue super folia *Urticæ urentis* hinc inde vulgaris.

Likewise a Canarian *Brachypterus*, and one which is common on the foliage of nettles (particularly the *Urtica urens*, L.) in Grand Canary, Teneriffe, Gomera (where it was detected by the Messrs. Crotch), and Hierro; and I also obtained a specimen which differs a little from the ordinary type, and which possibly therefore may be the exponent of an allied species, in Lanzarote.

300. *Brachypterus curtulus*.

Brachypterus curtulus, *Woll., Cat. Can. Col.* 110 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*), ad flores minus frequens.

Occurs rather sparingly in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group, but I have not yet observed it elsewhere.

(Subfam. II. CARPOPHILIDES.)

Genus 95. CARPOPHILUS.

(Leach) *Steph., Ill. Brit. Ent.* iii. 50 (1830).

301. *Carpophilus mutilatus*.

Nitidula hemiptera, *Fab.* [nec *Linn.*, 1767], *Ent. Syst.* i. 261 (1792).

Carpophilus mutilatus, (*Hoffm.*) *Erich., Germ. Zeitsch.* iv. 258 (1843).

— —, *Woll., Ins. Mad.* 116 (1854).

— —, *Id., Cat. Mad. Col.* 38 (1857).

— —, *Murray, Trans. Linn. Soc. Lond.* xxiv. 378 (1864).

Habitat Maderenses (*Mad.*), in mercatorum repositoriis, ex alienis forsitan saccharinis et fructibus introductus.

Not uncommon in the warehouses and stores of Madeira proper, where it has undoubtedly been naturalized through the medium of commerce.

302. *Carpophilus dimidiatus*.

Nitidula dimidiata, *Fab., Ent. Syst.* i. 261 (1792).

Carpophilus auropilosus, *Woll., Ins. Mad.* 117 (1854).

— —, *Id., Cat. Mad. Col.* 38 (1857).

— —, *Id., Cat. Can. Col.* 111 (1864).

— — *dimidiatus*, *Murray, Trans. Linn. Soc. Lond.* xxiv. 379 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Fuert.*, *Can.*, *Ten.*), in

locis similibus ac præcedens sed interdum etiam in aperto occurrens.

Likewise an introduced species, and found in much the same places as the *C. mutilatus* and *hemipterus*; though I have occasionally met with it in the open country, and on one occasion (in Fuerteventura) from beneath the refuse of a camels' stable. It has been detected in Madeira proper, as also in Fuerteventura, Grand Canary, and Teneriffe, of the Canarian Group.

303. *Carpophilus hemipterus*.

Dermestes hemipterus, *Linn., Syst. Nat.* ii. 567 (1767).

Carpophilus hemipterus, *Woll., Ins. Mad.* 117 (1854).

— —, *Id., Cat. Mad. Col.* 38 (1857).

— —, *Id., Cat. Can. Col.* 111 (1864).

— —, *Murray, Trans. Linn. Soc. Lond.* xxiv. 362 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom.*), in locis similibus ac præcedentes, hinc inde vulgaris.

This widely spread insect has been naturalized (like the preceding two) both at the Madeiras and Canaries, occurring about houses and various kinds of stores—particularly dried fruits. It is frequently common in Madeira proper, and has been captured in Teneriffe and Gomera (in the latter by the Messrs. Crotch) at the Canaries.

304. *Carpophilus tersus*.

Carpophilus tersus, *Woll., Append. huj. op.* 16.

Habitat Canarienses (*Gom.*), a DD. Crotch in *Euphorbiâ* quâdam emortuâ semel lectus.

A single example of this distinct and rather large *Carpophilus* was taken by the Messrs. Crotch in Gomera, during their late trip to the Canaries. It was found beneath the bark of a dead *Euphorbia*, and is doubtless therefore the exponent of a species which is truly indigenous.

(Subfam. III. NITIDULIDES.)

Genus 96. EPURÆA.

Erichson, in *Germ. Zeitsch.* iv. 267 (1843).

305. *Epuræa obsoleta*.

Nitidula obsoleta, *Fab., Ent. Syst.* i. 256 (1792).

Epuræa obsoleta, *Erich., Nat. der Ins. Deutsch.* iii. 148 (1845).

Nitidula obsoleta, *Woll., Ins. Mad.* 121 (1854).

— —, *Id., Cat. Mad. Col.* 40 (1857).

Habitat Maderenses (*Mad.*), sub cortice arborum truncisque recenter sectis in intermediis parce degens.

The European *E. obsoleta* occurs sparingly throughout the intermediate sylvan districts of Madeira proper, beneath the bark and chippings of trees; but it has not yet been observed in any of the other islands.

Genus 97. NITIDULA.

Fabricius, *Syst. Ent.* 77 (1775).

306. *Nitidula flexuosa*.

Nitidula flexuosa, *Oliv., Ent.* ii. 12. 7 (1790).

— —, *Woll., Ins. Mad.* 119 (1854).

— —, *Id., Cat. Mad. Col.* 39 (1857).

— —, *Id., Cat. Can. Col.* 111 (1864).

Habitat Maderenses (*P^{to} S^{to}*) et Canarienses (*Fuert.*), hinc inde in ossibus parum vulgaris.

Likewise a European species, and one which we may expect to be found pretty generally in these Atlantic islands if searched for in the proper places—namely, in bones. Hitherto, however, it has been taken only in Porto Santo of the Madeiran Group, and in Fuerteventura at the Canaries.

307. *Nitidula 4-pustulata*.

Nitidula 4-pustulata, *Fab., Ent. Syst.* i. 255 (1792).

— —, *Erich., Nat. der Ins. Deutsch.* iii. 159 (1845).

— —, *Woll., Ins. Mad.* 119 (1854).

— —, *Id., Cat. Mad. Col.* 39 (1857).

Habitat Maderenses (*Mad.*), hinc inde in ossibus.

Also a European *Nitidula*, and one which is not uncommon at low and intermediate elevations in Madeira proper—occurring in bones, particularly about the towns and in cultivated spots.

Genus 98. OMOBITA.

Erichson, in *Germ. Zeitsch.* iv. 298 (1843).

308. *Omosita discoidea*.

Nitidula discoidea, *Fab., Syst. Ent.* 78 (1775).

Omosita discoidea, *Erich., Nat. der Ins. Deutsch.* iii. 168 (1845).

Nitidula discoidea, *Woll., Ins. Mad.* 120 (1854).

— —, *Id., Cat. Mad. Col.* 39 (1857).

Habitat Maderenses (Mad.), circa oppida in locis similibus ac præcedens.

The common European *O. discoidea* is found in Madeira proper, in similar places with the last species; and, like it, it has probably been naturalized from more northern latitudes.

309. *Omosita colon*.

Silpha colon, *Linn., Fna Suec.* 151. 462 (1761).

Nitidula colon, *Fab., Syst. Eleu.* i. 351 (1801).

Omosita colon, *Erich., Nat. der Ins. Deutsch.* iii. 167 (1845).

Nitidula colon, *Woll., Cat. Mad. Col.* 39 (1857).

Habitat Maderenses (Mad.), in ossibus minus frequens.

The European *O. colon* is less common in Madeira proper than either of the two preceding species; nevertheless it is found sparingly around Funchal, and has doubtless been introduced accidentally into the island.

Genus 99. **PRIA**.

(Kirby) Steph., *Ill. Brit. Ent.* iii. 49 (1830).

310. *Pria dulcamaræ*.

Laria dulcamaræ, *Scop., Ent. Carn.* 22 (1763).

Pria dulcamaræ, *Woll., Ins. Mad.* 122 (1854).

— —, *Id., Cat. Mad. Col.* 40 (1857).

— —, *Id., Cat. Can. Col.* 112 (1864).

Habitat Maderenses (Mad.) et Canarienses (Ten., Palma), ad flores varios late sed parce diffusa.

This European insect occurs sparingly on flowers, at most elevations, in Madeira proper; and it has also been taken in Teneriffe and Palma, of the Canarian Group.

Genus 100. **MELIGETHES**.

(Kirby) Steph., *Ill. Brit. Ent.* iii. 45 (1830).

311. *Meligethes echii*.

Meligethes Isoplexidis, *Woll., Ins. Mad.* 123 (1854).

— Echii, *Id., Cat. Mad. Col.* 40 (1857).

Habitat Maderenses (Mad.) et Canarienses (Ten., Gom., Hierro), ad plantas *Echii* hinc inde in editoribus.

Not uncommon at a rather high elevation in Madeira proper, where it is attached principally (if not indeed altogether) to the flowers and foliage of the gigantic *Echium candicans*. At the

Canaries (where the specimens, judging from the few now before me, are not quite so typical) it was taken sparingly by the Messrs. Crotch in Teneriffe, Gomera, and Hierro.

Whether, however, the *M. echi* is anything more than a rather large and somewhat elongated state of the *tristis*, in which the elytra are relatively a trifle shorter (or perhaps, rather, the abdomen more developed), the limbs not quite so black, the punctation (at any rate posteriorly) just perceptibly less dense, and the pubescence more robust and of a yellowish-fulvescent tinge (instead of being cinereous), I cannot but feel a little doubtful.

312. *Meligethes tristis*.

- Meligethes tristis* (*Schüpp.*), *Sturm, Deutsch. Fna*, xvi. 40 (1845).
 ———, *Woll., Ins. Mad.* 124 (1854).
 ———, *Id., Cat. Mad. Col.* 41 (1857).
 ———, *Id., Cat. Can. Col.* 113 (1864).
 ———, *Hartung, Geolog. Verhältn. Lanz. und Fuert.* 141.

Habitat Maderenses (*Mad., Pto Sto, Des.*) et Canarienses (*Can., Ten., Gom., Palma, Hierro*), ad flores sat vulgaris.

The European *M. tristis* seems to be well nigh universal throughout these Atlantic islands. At the Madeiran Group it has been observed in Madeira proper, Porto Santo, and the Deserta Grande; whilst at the Canaries it has been detected in all the islands except Lanzarote and Fuerteventura, the two eastern ones*.

313. *Meligethes picipes*.

- Meligethes picipes*, *Sturm, Deutsch. Fna*, xvi. 47 (1845).
 ———, *Erich., Nat. der Ins. Deutsch.* iii. 199 (1848).
 ———, *Woll., Ins. Mad.* 125 (1854).
 ———, *Id., Cat. Mad. Col.* 41 (1857).

Habitat Maderenses (*Mad.*), ad flores sæpe vulgatissimus.

It is somewhat remarkable that although the present European *Meligethes* is abundant in Madeira proper, frequently teeming at intermediate elevations, it has not yet been observed in any other of these Atlantic islands.

314. *Meligethes virescens*.

Meligethes virescens, *Woll., Cat. Can. Col.* 113 (1864).

Habitat Canarienses (*Ten., Gom.*), hinc inde vulgaris. Floribus *Messerschmidtæ fruticosæ* præsertim gaudet.

* Cf. 'Cat. Can. Col.' p. 114.

A Canarian *Meligethes*, detected hitherto in Teneriffe and Gomera, where it is more particularly partial to the fragrant blossoms of the *Messerschmidia fruticosa*.

315. *Meligethes varicollis*.

Meligethes varicollis, *Woll., Ins. Mad.* 126 (1854).

— —, *Id., Cat. Mad. Col.* 41 (1857).

— —, *Id., Cat. Can. Col.* 112 (1864).

— erythroga, *Hart.* [nec *Mshn*], *Geol. Verhältn. Lanz. und Fuert.* 140.

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Fuert., Ten.*), ad flores rarior.

A large *Meligethes* which appears to be widely spread over these Atlantic islands, though exceedingly local. In Madeira proper (where its prothorax has a curious tendency to become pallid at the edges) it is decidedly rare, occurring in the sylvan districts of intermediate altitudes; whilst at the Canaries it is comparatively common in certain parts of Lanzarote and Fuerteventura, but scarce in Teneriffe.

Genus 101. **XENOSTRONGYLUS.**

Wollaston, *Ins. Mad.* 127 (1854).

316. *Xenostrongylus histrio*.

Xenostrongylus histrio et canariensis, *Woll., Ins. Mad.* 127, 128 (1854).

— —, *Id., Cat. Mad. Col.* 41 (1857).

— arcuatus, *Kiesw., in Berl. Zeit.* 57 (1859).

— histrio, *Woll., Cat. Can. Col.* 114 (1864).

Habitat Maderenses (*Mad., Pto Sto, Des.*) et Canarienses (*ins. omnes*), præcipue in herbis intermediis vulgaris.

This most variable insect, which occurs sparingly in the south of Europe, may be regarded as quite universal throughout these Atlantic islands; for although it does not happen to have been observed on the (almost inaccessible) northern and southern Desertas, of the Madeiran Group, yet its presence on the central island would render it probable that sooner or later it will certainly be met with on them likewise. In Madeira proper, Porto Santo, and the Deserta Grande it is often abundant—attaching itself to various plants (particularly those of the *Sinapis*-tribe), or hibernating amongst lichen in the crevices of the weather-beaten rocks. Whilst at the Canaries, I have myself captured it in the whole seven islands of the archipelago, where perhaps it is more especially common within the sylvan districts of intermediate altitudes.

Fam. 16. RHIZOPHAGIDÆ.

Genus 102. RHIZOPHAGUS.

Herbst, *Käf.* v. 18 (1793).317. *Rhizophagus pinetorum*.*Rhizophagus pinetorum*, *Woll., Cat. Can. Col.* 118 (1864).*Habitat* Canarienses (*Ten., Palma, Hierro*), lignum vetustum *Pini canariensis* in pinetis destruens; hinc inde vulgaris.

A Canarian *Rhizophagus* which appears to be attached to the Pinals of intermediate and lofty elevations, where it occurs beneath the bark and within the rotten wood of the *Pinus canariensis*. Under such circumstances, it is locally abundant in Teneriffe and Palma; and it was found by the Messrs. Crotch, in the Pinal, in Hierro. We may expect, indeed, to meet with it wherever the ancient Pinals still exist. It is closely allied to the *R. ferrugineus* and *perforatus* of more northern latitudes, and might possibly be regarded as a geographical modification of either of them; though, of the two, I think perhaps that it has more in common with the former.

318. *Rhizophagus subopacus*.*Rhizophagus subopacus*, *Woll., Cat. Can. Col.* 119 (1864).*Habitat* Canarienses (*Palma*), in locis similibus ac præcedens, sed multo rarior.

Of precisely the same habits as the last species, though very much rarer—the few examples which I have seen having been captured beneath the bark of pine trees in Palma, of the Canarian Group.

319. *Rhizophagus bipustulatus*.*Lycetus 2-pustulatus*, *Fab., Ent. Syst.* i. ii. 503 (1792).*Rhizophagus bipunctulatus*, *Hbst., Käf.* v. tab. 45. f. 9 (1793).*Rhizophagus bipustulatus*, *Erich., Nat. der Ins. Deutsch.* iii. 234 (1845).*Rhizophagus bipustulatus*, *Woll., Cat. Mad. Col.* 42 (1857).*Habitat* Maderenses (*Mad.*), sub cortice laxo in castanetis parce occurrens.

The European *R. bipustulatus* occurs sparingly in Madeira proper, for the most part beneath the bark of Spanish chestnut-trees on the mountains above Funchal; but it has not been observed in any of the other islands.

Genus 103. **EUROPS.**Wollaston, *Ins. Mad.* 149 (1854).320. **Europs impressicollis.**Europs impressicollis, *Woll., Ins. Mad.* 150, tab. iii. f. 2 (1854).— —, *Id., Cat. Mad. Col.* 50 (1857).— —, *Id., Trans. Ent. Soc. Lond.* i. 145 (1862).— —, *Id., Cat. Can. Col.* 128 (1864).*Habitat* Maderenses (*Mad., Des.*) et Canarienses (*ins. omnes*), *Euphorbias* emortuas vetustas copiosissime destruens.

This insect is probably universal throughout these Atlantic islands wherever *Euphorbias* are to be found; for it is attached exclusively to the rotten stems and branches of those singular plants. Nevertheless at the Madeiran Group it has been detected hitherto only in Madeira proper and the Deserta Grande; though at the Canaries it has been met with abundantly in the whole seven islands of the archipelago; and I even found it in the little islet of Graciosa, off the extreme north of Lanzarote.

321. **Europs duplicatus.**Europs duplicatus, *Woll., Trans. Ent. Soc. Lond.* i. 146 (1862).— —, *Id., Cat. Can. Col.* 129 (1864).*Habitat* Canarienses (*Gom.*), in plantis putridis *Euphorbiæ canariensis* præcipue degens.

Detected hitherto only in Gomera, of the Canarian Group, where, however, it is *locally* somewhat abundant within the putrid stems of the *Euphorbia canariensis*.

Fam. 17. TROGOSITIDÆ.Genus 104. **TEMNOCHILA.**Westwood, *Zool. Journ.* v. 231 [*script. Temnoscheila*] (1835).322. **Temnochila pini.**Trogosita pini, *Brullé, in Webb et Berth. (Col.)* 70 (1838).Temnochila pini, *Woll., Cat. Can. Col.* 119 (1864).*Habitat* Canarienses (*Can., Ten., Palma, Hierro*), truncos antiquos *Pini canariensis* in pinetis perforans; rarissima.

This superb *Temnochila*, which may be regarded as the representative of the *T. cærulea* of more northern latitudes, is confined to the old Pinals of the Canarian Group; and it will probably, therefore,

be found to occur wherever the remains of those ancient pine-forests still exist. Nevertheless it is extremely rare, or at any rate local, even in those particular regions. I have myself taken it in Grand Canary and Palma; and it was captured by the Messrs. Crotch during the past summer in Teneriffe and Hierro. Its presence in Hierro is most interesting; for the Pinal itself (in its now reduced dimensions) occupies but a small and elevated area at the southern end of the Cumbre, or backbone, of that remote island.

Genus 105. **LIPASPIIS.**

Wollaston, *Trans. Ent. Soc. Lond.* 140 [script. *Leipaspiis*] (1862).

323. **Lipaspiis lauricola.**

Leipaspiis lauricola, *Woll., loc. cit.* 143 (1862).

Lipaspiis lauricola, *Id., Cat. Can. Col.* 120 (1864).

Habitat Canarienses (*Ten., Gom., Palma, Hierro*), sub cortice arborum laxo præsertim in lauretis humidis editioribus latens.

A Canarian insect, attached normally to the damp laurel-regions of a high altitude—where it occurs beneath dead, loosened bark. Occasionally, however, it will attack other trees; for the Messrs. Crotch report its capture (in a few instances), both in Gomera and Hierro, in fig-trees; but I think it is not unlikely that such specimens may have been brought down accidentally from the laurel-forests amongst bundles of fire-wood, and may have adapted themselves subsequently (as they were best able) to the altered circumstances and a lower range. In Teneriffe and Palma I have met with it in tolerable abundance; whilst in Gomera and Hierro it has been taken by the Messrs. Crotch.

324. **Lipaspiis pinicola.**

Leipaspiis pinicola, *Woll., loc. cit.* 143 (1862).

Lipaspiis pinicola, *Id., Cat. Can. Col.* 120 (1864).

Habitat Canarienses (*Ten., Palma*), in pinetis rarissima.

Hitherto I have observed this (likewise Canarian) *Lipaspiis* only in Teneriffe and Palma, where it occurs (though very rarely) beneath the dead bark of pines at rather lofty elevations. The discovery by the Messrs. Crotch of the *L. lauricola* in fig-trees renders it just possible that the *pinicola* may be some form of that species peculiar to the Pinals, for certainly its distinctions are not very conspicuous ones. Nevertheless I do not believe that such is *probable*; though, from the very few examples of the *pinicola* which I have yet seen,

I admit that further material is at all events desirable in order to ascertain whether the small diagnostic features which I alluded to in my description are constant.

325. *Lipaspsis caulicola*.

Lipaspsis caulicola, *Woll.*, *loc. cit.* 142, pl. viii. f. 1 (1862).

Lipaspsis caulicola, *Id.*, *Cat. Can. Col.* 121 (1864).

Habitat Salvages (ins. *majorem*, borealem) et Canarienses (*Ten.*, *Hierro*), intra caules *Euphorbiarum* putridos rarissima.

Likewise of the greatest rarity, but peculiar (so far as observed hitherto) to the Euphorbias—within the rotten stems of which it occurs, though very sparingly. A single example was taken by myself in Teneriffe,—from out of the putrid stalks of a *E. canariensis*, on the mountains above S^{ta} Cruz; and five more were obtained by the Messrs. Croteh in Hierro (one of which they found at El Golfo, and the remaining four near Valverde—"under the bark of the *E. piscatoria* and *balsamifera*" respectively). It differs from the *lauricola*, mainly, in its smaller size, ferruginous hue, rather narrower, less shining and more lightly striated elytra, and somewhat slenderer legs.

I have moreover received from the Barão do Castello de Paiva a single example which he procured from the Great Salvage. It recedes a *little* from the Canarian ones; but the differences are so unimportant that I cannot consider them indicative of more than a slight insular variety, which, however, I would here record as the "var. *β. oceanica*"*. I have placed the specimen in the collection at the British Museum.

Genus 106. TROGOSITA.

Olivier, *Ent.* ii. 19 [script. *Trogossita*] (1790).

326. *Trogosita mauritanica*.

Tenebrio mauritanicus, *Linn.*, *Syst. Nat.* ii. 674 (1767).

Trogosita caraboides, *Brullé*, in *Webb et Berth.* (*Col.*) 71 (1838).

— —, *Hart.*, *Geolog. Verhältn. Lanz. und Fuert.* 140, 141.

* This individual from the Great Salvage is a trifle narrower than the Canarian ones now before me, with its head and prothorax (the former of which is just perceptibly convexer, whilst the latter is somewhat more abbreviated) a little less developed, and not *quite* so densely or coarsely punctured. Assuming it to be typical of its race, it will suffice to record in the following short formula the very slightly aberrant state of which it may be regarded as the exponent:—

Var. *β. oceanica*. Subangustior, capite prothoraceque vix parcius leviusque punctatis, illo paulo magis convexo, hóc sensim brevior.

Trogosita mauritanica, Woll., *Ins. Mad.* 154 (1854).

— — —, *Id.*, *Cat. Mad. Col.* 50 (1857).

— — —, *Id.*, *Cat. Can. Col.* 121 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz.*, *Fuert.*, *Can.*, *Ten.*, *Gom.*), in domibus et præsertim sub recremento farris circa basin acervorum tritici sparso hinc inde vulgaris.

The nearly cosmopolitan *T. mauritanica*, although evidently naturalized, is doubtless universal in the *inhabited* islands of these Atlantic Groups. In Madeira proper, it has been observed principally about the houses and stores; but at the Canaries it is far more abundant, as well as more completely established—occurring not only in the towns and warehouses, but (far more commonly) beneath the refuse at the base of corn-stacks. Palma and Hierro are the only islands of the seven in which it does not happen to have been detected; but there can be no question that it exists there, as it does throughout the rest of the archipelago. In Gomera it was taken by the Messrs. Crotch.

Examples of the *T. mauritanica* have been communicated by the Baron Paiva, professedly from the Great Salvage; but as I have little doubt they were captured amongst the provisions taken by the boatmen from Funchal, I do not consider them worth noticing.

327. *Trogosita serrata*.

Trogosita serrata, Woll., *Ins. Mad.* 155 (1854).

— — —, *Id.*, *Cat. Mad. Col.* 50 (1857).

Habitat Maderenses (*Mad.*), rarissima; in insulam fortasse saccharinis introducta.

Occurs, though very rarely, in the houses and stores of Madeira proper, where it has doubtless been naturalized through the medium of commerce. By the late Mr. Bewicke it was found in sugar; and it has lately been communicated by the Barão do Castello de Paiva.

328. *Trogosita recta*.

Trogosita recta, Woll., *Trans. Ent. Soc. Lond.* i. 144 (1862).

— — —, *Id.*, *Cat. Can. Col.* 122 (1864).

Habitat Canarienses (*Lanz.*), semel tantum reperta.

A Canarian species and very closely allied to the *serrata*, though I believe truly distinct from it. Indeed its habits would seem to be different, for the only example which I have seen was captured within the stem of a dead *Euphorbia* in the north of Lanzarote.

329. *Trogosita latens*.

Trogosita latens, *Woll., Trans. Ent. Soc. Lond.* i. 143 (1862).
 ———, *Id., Cat. Can. Col.* 123 (1864).

Habitat Canarienses (*Lanz., Ten., Gom., Hierro*), sub cortice *Euphorbiarum* versus radices præsertim emortuas *latens*.

Detected hitherto only at the Canaries, where; however, we may be pretty sure that it is universal—though it happens to have been observed merely in Lanzarote, Teneriffe, Gomera (where it was found by the Messrs. Crotch), and Hierro. It is peculiar to the various *Euphorbias*, occurring beneath the damp bark (and within the rotten wood) towards the base of the stems—and, more often, actually underground at the roots. In such situations I have met with it in Lanzarote, Teneriffe, and Hierro.

Fam. 18. MONOTOMIDÆ.

Genus 107. MONOTOMA.

Herbst, *Natursyst.* v. (1793).

330. *Monotoma spinicollis*.

Monotoma spinicollis, *Aubé, Ann. de la Soc. Ent. de Fr.* vi. 463 (1837).
 ——— *spinifera*, *Woll., Cat. Mad. Col.* 67 (1857).
 ——— *spinicollis*, *Id., Cat. Can. Col.* 123 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom.*), sub quisquiliis parum rara.

A European insect which occurs, sparingly, beneath vegetable refuse, both in the Madeiran and Canarian Groups. At the former it has been found in Madeira proper, and at the latter in Teneriffe and Gomera.

331. *Monotoma picipes*.

Monotoma picipes, *Hbst., Käf.* v. 24 (1793).
 ———, *Aubé, Ann. de la Soc. Ent. de France*, vi. 458 (1837).
 ——— *congener*, *Woll., Cat. Mad. Col.* 68 (1857).
 ——— *picipes*, *Id., Cat. Can. Col.* 123 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), sub quisquiliis rara.

The common European *M. picipes* is probably about equally diffused (and equally scarce), in these Atlantic islands, with the *M. spinicollis*. It has been detected sparingly in Madeira proper, and also in Teneriffe.

332. *Monotoma quadricollis*.

Monotoma quadricollis, Aubé, *Ann. de la Soc. Ent. de Fr.* vi. 465 (1837).

— —, *Redt., Fna Austr.* 203 (1849).

— —, *Woll., Ann. Nat. Hist.* v. 263 (1860).

— —, *Id., Cat. Can. Col.* 124 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Fuert., Ten., Gom.*), sub quisquiliis hinc inde vulgaris.

Although somewhat less abundant throughout Europe than the preceding one, this *Monotoma* is decidedly commoner in these islands than either it or any of the other species. In Madeira proper it occurs beneath refuse in cultivated grounds, particularly around Funchal; whilst at the Canaries I have little doubt that it will be found to be universal. Hitherto, however, it has been observed only in Lanzarote, Fuerteventura, Teneriffe, and Gomera, in the last of which it was met with by the Messrs. Crotch.

333. *Monotoma 4-foveolata*.

Monotoma 4-foveolata, Aubé, *Ann. de la Soc. Ent. de Fr.* vi. 468 (1837).

— —, *Redt., Fna Austr.* 203 (1849).

— —, *Woll., Ann. Nat. Hist.* v. 264 (1860).

— —, *Id., Cat. Can. Col.* 124 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Ten.*), hinc inde sub ossibus et quisquiliis.

Although locally abundant around Funchal in Madeira proper (where it was taken in profusion, both by Mr. E. Leacock and myself, beneath the refuse of a bone-house), the present European *Monotoma* has been observed hitherto very sparingly at the Canaries—the only islands in which has been found being Lanzarote and Teneriffe. Doubtless, however, it will be met with more generally when searched for in the proper localities.

334. *Monotoma longicollis*.

Monotoma longicollis, Schönherr, *in litt.*

Cerylon longicolle, Gyll., *Ins. Suec.* iv. 635 (1827).

Monotoma longicollis, Aubé, *Ann. de la Soc. Ent. de Fr.* vi. 467 (1837).

— —, *Woll., Ann. Nat. Hist.* viii. 102 (1861).

Habitat Maderenses (*Mad.*), sub quisquiliis rarissima.

The European *M. longicollis* has been found sparingly, beneath vegetable rubbish, in Madeira proper (where two examples were taken by the late Mr. Bewiecke at S. Antonio da Serra); but it has not yet been detected in any of the other islands.

Considering the secretive habits of the *Monotomas*, in various kinds of refuse, they are insects easy of accidental transportation; and it is exceedingly probable therefore that the whole five species here enumerated may have been introduced originally into these islands from more northern latitudes, and may have thus become naturalized.

Fam. 19. ENDOPHLÆIDÆ.

Genus 108. TARPHIUS.

(Germar) Erich., *Nat. der Ins. Deutsch.* iii. 256 (1845).

335. *Tarphius Lowei*.

Tarphius Lowei, *Woll., Ins. Mad.* 134, tab. iii. f. 5 (1854).

— —, *Id., Cat. Mad. Col.* 43 (1857).

Habitat Maderenses (*Mad., P^{to} S^{to}*), inter lichenes in fissuris rupium vel ad truncos arborum crescentes, hinc inde (saltem in Porto Sancto) vulgaris.

Peculiar to the Madeiran Group, occurring amongst lichens (whether in the crevices of the rocks or on the trunks of trees) in Madeira proper and Porto Santo,—being rather scarce in the former, but occasionally abundant in the latter.

336. *Tarphius excisus*.

Tarphius excisus, *Woll., Cat. Mad. Col.* 47 (1857).

Habitat Maderenses (*P^{to} S^{to}*), rarissimus, in summo monte “Pico Branco” parcissime repertus.

Observed hitherto only in Porto Santo, of the Madeiran Group, where it appears to be extremely rare. Indeed I have seen but two specimens of it, which were taken by myself (on the 9th of May, 1855) on the lofty and almost inaccessible promontory immediately over the extreme summit of the Pico Branco, in the north of that island. It probably has much the same habits as the *T. Lowei*.

337. *Tarphius parallelus*.

Tarphius parallelus, *Woll., Ins. Mad.* 134 (1854).

— —, *Id., Cat. Mad. Col.* 42 (1857).

Habitat Maderenses (*Mad.*), sub truncis arborum prolapsis in lauretis humidis editioribus parce degens.

Inhabits the mountains of Madeira proper—occurring beneath

logs of wood in damp, shady spots of a high elevation (particularly in the region of the Fanal).

338. *Tarphius angustulus*.

Tarphius angustulus, *Woll., Ann. Nat. Hist.* x. 289 (1862).

— —, *Id., Append. huj. op.* 17.

Habitat Maderenses (*Mad.*), in montibus supra urbem Funchalensem, in castanetis à Dom. Moniz detectus.

Likewise peculiar to Madeira proper, and apparently of the greatest rarity, the few examples hitherto detected having been taken by Senhor Moniz in the chestnut-woods on the mountains above Funchal.

339. *Tarphius inornatus*.

Tarphius inornatus, *Woll., Ins. Mad.* 135 (1854).

— spinipes, *Id.* [= maris status extrem.], *ibid.* 136 (1854).

— inornatus, *Id., Cat. Mad. Col.* 43 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis, vel lauretis vel pinetis, hinc inde vulgaris.

Inhabits the sylvan districts of Madeira proper, occurring (rather commonly) both in the laurel-forests of the interior and in the pine-woods on the southern slopes of the island. It is barely possible that what I have regarded as the sexes of this *Tarphius* may be specifically distinct, though I do not think it *likely* that such is the case.

340. *Tarphius nodosus*.

Tarphius nodosus, *Woll., Ins. Mad.* 140, tab. iii. f. 6 (1854).

— —, *Id., Cat. Mad. Col.* 45 (1857).

Habitat Maderenses (*Mad.*), in lauretis humidis editioribus sat vulgaris.

Pretty generally distributed, and occasionally common, in the damp sylvan districts of Madeira proper—principally at a high elevation.

341. *Tarphius compactus*.

Tarphius compactus, *Woll., Ins. Mad.* 139 (1854).

— —, *Id., Cat. Mad. Col.* 45 (1857).

Habitat Maderenses (*Mad.*), in lauretis humidis parum vulgaris.

Occurs in Madeira proper, in similar spots as the last species, and about in equal abundance.

342. *Tarphius lauri*.

Tarphius Lauri, *Woll., Ins. Mad.* 138, tab. iii. f. 4 (1854).

— —, *Id., Cat. Mad. Col.* 44 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis præsertim lauretis vulgaris.

Peculiar to Madeira proper, and by far the most abundant of the genus in that island—occurring universally within the sylvan districts, though (like most of the species) more particularly in the laurel-forests.

343. *Tarphius formosus*.

Tarphius formosus, *Woll., Cat. Mad. Col.* 44 (1857).

Habitat Maderenses (*Mad.*), in lauretis humidis excelsis rarissimus.

Detected hitherto only in the dense sylvan regions in the north of Madeira proper, where it appears to be extremely rare.

344. *Tarphius angusticollis*.

Tarphius angusticollis, *Woll., Ann. Nat. Hist.* v. 252 (1860).

— —, *Id., Append. huj. op.* 17.

Habitat Maderenses (*Mad.*), in sylvaticis editioribus parcissime occurrens.

The only specimens of this *Tarphius* which I have yet seen were taken by the late Mr. Bewicke in the north of Madeira proper, in the upland district of the Fanal. It is certainly, therefore, extremely rare.

345. *Tarphius sylvicola*.

Tarphius sylvicola, *Woll., Ins. Mad.* 137 (1854).

— —, *Id., Cat. Mad. Col.* 44 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis humidis excelsis rarissimus.

This *Tarphius* I have observed hitherto only in damp sylvan districts in the north of Madeira proper, particularly that known as the Lombarda das Vacas (on the mountains to the east of the Ribeira de São Vicente).

346. *Tarphius rotundatus*.

Tarphius rotundatus, *Woll., Ins. Mad.* 137 (1854).

— —, *Id., Cat. Mad. Col.* 44 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis humidis parum vulgaris.

Next to the *T. lauri* (and perhaps the *inornatus*), this is decidedly the commonest of the Madeiran *Tarphii*—being pretty generally distributed throughout the sylvan regions of Madeira proper.

347. *Tarphius truncatus*.

Tarphius truncatus, *Woll., Ins. Mad.* 142 (1854).

— — —, *Id., Cat. Mad. Col.* 47 (1857).

Habitat Maderenses (Mad.), in sylvaticis editioribus rarissimus.

Evidently of the greatest rarity, the few specimens which I have seen having been captured by myself in the damp sylvan regions of Madeira proper—in company with the other species.

348. *Tarphius Wolffii*.

Tarphius Wolffii, *Woll., Append. huj. op.* 21.

Habitat Maderenses (Mad.), in castanetis longe supra urbem Funchalensem à Dom. C. Wolff, M.D., repertus.

Discovered in the chestnut-woods at “the Mount,” in the south of Madeira proper, by Dr. C. Wolff. The distinctive features which separate it from the *T. truncatus*, to which it is closely allied, are fully alluded to in the Appendix to this volume.

349. *Tarphius sculptipennis*.

Tarphius sculptipennis, *Woll., Cat. Mad. Col.* 46 (1857).

Habitat Maderenses (Mad.), in humidis sylvaticis rarissimus.

Occurs in the north of Madeira proper, where it appears to be very rare, in damp sylvan spots of intermediate altitudes.

350. *Tarphius testudinalis*.

Tarphius testudinalis, *Woll., Ins. Mad.* 141 (1854).

— — —, *Id., Cat. Mad. Col.* 46 (1857).

Habitat Maderenses (Mad.), in lauretis editioribus rarissimus.

Likewise peculiar to the lofty sylvan districts of Madeira proper, where it is extremely rare.

351. *Tarphius cicatricosus*.

Tarphius cicatricosus, *Woll., Ins. Mad.* 141 (1854).

— — —, *Id., Cat. Mad. Col.* 45 (1857).

Habitat Maderenses (Mad.), in locis similibus ac præcedens rarissimus.

Found in similar localities as the last species, in Madeira proper, and of about equal rarity.

352. *Tarphius echinatus*.

Tarphius echinatus, *Woll., Ins. Mad.* 143 (1854).

— — —, *Id., Cat. Mad. Col.* 47 (1857).

Habitat Maderenses (*Mad.*), in lauretis excelsis rarissimus.

Extremely scarce, and confined to the sylvan districts of Madeira proper—my specimens having chiefly been collected in the vicinity of the Pico da Suna, in the east of the island.

353. *Tarphius brevicollis*.

Tarphius brevicollis, *Woll., Ins. Mad.* 144 (1854).

— — —, *Id., Cat. Mad. Col.* 48 (1857).

Habitat Maderenses (*Mad.*), in locis similibus ac præcedens rarissimus.

Of about equal rarity with the last species, and found (like it) in the sylvan districts of Madeira proper—principally towards the east of the island.

354. *Tarphius rugosus*.

Tarphius rugosus, *Woll., Ins. Mad.* 144 (1854).

— — —, *Id., Cat. Mad. Col.* 48 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis—vel castanctis vel lauretis—rarissimus.

Likewise peculiar to the sylvan regions of Madeira proper, where it is of the greatest rarity. Until lately indeed I had seen but the single example (taken by myself, *I believe* at the Ribeiro Frio) from which my diagnosis was compiled in 1854; but two more have recently been communicated by Dr. C. Wolff, captured in the chestnut-woods (at the Mount) above Funchal.

355. *Tarphius explicatus*.

Tarphius explicatus, *Woll., Cat. Mad. Col.* 48 (1857).

Habitat Maderenses (*Mad.*), in lauretis humidis excelsis rarissimus.

One of the rarest of the *Tarphii*, the only two specimens which I have seen having been taken by myself in the north of Madeira proper (in the dense forest-region of the Montado dos Pecegueiros) during July 1855.

356. *Tarphius deformis*.

Tarphius deformis, *Woll., Journ. of Ent.* i. 387, pl. 19. f. 9 (1862).

— — —, *Id., Cat. Can. Col.* 127 (1864).

Habitat Canarienses (*Ten.*), in intermediis sylvaticis præsertim lauretis late sed parce diffusus.

A Canarian species, apparently peculiar to Teneriffe—where it is widely, but sparingly, spread over the sylvan and subsylvan regions of intermediate altitudes. I have taken it in the districts of the Agua Mansa, Agua Garcia, and Taganana; and it was found by Dr. Crotch (and afterwards by his brother) in the garden of their house at Yeod el Alto, as well as in the Barranco below it*.

357. *Tarphius camelus*.

Tarphius camelus, *Woll., Journ. of Ent.* i. 383, pl. 19. f. 2 (1862).
— —, *Id., Cat. Can. Col.* 125 (1864).

Habitat Canarienses (*Hierro*), in sylvaticis rarissimus.

The only two examples of this *Tarphius* which I have yet seen were taken by myself (during February 1858) in the sylvan region on the western slopes of Hierro, in the Canarian Group.

358. *Tarphius canariensis*.

Tarphius canariensis et erosus, *Woll., Journ. of Ent.* 383, 384, pl. 19. f. 3 et 4 (1862).
— —, *Id., Cat. Can. Col.* 125 (1864).

Habitat Canarienses (*Can., Ten., Palma*), in sylvaticis præsertim lauræ vulgaris.

A strictly Canarian *Tarphius*, and more widely spread over the archipelago than any of the other species. I have taken it in the sylvan and subsylvan districts of Grand Canary, Teneriffe (where it occasionally abounds), and Palma—the examples from the latter island differing slightly from the ordinary type, and constituting what I had described (in my diagnosis) as a “var. β .” It is decidedly more variable than any of the Canarian members of the genus hitherto detected; for whilst most of the *Tarphii* are exceedingly unstable in *size* (retaining their other features without much apparent change), the present one fluctuates appreciably both in outline and in the greater or less excavation of the posterior half of its prothorax; and it was this latter circumstance that induced me to

* The *T. deformis* may perhaps be regarded as the representative at the Canaries of the Madeiran *T. explicatus*. Nevertheless, although in their general contour, greatly developed nodules, and densely scaly, unsetose surfaces the two insects have a good deal in common, they are specifically totally distinct. Thus the *T. deformis* is much more rugosely granulated, its nodules and ridges (the latter of which are almost obsolete in the *explicatus*) are very much more developed, its prothorax and elytra are both of them relatively longer, and the former is differently shaped—being straighter at the sides behind (although oblique), more gradually rounded anteriorly, and more deeply trisinate along its basal margin.

describe as an additional species (under the name of *erosus*) what I now believe cannot be regarded as more than an aberrant, and extremely exaggerated, state of the *canariensis*, in which the prothorax is greatly and suddenly scooped out, on either side, behind. Indeed, after a careful inspection of additional material, I am persuaded that the form alluded to is merely a phasis which can be connected by intermediate gradations with the ordinary type; and I have consequently suppressed it as a species.

359. *Tarphius setosus*.

Tarphius setosus, *Woll., Append. huj. op.* 17.

Habitat Canarienses (*Gom., Hierro*), in lauretis parum vulgaris.

As will be seen by a reference to the Appendix, this *Tarphius* was detected by the Messrs. Crotch during their late researches at the Canaries. It appears to be common in the damp sylvan districts of Gomera, and possibly also in Hierro—though, on account of the dryness of the season, and the lateness of their sojourn, in that island, they obtained but a single example from the latter. It is more nearly related to the *T. canariensis* than to any of the other species; but I have stated in my diagnostic observations what the characters are which seem to separate it entirely from that insect.

360. *Tarphius humerosus*.

Tarphius humerosus, *Woll., Append. huj. op.* 19.

Habitat Canarienses (*Gom.*), in lauretis editioribus rarissimus.

Likewise a Canarian species, and peculiar to Gomera—where, however, it appears to be extremely rare, the Messrs. Crotch, by whom it was detected, having obtained but three examples during their late researches in that island.

361. *Tarphius affinis*.

Tarphius affinis, *Woll., Append. huj. op.* 19.

Habitat Canarienses (*Gom.*), in sylvaticis haud infrequens.

Like the *T. humerosus* (to which it a good deal allied) this *Tarphius* is apparently peculiar to Gomera, of the Canarian Group,—where it was found by the Messrs. Crotch (more commonly than that species, but by no means in abundance), during the summer of 1864, in the laurel-woods of a high elevation.

362. *Tarphius abbreviatus*.

Tarphius abbreviatus, *Woll., Append. huj. op. 20.*

Habitat Canarienses (*Gom.*), in iisdem locis ac præcedens sed multo copiosior.

Apparently common in the laurel-regions of Gomera, at a high elevation,—where it was met with abundantly by the Messrs. Crotch, during their late Canarian explorations.

363. *Tarphius quadratus*.

Tarphius quadratus, *Woll., Journ. of Ent. i. 384, pl. 19. f. 5 (1862).*

— — —, *Id., Cat. Can. Col. 126 (1864).*

Habitat Canarienses (*Palma*), in lauretis humidis editoribus rarissimus.

This distinct Canarian *Tarphius* has been observed hitherto only in Palma, where (during May and June of 1858) I met with it in the laurel-region on the ascent to the Cumbre above Buenavista, as well as in the Barranco de Galga.

364. *Tarphius monstrosus*.

Tarphius monstrosus, *Woll., Append. huj. op. 20.*

Habitat Canarienses (*Gom.*), in lauretis humidis vulgaris.

A very large and well-defined species, which was discovered by the Messrs. Crotch, during their late Canarian expedition, in the laurel-regions of Gomera—where it appears to be common, at a high elevation.

365. *Tarphius gigas*.

Tarphius gigas, *Woll., Journ. of Ent. i. 386, pl. 19. f. 7 (1862).*

— — —, *Id., Cat. Can. Col. 126 (1864).*

Habitat Canarienses (*Ten.*), in humidis sylvaticis rarissimus.

Likewise a very large *Tarphius*, and essentially a Canarian one, being peculiar to the sylvan regions of Teneriffe. It is evidently extremely rare, the only two specimens which I have seen having been taken on the mountains towards Taganana and Point Anaga, during my sojourn there in May 1859.

366. *Tarphius caudatus*.

Tarphius caudatus, *Woll., Journ. of Ent. i. 386, pl. 19. f. 8 (1862).*

— — —, *Id., Cat. Can. Col. 126 (1864).*

Habitat Canarienses (*Ten.*), in iisdem locis ac præcedens.

This singular *Tarphius* is also a Teneriffan one, and confined (so far as I have observed hitherto) to the sylvan mountains in the north-east of the island—where, although local, it is not very uncommon.

367. *Tarphius congestus*.

Tarphius congestus, *Woll., Journ. of Ent.* i. 385, pl. 19. f. 6 (1862).
 ———, *Id., Cat. Can. Col.* 126 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis intermediis præsertim pinctis hinc inde vulgaris.

The *T. congestus* seems to be characteristic of the *pine*-regions of Teneriffe, though occasionally found in spots where the fir trees and the laurel grow together. Its true *habitat*, however, is clearly the Pinals; for although I took it sparingly (during 1858 and 1859) at the Agua Mansa, where the various laurels and the *Pinus canariensis* are intermixed, the Messrs. Crotch have subsequently met with it in profusion throughout the great Pinal which clothes the mountain-slopes above Ycod el Alto, and which continues thence (almost without intermission) to within a short distance of Ycod de los Vinhos.

368. *Tarphius simplex*.

Tarphius simplex, *Woll., Journ. of Ent.* i. 382, pl. 19. f. 1 (1862).
 ———, *Id., Cat. Can. Col.* 124 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis parum vulgaris.

The *T. simplex*, which is likewise Canarian, seems peculiar to the laurel-regions of Teneriffe—where it is pretty generally distributed, and occasionally common.

Genus 109. PROSTHECA.

Wollaston, *Ann. Nat. Hist.* v. 254 (1860).

369. *Prostheca aspera*.

Prostheca aspera, *Woll., Ann. Nat. Hist.* v. 255 (1860).
 ———, *Id., Append. huj. op.* 21.

Habitat Maderenses (*Mad.*), semel tantum capta.

A single example captured near Funchal in Madcira proper by the late Mr. Bewicke, is all that I have yet seen of this curious insect (the structural characters of which are a good deal in accordance with those of the European genera *Pycnomerus* and *Xylolæmus*). Whether it be of *Euphorbia*-infesting habits I am unable to say; but

such seems far from improbable, for the specimen was taken in the immediate vicinity of some dried stems of the *E. piscatoria* which had been brought (some months before) from Porto Novo, in the east of the island.

Fam. 20. COLYDIADÆ.

Genus 110. AULONIUM.

Erichson, *Nat. der Ins. Deutsch.* iii. 275 (1845).

370. *Aulonium sulcicolle*.

Aulonium sulcicolle, *Woll., Cat. Can. Col.* 127 (1864).

Habitat Canarienses (*Ten., Palma, Hierro*), sub eortice *Pini canariensis* rarissimum.

May perhaps be regarded as the Canarian representative of the *A. bicolor* of Europe, though quite distinct from that insect specifically. It is apparently very rare, and confined to the old Pinals of intermediate and rather lofty altitudes. In such situations I have taken it both in Teneriffe and Palma, beneath the loose rotting bark of *Pinus canariensis*; and it was found by the Messrs. Crotch in the remote, but elevated, Pinal in the south of Hierro.

Genus 111. AGLENUS.

Erichson, *Nat. der Ins. Deutsch.* iii. 285 (1845).

371. *Aglenus brunneus*.

Hypophlœus? *brunneus*, *Gyll., Ins. Succ.* iii. 711 (1813).

Aglenus brunneus, *Erich., Nat. der Ins. Deutsch.* iii. 285 (1845).

— —, *Woll., Ann. Nat. Hist.* v. 254 (1860).

— —, *Id., Cat. Can. Col.* 128 (1864).

Habitat Maderenses (*Mad.*), et Canarienses (in *Canariâ* solâ adhuc haud observatus), præsertim sub recremento farris circa basin acervorum tritici sparso, vulgaris.

The European *A. brunneus* is tolerably common, beneath refuse generally, around Funchal in Madeira proper; whilst at the Canaries it is still more abundant, and almost certainly universal; for although it does not happen hitherto to have been observed in Grand Canary, there can be no doubt that it must exist there (as in the other six islands of the Group, in which it has been taken plentifully). Its Canarian *habitat* is, principally, under the rubbish which has accumulated around the base of corn-stacks.

Genus 112. **PLÆOSOMA.**Wollaston, *Ins. Mad.* 147 (1854).372. **Plæosoma ellipticum.**Plæosoma ellipticum, *Woll., Ins. Mad.* 148, tab. ix. f. 9 (1854).— —, *Id., Cat. Mad. Col.* 49 (1857).*Habitat* Maderenses (*Mad.*), in sylvaticis humidis editioribus lignum antiquum putridum parce destruens.

Peculiar (so far as observed hitherto) to Madeira proper, where it occurs sparingly beneath the bark of trees and in rotten wood at intermediate and lofty elevations.

Genus 113. **COSSYPHODES.**Westwood, *Trans. Ent. Soc. Lond.* i. 168 (1851).373. **Cossyphodes Wollastonii.**Cossyphodes Wollastonii, *Westw., loc. cit.* 170 (1851).— —, *Woll., Ins. Mad.* 146, tab. iii. f. 3 (1854).— —, *Id., Cat. Mad. Col.* 49 (1857).— —, *Id., Cat. Can. Col.* 127.*Habitat* Maderenses (*Mad.*) et Canarienses (*Ten., Gom.*), formicarum nidos hinc inde in locis subinferioribus apricis colens.

Occurs in ants' nests (particularly those of *Æcophthora pusilla*, Heer), in warm, sunny spots in the south of Madeira proper—where it is occasionally far from uncommon. And I have also captured it (though much more sparingly), in similar situations, in Teneriffe and Gomera of the Canarian Group. It is an insect of very difficult location in a natural system of arrangement, and is merely placed here on account of its according *better* in some of its structural peculiarities with the *Colydiadæ* (though far removed from them in other respects) than perhaps with any Coleopterous family hitherto enunciated.

Fam. 21. CUCUJIDÆ.Genus 114. **CAULONOMUS.**Wollaston, *Trans. Ent. Soc. Lond.* i. 147 (1862).374. **Caulonomus rhizophagoides.**Caulonomus rhizophagoides, *Woll., loc. cit.* 149, pl. 7. f. 2 (1862).— —, *Id., Cat. Can. Col.* 129 (1864).*Habitat* Canarienses (*Lanz., Ten., Gom., Hierro*), sub cortice, necnon

in ramulis emortuis, *Euphorbiarum*, unà cum *Europe*, *Aphanthro*, et cæt., parce degens.

A Canarian insect peculiar to the rotten Euphorbias, and one which will probably occur wherever the latter are to be found. Hitherto however it has been detected only in Lanzarote, Teneriffe, Gomera (where it was captured lately by the Messrs. Crotch), and Hierro. It appears to be somewhat scarce.

Genus 115. **LÆMOPHLÆUS.**

(Dejean) Erich., *Nat. der Ins. Deutsch.* iii. 315 (1845).

375. **Læmophlæus donacioides.**

Læmophlæus Donacioides, *Woll., Ins. Mad.* 159, tab. iii. f. 8 (1854).

— —, *Id., Cat. Mad. Col.* 52 (1857).

Habitat Maderenses (*Mad.*), sub cortice arborum præsertim in castanetis parce degens.

Occurs beneath bark, though sparingly, in the intermediate altitudes of Madeira proper—particularly in the chestnut-woods of the north*.

376. **Læmophlæus granulatus.**

Læmophlæus granulatus, *Woll., Ins. Mad.* 160 (1854).

— —, *Id., Cat. Mad. Col.* 52 (1857).

— —, *Id., Cat. Can. Col.* 130 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can., Ten., Gom., Palma*), sub cortice arborum præsertim in lauretis, hinc inde sat vulgaris.

A widely spread species, which occurs beneath bark in the sylvan regions both of Madeira proper and of the Canarian Group—where it will probably be found universally wherever the laurel-forests still remain. I have taken it commonly in Grand Canary, Teneriffe, and Palma; and it was captured by the Messrs. Crotch, during the summer of 1864, in Gomera. Although more particularly partial to the laurels, it attaches itself to other trees likewise.

377. **Læmophlæus pusillus.**

Cucujus minutus, *Oliv.* [nec *Kugel. in Schneid. Mag.* 1791–1794], *Ent.* iv. bis, 8, 9 (1795).

— pusillus, *Schön., Syn. Ins.* iii. 55 (1817).

* The *L. donacioides* is a good deal allied to the *granulatus*, but is rather larger and darker, with the antennæ a little longer and the elytra somewhat more truncated behind. Its prothorax also is sensibly wider, though relatively more nar-

- Læmophlœus pusillus*, *Erich.*, *Nat. der Ins. Deutsch.* iii. 321 (1846).
 ———, *Woll.*, *Ins. Mad.* 162 (1854).
 ———, *Id.*, *Cat. Mad. Col.* 52 (1857).

Habitat Maderenses (*Mad.*), et Canarienses (*Can.*, *Ten.*), cum frumentariis et cæt. in insulas certe introductus.

This little *Læmophlœus* (which is a species liable to transportation, with grain and other articles of commerce, throughout the civilized world) occasionally teems in the storehouses of Funchal, in Madeira proper; and I have taken it (though sparingly) in similar situations at Las Palmas in Grand Canary, as well as in S^{ta} Cruz of Teneriffe.

378. *Læmophlœus ferrugineus*.

- Cucujus ferrugineus* (*Creutz.*), *Steph.*, *Ill. Brit. Ent.* iv. 232 (1831).
Læmophlœus ferrugineus, *Erich.*, *Nat. der Ins. Deutsch.* iii. 322 (1846).
 ———, *Woll.*, *Ins. Mad.* 163 (1854).
 ———, *Id.*, *Cat. Mad. Col.* 52 (1857).

Habitat Maderenses (*Mad.*), in locis similibus ac præcedens, ex alienis introductus.

Also an introduced species (probably with grain, &c.), like the *L. pusillus*. Hitherto, however, it has been observed only in Madeira proper, where it is occasionally common in houses and about various kinds of stores.

379. *Læmophlœus clavicollis*.

- Læmophlœus clavicollis* et *vermiculatus*, *Wol.*, *Ins. Mad.* 161, 163 (1854).
 ——— et ———, *Id.*, *Cat. Mad. Col.* 52, 53 (1857).
 ———, *Woll.*, *Trans. Ent. Soc. Lond.* i. 150 (1862).
 ———, *Id.*, *Cat. Can. Col.* 130 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (ins. omnes), sub cortice arborum necnon etiam plantarum, late sed vix copiose diffusus.

An almost universal insect throughout these Atlantic islands; for although at the Madeiran Group it has hitherto been detected only in Madeira proper, we may nevertheless expect it to occur wherever there are plants large enough to afford bark beneath which it can secrete itself. At the Canaries it has been taken in the whole seven islands of the archipelago, and I even met with it on the little rock of Lobos (off the north of Fuerteventura) in the Bocayna Strait. It is found under bark generally, whether of trees or plants, preferring perhaps the various species of *Euphorbia*.

rowed posteriorly; and its elytral lines are both more distinct and (at any rate the inner ones) less evanescent in front. The pronotum, moreover, of its male sex has usually two large impressions (or rounded foveæ) placed longitudinally on either side of the hinder disk.

380. *Læmophlœus axillaris*.

Læmophlœus axillaris, *Woll., Ins. Mad.* 164, tab. iii. f. 7 (1854).

— —, *Id., Cat. Mad. Col.* 53 (1857).

Habitat Maderenses (Mad.), in sylvaticis rarissimus.

Occurs in the sylvan districts of Madeira proper, chiefly (I believe) beneath the bark of laurels, where, however, it is extremely rare.

381. *Læmophlœus stenoides*.

Læmophlœus Stenoides, *Woll., Ins. Mad.* 165, tab. iii. f. 9 (1854).

— —, *Id., Cat. Mad. Col.* 53 (1857).

Habitat Maderenses (Mad.), in locis similibus ac præcedens, rarissimus.

Like the last species, apparently peculiar to Madeira proper,—occurring in the sylvan districts, though very rarely.

Genus 116. **CRYPTAMORPHA.**

Wollaston, *Ins. Mad.* 156(1854).

382. *Cryptamorpha musæ*.

Cryptamorpha Musæ, *Woll., loc. cit.* 157, tab. iv. f. 1 (1854).

— —, *Id., Cat. Mad. Col.* 51 (1857).

Habitat Maderenses (Mad.), sub fibris externis laxis *Musæ sapientum*, Linn., in apricis inferioribus occurrens.

This beautiful insect seems to reside peculiarly (or nearly so) beneath the loose outer fibre of the Banana-stems,—in which situations it is not uncommon in low, sunny, cultivated grounds around Funchal, in Madeira proper. Possibly therefore it may have been introduced originally into the island, with one or other of the various species of Banana.

Genus 117. **PEDIACUS.**

Shuckard, *Elem. of Brit. Ent.* i. 185 (1839).

383. *Pediacus tabellatus*.

Pediacus tabellatus, *Woll., Cat. Can. Col.* 131 (1864).

Habitat Canarienses (Ten.), sub cortice rarissimus; semel tantum captus.

The only specimen which I have yet seen of this insect was captured by myself (beneath the bark of a felled Spanish chestnut-tree) at the Agua Mansa, in Teneriffe. Possibly it may be but a geo-

graphical state of the European *P. depressus*; but further material would be necessary, for comparison, before such could be ascertained.

. Genus 118. **XENOSCELIS.**

Wollaston, *Trans. Ent. Soc. Lond.* i. 151* (1862).

384. **Xenoscelis deplanatus.**

Pristoscelis deplanatus, *Woll., loc. cit.* 152, pl. 7. f. 3 (1862).

Xenoscelis deplanatus, *Id., Cat. Can. Col.* 132 (1864).

Habitat Canarienses (*Ten., Palma, Hierro*), sub fibris *Euphorbiarum* laxis latitans.

Detected in Teneriffe, Palma, and Hierro, of the Canarian Group—where it is locally common, beneath the outer fibre of the dead Euphorbias. On one occasion, however, (in Palma) I took a single example under the bark of a pine-tree; but as that is the only instance (so far as I am aware) in which the species has been observed away from the Euphorbias, I believe that that particular specimen must have taken shelter there accidentally, and I have therefore no hesitation in regarding the insect as strictly of *Euphorbia*-infesting habits. In Hierro it was captured abundantly both by Mr. Gray and myself.

Genus 119. **NAUSIBIUS.**

(Schaum) Redtenbacher, *Fna Austr.* (edit. 2) 998 (1858),

385. **Nausibius dentatus.**

Corticaria dentata, *Mshn, Ent. Brit.* i. 108 (1802).

Silvanus dentatus, *Woll., Ins. Mad.* 167 (1854).

— —, *Id., Cat. Mad. Col.* 54 (1857).

— —, *Id., Cat. Can. Col.* 132 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Ten., Gom.*), in domibus, certe ex alienis introductus.

Clearly an importation into the islands, as indeed it is throughout a large portion of the civilized world—occurring (frequently dead) amongst various articles of commerce, about houses and stores. In such situations it is met with occasionally in Madeira proper; and it has been observed, under similar circumstances, in Lanzarote, Teneriffe, and Gomera, of the Canarian Group.

* The genus is there published as *Pristoscelis*; but it will be seen that subsequently (in my Canarian Catalogue) I altered it to *Xenoscelis*, the former name having already been employed by Dr. Leconte.

Genus 120. **SILVANUS.**

Latreille, *Gen. Crust. et Ins.* iii. 19 (1807).

386. *Silvanus surinamensis.*

Dermestes surinamensis, *Linn., Syst. Nat.* i. 2. 565 (1767).

Anobium frumentarium, *Fab., Mant. Ins.* i. 39 (1787).

Dermestes 6-dentatus, *Fab., Ent. Syst.* i. 232 (1792).

Silvanus Surinamensis, *Woll., Ins. Mad.* 167 (1854).

— —, *Id., Cat. Mad. Col.* 54 (1857).

— —, *Id., Cat. Can. Col.* 133 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (in *Ten.* et *Gom.* solis haud observatus), certe introductus; in domibus, granariis et præsertim sub recremento farris ad basin acervorum tritici sparso, hinc inde vulgaris.

An almost cosmopolitan insect, which has been naturalized in Madeira proper through the medium of commerce, as well as at the Canaries. In the latter Group indeed we may be quite certain that it is universal; for although I am not aware that it happens to have been observed in either Teneriffe or Gomera, there can be no doubt whatsoever that it must exist in both of them (as it does in the other five islands of the archipelago). It occurs about houses and granaries, and frequently teems beneath the refuse at the base of corn-stacks.

387. *Silvanus unidentatus.*

Ips unidentata, *Oliv., Ent.* ii. 18. 12, pl. 1. f. 4 (1790).

Dermestes unidentatus, *Fab., Ent. Syst.* i. 232 (1792).

Silvanus unidentatus, *Erich., Nat. der Ins. Deutsch.* iii. 338 (1846).

— —, *Woll., Cat. Mad. Col.* 53 (1857).

Habitat Maderenses (*Mad.*), in castanetis editoribus supra urbem Funchalensem sub cortice laxo parce occurrens.

This European *Silvanus* occurs sparingly in Madeira proper, where it was detected by the late Mr. Bewicke beneath the bark of Spanish chestnut-trees on the mountains above Funchal. It is not unlikely that it may have become accidentally naturalized there from more northern latitudes.

388. *Silvanus nubigena.*

Silvanus nubigena, *Woll., Ann. Nat. Hist.* xi. 217 (1863).

— —, *Id., Cat. Can. Col.* 133 (1864).

Habitat Canarienses (*Ten.*), inter lapillos ramulosque emortuos sub arbusculis *Spartii nubigenæ* humi jacentes, usque ad 9000' s. m. ascendens. Velocissime currit.

Hitherto I have observed this interesting and truly indigenous *Silvanus* only in the very elevated regions of Teneriffe which are characterized by the presence of the *Spartium nubigena*, or "Retama"—from about 6000 to 9000 feet above the sea. It occurs amongst the small stones and rotten sticks which accumulate beneath the shrubs of the Retama in the dry cindery districts, running with the utmost rapidity. In such situations I have taken it on the lofty Cumbre (overlooking the Cañadas) above Ycod el Alto, as well as on the opposite heights above the Agua Mansa. It bears a considerable resemblance, *primâ facie*, to the European *S. elongatus*; but the points (some of them structural ones) which immediately distinguish it from that species have been fully alluded to in my diagnostic remarks.

389. *Silvanus advena*.

- Cryptophagus ferrugineus*, *Sturm, Cat.* 127 (1826).
 — *advena* (*Kunze*), *Waltl, in Silb. Rev. Ent.* ii. 256 (1834).
Silvanus advena, *Erich., Nat. der Ins. Deutsch.* iii. 339 (1846).
 — —, *Woll., Ins. Mad.* 168 (1854).
 — —, *Id., Cat. Mad. Col.* 54 (1857).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), sub quisquiliis in cultis parce occurrens.

The European *S. advena* is not uncommon, under garden-refuse and about houses, in Madeira proper; but the only Canarian example which I have yet seen was captured by the Messrs. Crotch, during the summer of 1864, at Souzal in Teneriffe—"out of thatch."

Fam. 22. CRYPTOPHAGIDÆ.

Genus 121. CRYPTOPHAGUS.

Herbst, *Käf.* iv. 172 [script. *Kryptophagus*] (1792).

390. *Cryptophagus saginatus*.

- Cryptophagus saginatus* (*Schiipp.*), *Sturm, Deutsch. Fna.* xvi. 88 (1845).
 — —, *Erich., Nat. der Ins. Deutsch.* iii. 354 (1846).
 — —, *Woll., Cat. Mad. Col.* 54 (1857).

Habitat Maderenses (*Mad.*), certe ex alienis introductus; à Dom. Bewicke parce captus.

Two specimens of this European *Cryptophagus*, captured by the late Mr. Bewicke near Funchal in Madeira proper, are all that I have yet seen from these Atlantic islands. Like the *C. cellaris* and

affinis, it has probably been naturalized from more northern latitudes.

391. *Cryptophagus cellaris*.

Dermestes cellaris, *Scopoli, Ent. Carn.* 16 (1763).

Cryptophagus crenatus, *Sturm, Deutsch. Fna*, xvi. 70 (1845).

— *cellaris*, *Erich., Nat. der Ins. Deutsch.* iii. 361 (1846).

— —, *Woll., Cat. Mad. Col.* 55 (1857).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), in domibus et granariis parce occurrunt.

Occurs sparingly in houses and granaries around Funchal in Madeira proper, where (like the last species) it has doubtless been introduced from Europe; and two examples of it were captured by the Messrs. Crotch in Teneriffe.

392. *Cryptophagus dentatus*.

Kateretes dentatus, *Hbst, Käf.* v. 15, tab. 45. f. 6 (1793).

Cryptophagus dentatus et pallidus, *Sturm, Deut. Fna*, xvi. 67, 69 (1845).

— —, *Erich., Nat. der Ins. Deutsch.* iii. 364 (1846).

— —, *Woll., Cat. Mad. Col.* 56 (1857).

— —, *Id., Cat. Can. Col.* 135 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Fuert., Ten., Gom., Palma*), vel in cultis vel sub cortice laxo in lauretis editioribus vulgaris.

The European *C. dentatus* is widely spread over these Atlantic islands, where it would seem to have completely established itself—occurring not merely in houses and under the refuse at the base of corn-stacks, but (far more frequently) in the open country at a comparatively high elevation, where it is common beneath the bark of trees within the sylvan districts. In both of these situations it is found in Madeira proper and at the Canaries, in the latter of which we may be pretty sure that it is universal; for although it does not happen to have been observed yet in either Grand Canary or Hierro (where it must doubtless exist nevertheless), it has been captured more or less abundantly in the other five islands of the archipelago. Its presence in Gomera is on the authority of the Messrs. Crotch, who met with it plentifully in the laurel-woods above Hermigua.

393. *Cryptophagus affinis*.

Cryptophagus affinis, *Sturm, Deutsch. Fna*, xvi. 79 (1845).

— —, *Erich., Nat. der Ins. Deutsch.* iii. 360 (1846).

— —, *Woll., Ins. Mad.* 170 (1854).

Cryptophagus affinis, *Id.*, *Cat. Mad. Col.* 57 (1857).

— —, *Id.*, *Cat. Can. Col.* 136 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*, *Gom.*, *Hierro*), in domibus ac granariis hinc inde vulgaris.

Doubtless imported originally into the islands from more northern latitudes; nevertheless it is now widely spread, and rather common, about houses and granaries. In such situations it is often abundant in Madeira proper, particularly amongst Indian corn; whilst at the Canaries, although perhaps less plentiful, I have little doubt that it will be found to be universal. Hitherto, however, it has been observed only in Teneriffe, Gomera (where it was taken by the Messrs. Crotch), and Hierro.

394. *Cryptophagus obesulus*.

Cryptophagus obesulus, *Woll.*, *Cat. Can. Col.* 136 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*), præsertim sub recremento farris circa basin acervorum tritici sparso hinc inde vulgaris.

Hitherto observed only in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group—where, however, it is locally common, under the rubbish at the base of corn-stacks. And I once met with it beneath the refuse of a camels' stable.

395. *Cryptophagus impressus*.

Cryptophagus impressus, *Woll.*, *Append. huj. op.* 22.

Habitat Canarienses (*Ten.*), à DD. Crotch bis deprehensus.

Two examples of this distinct *Cryptophagus* (which is fully described in the Appendix) were captured by the Messrs. Crotch in Teneriffe, during their late trip to the Canaries; but they are all that I have yet seen.

396. *Cryptophagus fusiformis*.

Cryptophagus fusiformis, *Woll.*, *Trans. Ent. Soc. Lond.* i. 156 (1862).

— —, *Id.*, *Cat. Can. Col.* 137 (1864).

Habitat Canarienses (*Ten.*), rarior; præcipue sub cortice *Euphorbiarum* in locis editioribus degens.

A Canarian *Cryptophagus* which I have detected hitherto only in Teneriffe, where moreover it would seem to be scarce. It occurs in the higher elevations, and has more the appearance of being truly

indigenous than any of the preceding species—the few examples which I have seen having been taken principally (if not indeed entirely) beneath the bark of Euphorbias on the mountains to the north of S^{ta} Cruz.

397. *Cryptophagus nitiduloides*.

Cryptophagus Nitiduloides, *Woll., Ins. Mad. (Append.)* 618 (1854).
 ———, *Id., Cat. Mal. Col.* 58 (1857).

Habitat Maderenscs (*Mad.*), sub cortice in lauretis humidis editioribus rarissimus; certe indigenus.

Peculiar to the sylvan districts of Madeira proper, where it appears to be truly indigenous and extremely rare—the few specimens hitherto detected having been taken from beneath the bark of laurels in damp and remote spots. It was first captured in 1851 (by the Rev. R. T. Lowe) at the Ribeiro Frio, and was found subsequently (by myself) in the north of the island.

398. *Cryptophagus hesperius*.

Cryptophagus hesperius, *Woll., Ann. Nat. Hist.* xi. 217 (1863).
 ———, *Id., Cat. Can. Col.* 137 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma, Hierro*), valde indigenus; in sylvaticis subsylvaticisque vulgaris.

A strictly Canarian species which has been taken in all the islands of the Group except the two eastern ones, Lanzarote and Fuerteventura. It is a truly indigenous insect, occurring (often very abundantly) in sylvan and subsylvan spots of intermediate altitudes.

The examples from Hierro (where I captured a single specimen, in February 1858, and whence several more are now before me which were taken by the Messrs. Crotch) have their punctation just perceptibly stronger and denser, their pubescence a little longer and more erect, and their elytra a trifle convexer and more fusiform (or rounded off at the shoulders); but I do not believe that they represent more than a slight insular phasis of the *hesperius*. Nevertheless in my Canarian Catalogue I defined them as the “var. *β. occidentalis*”; so that if they should prove hereafter to be specifically distinct, the species of which they are the exponents will have to stand under that name.

Genus 122. **MNIONOMUS**.

Wollaston, *Cat. Can. Col.* 138 (1864).

399. *Mnionomus ellipticus*.

Mnionomus ellipticus, *Woll., Cat. Can. Col.* 138 (1864).

Habitat Canarienses (*Ten.*), inter muscos et sub foliis marcidis in lauretis editioribus parce occurrens.

A Canarian insect which I have observed hitherto only in the sylvan districts of Teneriffe, where it occurs beneath fallen leaves and amongst damp moss in the laurel-woods of intermediate altitudes. It is clearly, however, both local and rare; for it escaped the researches of the Messrs. Crotch, and the only regions in which I have myself taken it are Las Mercedes and the Agua Garcia*.

Genus 123. *PARAMECOSOMA*.

Curtis, in *Ent. Mag.* i. 186 (1833).

400. *Paramecosoma simplex*.

Paramecosoma simplex, *Woll., Cat. Mad. Col.* 59 (1857).

— — —, *Id., Cat. Can. Col.* 141 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Fuert., Ten., Gom., Hierro*), sub quisquiliis degens.

Rather common in Madeira proper, principally under garden-refuse about Funchal; but at the Canaries, where it has been taken in Fuerteventura, Teneriffe, Gomera, and Hierro, it appears to be less abundant—though probably, when searched for in the right localities, it will be found to be pretty general throughout that Group. Indeed the Messrs. Crotch report it as somewhat plentiful in Gomera; but in Fuerteventura, where I obtained it beneath the refuse of a camels' stable, it is decidedly scarce. I have seen but one specimen from Teneriffe, and one from Hierro—both of which were captured by the Messrs. Crotch.

Genus 124. *LEUCOHIMATIUM*.

Rosenhauer, *Die Thiere Andalus.* 179 (1856).

401. *Leucohimatium elongatum*.

Paramecosoma elongata, *Sturm, Deutsch. Fna*, xviii. 72, pl. 342. f. a. A. (1846).

* In my diagnosis of this insect I omitted to call attention to the fact that each elytron has a slight tendency to have a longitudinal subglabrous line down its entire length, at some distance from the suture. In a specimen now before me, which was collected in Teneriffe by the Messrs. Crotch, this line is quite evident (and has almost the appearance of being somewhat raised); but in the examples from which my description was compiled it is so extremely faint as to be scarcely appreciable, and consequently I altogether failed to observe it.

- Paramecosoma elongata*, *Erich.*, *Nat. der Ins. Deutsch.* iii. 371 (1846).
Leucohimatium angustum, *Rosenh.*, *loc. cit.* 179 (1856).
 — elongatum, *Woll.*, *Ann. Nat. Hist.* x. 290 (1862).
 — —, *Id.*, *Cat. Can. Col.* 140 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Palma*), sub lapidibus rarissimus.

This European insect is of the greatest rarity in these Atlantic islands, nevertheless it occurs both at the Madeiran and Canarian Groups. Indeed three Atlantic specimens are all that I have yet seen,—two of which were taken by the late Mr. F. A. Anderson, above Funchal, in Madeira proper; whilst the third was captured by myself at the Canaries, below Argual on the western side of Palma.

Genus 125. HYPOCOPRUS.

Motschulsky, *Bull. de Moscou*, 72 [script. *Upocopus*] (1839).

402. *Hypocopus latridioides*.

- Upocopus lathidioides*, *Mots.*, *loc. cit.* 73, tab. v. f. d-D''' (1839).
Myrmecinomus Hochuthii, *Chaud.*, *Bull. de Mos.* ii. 206 (1845).
Monotoma caucasicum, *Kolen.*, *Melet. Ent.* iii. 43 (1845).
Hypocopus Hochuthii, *Woll.*, *Cat. Can. Col.* 141 (1864).

Habitat Canarienses (*Ten.*, *Gom.*), sub quisquiliis in intermediis rarissimus.

This minute and somewhat scarce European insect occurs very rarely at the Canaries, where, however, it altogether escaped my own observation. Three examples only have come beneath my notice hitherto. They were taken by the Messrs. Crotch—two at Ycod el Alto in Teneriffe, and the third in Gomera.

403. *Hypocopus Motschulskii*.

- Hypocopus Motschulskii*, *Woll.*, *Ins. Mad.* 174 (1854).
 — —, *Id.*, *Cat. Mad. Col.* 59 (1857).

Habitat Maderenses (*Pto Sto*), semel tantum repertus; an præcedentis varietas? Ex specimine tamen unico et forsán immaturo vix adjudicare licet.

The only specimen which I have seen of this *Hypocopus* was captured by myself (during 1849) in Porto Santo, of the Madeiran Group; and inasmuch as the *H. latridioides* has now been detected at the Canaries, I cannot but feel it probable that the Porto Santan insect may after all be conspecific with it. Nevertheless, as there certainly do seem to be a few small characters (some of which I

alluded to in my 'Ins. Mad.') which appear to separate the unique Porto Santan individual from a Gomeran one at present in my possession, I think perhaps, since the former has already been described as distinct, that it would not be desirable to assign it absolutely to the *latridioides*—at any rate until further material has been obtained*.

Genus 126. **ATOMARIA.**

(Kirby) Steph., *Ill. Brit. Ent.* iii. 64 (1830).

404. **Atomaria pilosula.**

Atomaria pilosula, Woll., *Cat. Can. Col.* 142 (1864).

Habitat Canarienses (*Ten.*), in montibus valde elevatis rarissima.

The only example which I have seen of this *Atomaria* was captured by myself in Teneriffe, on the elevated Cumbre adjoining the Cañadas, more than 8000 feet above the sea. It is closely allied to the *A. canariensis*; but I believe that the distinctions alluded to in my diagnosis will separate it from that species.

405. **Atomaria canariensis.**

Atomaria canariensis, Woll., *Cat. Can. Col.* 142 (1864).

Habitat Canarienses (ins. omnes), sat vulgaris; in locis inferioribus intermediisque degens.

Although nowhere very common, this *Atomaria* is universal throughout the low and (more especially) intermediate elevations of the Canarian Group—in the whole seven islands of which it has been taken, more or less abundantly. It is a variable insect, both in size and hue.

406. **Atomaria laticollis.**

Atomaria laticollis, Woll., *Append. huj. op.* 22.

Habitat Canarienses (*Ten.*), in intermediis à DD. Crotch deprehensa.

Like the last, a Canarian *Atomaria* and truly indigenous—having been captured by the Messrs. Crotch at Ycod el Alto in Teneriffe,

* If the Porto Santan specimen be quite mature (which I think, however, is extremely doubtful), the *H. Motschulskii* would appear to be of a ferruginous-brown, instead of black. Judging also from my unique type, it is (if anything) a trifle larger than the *Hochuthii*, with its antennæ a little longer, and its head perhaps somewhat more developed. Its elytra likewise seem to be appreciably straighter at the sides, or more parallel, and rather less abbreviated. Still, differences such as these, in an insect so minute, and with merely a solitary example for comparison, may possibly be more apparent than real.

during the summer of 1864. A reference to my diagnosis given in the Appendix will show that it is an exceedingly peculiar and well-defined species.

407. *Atomaria pusilla*.

Dermestes pusillus, *Payk., Fauna Suec.* i. 295 (1798).

Silpha phæogaster et evanescens, *Mshm., Ent. Brit.* 125, 126 (1802).

Atomaria pusilla, *Erich., Nat. der Ins. Deutsch.* iii. 397 (1846).

— —, *Woll., Trans. Ent. Soc. Lond.* iv. 71 (1857).

Habitat Maderenses (*Mad.*), forsan ex Europâ introducta; exemplar unicum sub ligno in montibus supra Funchal nuper detexit cl. C. Wolff, M.D.

Only a solitary example of this common European *Atomaria* has been captured hitherto in these Atlantic Groups. It was found in Madeira proper, beneath a log of wood in the cultivated district at "the Mount," above Funchal; and its discovery is due to the late researches of Dr. C. Wolff, to whom we are indebted for three more additions* to the Madeciran fauna. Dr. Wolff is of opinion, from the circumstances under which he found it, that the specimen could hardly have been an introduced one; nevertheless I suspect that, like many other minute Coleoptera easy of transmission (in boxes of plants, &c.) from more northern latitudes, the *species* at all events is probably of recent establishment in the island.

408. *Atomaria munda*.

Atomaria munda, *Erich., Nat. der Ins. Deutsch.* iii. 338 (1846).

— —, *Redt., Fna Austr.* 195 (1849).

— —, *Woll., Trans. Ent. Soc. Lond.* iv. 64 (1857).

— —, *Id., Cat. Mad. Col.* 60 (1857).

Habitat Maderenses (*Mad.*), et Canarienses (*Ten.*), in intermediis rarissima.

A European *Atomaria* which occurs very sparingly, at intermediate elevations, both in the Madeiran and Canarian Groups. In Madeira proper I have taken it at S. Antonio da Serra; and in Teneriffe it was captured, during the summer of 1864, by the Messrs. Crotch, at Ycod el Alto.

409. *Atomaria apicalis*.

Atomaria apicalis, *Erich., Nat. der Ins. Deutsch.* iii. 395 (1846).

— —, *Woll., Trans. Ent. Soc. Lond.* iv. 78 (1857).

— —, *Id., Cat. Mad. Col.* 61 (1857).

Habitat Maderenses (*Mad.*) rarissima; semel tantum lecta.

* Namely, the *Turphius Wolffii*, Woll.; the *Lixus anguinus*? Linn.; and the *Procas picipes*, Mshm.

Hitherto I have seen but a single Atlantic specimen of this European *Atomaria*. It was captured by myself, during the summer of 1855, in Madeira proper; but as it was taken in so remote a district as the Boa Ventura (though certainly in the neighbourhood of cultivated grounds), I can scarcely suppose that it had been accidentally imported into the island.

410. *Atomaria rubricollis*.

*Atomaria ruficollis**, *Woll., Cat. Can. Col.* 143 (1864).

Habitat Canarienses (*Ten.*), sub foliis dejectis in sylvaticis humidis editoribus parce occurrens.

This beautiful Canarian *Atomaria* occurs beneath fallen leaves, &c., in the damp sylvan districts of intermediate and lofty elevations. Under such circumstances I have taken it in Teneriffe, where it was met with likewise by the Messrs. Crotch during the summer of 1864.

411. *Atomaria venusta*.

Atomaria venusta, *Woll., Append. huj. op.* 23.

Habitat Canarienses (*Gom.*), à DD. Crotch sub quisquiliis foliisque dejectis nuper reperta.

Detected by the Messrs. Crotch (during their late Canarian campaign) in Gomera. At first sight it closely resembles the *A. rubricollis*, of which perhaps it may be regarded as the Gomeran representative; but the many characters which (when carefully inspected) separate it therefrom have been fully pointed out in the Appendix to this volume.

412. *Atomaria bulbosa*.

Atomaria bulbosa, *Woll., Append. huj. op.* 24.

Habitat Canarienses (*Gom.*), à DD. Crotch æstate A.D. 1864 sat copiose lecta.

Found hitherto only in Gomera, of the Canarian Group, where an extensive series (now before me) was captured during the summer of 1864 by the Messrs. Crotch.

* Having already described this insect minutely, I may be permitted to alter its name to *rubicollis* without giving a fresh diagnosis; for although the title of *ruficollis* has already sunk into a mere synonym amongst the European *Atomariae*, still, inasmuch as it was employed by Panzer (*vide* Fna Germ. 99. 13) for the *nigripennis* of Paykull, it of course cannot properly be again made use of in the same genus.

413. *Atomaria insecta*.

Atomaria insecta, *Woll., Cat. Mad. Col.* 61 (1857).

Habitat Maderenses (Mad.), sub foliis marcidis in sylvaticis humidis editioribus rarissima.

A Madeiran *Atomaria* belonging, like the following one, to an indigenous and rather peculiar type. It has been found only in Madeira proper, where it occurs (though very rarely) beneath damp leaves and refuse in the sylvan districts of a high elevation. The Lombarda das Vacas is the principal region in which I have observed it, on the mountains to the east of São Vicente, in the north of the island.

414. *Atomaria alternans*.

Ephistemus alternans, *Woll., Ins. Mad.* 177 (1854).

Atomaria alternans, *Id., Cat. Mad. Col.* 62 (1857).

Habitat Maderenses (Mad.), in locis similibus ac præcedens sed frequentior.

Likewise peculiar to the sylvan regions of Madeira proper, where it occurs in the same kind of places as the *A. insecta*, but (although decidedly scarce) somewhat more frequently.

Genus 127. **EPISTEMUS.**

(Westwood) Steph., *Ill. Brit. Ent.* ii. 167 [script. *Ephistemus*] (1829).

415. *Epistemus gyrinoides*.

Dermestes gyrinoides, *Msh., Ent. Brit.* 77 (1802).

Phalacrus dimidiatus, *Sturm, Deutsch. Fna*, ii. 85, t. 32. f. D (1807).

Ephistemus gyrinoides, *Steph., Ill. Brit. Ent.* ii. 168 (1829).

— *dimidiatus*, *Woll., Ins. Mad.* 176 (1854).

— *gyrinoides*, *Id., Cat. Mad. Col.* 63 (1857).

Epistemus gyrinoides, *Id., Cat. Can. Col.* 144 (1864).

Habitat Maderenses (Mad.) et Canarienses (Can., Ten., Gom.), sub quisquiliis haud infrequens.

The *E. gyrinoides*, so universal throughout Europe, is widely spread over these islands; and though nowhere very abundant, nevertheless, when searched for in the proper localities, it will probably be found to be nearly universal in both Groups. Hitherto it has been detected only in Madeira proper; and in Grand Canary, Tenerife, and Gomera, of the Canarian archipelago.

Fam. 23. LATRIDIADÆ.

Genus 128. CHOLOVOCERA.

Motschulsky, *Bull. de Moscou*, 177 (1838).

416. Cholovocera Maderæ.

Coccinella succina, *Heineken*, in litt.

Cholovocera Maderæ, *Westw.*, in litt.

— —, *Woll.*, *Ins. Mad.* 180, tab. x. f. 1 (1854).

— —, *Id.*, *Cat. Mad. Col.* 64 (1857).

Habitat Maderenses (Mad.), rarissima; à cl. Heineken, M.D., semel reperta.

The single example, captured many years ago by the late Dr. Heineken in Madeira proper, is all that has yet been brought to light of this insect; which is a somewhat remarkable fact, when we consider how long and carefully the islands of the Madeiran Group have now been (at intervals) investigated. Yet there is no reason for suspecting that it was taken elsewhere, for the species has not been observed in any other country. In all probability it is an inhabitant of ants' nests.

Genus 129. ANOMMATUS.

Wesmael, *Bull. de l'Acad. de Bruxell.* ii. 339, tab. 4 (1836).

417. Anommatus 12-striatus.

Lyctus 12-striatus, *Müll.*, in *Germ. Mag.* iv. 190 (1821).

Anommatus terricola, *Wesm.*, loc. cit. 339 (1836).

— 12-striatus, *Erich.*, *Nat. der Ins. Deutsch.* iii. 286 (1845).

— —, *Woll.*, *Ann. Nat. Hist.* v. 258 (1860).

Habitat Maderenses (Mad.), sub ligno recenter secto truncisque arborum prolapsis in cultis intermediis rarissimus.

This minute European insect has been observed hitherto only in Madeira proper, of all these Atlantic islands,—where it was detected by myself, during December 1858, beneath the trunk of a felled cherry-tree which was lying on the damp ground at the bottom of the Curral das Freiras; subsequently, however, it has been captured by Senhor Moniz, under the chippings of Spanish chestnut-trees at S^{ta} Anna, in the north of the island*.

* For observations on the structure and affinities of *Anommatus*, compare my remarks in the 'Ann. of Nat. Hist.' (3rd series) v. pp. 257 & 258.

Genus 130. **HOLOPARAMECUS.**Curtis, in *Ent. Mag.* i. 186 (1833).§ I. *Antennæ* 9- et 10- (an secundum sexum?) *articulatæ*.418. **Holopamecus Kunzii.**Calyptribium Kunzei, *Aubé, Ann. de la Soc. Ent. de France*, i. (1843).
Holopamecus Kunzei, *Woll., Ann. Nat. Hist.* v. 259 (1860).*Habitat* Maderenses (*Mad.*), circa urbem Funchalensem rarissimus.

The *H. Kunzii*, which seems to occur sparingly in many distant parts of the civilized world, and which (like most of the *Holopameci*) is eminently liable to accidental dispersion through human agencies, is found occasionally about houses and amongst garden-refuse around Funchal in Madeira proper; but it has not yet been detected in any of the other islands. Like the *H. singularis*, its antennæ are sometimes 9- and at others 10-articulate,—a variation which is probably a sexual one, though this has not yet been positively ascertained. That the variation, however, exists in the *Kunzii*, no less than in the *singularis*, I have lately satisfied myself by a most careful observation; though when I compiled my Canarian Catalogue I was under the impression (*vide* p. 146) that the antennæ of the *Kunzei* were in all instances 10-jointed.

419. **Holopamecus singularis.**

Silvanus singularis, *Beck, Beitr. zur Baierisch. Insectenf.* (1817).
Amphibolonarzon difficile, *Villa, Cat. Col. Eur.* 26 (1833).
Holopamecus depressus, *Curt., Ent. Mag.* i. 186 (1833).
— — —, *Id., Brit. Ent.* xiii. 614 (1836).
Calyptribium Villæ, *Aubé, Ann. de la Soc. Ent. de France*, i. 243 (1843).
Holopamecus singularis, *Woll., Cat. Can. Col.* 145 (1864).

Habitat Canarienses (*Lanz.*), rarissime; sub quisquiliis semel captus.

The only Atlantic specimen which I have seen of this minute insect (which is widely, though sparingly, diffused over Europe and the north of Africa) was captured by myself from under vegetable refuse in the north of Lanzarote, in the Canarian Group.

§ II. *Antennæ* semper 11-articulatæ.420. **Holopamecus caularum.**

Calyptribium caularum, *Aubé, Ann. de la Soc. Ent. de F.*, i. 244 (1843).
— — —, *Redt., Fauna Austr.* 204 (1849).
Holopamecus caularum, *Woll., Cat. Can. Col.* 144 (1864).

Habitat Canarienses (*Lanz.*), sub quisquiliis semel tantum lectus.

As in the case of the last species, the only Atlantic example of this European *Holoparamesus* which has yet come beneath my notice I captured in the north of Lanzarote, in the Canarian Group—from under vegetable refuse, near Haria.

421. *Holoparamesus niger*.

Calyptobium nigrum, *Chevrier*, in litt.

— — —, *Aubé*, *Ann. de la Soc. Ent. de France*, i. 246 (1843).

Holoparamesus niger, *Woll.*, *Ins. Mad.* 182 (1854).

— — —, *Id.*, *Cat. Mad. Col.* 64 (1857).

— — —, *Id.*, *Cat. Can. Col.* 145 (1864).

Habitat Maderenses (*Mad.*, *Pto Sto*) et Canarienses (*Ten.*), sub lapidibus in inferioribus ac paululum elevatis præcipue latens.

The *H. niger*, which occurs in Sicily, is common at the Madeiras—where it is usually to be met with under stones and scoræ, in sunny spots of low and intermediate altitudes. Hitherto it has been taken only in Madeira proper and Porto Santo, but we may expect to find it on the Desertas likewise. At the Canaries, however, it is decidedly scarce, where, indeed, it entirely escaped my own researches; but two examples were captured by Dr. Crotch, during the spring of 1862, in Teneriffe.

Genus 131. *CORTICARIA*.

Marsham, *Ent. Brit.* 106 (1802).

422. *Corticaria pubescens*.

Latridius pubescens, *Illig.*, in litt.

— — —, *Gyll.*, *Ins. Succ.* iv. 125 (1827).

Corticaria pubescens, *Steph.*, *Ill. Brit. Ent.* iii. 106 (1830).

— — —, *Woll.*, *Ann. Nat. Hist.* v. 260 (1860).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), sub recremento culmi neonon in cultis circa domos hinc inde occurrunt.

I have not myself observed this common European *Corticaria* in any of these Atlantic islands; nevertheless it was taken on several occasions by the late Mr. Bewicke in Madeira proper, and a few specimens have been found by the Messrs. Crotch in Teneriffe (namely, “in thatch at Souzal”) during their late Canarian campaign. We may expect it, therefore, to occur pretty generally if searched for in the right situations.

423. *Corticaria fulva*.

Latridius fulvus (*Chevr.*), *Villa*, *Cat. Col. Eur.* 45 (1833).

- Corticaria fulva*, Mann., in *Germ. Zeit. für die Ent.* v. 42 (1844).
 ———, *Woll., Ins. Mad.* 185 (1854).
 ———, *Id., Cat. Mad. Col.* 65 (1857).
 ———, *Id., Cat. Can. Col.* 146 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Ten.*), forsan introducta; in domibus et granariis parce occurrens.

The European *C. fulva* occurs sparingly (in and about houses) both at the Madeiran and Canarian Groups, where it has probably become established from more northern latitudes. It has been taken in Madeira proper, of the former, and in Lanzarote and Teneriffe, of the latter; but we may expect to meet with it pretty generally throughout the islands, except those which are uninhabited.

424. *Corticaria crenicollis*.

- Corticaria crenicollis*?, Mann., in *Germ. Zeit. für die Ent.* v. 37 (1844).
 ———, *Woll., Ins. Mad.* 185 (1854).
 ———, *Id., Cat. Mad. Col.* 64 (1857).

Habitat Maderenses (*Mad.*), semel reperta; vix, nisi fallor, præcedentis varietas.

A single example, taken many years ago in Madeira proper, embodies the whole evidence that I possess for the admission of this European *Corticaria* amongst the Atlantic Coleoptera. And considering also that I am far from satisfied that even that specimen has been correctly determined, I cannot but feel a suspicion that perhaps after all the *C. crenicollis* should not properly be included in the Madeiran Catalogue. Yet the individual on which its insertion rests (and which was originally identified with the *crenicollis* by Motschulsky) does not, I think, accord sufficiently with the *fulva* to be regarded as even an accidental variety of that insect. But it is quite possible that such *may* be the case; and I would therefore merely wish to state that further material is greatly required before the species can be looked upon as an undoubted member of our fauna.

425. *Corticaria maculosa*.

- Corticaria maculosa*, Woll., *Ann. Nat. Hist.* ii. 408 (1858).
 ———, *Id., Trans. Ent. Soc. Lond.* i. 186 (1862).
 ———, *Id., Cat. Can. Col.* 147 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (in *Can.* solâ haud observata), passim; ab orâ maritimâ usque ad 8000' s. m. ascendens.

Widely spread over the low and intermediate districts of Madeira proper; whilst at the Canaries there cannot be a question that it is

universal, Grand Canary (where, however, we may be quite sure that it exists) being the only island of the seven in which it does not happen to have been observed. In the other six islands of the archipelago, indeed, I have myself captured it, and in some of them it has been taken likewise by others. And I even met with it on the little rock of Lobos (in the Bocayna Strait), off the north of Fuerteventura. It occurs in many different situations (under the bark of Euphorbias, and elsewhere) from the sea-level to an altitude of at least 8000 feet; and it varies from a brightly maculated to a pale-ferruginous state.

426. *Corticaria serrata*.

Dermestes serratus, *Payk., Fna Succ. i.* 300 (1798).

Corticaria rotulicollis, *Woll., Ins. Mad.* 184 (1854).

— —, *Id., Cat. Mad. Col.* 64 (1857).

— *serrata*, *Id., Cat. Can. Col.* 148 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Fuert., Ten., Hierro*), in cultis et præcipue sub recremento farris ad basin acervorum tritici sparso hinc inde vulgaris.

The common European *C. serrata* has probably been naturalized in these islands from more northern latitudes. It occurs principally about cultivated grounds and beneath the refuse at the base of corn-stacks, though it has likewise established itself in less inhabited districts. In such situations it is found in Madeira proper, as also in Lanzarote, Fuerteventura, Teneriffe, and Hierro, of the Canarian Group. It will most likely, however, be met with almost universally if searched for in the proper localities.

427. *Corticaria inconspicua*.

Corticaria inconspicua, *Woll., Ann. Nat. Hist.* v. 260 (1860).

— —, *Id., Append. huj. op.* 24.

Habitat Maderenses (*Mad.*), in hortis et circa domos præcipue degens; vix præcedentis varietas minor, depauperata, inconspicua.

Found in Madeira proper, about out-houses and cultivated grounds—much in the same way as the last species, to which, indeed, it is very closely allied. I scarcely think, however, that it can be a small or depauperated state of the *serrata*; for its characters (such as they are) seem to remain constant. It has been met with around Funchal, and at S. Antonio da Serra; but it is the former district in which it has been observed most plentifully,—it having occurred in abundance, amongst some old bones, in Mr. Leacock's garden at the Quinta de São João.

428. *Corticaria rotundicollis*.

Corticaria rotundicollis, *Woll., Ins. Mad.* 186 (1854).
 ———, *Id., Cat. Mad. Col.* 65 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis editioribus parce occurrens.

Observed hitherto only in Madeira proper, where it occurs sparingly within the sylvan districts of intermediate and rather lofty elevations.

429. *Corticaria angulata*.

Corticaria angulata, *Woll., Cat. Can. Col.* 148 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), hinc inde haud infrequens.

A Canarian species which I have detected hitherto only in Lanzarote, Fuerteventura, and Grand Canary, where, however, it is locally far from uncommon.

430. *Corticaria curta*.

Corticaria truncatella? (Mots.), *Mann., in Germ. Zeitsch.* v. 59 (1844).
 ——— *curta*, *Woll., Ins. Mad.* 187 (1854).
 ———, *Id., Cat. Mad. Col.* 65 (1857).
 ———, *Id., Cat. Can. Col.* 149 (1864).

Habitat Maderenses (in *Chão solâ* non observata) et Canarienses (in *Hierro solâ* haud detecta), late sed vix copiose diffusa.

Although nowhere very abundant, this seems to be the universal *Corticaria* of these islands—in the whole of which I have no doubt that it will be found to occur. Already indeed it has been observed in every one of the Madeiran islands except the Flat Deserta (or Ilheo Chão), and in all the Canarian ones except Hierro; so that we may feel pretty sure that it is quite universal.

It is a European species, and has lately been captured in England by Mr. Brewer—who considered it to be the *truncatella*, Mann. If this should prove to be correct, of course the name of *curta* will have to be suppressed; but as I am informed by Mr. Rye that the British examples do not by any means accord with Mannerheim's *diagnosis*, I cannot alter the title under which I described the Atlantic insect until this question has been properly decided.

431. *Corticaria tenella*.

Corticaria tenella, *Woll., Cat. Can. Col.* 150 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma, Hierro*), passim.

A rather insignificant little *Corticaria* which is widely spread over the Canarian Group, in all the islands of which it has been detected except the two eastern ones—Lanzarote and Fuerteventura.

432. *Corticaria fagi*.

Corticaria Fagi, *Woll., Ins. Mad.* 188 (1854).

— —, *Id., Cat. Mad. Col.* 65 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis intermediis præsertim castanetis hinc inde vulgaris.

A little species much allied to (though perfectly distinct from) the European *C. elongata*, and one which has been observed hitherto only in the wooded regions of Madeira proper—particularly in the north of the island. It seems to be attached principally to the Spanish chestnut-trees.

Genus 132. LATRIDIUS.

Herbst, *Natursyst.* v. 8 (1793).

433. *Latridius assimilis*.

Latridius assimilis, *Mann., in Germ. Zeit. für die Ent.* v. 98 (1844).

— —, *Woll., Ins. Mad.* 189 (1854).

— —, *Id., Cat. Mad. Col.* 65 (1857).

Habitat Maderenses (*Mad.*), præcipue in cultis parce degens.

The European *L. assimilis* occurs sparingly in Madeira proper, principally within the cultivated districts.

434. *Latridius minutus*.

Tenebrio minutus, *Linn., Nat. Syst.* ii. 675 (1767).

Latridius minutus, *Woll., Ins. Mad.* 190 (1854).

— —, *Id., Cat. Mad. Col.* 65 (1857).

Latridius minutus, *Id., Cat. Can. Col.* 151 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can., Ten., Gom., Palm., Hierro*) vulgaris.

The *L. minutus*, so general throughout Europe, and so widely spread in distant parts of the world, is doubtless all but universal in these Atlantic islands (where, most likely, it has been established from more northern latitudes). Nevertheless at the Madeiran Group it has been observed hitherto only in Madeira proper, where it abounds at low and intermediate altitudes. At the Canaries it is somewhat less common, yet probably universal—Lanzarote and

Fuerteventura being the only islands of the seven in which it does not happen as yet to have been detected.

435. *Latridius opacipennis*.

Latridius opacipennis, *Woll., Cat. Can. Col.* 151 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis semel tantum repertus.

A single specimen, captured at the Agua Garcia in Teneriffe, embodies all that I yet know concerning this *Latridius*; and peculiar as its characters most unquestionably are, I nevertheless cannot feel perfectly satisfied that it may not be some very anomalous, accidental (or even abortive) form of the *minutus*. At any rate further evidence is much needed in order to ascertain for certain that its features are constant, and not the result of any *lusus Naturee*.

436. *Latridius transversus*.

Ips transversa, *Oliv., Ent.* ii. 18. 20 (1790).

Lathridius transversus, *Mann., in Germ. Zeit. für die Ent.* v. 94 (1844).

— —, *Woll., Ins. Mad.* 191 (1854).

— —, *Id., Cat. Mad. Col.* 66 (1857).

Habitat Maderenses (*Mad.*), præcipue in cultis rarior.

A most abundant European insect, but one which has been observed hitherto only in Madeira proper of all the Atlantic islands. There, however, it is widely spread, though somewhat scarce, and has probably been naturalized from more northern latitudes.

437. *Latridius delectus*.

Lathridius delectus, *Woll., Ann. Nat. Hist.* ii. 409 (1858).

Latridius delectus, *Id., Append. huj. op.* 25.

Habitat Maderenses (*Mad.*), præcipue in subinferioribus sat rarus.

Occurs sparingly around Funchal, in Madeira proper; but it has not yet been detected in any of the other islands. In Mr. Leacock's garden at the Quinta de São João it was taken abundantly by the late Mr. Bewicke, beneath the dead leaves (and refuse) of Sugar-canes.

438. *Latridius ruficollis*.

Corticaria ruficollis, *Mshn, Ent. Brit.* 111 (1802).

Lathridius liliputanus, *Mann., in Germ. Zeit. für die Ent.* v. 85 (1844).

— *ruficollis*, *Woll., Cat. Mad. Col.* 66 (1857).

Latridius ruficollis, *Id., Cat. Can. Col.* 152 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz.*), sub quisquiliis recrementoque fœni hinc inde occurrens.

A European *Latridius* which occurs, very locally, both at the Madeiras and Canaries. Though probably if searched for in the right situations (beneath the refuse around the base of hay-stacks), it would be found to be pretty general, as yet it has been observed only in Madeira proper, and in Lanzarote of the Canarian Group.

Genus 133. **METOPHTHALMUS.**

Wollaston, *Ins. Mad.* 192 (1854).

439. **Metophthalmus asperatus.**

Metophthalmus asperatus, *Woll., Ins. Mad.* 193, tab. iv. f. 4 (1854).

— —, *Id., Cat. Mad. Col.* 67 (1857).

— —, *Id., Append. huj. op.* 25.

Habitat Maderenses (Mad.), sub cortice arido laxo necnon inter lignum antiquum pulverulentum in sylvaticis intermediis occurrens.

Found in the sylvan districts of Madeira proper, where it occurs amongst dry rotten wood, and under mouldy bark, at intermediate altitudes. In such situations it appears to feed upon some kind of minute Cryptogam, or perhaps a *Thallus*, with the white particles of which it is often (particularly on the underside) densely powdered*.

440. **Metophthalmus ferrugineus.**

Metophthalmus ferrugineus, *Woll., Append. huj. op.* 26.

Habitat Canarienses (Hiero), à DD. Crotch sat copiose repertus.

Captured abundantly by the Messrs. Crotch in Hierro, the most western island of the Canarian Group, where it would seem to represent the *M. encaustus* of Teneriffe and Gomera.

441. **Metophthalmus encaustus.**

Metophthalmus encaustus, *Woll., Append. huj. op.* 26.

Habitat Canarienses (Ten., Gom.), inter lignum antiquum et sub foliis aridis dejectis degens.

Likewise a Canarian species, occurring in the sylvan districts of Teneriffe and Gomera,—in the latter of which the Messrs. Crotch lately met with it abundantly, by sifting dead leaves and other dry refuse.

* Specimens of the Mould amongst which I captured a profusion of the *M. asperatus*, in the dry tinder-like wood of an old Til-tree at the Ribeiro Frio, were submitted to the Rev. M. J. Berkeley, who identified it with the *Rhinotrichum Bloxhami*, Berk.

442. *Metopthalmus sculpturatus*.

Metopthalmus sculpturatus, *Woll., Ann. Nat. Hist.* x. 290 (1862).
 — —, *Id., Append. huj. op.* 26.

Habitat Maderenses (*Mad.*), sub cortice laxo arido in intermediis captus.

Detected abundantly by the late Mr. Bewicke in Madeira proper—beneath the bark of plane-trees at the Palmeira, on the mountains to the east of Funchal. It may be looked upon as the representative at Madcira of the Canarian *M. encaustus*.

443. *Metopthalmus exiguus*.

Metopthalmus exiguus, *Woll., Ann. Nat. Hist.* v. 261 (1860).
 — —, *Id., Append. huj. op.* 27.

Habitat Maderenses (*Mad.*), à Dom. Bewicke inter *Euphorbias* fractas desiccatas antiquas semel deprehensus.

Hitherto unique, the only example which I have seen having been taken by the late Mr. Bewicke in Madeira proper—amongst some old *Euphorbia*-rubbish which he had brought from the east of the island. Whether its presence there was merely accidental, or whether (as is more likely) the species is of *Euphorbia*-infesting habits, it is of course impossible without further evidence to decide.

Fam. 24. MYCETOPHAGIDÆ.

Genus 134. BERGINUS.

(Dejean) Erich., *Nat. der Ins. Deutsch.* iii. 405 (1846).

444. *Berginus tamarisci*.

Berginus Tamarisci, *Dej., in litt.*
 — —, *Woll., Ins. Mad.* 195 (1854).
 — —, *Id., Cat. Mad. Col.* 69 (1857).

Habitat Maderenses (*Mad., P^{to} S^{to}*), in inferioribus intermediisque parce occurrunt.

An insect of Mediterranean latitudes which occurs rather sparingly in the Madeiran Group—namely in Madeira proper and Porto Santo (at low and intermediate elevations).

Genus 135. MYRMECOXENUS.

Chevrolat, *in Silb. Rev.* iii. 267 [script. *Myrmecoxenus*] (1835).

445. *Myrmeccoxenus picinus*.

Myrmeccoxenus picinus, *Aubé, Ann. Soc. Ent. de Fr.*, viii. 330 (1850).

Myrmeccoxenus picinus, *Woll., Ann. Nat. Hist.* v. 265 (1860).

— *sordidus*, *Id., Cat. Can. Col.* 152 (1864).

Habitat Maderenses (Mad.) et Canarienses (Fuert.), sub *quisquiliis rarissimus*.

An insect which occurs sparingly in Madeiran latitudes, and of which I have seen hitherto but three Atlantic examples. Two of them were taken by the late Mr. Bewicke in Madeira proper, in his garden above Funchal; and the remaining one by myself in Fuerteventura of the Canarian Group, from beneath the refuse of a camels' stable in the Rio Palmas.

Genus 136. **MYCETÆA**.

(Kirby) *Steph., Ill. Brit. Ent.* iii. 80 (1830).

446. *Mycetæa hirta*.

Dermestes fumatus, *Mshn* [nec *Linn.* 1767], *Ent. Brit.* 65 (1802).

Cryptophagus hirtus, *Gyll.* [nec *Mshn*, 1802], *Ins. Suec.* i. 184 (1808).

Mycetæa fumata, *Steph., Ill. Brit. Ent.* iii. 81 (1830).

— *hirta*, *Woll., Cat. Mad. Col.* 70 (1857).

Habitat Maderenses (Mad.), in *cultis et præcipue circa domos occurrens*.

This widely spread European insect occurs on the inner walls of houses, and about cultivated spots generally, in Madeira proper, where it has doubtless been established accidentally from more northern latitudes.

Genus 137. **SYMBIOTES**.

Redtenbacher, Fna Austr. 198 (1849).

447. *Symbiotes pygmæus*.

Symbiotes pygmæus, *Hampe, in Ent. Zeit. Stett.* 353 (1850).

Microchondrus domuum, *Woll., Ins. Mad.* 197, tab. iv. f. 2 (1854).

— —, *Id., Cat. Mad. Col.* 71 (1857).

Symbiotes pygmæus, *Id., Cat. Can. Col.* 153 (1864).

Habitat Maderenses (Mad.) et Canarienses (Palma), *rarissimus*.

Likewise a European insect, but one which is found very sparingly in these islands. It is to be met with occasionally in Madeira proper, both about houses and beneath the bark of trees in cultivated grounds; and two examples were taken by Mr. Gray in Palma, during our Canarian trip.

Genus 138. **LITARGUS.**Erichson, *Nat. der Ins. Deutsch.* iii. 415 (1846).448. **Litargus pictus.**Litargus pictus, *Woll., Ins. Mad.* 200, tab. iv. f. 5 (1854).— —, *Id., Cat. Mad. Col.* 71 (1857).*Habitat* Maderenses (*Mad.*), inter lichenes ad truncos arborum vetustos crescentes in sylvaticis editioribus occurrens.

Peculiar apparently to the sylvan districts of Madeira proper at intermediate and lofty elevations, where it is more particularly attached to a gigantic fleshy lichen (known locally as the “Madre de Louro”) which grows in large masses on the trunks of the native laurels.

449. **Litargus pilosus.**Litargus pilosus, *Woll., Cat. Mad. Col.* 71 (1857).*Habitat* Maderenses (*Mad.*), sub quisquiliis in cultis inferioribus degens.

Also peculiar (so far as observed hitherto) to Madeira proper, but totally different in its habits from the last species—being confined apparently to the lower elevations, and occurring for the most part beneath vegetable (or even animal) refuse in the cultivated districts near Funchal.

450. **Litargus 3-fasciatus.**Litargus 3-fasciatus, *Woll., Cat. Can. Col.* 154 (1864).*Habitat* Canarienses (*Gom.*), sub quisquiliis in cultis inferioribus occurrens.

Strictly the Canarian representative of the *L. pilosus* of Madeira, to which, indeed, it is closely allied. It was detected by Dr. Crotch in Gomera, during the spring of 1862; and during the past summer he (and his brother) again met with it in the same island,—“under old cucumber-stems, and other refuse, in cactus-grounds” near Hermigua.

Genus 139. **TYPHÆA.**(Kirby) Steph., *Ill. Brit. Ent.* iii. 70 (1830).451. **Typhæa fumata.**Dermestes fumatus, *Linn., Syst. Nat.* ii. 564 (1767).Typhæa fumata, *Woll., Ins. Mad.* 199 (1854).— —, *Id., Cat. Mad. Col.* 71 (1857).— —, *Id., Cat. Can. Col.* 153 (1864).*Habitat* Maderenses (*Mad.*) et Canarienses (*Lanz., Fuert., Ten., Gom.*), sub quisquiliis præsertim in cultis hinc inde vulgaris.

This common European insect will most likely (when searched for in the proper localities) be found to be universal within the inhabited districts of these Atlantic islands, where perhaps it may have become established from more northern latitudes. It occurs beneath vegetable refuse, particularly in and about gardens and fields, and has been observed hitherto in Madeira proper, as well as in Lanzarote, Fuerteventura, Teneriffe, and Gomera, of the Canarian Group.

Fam. 25. TELMATOPHILIDÆ.

Genus 140. THALLESTUS.

Wollaston, *Trans. Ent. Soc. Lond.* i. 153 (1862).

452. *Thallestus typhæoides*.

Thallestus typhæoides, *Woll.*, *loc. cit.* 155, pl. 7. f. 6 (1862).

— —, *Id.*, *Cat. Can. Col.* 135 (1864).

Habitat Canarienses (*Gom.*), plantas *Euphorbiæ canariensis* putridas copiose destruens.

Detected hitherto only in Gomera, of the Canarian Group, where it is locally abundant within the putrid stalks of the *Euphorbia canariensis*. In such situations I took it commonly on the hills above San Sebastian; and an extensive series is now before me, captured by the Messrs. Crotch during their late sojourn in Gomera. Some of the latter specimens differ a little from my own in having their prothorax appreciably longer and more conical, as well as somewhat more deeply punctured and obscurer in colour*; but there seems to be every intermediate grade between the two forms, and, since I have failed entirely to draw a line of demarcation between them, I cannot but conclude that the shape and tint of the prothorax is subject to some slight amount of variation.

453. *Thallestus subellipticus*.

Thallestus subellipticus, *Woll. loc. cit.* 155. pl. 7. f. 4 (1862).

— —, *Id.*, *Cat. Can. Col.* 134 (1864).

Habitat Canarienses (*Ten.*), in locis similibus ac præcedens sed rarior.

* I would, however, just express this state in the following short formula, and I have given it a subspecific name in the event of characters which I may possibly have overlooked proving it ultimately to be distinct:—

Var. β . *obscuricollis* [an species?]. Prothorace paulo longiore, magis conico, obscuriore profundiusque punctato; elytris vix grossius striato-punctatis.

The very few examples which I have seen of this species were captured by myself within some putrid stalks of the *Euphorbia canariensis* on the mountains above S^{ta} Cruz, in Teneriffe. Perhaps, therefore, it may represent in that island the *T. typhæoides* of Gomera.

Genus 141. **DIPHYLLUS.**

Stephens, *Ill. Brit. Ent.* iii. 87 [script. *Biphyllus*] (1830).

454. **Diphyllus lunatus.**

Dermestes lunatus, *Fab., Ent. Syst.* i. 232 (1792).

Biphyllus lunatus, *Steph., loc. cit.* 87 (1830).

Diphyllus lunatus, *Woll., Ins. Mad.* 172 (1854).

Biphyllus lunatus, *Id., Cat. Mad. Col.* 51 (1857).

Diphyllus lunatus, *Id., Cat. Can. Col.* 134 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Gom., Palma*), in *Sphæriá fraxineá* ad truncos arborum antiquos crescentes rarissimus.

The European *D. lunatus* occurs very sparingly in the intermediate elevations of Madeira proper—amongst a black *Sphæria* which grows on the trunks of the old trees, and which does not seem to differ from the *S. fraxinea* of more northern latitudes; whilst at the Canaries I have met with it (under the same circumstances as at Madeira) high up in the Barranco de Galga, of Palma, and a single example was taken by the Messrs. Crotch, during the summer of 1864, in Gomera.

Fam. 26. DERMESTIDÆ.

Genus 142. **DERMESTES.**

Linnaeus, *Syst. Nat.* ii. 561 (1767).

455. **Dermestes vulpinus.**

Dermestes vulpinus, *Fab., Spec. Ins.* i. 64 (1781).

— — —, *Brullé, in Webb et Berth. (Col.)* 59 (1838).

— — —, *Woll., Ins. Mad.* 202 (1854).

— — —, *Id., Cat. Mad. Col.* 72 (1857).

— — —, *Id., Cat. Can. Col.* 155 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Can., Ten. Gom.*), in cadaveribus pellibusque late sed parce diffusus.

The almost cosmopolitan *D. vulpinus* occurs about the towns both in the Madeiran and Canarian Groups, where it has doubtless become established through human agencies. In Madeira proper it is found occasionally around Funchal; whilst at the Canaries it has been ob-

served hitherto in Lanzarote, Grand Canary (by the Messrs. Crotch, near Las Palmas), Teneriffe, and Gomera. It has been likewise naturalized at the Cape de Verdes.

456. *Dermestes Frischii*.

- Dermestes Frischii*, *Kugel.*, in *Schneid. Mag.* 478 (1794).
 — — —, *Erich.*, *Nat. der Ins. Deutsch.* iii. 441 (1846).
 — — —, *Sturm, Deutsch. Fna.* xix. 44, tab. 350. f. D (1847).
 — — —, *Woll.*, *Cat. Can. Col.* 155 (1864).

Habitat Canarienses (*Lanz., Can., Ten.*), in locissimilibus ac præcedens.

Likewise a European *Dermestes*, and one which occurs (in much the same sort of places as the *vulpinus*) at the Canarian Group. It has been captured in Lanzarote, Grand Canary, and Teneriffe. And it is found likewise at Mogadore, on the opposite coast of Africa.

Genus 143. *ATTAGENUS*.

Latreille, *Gen. Crust. et Ins.* ii. 32 (1807).

457. *Attagenus megatoma*.

- Dermestes megatoma*, *Fab.*, *Ent. Syst.* v. Suppl. 71 (1798).
Attagenus megatoma, *Erich.*, *Nat. der Ins. Deutsch.* iii. 441 (1846).
 — — —, *Sturm, Deutsch. Fna.* xix. 76, tab. 355. f. C (1847).
 — — —, *Woll.*, *Ins. Mad.* 204 (1854).
 — — —, *Id.*, *Cat. Mad. Col.* 72 (1857).

Habitat Maderenses (*Mad.*) et Canarienses (*Gom.*), in domibus rarior; certe ex alienis introductus.

The European *A. megatoma* occurs sparingly, about houses, in Madeira proper; and two examples are now before me which were taken in Gomera, of the Canarian Group, by the Messrs. Crotch. It is doubtless an imported insect, through the medium of commerce.

458. *Attagenus Schæfferi*.

- Megatoma Schæfferi*, *Herbst, Käf.* iv. 93 (1791).
 — — macellarium?, *Brullé, in Webb et Berth. (Col.)* 59 (1838).
Attagenus Schæfferi, *Erich.*, *Nat. der Ins. Deutsch.* iii. 440 (1846).
 — — —, *Sturm, Deutsch. Fna.* xix. 75, tab. 355. f. A (1847).
 — — —, *Woll.*, *Ann. Nat. Hist.* v. 266 (1860).
 — — —, *Id.*, *Cat. Can. Col.* 156 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), certè introductus; in domibus mercatorumque repositoriis hinc inde occurrens.

Like the last species, clearly introduced into these islands by human agency. It occurs sparingly in houses in Madeira proper; and I have taken it in similar situations at S^{ta} Cruz, in Teneriffe.

459. *Attagenus pello*.

Dermestes pello, *Linn., Fna Suec.* 141 (1761).

Attagenus pello, *Steph., Ill. Brit. Ent.* iii. 126 (1830).

Megatoma pello, *Brullé, in Webb et Berth. (Col.)* 59 (1838).

Attagenus pello, *Woll., Cat. Can. Col.* 155 (1864).

Habitat Canarienses (sec. DD. Webb et Berth.), in faunam Canariensem à Dom. Brullé admissus.

This almost cosmopolitatan *Attagenus* is admitted by M. Brullé into his loosely compiled list of Canarian Coleoptera, on the authority of specimens (or a specimen) supposed to have been found by MM. Webb and Berthelot. Of course no information is given concerning its *habitat*, or indeed as to anything about it; but since it is not improbable that an insect so liable to accidental transmission throughout the civilized world may perhaps have been picked up by MM. Webb and Berthelot in some of the houses at S^{ta} Cruz (which appear to have been one of their chief collecting-grounds), I think that perhaps I can scarcely refuse it a place in this Catalogue. At the same time I must express my belief that the species has not become even *naturalized* at the Canaries, and also that I am far from satisfied that M. Brullé may not have mistaken an example of one of the preceding *Attageni* for the *A. pello*.

Genus 144. **TELOPES.**

Redtenbacher, *in Russeg. Reisen*, i. 984 (1843).

460. *Telopes obtusus*.

Dermestes obtusus, *Gyll., in Schön. Syn. Ins.* ii. 88 (1808).

Attagenus obtusus, *Lucas, Col. de l'Algérie*, 239 (1849).

— abbreviatus, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 140, 141.

Telopes obtusus, *Woll., Cat. Can. Col.* 157 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), ad flores hinc inde vulgaris.

An insect of south-western Europe and the north of Africa, and which occurs rather commonly in Lanzarote and Fuerteventura (the two eastern islands of the Canarian Group), as also more sparingly in the low and sandy district between Las Palmas and the Isleta in Grand Canary. It is found, during the spring months, on flowers; and will occasionally, like other Dermestideous forms, attack the dried skins even of animals. I met with it also on the little island of Graciosa, off the extreme north of Lanzarote. It is extremely partial to the blossoms of a dwarf prickly *Sonchus* (the *S. spinosus*, Forsk.), which is known locally as the "Ahulaga."

461. *Telopes anthrenoides*.

Telopes anthrenoides, *Woll., Cat. Can. Col.* 159 (1864).

Habitat Canarienses (*Can.*), in aridis arenosis parce lectus.

Found hitherto only in Grand Canary, where I captured a few specimens of it in the dry sandy region of Maspalomas (in the extreme south of that island).

462. *Telopes multifasciatus*.

Telopes multifasciatus, *Woll., Ann. Nat. Hist.* xi. 218 (1863).

— —, *Id., Cat. Can. Col.* 159 (1864).

Habitat Canarienses (*Can.*), ad flores varios sed præsertim *Cistorum* in intermediis editioribusque vulgaris.

Likewise peculiar (so far as observed hitherto) to Grand Canary, where it abounds during the spring months at intermediate and lofty elevations. It occurs on various kinds of flowers, but prefers those of the *Cistus monspeliensis*.

463. *Telopes fasciatus*.

Telopes fasciatus, *Woll., Ann. Nat. Hist.* xi. 218 (1863).

— —, *Id., Cat. Can. Col.* 160 (1864).

Habitat Canarienses (*Ten., Gom., Palma*), ad flores in subinferioribus intermediisque hinc inde vulgatissimus.

Abounds at rather low and intermediate altitudes in Teneriffe, Gomera, and Palma, where it takes the place of the *multifasciatus* of Grand Canary, and the *obtusus* of Lanzarote and Fuerteventura. We may expect it to be found likewise in Hierro.

Genus 145. ANTHRENUS.

Geoffroy, *Hist. des Ins.* i. 113 (1764).

§ 1. *Antennæ 11-articulatæ (clavâ 3-articulatâ)*.464. *Anthrenus varius*.

Anthrenus varius, *Fab., Ent. Syst.* i. 262 (1792).

Megatoma verbasci, *Brullé, in Webb et Berth. (Col.)* 59 (1838).

Anthrenus varius, *Erich., Nat. der Ins. Deutsch.* iii. 455 (1846).

— —, *Woll., Ins. Mad.* 205 (1854).

— —, *Id., Cat. Mad. Col.* 73 (1857).

— —, *Id., Cat. Can. Col.* 161 (1864).

Habitat Maderenses (*Mad., Pto Sto*), Salvages (ins. *majorem, borealem*) et Canarienses (*Lanz., Fuert., Can., Ten.*), ad flores, passim.

The European *A. varius* is probably universal throughout the whole of these Atlantic islands, though hitherto it does not happen to have been observed in all of them. It is rather common, however, on flowers in Madeira proper and Porto Santo, principally at low elevations; whilst at the Canaries it has been captured in Lanzarote, Fuerteventura, Grand Canary, and Teneriffe. It has moreover been communicated by the Barão do Castello de Paiva, who received it in abundance even from the Great Salvage.

§ II. *Antennæ 10-articulate (clavâ 2-articulatâ).*

465. *Anthrenus minor.*

Anthrenus claviger, Woll. [nec *Erich.*, 1848], *Cat. Can. Col.* 161 (1864).
— *minor*, *Id.*, *Append. huj. op.* 28.

Habitat Canarienses (*Gom.*, *Palma*, *Hierro*), hinc inde ad flores præsertim *Euphorbiarum vulgaris*.

As stated in the Appendix to this volume, the present *Anthrenus* was wrongly identified in my Canarian Catalogue with the European *A. claviger*; and I think it far from improbable that it is in reality conspecific with the *A. minutus* of Mediterranean latitudes. Be this, however, as it may (for I have no means of deciding the question positively), the *A. minor* occurs in profusion throughout the intermediate altitudes of Gomera, Palma, and Hierro, of the Canarian Group—in the second of which it was captured by myself, whilst in the first and third it has been met with more recently by the Messrs. Crotch.

Fam. 27. BYRRHIDÆ.

Genus 146. **SYNCALYPTA.**

(Dillwyn) Steph., *Ill. Brit. Ent.* iii. 133 (1830).

466. *Syncalypta integra.*

Syncalypta integra, Woll., *Cat. Can. Col.* 162 (1864).

Habitat Canarienses (*Gom.*, *Hierro*), in sylvaticis editoribus rarissima.

A Canarian *Syncalypta* of which I have seen as yet but two examples—one of which was taken by myself in the sylvan region of El Golfo on the western slopes of Hierro, and the other (more recently) by the Messrs. Crotch above Hermigua in Gomera. The Gomeran specimen has its prothorax and elytra striæ a little more

deeply punctured; but I can see nothing about it to warrant the suspicion that it is specifically distinct from the Hierro one*.

467. *Syncalypta granulosa*.

Syncalypta granulosa, Woll., *Append. huj. op.* 28.

Habitat Canarienses (Gom.), à DD. Crotch in elevatis parcissime capta.

Likewise a Canarian species, and found hitherto only in Gomera—where it was taken sparingly, from under dead leaves at a high elevation, by the Messrs. Crotch. It may be known from the *S. integra* by its more obovate (posteriorly acuter) outline, by its elytra when denuded of their scales appearing more granulated and less shining, and by the last joint of its antennæ being smaller and rounder.

468. *Syncalypta capitata*.

Syncalypta capitata, Woll., *Ins. Mad.* 207 (1854).

— —, *Id.*, *Cat. Mad. Col.* 73 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus in editioribus usque ad summos montes ascendens.

Apparently peculiar to the loftiest elevations of Madeira proper,—occurring beneath stones on the exposed grassy mountain-slopes (above the upper limits of the wooded districts), and ascending thence to the summits of the peaks. It differs from the *granulosa* in being rather larger, with its elytra free from granules; from the *integra* in being more obovate (or less rounded), with the last joint of its antennæ smaller; whilst from them both it recedes in its very much more deeply, and regularly, striate-punctate elytra.

469. *Syncalypta ovuliformis*.

Syncalypta ovuliformis, Woll., *Ins. Mad.* 207 (1854).

— —, *Id.*, *Cat. Mad. Col.* 73 (1857).

— —, *Id.*, *Cat. Can. Col.* 162 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), in intermediis præcipue pinetis parce occurrunt.

Found in Madeira proper, and also in Teneriffe of the Canarian Group. It is very closely allied to the last species, of which it may possibly be a permanently smaller state peculiar to somewhat lower

* The *S. integra* may be known by its rather large size, regularly oval, or rounded-oval (instead of obovate) outline, by its elytra having their subsutural striæ almost evanescent but the others distinctly and remotely punctured, and by the terminal joint of its antennal club being largely developed.

(though, at the same time, sufficiently elevated) districts. It seems to occur principally in the pine-woods, and subsylvan spots, of intermediate altitudes.

470. *Syncalypta horrida*.

Syncalypta horrida, *Woll., Ins. Mad.* 208 (1854).

— —, *Id., Cat. Mad. Col.* 73 (1857).

Habitat Maderenses (*P^{to} Sto, Des.*), sub lapidibus rarissima.

The only two examples which I have yet seen of this *Syncalypta* were captured by myself in the Madeiran Group,—one of them in Porto Santo, and the other on the Deserta Grande. The specimens differ a *little* from each other, but not sufficiently so (I think) to warrant the suspicion that they are specifically distinct.

Fam. 28. HISTERIDÆ.

Genus 147. *ACRITUS*.

Leeonte, *Proc. Acad. Philadel.* iii. 288 (1853).

§ I. *Prothorax lineá plus minus punctatá ante basin impressus*.

471. *Acritus gemmula*.

Acritus gemmula, *Woll., Append. huj. op.* 29.

Habitat Canarienses (*Gom.*), in lauretis humidis editioribus sub truncis arborum prolapsis à DD. Crotch deprehensus.

Discovered by the Messrs. Crotch, during their late Canarian expedition, at a high altitude in the laurel-districts of Gomera, adhering to the underside of rotten wood.

472. *Acritus minutus*.

Hister minutus, *Hbst, Natursyst.* iv. 41, tab. 36. f. 4 (1791).

Acritus minutus, *De Mars., Ann. de la Soc. Ent. de France*, iv. 614 (1857).

— —, *Woll., Cat. Mad. Col.* 76 (1857).

— —, *Id., Cat. Can. Col.* 183 (1864).

Habitat Maderenses (*Mad., P^{to} Sto*) et *Canarienses* (*Fuert., Can., Ten., Gom., Palma*), sub quisquiliis, passim.

The common European *A. minutus* will most likely be found universally in these Atlantic islands, when carefully searched for in the proper situations. It occurs beneath refuse generally, and has been taken in Madeira proper and Porto Santo of the Madeiran Group, and

throughout the whole Canarian archipelago except in Lanzarote and Hierro (in both of which, however, it must doubtless exist). I met with it also at Mogadore, on the opposite coast of Africa.

473. *Acritus homœopathicus*.

Acritus homœopathicus, *Woll., Cat. Mad. Col.* 77 (1857).

Habitat Maderenses (*Mad.*), semel tantum repertus.

The only specimen which I have yet seen of this *Acritus* was taken by myself in the north of Madeira proper, during August 1845.

§ II. *Prothorax simplex* (*lineâ punctorum ante basin haud impressus*).

474. *Acritus punctum*.

Abræus punctum, *Aubé, Ann. de la Soc. Ent. de France*, 232 (1842).

Acritus punctum, *De Mars., ibid.*, 607 (1856).

— —, *Woll., Cat. Can. Col.* 182 (1864).

Habitat Canarienses (*Lanz., Can.*), per oras maritimas sub fucis degens.

The *A. punctum*, which is widely though sparingly distributed along the sea-shores in central and southern Europe, occurs (though very rarely) in the Canarian Group. I have taken it from beneath marine *rejectamenta* in Lanzarote, and it was found by the Messrs. Crotch near Las Palmas in Grand Canary. It will probably be met with more generally, however, if searched for in the proper situations.

Genus 148. **EUBRACHIUM.**

Wollaston, *Trans. Ent. Soc. Lond.* i. 159 (1862).

475. *Eubrachium politum*.

Eubrachium politum, *Woll., loc. cit.* 163 (1862).

— —, *Id., Cat. Can. Col.* 182 (1864).

Habitat Canarienses (*Lanz., Hierro*), sub cortice *Euphorbiarum* laxo putrido rarissimum.

A minute Canarian Histerid which seems to be attached to the *Euphorbias*; so that it will probably be found pretty generally when searched for in the right places—namely, beneath the loose rotting bark of those singular plants. However, it is clearly rare, and has been observed hitherto only in Lanzarote and Hierro.

476. *Eubrachium ovale*.

Eubrachium ovale, *Woll., loc. cit.* 161, pl. vii. f. 9 (1862).
 — — —, *Id., Cat. Can. Col.* 182 (1864).

Habitat Canarienses (*Hierro*), in locis similibus ac præcedens.

Of precisely the same habits as the last species, and almost equally rare. The only island in which it has been found is Hierro, the most western one of the Canarian Group—where it was taken by myself in 1858, and by the Messrs. Crotch in 1864, beneath the rotting bark of old *Euphorbias*.

477. *Eubrachium punctatum*.

Eubrachium punctatum, *Woll., loc. cit.* 162 (1862).
 — — —, *Id., Cat. Can. Col.* 181 (1864).

Habitat Canarienses (*Ten., Gom., Palma*), in sylvaticis humidis editoribus sub cortice laurorum laxo latens.

Whilst the two preceding species are of *Euphorbia*-infesting habits, the present one appears to be attached to the laurels of intermediate and lofty altitudes. I have taken it beneath the loosened bark of old trees in the damp wooded regions of Teneriffe and Palma; and it has been captured by the Messrs. Crotch, in similar situations, in Gomera.

Genus 149. **XENONYCHUS.**

Wollaston, *Cat. Can. Col.* 179 (1864).

478. *Xenonychus fossor*.

Xenonychus fossor, *Woll., Cat. Can. Col.* 181 (1864).

Habitat Canarienses (*Fuert., Can.*), in arenosis aridis maritimis ad radices plantarum parce fodiens.

This remarkable Canarian Histerid resides in sandy places near the coast, where it burrows into the dry hillocks of loose sand which have gradually accumulated around the roots of the various shrubby plants which stud those arid wastes. In such situations it was taken by Mr. Gray and myself, to the south of Puerto de Cabras, in Fuerteventura; and two examples are now before me which were captured by the Messrs. Crotch during the summer of 1864, in the sandy district of Grand Canary between Las Palmas and the Isleta. Like so many of the sand-infesting Coleoptera, it is most anomalous in structure; but its various peculiarities have been fully alluded to in my generic and specific diagnoses.

Genus 150. **SAPRINUS.**Erichson, in *Klug's Jahrb.* i. 172 (1834).

§ I. *Elytrorum striâ suturali antice integrâ (cum quartâ dorsali coëunte).*

a. *Fronte a clypeo lineâ (vel carinâ) transversâ plus minus distinctâ divisâ.*

479. **Saprinus lobatus.**

Saprinus lobatus, *Woll., Cat. Can. Col.* 178 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), in arenosis maritimis sub rejectamentis necnon ad radices plantarum fodiens.

Occurs along the sandy shores of Lanzarote, Fuerteventura, and Grand Canary—burrowing beneath marine *rejectamenta*, and at the roots of sand-plants. It may be regarded as the representative of the *S. maritimus* of more northern latitudes, to which indeed it is closely allied; but it is not peculiar to the islands, for I have myself captured it at Mogadore on the opposite coast of Morocco.

480. **Saprinus erosus.**

Saprinus erosus, *Woll., Cat. Can. Col.* 177 (1864).

Habitat Canarienses (*Fuert.*), in arenosis maritimis parce fodiens.

Taken by myself beneath marine *rejectamenta* on the sandy beach at Corralejo in the extreme north of Fuerteventura, of the Canarian Group; and it would consequently appear, like most of these immediate species, to be of maritime habits.

481. **Saprinus apricarius.**

Saprinus apricarius, *Erich., in Klug's Jahrb.* 194 (1834).

Hister metallicus?, *Brullé, in Webb et Berth. (Col.)* 59 (1838).

Saprinus apricarius, *De Mars., Ann. de la Soc. Ent. de France*, 725 (1855).

— *metallicus*, *Woll. [nec Herbst], Ins. Mad.* 217 (1854).

— —, *Id., Cat. Mad. Col.* 75 (1857).

— *mundus*, var. β ., *Id., Cat. Can. Col.* 176 (1864).

Habitat Maderenses (*P^{to} Sto*) et Canarienses (*Can.*), per oras arenosas maritimas sub rejectamentis fodiens.

A species of Mediterranean latitudes, which is locally abundant beneath *rejectamenta* along the sandy shores of Porto Santo in the Madeiran Group, and also in Grand Canary. I had formerly referred it wrongly to the *metallicus* of Herbst, but am informed by De Marseul that it is unquestionably the *apricarius* of Erichson.

482. *Saprinus mundus*.

Saprinus mundus, *Woll., Cat. Can. Col.* 176 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in arenosis maritimis sub rejectamentis cadaveribusque fodiens.

Not uncommon in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group—occurring under dead animals and marine *rejectamenta*, in low sandy places about the sea-beach. It is very closely allied to the *apricarius*, of which I am by no means satisfied that it should be regarded as more than a variety*.

483. *Saprinus angulosus*.

Saprinus angulosus, *Woll., Cat. Can. Col.* 175 (1864).

Habitat Canarienses (*Lanz.*), sub cadaveribus et rejectamentis in arenosis maritimis degens.

Taken in company with the *S. minyops* in Lanzarote, of the Canarian Group, where I obtained four examples of it from beneath a dead hen immediately outside the town of Arrecife.

484. *Saprinus minyops*.

Saprinus minyops, *Woll., Cat. Can. Col.* 174 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), in locis similibus ac præcedens.

Also a Canarian *Saprinus*—occurring sparingly beneath dead animals, and other *rejectamenta*, in low arid places near the sea-beach. In such situations I have taken it in Lanzarote, Fuerteventura, and in the sandy region between Las Palmas and the Isleta, of Grand Canary.

b. *Fronte a clypeo haud distincte divisâ.*

485. *Saprinus ignobilis*.

Saprinus ignobilis, *Woll., Cat. Can. Col.* 173 (1864).

Habitat Canarienses (*Lanz.*), a Dom. Gray parce repertus.

Like most of the preceding species, observed hitherto only in the

* The *S. mundus* seems to differ from the *apricarius*, mainly, in being darker (or less æneous), in the third and fourth "dorsal" striæ of its elytra being more abbreviated (extending in fact only to the commencement of the punctured portion of the surface), in the transverse striæ of its forehead being rather less confused (or more evidently condensed into two angulated plaits), and in the teeth of its anterior tibiæ being somewhat less acute.

eastern part of the Canarian Group—the few specimens which I have seen having been captured by Mr. Gray near Arrecife, in Lanzarote.

486. *Saprinus fortunatus*.

Hister virescens, *Brullé* [nec *Payk.*], in *Webb et Berth.* (Col.) 59 (1838).
Saprinus fortunatus, *Woll., Cat. Can. Col.* 172 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), in stercore bovino, equino, camelino præcipue in intermediis occurrens.

A common *Saprinus* in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group; and it also occurs, though less abundantly, in Grand Canary. It is found in the dung of cattle, principally at intermediate elevations.

487. *Saprinus chalcites*.

Hister chalcites, *Illig., Mag. für Ins.* vi. 40 (1807).
 — æneus?, *Brullé* [nec *Fab.*], in *Webb et Berth.* (Col.) 59 (1838).
Saprinus chalcites, *Woll., Ins. Mad.* 216 (1854).
 — —, *De Mars., Ann. de la Soc. Ent. de France*, 445 (1855).
 — —, *Woll., Cat. Mad. Col.* 75 (1857).
 — —, *Id., Cat. Can. Col.* 171 (1864).

Habitat Maderenses (*Mad., Pto Sto, Des.*), et Canarienses (in *Hierro solâ* haud observatus), vel in cadaveribus vel in stercore parum vulgaris.

The European *S. chalcites* is the most widely diffused of all the *Sapriini* which have been detected in these Atlantic islands. Indeed we may be nearly certain that it is actually universal throughout the whole of them; for the northern and southern Desertas are the only islands of the five Madeiras in which it has not been observed; whilst at the Canaries it has been captured in every island except Hierro (where doubtless, however, it must exist). I likewise met with it at Mogadore, on the opposite coast of Africa.

§ II. *Elytrorum striâ suturali antice plus minus abbreviatâ.*

488. *Saprinus subnitidus*.

Saprinus subnitidus?, *De Mars., Ann. de la Soc. Ent. de Fr.* 404 (1855).
 — —, *Woll., Cat. Can. Col.* 169 (1864).

Habitat Canarienses (ins. omnes), in stercore late sed parce diffusus. Specimina (ut opinor typica) ex insulis orientalibus, sc. *Lanz., Fuert.* et *Can.*, plerumque paulo majora ac paulo levius parvisque punctulata sunt; sed ad ins. reliquas var. β (*simillimus*),

sæpius minor et subdensius grossiusque punctata, præsertim pertinet.

Found in all the islands of the Canarian Group—having been taken lately in Teneriffe, Gomera, and Hierro by the Messrs. Crotch. In Lanzarote, Fuerteventura, Grand Canary, and Palma I have myself met with it. Whether it be the true *subnitidus* of De Marseul I cannot undertake to pronounce for certain; but if not, and if at the same time distinct from his various other species of this immediate division, it will have to be recognized by the name of *proximus*—proposed for it in my Canarian Catalogue (*vide* p. 170).

The examples from the three eastern islands of the archipelago I have regarded as typical. They are generally somewhat larger, and appear always to be a little more finely and sparingly punctured. The “var. β ,” consequently, from the central and western parts of the Group, which are usually smaller and with their punctation coarser, may perhaps prove ultimately to be distinct, though I scarcely think it probable that such will be the case.

489. *Saprinus nitidulus*.

Hister nitidulus, *Fab., Syst. Eleu.* i. 85 (1801).

— —, *Brullé, in Webb et Berth. (Col.)* 59 (1838).

Saprinus nitidulus, *Woll., Ins. Mad.* 215 (1854).

— —, *Id., Cat. Mad. Col.* 75 (1857).

— —, *Id., Cat. Can. Col.* 169 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Can., Ten.*), præcipue in cadaveribus sat frequens.

This common European insect occurs sparingly both at the Madeiras and Canaries, where it will most likely be found to be pretty generally distributed in the vicinity of the sea-shores and towns. Hitherto, however, it has been observed only in Madeira proper; and in Lanzarote, Grand Canary (where it was captured by the Messrs. Crotch), and Teneriffe, of the Canarian Group.

490. *Saprinus nobilis*.

Saprinus nobilis, *Woll., Cat. Can. Col.* 167 (1864).

Habitat Canarienses (*Ten.*), in inferioribus intermediisque rarissimus.

A Canarian *Saprinus*, which I have captured on two occasions in Teneriffe—near S^{ta} Cruz and in the wood of Las Mercedes. In all probability it is allied to the *S. figuratus* of De Marseul's Monograph.

491. *Saprinus osculans*.

Saprinus osculans, *Woll., Cat. Can. Col.* 168 (1864).

Habitat Canarienses (*Fuert.*), semel tantum captus.

Closely allied to the preceding species, but found hitherto only in Fuerteventura of the Canarian Group.

Genus 151. *CARCINOPS*.

De Marseul, *Ann. de la Soc. Ent. de France*, iii. 83 (1855).

492. *Carcinops minimus*.

Hister minimus, *Dej. Cat.* (edit. 1) (1821).

Paromalus minimus, *Aubé, Ann. de la Soc. Ent. de Fr.* viii. 322 (1850).

— —, *Woll., Ins. Mad.* 212 (1854).

Carcinops minimus, *De Mars., loc. cit.* 90 (1855).

Paromalus minimus, *Woll., Cat. Mad. Col.* 74 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus in intermediis editioribusque vulgaris.

A European species which occurs rather commonly, under stones, in the intermediate and lofty elevations of Madeira proper; but it has not yet been detected in any of the other islands. De Marseul, in the last edition of his Catalogue, has changed its specific title into that of "*corpusculus*"; but his reason for doing so seems to me to be insufficient.

493. *Carcinops 14-striatus*.

Dendrophilus 14-striatus, *Steph., Ill. Brit. Ent.* v. 412 (1832).

Paromalus pumilio, *Erich., in Klug's Jahrb.* i. 169 (1834).

Hister 12-striatus?, *Br. [nec Payk.], in Webb et Berth. (Col.)* 59 (1838).

Paromalus pumilio, *Woll., Ins. Mad.* 213 (1854).

Carcinops pumilio, *De Mars., loc. cit.* 91 (1855).

Paromalus pumilio, *Woll., Cat. Mad. Col.* 74 (1857).

Carcinops 14-striatus, *Id., Cat. Can. Col.* 166 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Fuert., Ten., Gom., Hierro*), sub putridis præcipue in inferioribus degens.

Likewise a European insect, and one which is widely spread over these Atlantic islands—where most probably it is nearly universal. It occurs beneath damp and putrid refuse (both vegetable and animal) principally at low, but sometimes at intermediate elevations. It has been taken near Funchal in Madeira proper, and also in Lanzarote, Fuerteventura, Teneriffe, Gomera, and Hierro, of the Canarian Group. Its detection in Hierro is due to researches of the Messrs. Crotch.

Genus 152. **HISTER.**Linnæus, *Syst. Nat.* ii. 566 (1767).494. **Hister major.**

- Hister major, *Linn., Syst. Nat.* ii. 566 (1767).
 ———, *Brullé, in Webb. et Berth. (Col.)* 59 (1838).
 ———, *Woll., Ins. Mad.* 210 (1854).
 ———, *Id., Cat. Mad. Col.* 74 (1857).
 ———, *Id., Cat. Can. Col.* 165 (1864).

Habitat Maderenses (*Pto Sto*) et Canarienses (*Can., Ten*), minus frequens.

The *H. major*, so widely spread over southern Europe and northern Africa, occurs sparingly at low elevations (for the most part near the sea-shore) in these islands—where perhaps it will be found ultimately to be pretty general. In such situations it has been taken in Porto Santo of the Madeiran Group, as well as in Grand Canary and Teneriffe at the Canaries. Porto Santan examples have also been communicated by the Barão do Castello de Paiva.

495. **Hister canariensis.**

Hister Canariensis, *Woll., Cat. Can. Col.* 165 (1864).

Habitat Canarienses (*Ten., Gom.*), in intermediis præsertim sylvaticis parcissime occurrens.

Apparently a Canarian *Hister*, and somewhat scarce. I have taken it sparingly in the intermediate (sylvan) districts of Teneriffe, and an example is now before me which was captured by the Messrs. Crotch in Gomera.

Genus 153. **EUTRIPTUS.**

Wollaston, *Trans. Ent. Soc. Lond.* i. 157 (1862).

496. **Eutriptus putricola.**

- Eutriptus putricola, *Woll., loc. cit.* 159, pl. vii. f. 7 (1862).
 ———, *Id., Ann. Nat. Hist.* x. 292 (1862).
 ———, *Id., Cat. Can. Col.* 164 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (in *Palma* solâ adhuc haud observatus), sub cortice *Euphorbiarum* laxo putrido parum vulgaris.

Widely spread over these islands, where it will probably be found to exist wherever there are Euphorbias—to which plants it is ex-

clusively attached. In Madeira proper it was detected by the late Mr. Bewicke, in the district to the east of Funchal; whilst at the Canaries it is far more abundant, and has been captured in all the islands except Palma. But as there can be little doubt that sooner or later it will be met with in Palma likewise, we may feel nearly certain that in the Canarian Group at any rate it is universal.

Genus 154. **TERETRIUS.**

Erichson, in *Klug's Jahrb.* i. 201 (1834).

497. **Teretrius cylindricus.**

Teretrius cylindricus, *Woll., Cat. Can. Col.* 164 (1864).

Habitat Canarienses (*Ten., Gom.*), in *Euphorbiâ canariensi* degens.

A Canarian *Teretrius* which appears to be of *Euphorbia*-infesting habits; for although the only example which I myself met with was captured accidentally on the inner canvas of my tent, whilst encamped at the Agua Garcia in Teneriffe, it has nevertheless been taken subsequently by the Messrs. Crotch in Gomera out of the decayed stalks of the *Euphorbia canariensis*.

Genus 155. **HOLOLEPTA.**

Paykull, *Mon. Hist.* 101 (1811).

498. **Hololepta Perraudieri.**

Hololepta Perraudieri, *De Mars., Ann. Soc. Ent. de Fr.* v. 397 (1857).
 — — —, *Woll., Cat. Can. Col.* 162 (1864).

Habitat Canarienses (*Ten., Gom.*), sub cortice *Euphorbiarum* laxo emortuo rarissima.

This noble Histerid appears to be peculiar to the dead *Euphorbias* of the Canarian Group, where it is of the greatest rarity. Indeed the only two examples which I have seen were captured by Dr. Crotch in Gomera—one during the spring of 1862, and the other in the summer of 1864, the latter of them having been taken out of a rotten *Euphorbia*. It was, however, described by De Marseul from a specimen stated to have been brought by M. de la Perraudière from Teneriffe; and since his type seems to have been smaller than the two individuals from Gomera, it is extremely probable that his *habitat* is correct, and that the Teneriffan examples (wheresoever found) may perhaps be somewhat smaller than the Gomeran ones.

Fam. 29. THORICTIDÆ.

Genus 156. THORICTUS.

Germar, in *Silb. Rev. Ent.* ii. 2. 15 (1834).

499. *Thorictus gigas*.

Thorictus gigas, Woll., *Ann. Nat. Hist.* ix. 439 (1862).

— —, *Id.*, *Cat. Can. Col.* 184 (1864).

Habitat Canarienses (*Can.*), in montibus rarissimus; nidos *Formice pubescentis*, Fab., sub lapidibus colens.

A gigantic *Thorictus* which I have observed only on the mountains of Grand Canary, where moreover it is extremely rare,—occurring in the nests of a large brown ant, the *Formica pubescens*, Fab. Although perfectly distinct from every species which I have yet seen, it belongs to an African type of form which occurs in Algeria and Abyssinia.

500. *Thorictus Westwoodii*.

Thorictus Westwoodii, Woll., *Ins. Mad.* 220, tab. v. f. 6 (1854).

— —, *Id.*, *Cat. Mad. Col.* 78 (1857).

Habitat Maderenses (*Mad.*, *P^{to} S^{to}*), in apricis subinferioribus nidos formicarum colens.

Apparently peculiar to the Madeiran Group, where it occurs beneath stones (in, or near, the nests of ants) in sunny spots principally of a low elevation. It has been observed hitherto in Madeira proper and Porto Santo.

501. *Thorictus canariensis*.

Thorictus canariensis, Woll., *Ann. Nat. Hist.* ix. 439 (1862).

— —, *Id.*, *Cat. Can. Col.* 185 (1864).

Habitat Canarienses (*ins. omnes*), sub lapidibus in formicarum nidis ab orâ maritimâ usque ad 8000' s. m. ascendens.

This is the universal *Thorictus* of the Canarian Group, in the whole seven islands of which it has been taken (more or less commonly), ascending from the sea-level to an altitude of at least 8000 feet. It resides beneath stones, in or near the nests of ants; and during the early spring it is sometimes abundant. Indeed on one occasion, in the Rio Palmas of Fuerteventura, I believe that I cannot have extracted less than two hundred specimens out of a single nest.

502. *Thorictus vestitus*.

Thorictus vestitus, *Woll., Cat. Can. Col.* 186 (1864).

Habitat Canarienses (*Lanz.*), sub lapidibus in saxosis submaritimis parce repertus.

Likewise a Canarian species, but apparently rare—the few examples which I have seen having been captured by myself, at a low elevation, in the north-east of Lanzarote.

Fam. 30. APHODIADÆ.

Genus 157. APHODIUS.

Illiger, *Käf. Preuss.* i. 28 (1798).

503. *Aphodius hydrochæris*.

Scarabæus hydrochæris, *Fab., Ent. Syst. Suppl.* 23 (1798).

Aphodius hydrochæris, *Woll., Ins. Mad.* 222 (1854).

— —, *Id., Cat. Mad. Col.* 78 (1857).

— —, *Id., Cat. Can. Col.* 187 (1864).

— —, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 140, 141.

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (in *Palmá solá* haud observatus), in stercore bovino vulgaris.

The *A. hydrochæris* of Mediterranean latitudes is doubtless universal throughout the whole of these Atlantic islands which are inhabited, occurring in the dung of cattle at low and intermediate elevations. It has been taken in Madeira proper and Porto Santo, of the Madeiran Group, and in all the Canarian islands except Palma (where, however, there can be no question that it must exist).

504. *Aphodius Wollastonii*.

Aphodius Wollastonii, *Harold, Berl. Ent. Zeit.* 397 (1862).

— —, *Woll., Cat. Can. Col.* 188 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in stercore vulgaris.

An *Aphodius* which appears to occur in the north of Africa, and which is common throughout Lanzarote and Fuerteventura, in the east of the Canarian Group; but it has not yet been detected in any of the other islands.

505. *Aphodius nitidulus*.

Scarabæus nitidulus, *Fab., Ent. Syst.* i. 30 (1792).

Aphodius sordidus, *Brullé, in Webb et Berth. (Col.)* 60 (1838).

— nitidulus, *Woll., Ins. Mad.* 223 (1854).

Aphodius nitidulus, *Id.*, *Cat. Mad. Col.* 78 (1857).

— —, *Id.*, *Cat. Can. Col.* 188 (1864).

Habitat Maderenses (*Mad.*, *Pto Sto*) et Canarienses (ins. *omnes*), vulgaris.

The European *A. nitidulus* is universal throughout all the *inhabited* islands of these Atlantic Groups, occurring in the dung of cattle at most elevations. It is common in Madeira proper and Porto Santo; and I have myself taken it in the whole seven islands of the Canarian archipelago.

506. *Aphodius tæniatus*.

Aphodius tæniatus, *Woll.*, *Cat. Can. Col.* 189 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*), in stercore minus frequens.

Found in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group, where however it is not very abundant. It occurs likewise at the Cape de Verdes, where it has been found lately by Mr. Gray. Although very closely allied to the *A. nitidulus*, I believe nevertheless that it is totally distinct from it specifically; but the exact points which characterize it have been fully alluded to in my recent Catalogue*.

507. *Aphodius maculosus*.

Aphodius conspurcatus, *Brullé* [nec *Linn.*], in *Webb et Berth.* (*Col.*) 60 (1838).

— *sticticus*, *Hart.* [nec *Pnz.*], *Geol. Verhältn. Lanz. und Fuert.* 140.

— *maculosus*, *Harold*, in *litt.*

— —, *Woll.*, *Cat. Can. Col.* 189 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*, *Can.*), in stercore vulgaris.

Likewise a Canarian *Aphodius*, which is abundant in Lanzarote and Fuerteventura, and which occurs more sparingly in Grand Canary. It has somewhat the general colouring and aspect of the common European *A. inquinatus*, but the many characters which separate it from that species have been pointed out *seriatim* in my Canarian Catalogue.

* The *A. tæniatus* differs from the *nitidulus* in being still more cylindrical; in its prothorax being convexer, more rounded at the sides, with the anterior angles less porrected or acute, and rather more *straightly* truncated at the base; in its elytra having their striæ both finer and less coarsely crenate, and their interstices still more minutely and rather more closely punctulated; in its head, prothorax and a broad sutural band being of a deeper black; and in its legs being darker or more piceous, with the spinules which surmount the *extreme apex*. and outer teeth, of the four hinder tibiæ shorter or less developed.

508. *Aphodius rufus*.

- Aphodius rufus*, Illig., *Mag. für Ins.* ii. 195 (1803).
 ———, Erich., *Nat. der Ins. Deutsch.* iii. 836 (1848).
 ———, Woll., *Ins. Mad.* 224 (1854).
 ———, Id., *Cat. Mad. Col.* 78 (1857).

Habitat Maderenses (Mad.), præcipue in inferioribus haud vulgaris.

A European *Aphodius* which occurs, principally at low elevations, in Madeira proper; but it has not yet been detected in any of the other islands.

509. *Aphodius lividus*.

- Scarabæus lividus*, Oliv., *Ent.* i. 3. 86 (1789).
Aphodius lividus, Woll., *Ins. Mad.* 225 (1854).
 ———, Id., *Cat. Mad. Col.* 78 (1857).
 ———, Id., *Cat. Can. Col.* 191 (1864).

Habitat Maderenses (Mad., Pto S^{to}) et Canarienses (*Can., Ten., Gom., Palma*), late sed parce diffusus.

The European *A. lividus* is very widely, though sparingly, distributed over these islands, where most likely it will be found to be almost universal,—occurring principally at low and intermediate elevations. It has been taken in Madeira proper and Porto Santo—as well as in Grand Canary, Teneriffe, Gomera, and Palma, of the Canarian Group. It is an insect of a very extensive geographical range, which it has doubtless acquired accidentally through human agencies. I have captured it at Mogadore (on the opposite coast of Morocco), and it was taken by Mr. Gray at the Cape de Verdes.

510. *Aphodius Pedrosi*.

- Aphodius Pedrosi*, Woll., *Ins. Mad.* 226 (1854).
 ———, Id., *Cat. Mad. Col.* 79 (1857).

Habitat Maderenses (Pto S^{to}), sublapide in arenosis inferioribus captus.

The only specimen which I have seen of this rather insignificant *Aphodius* was taken by myself (during 1848) from beneath a stone in a low sandy spot, close to the Villa, in Porto Santo, of the Madeiran Group.

511. *Aphodius granarius*.

- Scarabæus granarius*, Linn., *Syst. Nat.* i. ii. 547 (1767).
Aphodius carbonarius, Brullé, in *Webb et Berth. (Col.)* 60 (1838).
 — granarius, Woll., *Ins. Mad.* 226 (1854).

Aphodius granarius, *Id.*, *Cat. Mad. Col.* 79 (1857).
 ———, *Id.*, *Cat. Can. Col.* 191 (1864).

Habitat Maderenses (*Mad.*, *Pto Sto*) et Canarienses (ins. *omnes*), in stercore vulgaris.

The common European *A. granarius* is universal throughout the inhabited islands of these Atlantic Groups. It abounds in Madeira proper and Porto Santo, and has been captured in the whole seven islands of the Canarian archipelago.

Genus 158. OXYOMUS.

(Eschscholtz) De Casteln., *Hist.* ii. 98 (1840).

512. *Oxyomus Heinekeni*.

Oxyomus crenulatus, *Dej.*, *Cat.* 163 (1837).
 ——— *Heinekeni*, *Woll.*, *Ins. Mad.* 228 (1854).
 ——— *Heinekeni*, *Id.*, *Cat. Mad. Col.* 79 (1857).

Habitat Maderenses (*Mad.*), sub putridis in inferioribus occurrens.

Found around Funchal in Madeira proper—where it resides amongst various kinds of putrid refuse, or filthy *rejectamenta*, particularly in low spots towards the beach. It is a species of a wide geographical range—occurring even in Brazil and the West Indian islands, and having been captured by the late Mr. Bewicke at Ascension. I have, also, inspected examples of it which were obtained by the Rev. Hamlet Clark in Algeria*.

513. *Oxyomus brevicollis*.

Oxyomus brevicollis, *Woll.*, *Ins. Mad.* 229 (1854).
 ———, *Id.*, *Cat. Mad. Col.* 79 (1857).
 ———, *Id.*, *Cat. Can. Col.* 191 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Gom.*, *Palma*), passim.

Rather common around Funchal in Madeira proper, occurring beneath damp garden-refuse and under putrid substances near the beach; and it has been taken by the Messrs. Crotch below Hermigua in Gomera, and by Mr. Gray in Palma, of the Canarian Group.

* In a paper on certain Coleoptera from the island of Ascension, published in the 'Ann. of Nat. Hist.' for 1861, I called attention to a sexual peculiarity in the *O. Heinekeni* which I had not before observed—namely, that "the males are not only more shining than the females, but the external edge of their front tibiæ is much more powerfully tridentate, whilst their four hinder ones have their spurs more elongate and subflexuose, and their outer apical angle produced into a much longer and acuter spine."

Genus 159. **PSAMMODIUS.**Gyllenhal, *Ins. Suec.* i. 6 (1808).514. **Psammodius cæsus.**Scarabæus cæsus, *Pnz., Fna Ins. Germ.* 35. 2 (1796).Psammodius cæsus, *Woll., Ins. Mad.* 231 (1854).— —, *Id., Cat. Mad. Col.* 79 (1857).— —, *Id., Cat. Can. Col.* 192 (1864).

Habitat Maderenses (*Mad., Pto S^{to}*) et Canarienses (*Lanz., Can.*), sub quisquiliis præcipue in inferioribus fodiens.

A European *Psammodius* which is widely but sparingly distributed over these islands, occurring beneath refuse principally at low altitudes. It has been taken in Madeira proper and Porto Santo, of the Madeiran Group, and in Lanzarote and Grand Canary, at the Canaries.

515. **Psammodius sabulosus.**Oxyomus sabulosus, *Dej., Cat.* (edit. 3) 163 (1837).Platytomus sabulosus, *Muls., Lamell. de France*, 310 (1842).Psammodius sabulosus, *Woll., Ins. Mad.* 230 (1854).— —, *Id., Cat. Mad. Col.* 79 (1857).— —, *Id., Cat. Can. Col.* 192 (1864).

Habitat Maderenses (*Mad., Pto S^{to}*) et Canarienses (in *Palma solâ* haud observatus), sub lapidibus quisquiliisque præsertim in arenosis submaritimis fodiens.

The *P. sabulosus* of Mediterranean latitudes is probably universal (or nearly so) throughout these Atlantic islands, occurring principally in low and sandy spots towards the coast. At the Madeiran Group it has been taken sparingly in Madeira proper (by the Barão do Castello de Paiva, the late M. Rousset, &c.) and commonly in Porto Santo, and at the Canaries in *all* the seven islands except Palma—where it does not happen to have been observed, but where nevertheless it must doubtless exist.

516. **Psammodius porcicollis.**Aphodius porcicollis, *Illig., Mag. für Ins.* ii. 195 (1803).Psammodius porcicollis, *Muls., Lamell. de France*, 322 (1842).— —, *Woll., Cat. Mad. Col.* 80 (1857).— —, *Id., Cat. Can. Col.* 192 (1864).

Habitat Maderenses (*Pto S^{to}*) et Canarienses (*Lanz., Fuert.*), in arenosis maritimis præcipue ad radices plantarum fodiens.

A species of Mediterranean latitudes, like the *P. sabulosus*—

residing for the most part on or near the sea-beaches, where it burrows beneath various *rejectamenta* and at the roots of sand-plants. In such situations I have taken it abundantly in the eastern parts both of the Madeiran and Canarian Groups—namely, in Porto Santo of the former, and in Lanzarote and Fuerteventura of the latter.

Fam. 31. TROGIDÆ.

Genus 160. TROX.

Fabricius, *Ent. Syst.* i. 86 (1792).

517. *Trox confluens*.

Trox hispidus?, *Brullé* [nec *Fab.*], in *Webb et Berth.* (*Col.*) 60 (1838).
— *confluens*, *Woll.*, *Cat. Can. Col.* 193 (1864).

Habitat Canarienses (*Ten.*), rarissimus. Sub lapide juxta urbem Sanctæ Crucis exemplar unicum collegi.

A single specimen of this *Trox* was captured by myself at a low elevation in Teneriffe—beneath a stone, in the Barranco do Passo Alto, near S^{ta} Cruz; but it is the only one that I have yet seen.

518. *Trox scaber*.

Silpha scabra, *Lin.*, *Syst. Nat.* i. ii. 573 (1767).
Trox arenarius, *Gyll.*, *Ins. Succ.* i. 11 (1808).
— *scaber*, *Woll.*, *Ins. Mad.* 233 (1854).
— —, *Id.*, *Cat. Mad. Col.* 81 (1857).

Habitat Maderenses (*Mad.*), circa domos parce occurrens; forsan ex Europâ introductus.

The European *T. scaber* occurs very sparingly in and about houses in Madeira proper, where in all probability it has become naturalized from higher latitudes. It has been taken by the late Dr. Heineken, as well as by Messrs. Bewicke, Park, and F. A. Anderson.

Fam. 32. MELOLONTHIDÆ.

Genus 161. OOTOMA.

Blanchard, *Cat. Col. Ent.* 120 (1850).

519. *Ootoma bipartita*.

Melolontha bipartita, *Brullé*, in *Webb et Berth.* (*Col.*) 60 (1838).
Ootoma bipartita, *Blanch.*, *loc. cit.* 120 (1850).

Melolontha bipartita, *Hart., Geol. Verhältn. Lanz. und Fuert.* 140, 141.
Ootoma bipartita, *Woll., Cat. Can. Col.* 195 (1864).

Habitat Canarienses (*Lanz., Fuert., Can., Ten.*), sub stercore lapidibusque in cuniculis fodiens.

All the *Ootomas* hitherto detected are peculiarly Canarian, occurring for the most part in small holes or burrows in the soil, which are excavated either beneath stones or the dung of cattle. The *O. bipartita* is found more particularly in the eastern portion of the Group, becoming gradually scarcer as we approach the west. Thus in Lanzarote and Fuerteventura it is rather common, in Grand Canary decidedly scarcer, and in Teneriffe extremely rare; whilst in the islands to the westward of Teneriffe it has not yet been observed even to exist. The blackish hue of its head, prothorax and scutellum, whilst its elytra are rufo-castaneous, will, apart from minor differences, at once separate it from the other species here enumerated.

520. *Ootoma fuscipennis*.

Melolontha fuscipennis, *Brullé, in Webb et Ber. (Col.)* 61, pl. i. f. 1 (1838).

Ootoma fuscipennis, *Blanch., loc. cit.* 120 (1850).

— —, *Woll., Cat. Can. Col.* 196 (1864).

Habitat Canarienses (*Fuert., Ten., Gom.?, Palma?*), in locis similibus ac præcedens.

Widely spread over the Canarian archipelago, but (like the last species) apparently more abundant in the eastern islands than in the western ones. I took it rather commonly in Fuerteventura (beneath the refuse of a camels' stable in the Rio Palmas), and sparingly in Teneriffe; and I obtained two dead examples in Palma, and the Messrs. Crotch one (even more mutilated still) in Gomera, which I believe are referable to the *fuscipennis*; but they are much too imperfect to enable me to decide this point for certain.

521. *Ootoma integra*.

Ootoma integra, *Woll., Cat. Can. Col.* 197 (1864).

Habitat Canarienses (*Can.*), semel tantum reperta.

The only example which I have seen of this *Ootoma* was captured by myself in Grand Canary; and although its characters, if constant, seem abundantly sufficient to indicate a distinct species, yet I cannot but feel that further material is much required in order to ascertain positively that its features are true and permanent ones.

522. *Ootoma castanea*.

Melolontha castanea, *Brullé*, in *Webb et Berth.* (Col.) 60 (1838).

Dasystema canariensis?, *Rambur*, *Ann. de la Soc. Ent. de Fr.* 331 (1843).

Ootoma castanea, *Blanch.*, *loc. cit.* 120 (1850).

— — —, *Woll.*, *Cat. Can. Col.* 198 (1864).

Habitat Canarienses (*Ten.*), rarissima; in cuniculis fodiens.

Observed hitherto only in Teneriffe—where it was taken by Mr. Gray and myself, and whence it has been obtained by the Barão do Castello de Paiva. It is closely allied to the *O. fuscipennis*; but the particular points (some of them structural ones) which appear to separate it from that species have been fully alluded to in my Canarian Catalogue.

523. *Ootoma obscurella*.

Ootoma obscurella, *Woll.*, *Cat. Can. Col.* 200 (1864).

Habitat Canarienses (*Hierro*), rarissima.

Hitherto I have seen but two examples of this *Ootoma*, both of which were captured by myself (during February 1858) in Hierro.

524. *Ootoma obscura*.

Melolontha obscura, *Brullé*, in *Webb et Berth.* (Col.) 61, pl. i. f. 2 (1838).

Ootoma obscura, *Blanch.*, *loc. cit.* 120 (1850).

— — —, *Woll.*, *Cat. Can. Col.* 200 (1864).

Habitat Canarienses, à Dom. Brullé inter Coleoptera Canariensia admissa.

As M. Brullé did not think it necessary to indicate a single *habitat* in the small and inaccurate list which he prepared for the gigantic work of MM. Webb and Berthelot, I am quite at a loss to conjecture in what island the present *Ootoma* was taken. And although most of the characters which his diagnosis is built upon are merely those which are common to all the species here enumerated, there is nevertheless *one* referred to (namely, the enlarged *spatuliform* clava of its antennæ) which would seem to prevent me from identifying the *O. obscura* with any of the preceding species.

Fam. 33. GLAPHYRIDÆ.

Genus 162. CHASMATOPTERUS.

(Dejean) Latr., *Regn. An.* iv. 567 (1829).

525. *Chasmatopterus nigrocinctus*.

Chasmatopterus nigrocinctus, *Woll., Ins. Mad.* 236 (1854).

— —, *Id., Cat. Mad. Col.* 81 (1857).

Habitat Maderenses (*Mad.*), a cl. Heineken, M.D., olim captus; an ex alienis introductus?

As in the case of the *Gyrinus natator*, I cannot but feel a little doubtful whether I ought any longer to admit this insect into the Atlantic fauna,—a single example from the collection of the late Dr. Heineken, and which was taken by him many years ago in Madeira proper, embodying all that I yet know concerning it. So large a species, if really indigenous (or established) in the island, could hardly have escaped the combined researches of so many naturalists who have since (with such unwearied assiduity) toiled over the same ground as that which Dr. Heineken investigated. And although perhaps I cannot well refuse admission to the insect in this Catalogue, I must nevertheless express my belief that it is not truly *Madeiran*, but was more probably an accidental importation from some other country.

Fam. 34. DYNASTIDÆ.

Genus 163. PHYLLOGNATHUS.

Eschscholtz, *Bull. de Moscou*, 65 (1830).

526. *Phyllognathus Silenus*.

Scarabæus Silenus, *Fab., Syst. Ent.* i. 13 (1775).

— —, *Brullé, in Webb et Berth. (Col.)* 60 (1838).

Oryctes Silenus, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 141.

Phyllognathus Silenus, *Woll., Cat. Can. Col.* 201 (1864).

Habitat Canarienses (*Lanz., Fuert., Ten.*), sub recremento stabulorum necnon sub stercore bovino, equino, camelino fodiens.

An insect of Mediterranean latitudes* which occurs sparingly in the Canarian archipelago, particularly in the eastern portion of it. It is not very uncommon in Lanzarote and Fuerteventura, under stable-refuse or burrowing beneath dung; but I have not observed it in any of the other islands. A specimen however, stated to be Teneriffan, has been communicated by the Barão do Castello de Paiva. In Lanzarote it is called "Chamorro" by the inhabitants.

* I have captured it at Mogadore, on the opposite coast of Morocco.

Genus 164. **ORYCTES.**Illiger, *Käf. Preuss.* 11 (1798).527. **Oryctes prolixus.**

Scarabæus nasicornis, *Brullé* [nec *L.*], in *Webb et Ber.* (*Col.*) 60 (1838).
Oryctes prolixus, *Woll.*, *Cat. Can. Col.* 202 (1864).

Habitat Canarienses (*Ten.*, *Gom.*, *Hierro*), rarior. Radices truneosque emortuos *Euphorbiæ piscatoricæ* sub terrâ edere apud oculatissimum G. R. Crotch dicitur.

Sparingly distributed over the central and western islands of the Canarian Group, to which it seems to be peculiar—having been captured by myself in Teneriffe and Hierro, and by the Rev. R. T. Lowe and the Messrs. Crotch in Gomera. Although much allied to the European *O. grypus*, I believe nevertheless that the features which distinguish it therefrom are truly specific ones; and this is rendered all the more probable from the singularity of its habits, concerning which I received an interesting communication from Mr. G. R. Crotch during his late sojourn in Gomera. According to his report, it would appear to feed on the roots (and underground portions of the stems) of the *Euphorbia piscatoria*—a plant eminently characteristic of these Atlantic islands. Mr. Crotch states that, in one instance, on pulling up a dead shrub of the *piscatoria*, he found “a female *Oryctes* and some 20 or 30 larvæ.” We may therefore, perhaps, expect to meet with it throughout the *Euphorbia*-regions generally.

Fam. 35. **CETONIADÆ.**Genus 165. **EPICOMETIS.**Burmeister, *Handb. der Ent.* iii. 434 (1842).528. **Epicometis squalida.**

Scarabæus squalidus, *Linn.*, *Syst. Nat.* i. ii. 556 (1767).

Cetonia crinita, *Charp.*, *Horæ Ent.* 213 (1825).

— *hirta*, *Brullé* [nec *Fab.*], in *Webb et Berth.* (*Col.*) 62 (1838).

Tropinota Reyi, *Muls.*, *Lamell. de France*, 575 (1842).

Epicometis squalida, *Woll.*, *Cat. Can. Col.* 203 (1864).

Habitat Canarienses (ins. omnes), ad flores vulgaris.

A Mediterranean insect which is quite universal throughout the Canarian archipelago, in the whole seven islands of which I have myself captured it. It occurs principally at intermediate elevations, and often abounds on the flowers of the *Asphodelus fistulosus*, as well as on those of Thistles.

529. *Epicometis femorata*.

Cetonia femorata, Illig., *Mag. für Ins.* ii. 231 (1803).

— *hispanica*, Gory et Perch., *Mon. des Cét.* 280 (1833).

Epicometis femorata, Burm., *Handb. der Ent.* iii. 435 (1842).

— —, Woll., *Cat. Can. Col.* 204 (1864).

Habitat Canarienses (*Fuert., Can.*), in aridis arenosis rarissima.

The *E. femorata*, which is found in Spain and Algeria, occurs very rarely at the Canaries. I captured a few specimens of it in the sandy tract at Corralejo, in the extreme north of Fuerteventura, burrowing into the loose sand around the roots of shrubby plants; and two more were taken (dead) by the Messrs. Crotch, near Las Palmas, in Grand Canary.

Fam. 36. BUPRESTIDÆ.

Genus 166. ACMÆODERA.

Eschscholtz, *Zool. Atlas*, i. 9 (1823).

530. *Acmmæodera cisti*.

Acmmæodera cisti, Woll., *Ann. Nat. Hist.* ix. 439 (1862).

— —, *Id.*, *Cat. Can. Col.* 204 (1864).

Habitat Canarienses (*Can., Ten., Palma*), ad flores præsertim *Cisti*, *Cytisi*, et *Spartii* in locis elevatis usque ad 8000' s. m. ascendens.

Occurs at lofty elevations in Grand Canary, Teneriffe, and Palma, on the flowers of the various shrubs (such as the *Spartium nubigena*, the *Cystisus proliferus*, and the *Cistus monspeliensis* and *vagans*) which characterize the higher districts, ascending to at least 8000 feet above the sea. Judging however from a note now before me, which was received from Mr. G. R. Crotch during his sojourn in Teneriffe, it would appear that it is not in reality attached (*i. e.* in its previous states) to any of those particular plants; for he mentions that he had extracted it "out of the burrows where it feeds—in the 'gorse' (as they term it), not in the Retama." I cannot say for certain what is the exact shrub referred to by Mr. Crotch; but I am informed by the Rev. R. T. Lowe that it is *probably* identical with the "*codeso*—a name which in the Canaries includes several species of *Genista*." Elsewhere, however, I see the "*codeso*" referred to the *Adenocarpus frankenoides*; but, still, whether the "*codeso*" and "*gorse*" be one and the same plant remains to be proved*.

* Since the above was written, Dr. Crotch has informed me that the "*gorse*" and "*codeso*" are *positively* identical.

531. *Acmaødera fracta*.

Acmaødera fracta, *Woll., Cat. Can. Col.* 205 (1864).

Habitat Canarienses (*Can.*), ad flores rarissima.

The only two examples which I have yet seen of this *Acmaødera* (which is closely allied to the preceding species) were captured by myself in Grand Canary,—one of them in the low sandy region of El Charco, in the extreme south of that island, and the other in the lofty Pinal of Tarajana (above San Bartolomé). It would appear, consequently, to be independent of elevation.

532. *Acmaødera plagiata*.

Acmaødera plagiata, *Woll., Cat. Can. Col.* 206 (1864).

Habitat Canarienses (*Can.*), rarissima; semel tantum reperta.

Likewise found in Grand Canary, but hitherto unique—a single example taken by myself, beneath a stone, on an arid slope in the south of Grand Canary (between Maspalomas and Juan Grande) being the only one that I have yet seen.

533. *Acmaødera ornata*.

Acmaødera ornata, *Woll., Cat. Can. Col.* 207 (1864).

Habitat Canarienses (*Fuert.*), semel deprehensa.

Also unique, but found in a different island of the Canarian Group from any of the preceding species—namely, Fuerteventura. It was captured by myself in the Rio Palmas, at the beginning of April 1859.

Genus 167. BUPRESTIS.

Linnæus, *Syst. Nat.* i. ii. 659 (1767).

534. *Buprestis Bertheloti*.

Buprestis Bertheloti, *Brullé, in Webb et Berth. (Col.)* pl. ii. f. 12 (1838).

— —, *Woll., Cat. Can. Col.* 207 (1864).

Habitat Canarienses (*Ten., Hierro*), rarissima; in pinetis præcipue (an semper?) degens.

A large Canarian *Buprestis* (of excessive rarity) which entirely escaped my own researches, no less than those of all other recent naturalists except the Messrs. Crotch—who during the summer of 1864 met with several dead examples of it, in spiders' webs in the re-

mote *Pinal* which occupies a small but elevated area at the southern extremity of the Cumbre in the island of Hierro. Previously however to this important discovery, I had received a single example of it from the Barão do Castello de Paiva, by whom it was obtained from an old (but accurate) collection which had been formed many years ago in Teneriffe; and it would appear, from inquiries subsequently instituted by the Baron Paiva, that the Teneriffan example was professedly from the Agua Garcia (or, rather, its immediate vicinity). Although however I have no doubt that it was strictly Teneriffan, I do not place entire confidence in the exact *habitat* claimed for it, but should be disposed to conclude, from the positive evidence gained by the Messrs. Crotch in Hierro, that it is normally a pine-destroying insect and is consequently attached to the Pinals.

Judging from the single individual just alluded to, the Hierro specimens would seem to be a little larger than the Teneriffan ones, with their prothorax even still more roughly punctured and having its lateral yellow streak carried further back—indeed *almost* to the hinder margin.

Genus 168. ANTHRAXIA.

Eschscholtz, *Zool. Atlas*, i. 9 (1823).

535. *Anthraxia senilis*.

Anthraxia senilis, Woll., *Cat. Can. Col.* 208 (1864).

Habitat Canarienses (*Can.*), in pinetis editoribus inter flores *Cistus*-rum parce deprehensa.

The few specimens of this *Anthraxia* which have hitherto been met with I captured at a high elevation on the mountains of Grand Canary,—flying in the hot sunshine, amongst *Cistus*-blossoms, in the lofty Pinal of Tarajana (above San Bartolomé).

Genus 169. AGRILUS.

(Megerle) Steph., *Ill. Brit. Ent.* iii. 239 (1830).

536. *Agrilus Darwinii*.

Agrilus Darwinii, Woll., *Cat. Mad. Col.* 82 (1857).

Habitat Maderenses (*Mad.*), rarissimus; semel tantum repertus.

A Madeiran *Agrilus*, and evidently one of the most rare of all the truly indigenous Coleoptera of these Atlantic islands. Indeed the only specimen which has hitherto been brought to light was captured

by myself, during August 1855, by beating rank vegetation in the north of Madeira proper—about a third of the way up the Ribeiro de São Jorge.

Fam. 37. THROSCIDÆ.

Genus 170. THROSCUS.

Latreille, *Préc. des Caract. Gén. des Ins.* 42 (1796).

§ I. *Oculi integri.*

537. *Throscus latiusculus.*

Throscus latiusculus, Woll., *Append. huj. op.* 30.

Habitat Canarienses (*Hierro*), à DD. Crotch sat copiose deprehensus.

Captured by the Messrs. Crotch in Hierro, the most western of the Canarian islands, where they obtained it rather abundantly.

538. *Throscus elongatulus.*

Throscus integer, Woll., *Cat. Can. Col.* [sed vix *Cat. Mad. Col.*] 209 (1864).

— *elongatulus*, *Id.*, *Append. huj. op.* 30.

Habitat Canarienses (*Ten.*, *Gom.*, *Palma*), in sylvaticis editoribus rarissimus.

Likewise Canarian, occurring sparingly under dead sticks and rubbish in the sylvan districts of a rather high elevation. A tolerable series of it was taken in Gomera, during the summer of 1864, by the Messrs. Crotch; and it is from their specimens that my diagnosis, given in the Appendix, has been compiled. I had myself, however, met with a few examples previously, both in Teneriffe and Palma, which I have little doubt are conspecific with the Gomeran ones, even though it is true that a Palman individual which is now before me does not *perfectly* accord with the latter. At any rate, since it is the *Gomeran* insect that I have taken as the type of the present species, I need scarcely add that if future material should prove the Teneriffan and Palman *Throscus* to be distinct (which I consider improbable) the name *elongatulus* must of course apply to the former.

The *T. elongatulus* closely resembles the Madeiran *T. integer*, of which I am far from satisfied that it is more than a geographical state; but the characters, small though they be (even whilst constant), which distinguish it therefrom have been fully pointed out in the Appendix.

539. *Throscus integer*.

Trixagus integer, *Woll., Cat. Mad. Col.* 82 (1857).

Throscus integer, *Id., Append. huj. op.* 31.

Habitat Maderenses (*Mad.*), rarissimus; hinc inde in lauretis humidis excelsis.

Found in the damp sylvan districts of a rather high elevation in Madeira proper, where however it is extremely scarce. I have taken it beneath rotten wood, at the Montado dos Pecegueiros, in the north of the island.

§ II. *Oculi in medio transversim sulcati.*540. *Throscus gracilis*.

Throscus elateroides? *Heer, Fna Helv.* 443 (1841).

Trixagus gracilis, *Woll., Ins. Mad.* 237 (1854).

— —, *Id., Cat. Mad. Col.* 84 (1857).

Habitat Maderenses (*Mad.*), sub cortice laxo necnon inter lichenes ad lignum antiquum crescentes in inferioribus rarissimus.

The few examples which I have yet seen of this *Throscus* were taken by myself at a low elevation in the south of Madeira proper—namely under the loosened bark of a plane-tree in the Praça da Rainha in Funchal, and amongst lichen growing on the rotten wood of an old peach-tree in the Rev. R. T. Lowe's garden at the Levada. In all probability the species will be found to be identical with the *T. elateroides* of southern Europe; but until further material has been obtained for comparison, I will not suppress the name under which it has hitherto been cited, particularly as De Bonvouloir (judging solely, however, from my *diagnosis*) records a doubt as to whether it is absolutely conspecific with that insect. Should it ultimately prove to be so, of course Heer's title would have the priority.

Fam. 38. ELATERIDÆ.

Genus 171. COPTOSTETHUS.

Wollaston, *Ins. Mad.* 238 (1854).

541. *Coptostethus femoratus*.

Coptostethus femoratus, *Woll., Ins. Mad.* 240, tab. iv. f. 8 (1854).

— —, *Id., Cat. Mad. Col.* 84 (1857).

Habitat Maderenses (*Pto S^{to}*), sub lapidibus in montibus rarissimus.

Observed hitherto only in Porto Santo, of the Madeiran Group, where moreover it is of the utmost rarity,—occurring beneath stones on the rocky mountain-slopes. It is the only member of the *Elateridæ* which has been detected in the Madeiran archipelago.

542. *Coptostethus crassiusculus*.

Coptostethus crassiusculus, *Woll., Cat. Can. Col.* 213 (1864).

Habitat Canarienses (*Can.*), in intermediis editioribusque rarissimus.

A very variable *Copostethus* which inhabits the intermediate and lofty elevations of Grand Canary, occurring sparingly beneath stones.

543. *Coptostethus brunneipennis*.

Coptostethus brunneipennis, *Woll., Ann. Nat. Hist.* xi. 218 (1863).

— —, *Id., Cat. Can. Col.* 210 (1864).

Habitat Canarienses (*Ten., Gom., Palma, Hierro*), sub lapidibus rarior ; præcipue in intermediis et editioribus (rarissime in inferioribus) occurrens. Species valde inconstans.

A Canarian insect, which has been observed in Teneriffe, Gomera, Palma, and Hierro,—occurring for the most part at intermediate and rather lofty (but now and then even in the lower) altitudes. It is eminently inconstant, the whole of its characters (though never simultaneously) being more or less subject to variation ; and in three examples now before me, which were taken by the Messrs. Crotch (while sifting fallen leaves) at a high elevation on the mountains of Gomera, the elytra are somewhat more rounded (or widened) before the middle, but I cannot see anything about them to constitute a specific difference.

544. *Coptostethus gracilis*.

Coptostethus gracilis, *Woll., Cat. Can. Col.* 211 (1864).

Habitat Canarienses (*Ten.*), præcipue in montibus valde elevatis sub lapidibus parce degens. Usque ad 9000' s. m. ascendit.

Likewise Canarian, and observed only (hitherto) in the higher altitudes of Teneriffe—where it attains its maximum on the exposed elevated Cumbres from about 8000 to 9000 feet above the sea. It occurs beneath stones, in company with the *C. globulicollis*, but much more sparingly ; and although it is evidently allied to the (very inconstant) *brunneipennis*, I nevertheless do not believe that it can possibly be regarded as any small and narrow modification of that insect.

545. *Coptostethus canariensis*.

Coptostethus canariensis, *Woll., Ann. Nat. Hist.* ii. 196 (1858).

— —, *Candèze, Mon. des Elat.* iii. 105 (1860).

— —, *Woll., Cat. Can. Col.* 211 (1864).

Habitat Canarienses (*Ten.*), sub lapidibus in inferioribus occurrens.

This *Coptostethus* (which is also Canarian) has been detected only in the lower districts of Teneriffe—where it occurs, beneath stones, from the sea-level to an elevation (so far as has been hitherto observed) of no more than about 800 feet. It is not uncommon in the rocky ground to the westward of the Puerto Orotava.

546. *Coptostethus globulicollis*.

Coptostethus globulicollis, *Woll., Ann. Nat. Hist.* ix. 440 (1862).

— —, *Id., Cat. Can. Col.* 212 (1864).

Habitat Canarienses (*Ten.*), in montibus valde elevatis usque ad 9000' s. m. ascendens.

Also peculiar to Teneriffe, occurring in the higher elevations of that island. It attains its maximum from about 8000 to 9000 feet above the sea, and seldom descends into even the sylvan districts. I have taken it in profusion, from beneath stones and scoriæ, on the lofty Cumbre (adjoining the Cañadas) above Ycod el Alto, as well as on the opposite heights above the Agua Mansa.

547. *Coptostethus obtusus*.

Coptostethus obtusus, *Woll., Cat. Can. Col.* 213 (1864).

Habitat Canarienses (*Ten.*), rarissimus; in sylvaticis editioribus semel tantum repertus.

Hitherto I have seen but a single specimen of this insect, which was captured by myself in the sylvan region of the Agua Mansa in Teneriffe. It presents so many peculiarities of its own that I scarcely think it can possibly be regarded as any modification, or monstrosity, of the *globulicollis*; nevertheless further material is much required, in order to ascertain for certain that its characters are constant ones.

Fam. 39. CYPHONIDÆ.

Genus 172. EUCINETUS.

Schüppel, in *Germ. Mag.* iii. 255 (1818).

548. *Eucinetus ovum*.

Eucinetus ovum, *Woll., Ins. Mad.* 242 (1854).

— — —, *Id., Cat. Mad. Col.* 85 (1857).

— — —, *Id., Cat. Can. Col.* 215 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom.*), sub cortice lignoque putrido in sylvaticis humidis editioribus rarissimus.

Occurs sparingly in the damp sylvan districts, of intermediate and rather lofty elevations, both at the Madeiras and Canaries. At the former it has been taken in Madeira proper, and at the latter—by myself in Teneriffe, and by the Messrs. Crotch in Gomera.

Genus 173. *CYPHON*.

Paykull, *Fna Suec.* ii. 117 (1798).

549. *Cyphon gracilicornis*.

Cyphon gracilicornis, *Woll., Cat. Can. Col.* 214 (1864).

Habitat Canarienses (*Can., Ten., Gom.*), in herbidis humidiusculis intermediis late sed parce diffusus.

Found amongst herbage, in damp spots, in the intermediate districts of Grand Canary, Teneriffe, and Gomera; and we may expect to meet with it in Palma and Hierro likewise. It closely resembles the European *C. coarctatus*, of which I am far from satisfied that it is more than a geographical state.

Fam. 40. DRILIDÆ.

Genus 174. *MALACOGASTER*.

Bassi, *Mag. de Zool. (Ins.)* pl. 99 (1832).

550. *Malacogaster tilloides*.

Malacogaster tilloides, *Woll., Cat. Can. Col.* 215 (1864).

Habitat Canarienses (*Fuert.*), rarissimus; inter plantas *Arundinis donacis* in aquosis nascentes parcissime lectus.

A Canarian insect of the greatest rarity, which I captured sparingly in Fuerteventura—amongst plants of the *Arundo donax* growing in swampy places in the Rio Palmas. Although allied to, it is totally distinct from the Sicilian *M. Passerinii*, which is a little larger, broader, and less shining,—its surface (which is studded with shorter, less erect, and darker hairs) being more sculptured.

Fam. 41. TELEPHORIDÆ.

Genus 175. MALTHINUS.

Latreille, *Gen. Crust. et Ins.* i. 261 (1806).

551. *Malthinus mutabilis*.

Malthinus mutabilis, *Woll., Journ. of Ent.* i. 424 (1862).

— —, *Id., Cat. Can. Col.* 216 (1864).

Habitat Canarienses (ins. omnes), ad flores, passim.

A Canarian *Malthinus* which has been found in the whole seven islands of the archipelago, occurring on flowers at low and intermediate elevations. It is extremely variable, both in size and colour; and, although perfectly distinct from the European *M. flaveolus*, it may perhaps be looked upon as the representative at the Canaries of that species.

552. *Malthinus flammeicollis*.

Malthinus croceicollis, *Woll., Journ. of Ent.* i. 426 (1862).

— —, *Id., Cat. Can. Col.* 217 (1864).

Habitat Canarienses (*Can.*), ad flores in intermediis minus frequens.

This *Malthinus* I have met with as yet only in Grand Canary, where it is not uncommon during the spring months throughout the region of El Monte. I have changed its name to *flammeicollis* on account of Motschulsky having previously described a *croceicollis* in the nearly allied genus *Malthodes*—a group so close to *Malthinus* that in all probability it will not long be upheld as distinct.

Genus 176. MALTHODES.

Kiesenwetter, in *Linn. Ent.* vii. 265 (1852).

553. *Malthodes Kiesenwetteri*.

Malthodes Kiesenwetteri, *Woll., Ins. Mad.* 243 (1854).

— —, *Id., Cat. Mad. Col.* 85 (1857).

Habitat Maderenses (*Mad., Pto Sto*), ad flores in herbis intermediis parce occurrens.

Not uncommon on flowers in the intermediate districts of Madeira proper and Porto Santo, where it represents the *M. brevicollis* of more northern latitudes. Indeed it is so closely allied to the latter that I should scarcely have treated it as more than a geographical

modification of it, had I not been informed by Kiesenwetter (who examined it carefully, after having compiled his elaborate Monograph of the group) that he considered it to be specifically distinct.

Fam. 42. MALACHIADÆ.

Genus 177. MALACHIUS.

Fabricius, *Syst. Ent.* i. 221 (1792).

554. *Malachius militaris*.

Malachius militaris, *Woll., Ins. Mad.* 245 (1854).

— —, *Id., Cat. Mad. Col.* 85 (1857).

Habitat Maderenses (*Mad.*), hinc inde ad flores in cultis inferioribus.

A *Malachius* which is sometimes tolerably common in the lower elevations of Madeira proper, occurring principally about gardens and other cultivated grounds. I have taken it in and around Funchal; and specimens have lately been communicated by the Barão do Castello de Paiva. In colour and general aspect it greatly resembles the European *M. rubricollis*, Msh.,—from which however it differs in its very much shorter limbs (the antennæ particularly being more abbreviated), in its tarsi and anterior legs having a tendency (more or less expressed) to be diluted in hue, in its prothorax being less transverse (or more narrowed behind) and with a longitudinal black patch (seldom absent) down the disk, and in its elytra being almost free from any appearance of erect blackish additional hairs*.

* A single example of a *Malachius* which possibly may prove to be conspecific with the Madeiran *M. militaris*, but which I think seems scarcely to differ from the common European *M. rubricollis*, has been communicated by De Marseul (who informs me that he possesses two more of them) as Canarian; but since several of the insects in the same consignment are labelled with *unmistakeably* wrong localities, I feel that I cannot safely admit the species (even whilst professedly from the collection of M. de la Perraudière) into this Catalogue. The only point, so far as I can detect, in which the individual before me recedes from the ordinary type consists in its total freedom from pubescence; nevertheless, as its antennæ are broken off, I cannot say this for certain. But, if truly Canarian, it is not impossible that further and more satisfactory material might disclose some other small diagnostic features (either external or structural); and I will therefore record it briefly as follows, in the event of its proving ultimately to be distinct from the *rubricollis* and *militaris*, and its *habitat* to be correct:—

Malachius rufotermiatus, n. sp.?

M. nitidus, calvus, (oculo fortissime armato) minutissime, vix perspicue punctulatus; capite latiusculo elytrisque nigro-cyaneis, his ad apicem prothoraceque læte testaceo-rufis; [antennis mihi non obviis;] pedibus subcyaneo-nigris.—Long. corp. lin. $1\frac{2}{3}$.

Cantharis rubricollis?, *Msh., Ent. Brit.* 371 (1802).

Habitat ins. Canarienses (sec. cl. De Marseul), mihi non obvius.

Genus 178. **ATTALUS.**Erichson, *Entomograph.* 89 (1840).

§ I. *Prothorax plus minus (i. e. vel omnino, vel in parte majore, vel versus angulos solos posticos) pallidus.*

555. **Attalus pellucidus.**Pecteropus pellucidus, *Woll., Ins. Mad.* 247 (note) (1854).Attalus pellucidus, *Id., Journ. of Ent.* i. 429 (1862).— —, *Id., Cat. Can. Col.* 219 (1864).

Habitat Canarienses (*Ten.*), ad flores vulgaris. Ab orâ maritimâ usque ad 8000' s. m. ascendit.

A Canarian *Attalus* which has been detected hitherto only in Teneriffe, where it occurs on flowers (often very abundantly) at nearly all elevations.

556. **Attalus ruficollis.**Attalus ruficollis, *Woll., Journ. of Ent.* i. 428 (1862).— —, *Id., Cat. Can. Col.* 219 (1864).

Habitat Canarienses (*Ten., Palma, præcipue illam*), vulgaris, in locis similibus ac præcedens.

Found in Teneriffe, generally in company with the last species—to which indeed it is so closely allied that it appears to differ from it merely in having its prothorax red, instead of black. As stated however in my Canarian Catalogue, I can nevertheless scarcely treat it as a variety of that insect, inasmuch as I have not yet been able to procure even an approximation to anything like an intermediate link between the two; and that the differences are not sexual ones is certain, for the males and females of each form remain perfectly constant to each other. Moreover the specific distinctness is perhaps rendered still more probable through the circumstance that there is a small state of the *ruficollis* (the “var. β . *pauperculus*” of my diagnosis) peculiar to *Palma*, and I have seen no *Attalus* in that island at all analogous to the *pellucidus* of Teneriffe; whereas had the latter been a modification which the *ruficollis* is so eminently liable to assume, we might certainly have expected to meet with some traces of it in *Palma*—in like manner as we do (thus abundantly) in Teneriffe.

557. **Attalus pallipes.**Attalus pallipes, *Woll., Cat. Can. Col.* 220 (1864).

Habitat Canarienses (*Ten., Gom.?*), à W. D. Crotch deprehensus.

Found by Dr. Crotch (rather abundantly) in Teneriffe, during his Canarian expedition of 1862; and he had also a single example of it amongst his material from Gomera. I think however that further evidence would be desirable for the latter *habitat* before it can be considered to be perfectly established, for it is of course within the range of possibility that one of Dr. Crotch's Teneriffan specimens may have become mixed up accidentally with his Gomeran collection.

The *A. pallipes* is nearly related to the *ruficollis*, but its many distinctions (chiefly, however, of colour) have been fully pointed out in my Canarian Catalogue.

558. *Attalus ornatissimus*.

Attalus ornatissimus, Woll., *Journ. of Ent.* i. 431, pl. xx. f. 2 (1862).
 ———, *Id.*, *Cat. Can. Col.* 221 (1864).

Habitat Canarienses (*Palma*), ad flores in intermediis et præsertim editioribus hinc inde vulgaris.

Peculiar apparently to the intermediate and (more especially) lofty elevations of Palma, in the Canarian Group—where it has been taken, successively, by Mr. Gray, myself, and Dr. Crotch.

559. *Attalus rugifrons*.

Attalus rugifrons, Woll., *Journ. of Ent.* i. 431 (1862).
 ———, *Id.*, *Cat. Can. Col.* 221 (1864).

Habitat Canarienses (*Gom.*), in intermediis tempore hiemali captus.

Taken by Mr. Gray and myself (on the hills above San Sebastian) in Gomera, of the Canarian Group, during February 1858; but it has not yet been detected elsewhere.

560. *Attalus ovatipennis*.

Attalus ovatipennis, Woll., *Journ. of Ent.* i. 429 (1862).
 ———, *Id.*, *Cat. Can. Col.* 220 (1864).

Habitat Canarienses (ins. *omnes*), ad flores varios, passim.

The most widely spread of all the Canarian *Attali*, it having now been detected in the whole seven islands of the archipelago; for although until lately it had not been observed in Hierro, six examples are now before me from that island which were found by the Messrs. Crotch at a high elevation in the sylvan district of El Golfo—close to

the Fountain known locally as the "Fonte de Tivataje," on the descent from the Cumbre. It is the only *Attalus* which has yet been met with in Hierro*.

561. *Attalus bisculpturatus*.

Attalus bisculpturatus, Woll., *Journ. of Ent.* i. 430 (1862).

— —, *Id.*, *Cat. Can. Col.* 221 (1864).

Habitat Canarienses (*Fuert.*), rarissimus. Specimina duo Aprili in-eunte A. D. 1859 deprehendi.

A remarkable species, two examples only of which have as yet come beneath my notice. They were taken by myself in Fuerteventura, of the Canarian Group—near the little town of S^{ta} Maria Betancuria, in the Rio Palmas.

562. *Attalus chrysanthemi*.

Anthocomus analis, Hart. [nec Pnz.], *Geol. Verh. Lanz. u. Fuert.* 140.

Attalus chrysanthemi, Woll., *Journ. of Ent.* i. 432, pl. xx. f. 3 (1862).

— —, *Id.*, *Cat. Can. Col.* 222 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*), ad flores præsertim *Chrysanthemum ochroleuci*, W. et B., in intermediis hinc inde vulgaris.

A most beautiful (and constant) *Attalus*, which has been observed hitherto only in Lanzarote and Fuerteventura—the two eastern islands of the Canarian Group. It is locally abundant, at intermediate elevations, on flowers—particularly those of a large *Chrysanthemum* (the *C. ochroleucus*, W. et B.); but it is less common in Fuerteventura than in Lanzarote.

563. *Attalus commixtus*.

Attalus commixtus, Woll., *Journ. of Ent.* i. 433 (1862).

— —, *Id.*, *Cat. Can. Col.* 223 (1864).

Habitat Canarienses (*Lanz.*), ad flores *Euphorbiarum* in saxosis intermediis parce captus.

The few examples which I have seen of this *Attalus* (which is a good deal allied to the preceding species, though I believe perfectly distinct from it) were taken by myself in Lanzarote, of the Canarian Group—from *Euphorbia*-blossoms, in the north of that island.

* I have no reason to suppose that there is any deficiency of the Malacoderms in Hierro; but as our short sojourn in that island was too early in the season, and that of the Messrs. Crotch too late, for the generality of the flower-infesting Coleoptera, we did not fall in with many of them.

564. *Attalus lævicollis*.

Attalus lævicollis, *Woll., Journ. of Ent.* i. 434 (1862).

— —, *Id., Cat. Can. Col.* 223 (1864).

Habitat Canarienses (*Lanz.*), rarissimus; unà cum specie præcedente semel repertus.

Hitherto unique, the only example which I have seen having been captured by myself (in company with the last species) in the north of Lanzarote—of the Canarian Group.

565. *Attalus posticus*.

Attalus posticus, *Woll., Journ. of Ent.* i. 434 (1862).

— —, *Id., Cat. Can. Col.* 224 (1864).

Habitat Canarienses (*Fuert.*), semel tantum lectus.

Taken by myself in Fuerteventura, of the Canarian Group—close to *S^{ta} Maria Betancuria*, in the Rio Palmas; but, like the last species, it is hitherto unique.

566. *Attalus anthicoides*.

Attalus anthicoides, *Woll., Journ. of Ent.* i. 435, pl. xx. f. 4 (1862).

— —, *Id., Cat. Can. Col.* 224 (1864).

Habitat Canarienses (*Lanz., Fuert.*), vel ad flores vel sæpius sub recremento farris circa basin acervorum tritici sparso hinc inde sat vulgaris.

Peculiar (so far as I have yet observed) to Lanzarote and Fuerteventura, the two eastern islands of the Canarian archipelago,—where it occurs not merely upon flowers, but (far oftener) beneath the refuse around the base of corn-stacks. Its habits indeed, no less than its *primâ facie* aspect, are quite those of the Heteromerous genus *Anthicus*; and in fact it so nearly resembles, at first sight, the *A. canariensis* (with which it is frequently found in company) that until carefully examined it might almost be mistaken for that insect.

§ II. *Prothorax cum capite elytrisque concolor (rarius ad angulos ipsissimos posticos obscurissime et anguste pallidus)*.

567. *Attalus tuberculatus*.

Attalus tuberculatus, *Woll., Journ. of Ent.* i. 436 (1862).

— —, *Id., Cat. Can. Col.* 225 (1864).

Habitat Canarienses (*Ten., Gom.*), ad flores minus frequens.

Likewise a Canarian *Attalus*, and one which I have myself observed

only near the Puerto Orotava in Teneriffe; but several examples are now before me which were captured by the Messrs. Crotch, during the summer of 1864, in Gomera. The Gomeran specimens are more or less appreciably æneous; whereas the Teneriffan ones are black, with only a *very* faint brassy tinge.

568. *Attalus obscurus*.

Attalus obscurus, Woll., *Journ. of Ent.* i. 437 (1862).

— —, *Id.*, *Cat. Can. Col.* 225 (1864).

Habitat Canarienses (*Can.*), ad flores in intermediis occurrunt.

I have observed this *Attalus* hitherto only in Grand Canary, where it is not uncommon during the spring months throughout the region of El Monte and towards the summit of the Bandama mountain.

569. *Attalus subopacus*.

Attalus subopacus, Woll., *Journ. of Ent.* i. 437 (1862).

— —, *Id.*, *Cat. Can. Col.* 226 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*), ad flores sat vulgaris.

Detected as yet only in Lanzarote and Fuerteventura, the eastern islands of the Canarian Group,—where however it is widely spread, and in certain districts rather common.

570. *Attalus metallicus*.

Attalus metallicus, Woll., *Journ. of Ent.* i. 438 (1862).

— —, *Id.*, *Cat. Can. Col.* 226 (1864).

Habitat Canarienses (*Lanz.*, *Ten.*), ad flores præsertim *Euphorbiarum* hinc inde haud infrequens.

A Canarian *Attalus* which is rather common in Lanzarote, where it is particularly partial to the flowers of the various *Euphorbias* in the north of that island. It would seem likewise to occur in Teneriffe; for I captured a single specimen of it there (the “var. β . *similis*” of my diagnosis), which however differs a little from the Lanzarotan type.

571. *Attalus ænescens*.

Attalus ænescens, Woll., *Journ. of Ent.* i. 438 (1862).

— —, *Id.*, *Cat. Can. Col.* 227 (1864).

Habitat Canarienses (*Can.*, *Ten.*, *Gom.*, *Palma*), ab orâ maritimâ usque ad 8000' s. m. ascendens.

A rather common little species; and widely spread over the central

and western islands of the Canarian archipelago, occurring from the sea-level to an altitude of at least 8000 feet. It has been captured in Grand Canary, Teneriffe (where it often abounds at a lofty elevation on the blossoms of the Retama), Gomera, and Palma; and we may consequently expect to meet with it in Hierro likewise.

The *A. ceneszens* varies a little in sculpture—the examples from the higher altitudes of Teneriffe (where it abounds on the blossoms of the Retama) being a little more sparingly and strongly punctured, as well as somewhat more polished and with their heads just perceptibly rounder and more developed; but I do not think that they have the slightest claim to be regarded as distinct from those which are found in the less elevated districts. Nevertheless that particular state is the one which I took as my type of the species; and if therefore the rather more closely punctured form (which occurs not only in Teneriffe, but in Gomera and Palma likewise) should at any future time have to be separated (which I cannot but regard as extremely improbable), it must stand under the name of *puncticollis*—which I applied to it, treating it as a “var. β ,” in my diagnosis.

572. *Attalus maderensis*.

Pecteropus maderensis, *Woll., Ins. Mad.* 247, tab. iv. f. 7 (1854).
—, *Id., Cat. Mad. Col.* 85 (1857).

Habitat Maderenses (*Mad., Pto Sto., Bugio*), ad flores præsertim *Cinerariæ auritæ* in editoribus vulgaris.

Peculiar to the Madeiran Group, where most probably it will be found to be quite universal,—though it is evidently far more abundant in Madeira proper than elsewhere. It occurs principally in the higher elevations, and has been detected hitherto in Madeira proper, Porto Santo, and the southern Deserta (or Bugio). In the sylvan districts of Madeira proper it is very partial to the flowers of the *Cineraria aurita* (the *Senecio maderensis* of De Candolle), the large clusters of which often teem with it. Judging from the examples which I have yet taken, the species would appear to be much smaller in Porto Santo and the Bugio than it is in Madeira proper,—a fact however which is rendered quite intelligible from the comparatively exposed and weather-beaten nature of those two islands. Indeed the only spot where I have observed it in Porto Santo is the extreme summit of the Pico Branco; and on the southern Deserta I met with it, in like manner, on the very top of that remote and almost inaccessible rock.

573. *Attalus rugosus*.

Pecteropus rugosus, *Woll., Ins. Mad.* 249 (1854).
 ———, *Id., Cat. Mad. Col.* 86 (1857).

Habitat Maderenses (*Mad.*), ad flores in inferioribus occurrens.

Closely allied to the last species, though I believe truly distinct from it. Hitherto, however, it has been observed only in Madeira proper; and whilst the *A. maderensis* is peculiar (both there and elsewhere) to the *higher* elevations, the *rugosus* occurs nearly at the sea-level. Indeed it has been captured hitherto merely in one locality—immediately above the Praia Formosa, to the westward of Funchal; though we may of course expect to meet with it more generally, throughout the lower districts.

Genus 179. **PECTEROPUS***.

Wollaston, *Ins. Mad.* 245 (1854).

574. *Pecteropus rostratus*.

Pecteropus rostratus, *Woll., Ins. Mad.* 250, tab. iv. f. 9 (1854).
 ———, *Id., Cat. Mad. Col.* 86 (1857).

Habitat Maderenses (*P^{to} Sto., Des., Bugio*), ad flores sat vulgaris.

Peculiar apparently to the Madeiran Group, though it has not yet been observed in Madeira proper; but in Porto Santo and on the two southern Desertas (namely, the Deserta Grande and the Bugio) it is tolerably common during the spring and early summer months, occurring on flowers and principally at rather low elevations. The Porto Santan examples (var. *a*) are on the average somewhat paler, more brassy, and less rugose than those (var. *β*), which are more coppery, from the Desertas.

575. *Pecteropus angustifrons*.

Pecteropus angustifrons, *Woll., Journ. of Ent.* i. 427, pl. xx. f. 1 (1862).
 ———, *Id., Cat. Can. Col.* 218 (1864).

Habitat Canarienses (*Gom.*), ad flores tempore hiemali deprehensus.

* In a Paper "on the Canarian Malacoderms," published in the 'Journ. of Ent.' in 1862, I expressed a doubt whether my genus *Pecteropus* can be truly upheld as distinct from *Attalus*. I am still however inclined to believe (as then) that the few species which compose it are sufficiently separated from the normal *Attali* to constitute a little group of themselves—in which the head is narrower and much more *oval*, with the forehead more depressed (often indeed concave), the eyes less prominent, the epistome more produced in front, and the neck relatively broader, whilst, at the same time, the maxillary palpi are somewhat longer, the entire surface is usually more densely sculptured, and the outline is more acuminate anteriorly. As thus defined, *Pecteropus* would bear much the same sort of relation to *Attalus* proper as *Malthodes* (in the *Telephoridæ*) does to *Malthinus*.

A most elegant species, and likewise peculiar to Gomera—having been taken by Mr. Gray and myself on the hills above San Sebastian, during our short sojourn in that island in February 1858.

576. *Pecteropus scitulus*.

Pecteropus scitulus, *Woll., Cat. Can. Col.* 218 (1864).

Habitat Canarienses (*Gom.*), à DD. Crotch repertus.

Observed as yet, like the two preceding species, only in Gomera—where it was taken first by Dr. Crotch during the spring of 1862, and subsequently by himself and his brother during their late Canarian expedition. As implied in my Canarian Catalogue, it has so much the general colouring and aspect of a true *Attalus* that at first sight it might appear doubtful whether it should not be assigned to that group rather than to *Pecteropus*; nevertheless its more produced head and narrower, flatter forehead, in conjunction with its less prominent eyes, are more in accordance with the *Pecteropi* than with the *Attali*. It is extremely variable in colour,—its prothorax, which has generally only the sides and hinder region broadly rufous, being sometimes entirely red; whilst its elytra are either dark-cyanaceous or else with a greenish, or greenish-brassy, tinge; and its front legs, which are usually but partly pale, are sometimes entirely so. Its *primâ facie* aspect is consequently more suggestive of such species of the normal *Attali* as the *ruficollis* and *ornatissimus* than of the totally metallic Porto Santan *P. rostratus* (which I would regard as the type of its particular group); nevertheless with its *immediate* ally, the *P. angustifrons* (which is likewise peculiar to Gomera), it has much in common.

Genus 180. **MICROMIMETES.**

Wollaston, *Journ. of Ent.* i. 439 (1862).

577. *Micromimetes alutaceus*.

Micromimetes alutaceus, *Woll., Journ. of Ent.* i. 441, pl. xx. f. 5 (1862).
— — —, *Id., Cat. Can. Col.* 227 (1864).

Habitat Canarienses (*Can.*), rarissimus; ad flores in aridis arenosis parce captus.

The only examples which I have yet seen of this *Malacoderm* were captured by myself, during April 1858, in the sandy district at Maspalomas in the extreme south of Grand Canary.

578. *Micromimetes* ? *jucundus*.

Micromimetes ? *jucundus*, *Woll., Journ. of Ent.* i. 441 (1862).
 ———, *Id., Cat. Can. Col.* 228 (1864).

Habitat Canarienses (*Can.*), semel tantum repertus.

Likewise peculiar (apparently) to Grand Canary, the single specimen hitherto detected having been captured by myself in the region of El Monte in that island. Being unfortunately a female one, I cannot tell whether the tarsi of the male would assign it, or not, to this particular group. I believe however that it is *not* a *Micromimetes*; and it is therefore only provisionally that I have placed it in its present position.

Genus 181. **CEPHALOGONIA.**

Wollaston, *Journ. of Ent.* i. 442 (1862).

579. *Cephalogonia cerasina*.

Cephalogonia cerasina, *Woll., Journ. of Ent.* i. 444, pl. xx. f. 6 (1862).
 ———, *Id., Cat. Can. Col.* 228 (1864).

Habitat Canarienses (*Ten., Palma*), floribus *Physalidis aristatæ* in apricis inferioribus præcipue gaudens.

The most beautiful of the Atlantic Malacoderms, and which has been observed hitherto only in Teneriffe and Palma of the Canarian Group. It occurs principally at low elevations, in sunny spots, and is chiefly attached to the blossoms of the *Physalis aristata*—a shrub which is rather common in certain cindery districts towards the coast.

Genus 182. **CEPHALONCUS.**

Westwood, in *Proc. Ent. Soc. Lond.* 178 (1863).

580. *Cephaloncus capito*.

Cephaloncus [script. *Ogocephalus*] *capito*, *Westw., loc. cit.* 178 (1863).
 ———, *Woll., Cat. Can. Col.* 229 (1864).

Habitat Canarienses (*Can.*), rarissimus; super arbusculas *Plocamæ pendulæ* parcissime lectus.

It is in Grand Canary only that this exceedingly rare, and beautiful, little Malacoderm has hitherto been observed,—the few specimens brought to light having been captured by myself off some shrubs of *Plocama pendula* at Aldea de San Nicholas, in the west of that island.

Fam. 43. MELYRIDÆ.

Genus 183. DASYTES.

Paykull, *Fna Succ.* ii. 156 (1798).581. *Dasytes subænescens*.*Dasytes nigricornis*? Brullé [nec Fab.], in Webb et Berth. (Col.) 60 (1838).—— subænescens, Woll., *Journ. of Ent.* i. 444 (1862).—— —, *Id.*, *Cat. Can. Col.* 230 (1864).*Habitat* Canarienses (in Hierro solâ haud detectus), ad flores, passim ; ab orâ maritimâ usque ad 8000' s. m. ascendens.

Doubtless universal throughout the Canarian archipelago, Hierro (in which however we may be pretty sure that it exists) being the only island of the seven in which it does not happen to have been observed. It is independent of elevation, occurring from the sea-level to an altitude of at least 8000 feet. We may regard it as the representative at the Canaries of the European *D. flavipes*, to which in many respects it is closely allied ; and indeed it is not impossible that it may be, in reality, but a geographical phasis of that species.

582. *Dasytes dispar*.*Dasytes dispar*, Woll., *Journ. of Ent.* i. 445 (1862).—— —, *Id.*, *Cat. Can. Col.* 230 (1864).*Habitat* Canarienses (Can.), in intermediis ad flores deprehensus.

The only specimens which I have seen of this *Dasytes* were taken by myself in Grand Canary, where it is not uncommon during the spring months throughout the region of El Monte.

583. *Dasytes illustris*.*Dasytes illustris* (Mots.), Woll., *Ins. Mad.* 252 (1854).—— —, *Id.*, *Cat. Mad. Col.* 86 (1857).*Habitat* Maderenses (in Ilheo Chão solâ haud detectus), ad flores vulgatissimus.

Abounds on flowers in the Madeiran archipelago—where it is doubtless universal, though I do not happen to have observed it on the northern Deserta (or Ilheo Chão) ; but in Madeira proper, Porto Santo, the Deserta Grande, and the Bugio it has been captured in profusion. It occurs likewise in the south of Europe ; but it is somewhat remarkable that, although thus common at the Madeiras, it has not yet been detected in the Canarian Group.

Genus 184. **DOLICHOSOMA.**Stephens, *Man. Brit. Col.* 193 (1839).584. **Dolichosoma Hartungii.***Dasytes filiformis*, *Hart.* [nec *Creutz.*], *Geolog. Verhältn. Lanz. und Fuert.* 140, 141.*Dolichosoma Hartungii*, *Woll., Journ. of Ent.* i. 446 (1862).— —, *Id., Cat. Can. Col.* 231 (1864).*Habitat* Canarienses (*Lanz., Fuert., Can., Ten.*), ad flores in inferioribus intermediisque sat vulgare.

Not uncommon at low and intermediate elevations in the Canarian Group, at any rate in the eastern and central parts of it—having been taken in Lanzarote, Fuerteventura, Grand Canary, and Teneriffe. Although I have not been able to procure a type of that insect for comparison, I believe that it will be found to be closely allied to the *D. protensum* from Sardinia.

Genus 185. **HAPLOCNEMUS.**Stephens, *Ill. Brit. Ent.* iii. 316 [script. *Aplocnemus*] (1830).585. **Haplocnemus sculpturatus.***Haplocnemus sculpturatus*, *Woll., Journ. of Ent.* i. 447 (1862).— —, *Id., Cat. Can. Col.* 232 (1864).*Habitat* Canarienses (*Ten., Gom., Palma*), in intermediis et præsertim elevatis rarior.

Occurs sparingly at intermediate and (more particularly) lofty altitudes in Teneriffe, Gomera, and Palma, of the Canarian Group; in the first of which I took it (not uncommonly) on the blossoms, as well as from amongst dead sticks beneath the shrubs, of the Retamas on the lofty Cumbre adjoining the Cañadas—more than 8000 feet above the sea.

586. **Haplocnemus vestitus.***Haplocnemus vestitus*, *Woll., Journ. of Ent.* i. 447 (1862).— —, *Id., Cat. Can. Col.* 232 (1864).*Habitat* Canarienses (*Hierro*), parce deprehensus.

Likewise a Canarian *Haplocnemus*, though as yet observed only in Hierro—where it may be regarded as the representative of the preceding species, which occurs in at any rate three of the other islands. It is in fact closely allied to that insect, of which perhaps it may be some extreme insular modification which is densely beset with long and erect hairs.

Genus 186. **MELYROSOMA.**Wollaston, *Ins. Mad.* 253 (1854).587. **Melyrosoma oceanicum.***Melyrosoma oceanicum*, Woll., *Ins. Mad.* 253, tab. v. f. 1 (1854).— —, *Id.*, *Cat. Mad. Col.* 86 (1857).*Habitat* Maderenses (*Mad.*), ad flores in editoribus hinc inde vulgare. Usque ad summos montes ascendit.

Peculiar apparently to Madeira proper, where it occurs on flowers (occasionally in abundance) at lofty elevations,—ascending to the summits of the highest peaks.

588. **Melyrosoma costipenne.***Melyrosoma costipenne*, Woll., *Journ. of Ent.* i. 448 (1862).— —, *Id.*, *Cat. Can. Col.* 233 (1864).*Habitat* Canarienses (*Can.*), in locis similibus ac præcedens.

Observed hitherto only in Grand Canary, where (although perfectly distinct from it) it may be regarded as the representative of the Madeiran *M. oceanicum*. Like that species, it is found on flowers at very lofty altitudes.

589. **Melyrosoma hirtum.***Melyrosoma hirtum*, Woll., *Journ. of Ent.* i. 449 (1862).— —, *Id.*, *Cat. Can. Col.* 233 (1864).*Habitat* Canarienses (*Ten.*), in montibus valde excelsis rarius; etiam ad 12,000' s. m. à cl. W. D. Crotch parce lectum.

A Canarian species which has been detected hitherto only in the higher (and highest) elevations of Teneriffe, where it ascends to the actual summit of the Peak—Dr. Crotch, during the spring of 1862, having captured a few examples of it on the very top of the cone itself (upwards of 12,000 feet above the sea). I have myself met with it on the ascent to the Cumbre from the Agua Mansa.

590. **Melyrosoma abdominale.***Melyrosoma abdominale*, Woll., *Cat. Mad. Col.* 87 (1857).*Habitat* Maderenses (*Mad.*), in inferioribus rarissimum. Exemplar unicum in insulâ parvâ “Ilheo de Fora” dictâ deprehendi.

Observed hitherto only in Madeira proper, where it would appear to be rare and to occur at a low elevation. Indeed the only (typical)

example which I have seen was captured by myself on the little rock known as the Ilheo de Fora, off the eastern extremity of the Ponta de São Lourenço.

591. *Melyrosoma flavescens*.

Melyrosoma flavescens, *Woll., Journ. of Ent.* i. 449 (1862).

—— —, *Id., Cat. Can. Col.* 234 (1864).

Habitat Canarienses (*Gom., Palma, Hierro*), ab orâ maritimâ usque ad, vel ultra, 3000' s. m. ascendens.

This very distinct little species has been detected hitherto only in the western islands of the Canarian archipelago, where it occurs from the sea-level to an altitude of more than 3000 feet. I have taken it in the Pinal of Palma, above the Banda; and several examples are now before me which were captured by the Messrs. Crotch ("on *Euphorbia*-blossoms, above and below Hermigua") in Gomera, and Hierro.

592. *Melyrosoma artemisiæ*.

Melyrosoma Artemisiæ, *Woll., Ins. Mad.* 254, tab. v. f. 2 (1854).

—— —, *Id., Cat. Mad. Col.* 88 (1857)

Habitat Maderenses (*Ilheo, Chão, Des.*), præsertim ad flores *Artemisiæ argenteæ*, Hérít.

Found in the northern and central Desertas, of the Madeiran Group, where it is very partial to the flowers of the *Artemisia argentea*; but it has not yet been detected elsewhere. Although exceedingly distinct from that species, it may be regarded as the representative at the Madeiras of the Canarian *M. flavescens*.

Fam. 44. CLERIDÆ.

Genus 187. OPILUS.

Latreille, *Hist. Nat. des Ins.* iii. 111 [script. *Opilo*] (1802).

593. *Opilus mollis*.

Attelabus mollis, *Lin., Fna Succ.* 186 (1761).

Opilo mollis, *Lat., Hist. Nat. des Ins.* ix. 149 (1804).

Opilus mollis, *Woll., Ins. Mad.* 256 (1854).

—— —, *Id., Cat. Mad. Col.* 88 (1857).

Habitat Maderenses (*Mad.*), in subinferioribus circa domos rarissimus.

The European *O. mollis* occurs very sparingly about one or two

cultivated spots, and old houses (near Funchal), in Madeira proper ; but it has not been observed elsewhere in these Atlantic islands. Most probably it has become naturalized accidentally from more northern latitudes.

Genus 188. **CLERUS.**

Geoffroy, *Hist. Abr. des Ins.* 303 (1764).

594. **Clerus Paivæ.**

Clerus Paivæ, *Woll., Trans. Ent. Soc. Lond.* i. 163, pl. vii. f. 5 (1862).
 ———, *Id., Cat. Can. Col.* 234 (1864).

Habitat Canarienses (in *Palma solâ* hand observatus), in ramulis truncisque Euphorbiarum emortuis late sed parce diffusus.

This most interesting little *Clerus* (which was dedicated to my worthy friend the Barão do Castello de Paiva) is attached exclusively to the dead Euphorbias in the Canarian archipelago, where it is doubtless universal ; for although it does not happen to have been observed in Palma we may be pretty certain that it must exist there, and in the other six islands it has been taken more or less abundantly. Its detection in Gomera is due to the recent investigations of the Messrs. Crotch.

Genus 189. **CORYNETES.**

Herbst, *Käf.* iv. 148 [script. *Korynetes*] (1791).

595. **Corynetes ruficollis.**

Anobium ruficolle, *Thunb., Nov. Ins. Spec.* i. 8 (1781).
Dermestes ruficollis, *Fab., Ent. Syst.* i. 230 (1792).
Necrobia ruficollis, *Woll., Ins. Mad.* 258 (1854).
 ———, *Id., Cat. Mad. Col.* 88 (1857).
Corynetes ruficollis, *Id., Cat. Can. Col.* 235 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), in cultis et circa domos necnon in cadaveribus parce occurrens.

This almost cosmopolitan insect has become established both at the Madeiras and Canaries,—where however it is extremely local, and (at any rate at the latter) rather scarce. It occurs about houses and cultivated grounds, as well as in dead animals, in Madeira proper ; and I have also met with it near S^{ta} Cruz, in Teneriffe.

596. **Corynetes rufipes.**

Anobium rufipes, *Thunb., Nov. Ins. Spec.* i. 10 (1781).
Corynetes rufipes, *Fab., Syst. Eleu.* i. 286 (1801).

Necrobia rufipes, *Brullé*, in *Webb et Berth.* (Col.) 60 (1838).
Corynetes rufipes, *Woll.*, *Cat. Can. Col.* 235 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*, *Can.*, *Ten.*, *Gom.*) in cadaveribus et circa domos hinc inde vulgaris.

The *C. rufipes*, which like the last species has become naturalized throughout the greater portion of the civilized world, is doubtless universal at the Canaries—in all the islands of which it has been observed except in Palma and Hierro, where however we may feel quite sure that it exists. But although thus general at the Canaries, it is somewhat singular that it has not yet been detected in the Madeiran group.

597. *Corynetes fimetarius*.

Corynetes fimetarius, *Woll.*, *Ann. Nat. Hist.* ix. 440 (1862).
 ———, *Id.*, *Cat. Can. Col.* 236 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*), in stercore arido bovino, equino, camelino hinc inde vulgaris.

Locally abundant in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group, to which it seems to be peculiar. It is a truly indigenous insect, occurring in the dung of cattle at low and intermediate altitudes; and in its purely structural details it has more in common with the subgenus *Opetiopalpus*, of Spinola, than with *Corynetes* proper.

Fam. 45. PTINIDÆ.

Genus 190. CASOPUS.

Wollaston, *Trans. Ent. Soc. Lond.* i. 194 [script. *Casapus*] (1862).

598. *Casopus Bonvouloirii*.

Casopus Bonvouloirii, *Woll.*, *loc. cit.* 196, pl. viii. f. 1 (1862).
Casopus ———, *Id.*, *Cat. Can. Col.* 237 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis editioribus rarissimus.

This noble Canarian *Casopus* seems to be attached to the sylvan districts of Teneriffe at a high altitude, where it is both local and scarce. In the humid region around the Agua Mansa, however, I obtained it in tolerable abundance; and it was found sparingly by the Messrs. Crotch near Ycod el Alto, as well as in the Pinal above it.

599. *Casopus dilaticollis*.

Casopus dilaticollis, *Woll., loc. cit.* 197 (1862).

Casopus —, *Id., Cat. Can. Col.* 237 (1864).

Habitat Canarienses (*Ten.*), in inferioribus et intermediis sat vulgaris.

Likewise Teneriffan, but more abundant and much more widely diffused than the last species. It occurs beneath stones and dry fallen leaves at low and intermediate elevations, ascending from the sea-level to an altitude of about 3000 feet.

600. *Casopus alticola*.

Casopus alticola, *Woll., loc. cit.* 198, pl. viii. f. 2 (1862).

Casopus —, *Id., Cat. Can. Col.* 238 (1864).

Habitat Canarienses (*Ten.*), in locis elevatis rarissimus. Usque ad 8000' s. m. ascendit.

Attached to the loftier altitudes of Teneriffe, where it would appear to be extremely rare. I have taken it above the Agua Mansa, and on the elevated Cumbre adjoining the Cañadas; and it has been found sparingly by the Messrs. Crotch in the Pinal above Ycod el Alto. It is very closely allied to the *C. dilaticollis*, of which indeed it may possibly be but a phasis peculiar to the higher regions; in which case the upward range of that species would, of course, be greatly increased. Nevertheless, as stated in my paper on the Canarian *Ptinidæ*, I am more inclined to believe that (however nearly resembling it) it is truly distinct from the *dilaticollis**.

601. *Casopus pedatus*.

Casopus dilaticollis, var. γ , *Woll., Cat. Can. Col.* 238 (1864).

— *pedatus*, *Id., Append. huj. op.* 32.

Habitat Canarienses (*Gom.*), à DD. Crotch repertus.

The representative in Gomera of the Teneriffan *C. dilaticollis* (or perhaps, rather, of the *alticola*), from which however it appears to be sufficiently distinct—as will be seen by a reference to my diagnosis, given in the Appendix to this volume. It was first found by Dr. Crotch, during his sojourn in Gomera in the spring of 1862; in

* The *C. alticola* is rather larger than the *dilaticollis*, with its pubescence not quite so long; its elytra are more deeply substriate-punctate, and have their front transverse fascia developed (instead of being obsolete); and the first joint of the hinder feet of the male is perhaps somewhat more inflated.

which same island it has lately been taken more abundantly by himself and his brother.

602. *Casopus radiosus*.

Casopus radiosus, *Woll., loc. cit.* 199 (1862).

Casopus radiosus, *Id., Cat. Can. Col.* 238 (1864).

Habitat Canarienses (*Can.*), sub lapidibus in elevatis et intermediis rarior.

The few examples which I have seen of this *Casopus* were taken by myself in Grand Canary—on the ascent to the Roca del Soueilho, above San Mateo. It will doubtless be found as abundantly as most of the other species, when the higher elevations of Grand Canary have been carefully explored.

603. *Casopus subcalvus*.

Casopus subcalvus, *Woll., loc. cit.* 200, pl. viii. f. 3 (1862).

Casopus subcalvus, *Id., Cat. Can. Col.* 239 (1864).

Habitat Canarienses (*Hierro*), sub lapidibus in intermediis parce lectus.

Peculiar apparently to Hierro, the most western island of the Canarian Group, where it occurs sparingly at intermediate altitudes. It was taken by Mr. Gray and myself, near Valverde, and subsequently by the Messrs. Crotch; and an example is now before me which has been communicated by De Marseul from the collection of M. de la Perraudière, and which was met with by the latter in the same island.

Genus 191. *DIGNOMUS*.

Wollaston, *Trans. Ent. Soc. Lond.* i. 201 (1862).

604. *Dignomus gracilipes*.

Dignomus gracilipes, *Woll., loc. cit.* 202, pl. viii. f. 4 (1862).

— —, *Id., Cat. Can. Col.* 239 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in stereore bovino, equino, camelino in aridis inferioribus latens.

One of the rarest of the Atlantic *Ptinidæ*, and confined apparently to Lanzarote and Fuerteventura (the two eastern islands of the Canarian Group)—where it secretes itself within the dried dung of cattle in arid sandy spots of a low elevation. This peculiarity of habit, however eccentric for a member of the present family, is nevertheless in accordance with what seems to be normal for at any rate one more Canarian *Ptinid*—namely, the *Piarus basalis*.

Genus 192. **PTINUS.**Linnaeus, *Syst. Nat.* ii. 565 (1767).605. **Ptinus testaceus.**

- Ptinus testaceus*, *Oliv., Ent.* ix. 8 (1790).
 — *advena*, *Woll., Ins. Mad.* 261 (1854).
 — *testaceus*, *De Boield., Ann. de la Soc. Ent. de France*, iv. 654 (1857).
 — —, *Woll., Cat. Mad. Col.* 89 (1857).
 — —, *Id., Cat. Can. Col.* 239 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Hierro*), ex alienis introductus; circa domos mercatorumque repositoria parce occurrens.

The European *P. testaceus* occurs sparingly, about houses and stores, both at the Madeiras and Canaries, where it has doubtless become established accidentally through the medium of commerce. I have captured it in Madeira proper, of the former, and in Hierro, of the latter; but it is decidedly scarce.

606. **Ptinus brunneus.**

- Ptinus brunneus* (*Meg.*), *Dufts., Fna Austr.* iii. 65 (1825).
 — —, *De Boield., Ann. de la Soc. Ent. de France*, iv. 649 (1857).
 — —, *Woll., Cat. Mad. Col.* 89 (1857).

Habitat Maderenses (*Mad.*), in locis similibus ac præcedens et certe introductus.

Taken by myself in Madeira proper, the species being in precisely the same predicament as the last one—clearly introduced, and perhaps become naturalized, through human agencies.

607. **Ptinus variegatus.**

- Ptinus variegatus*, *Rossi, Mant. Ins.* 20 (1792).
 — *mauritanicus*, *Lucas, Col. de l'Algérie*, 208 (1849).
 — —, *Woll., Ins. Mad.* 261 (1854).
 — —, *Id., Cat. Mad. Col.* 90 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus in inferioribus, præcipue in cavernis tufæ apertis, sese occultans.

Not uncommon in the low, or but slightly elevated, districts of Madeira proper,—occurring for the most part beneath stones (particularly in the open basaltic caves near the coast), though occasionally under the dried masses of *Sempervivum* which stud the perpendicular rocks; but it has not yet been observed in the Canarian Group. It is a species of Mediterranean latitudes, being found in the south of Europe and the north of Africa.

Genus 193. **MEZIUM.**(Leach) Curt., *Brit. Ent.* v. 232 (1828).608. **Mezium sulcatum.***Ptinus sulcatus*, *Fab., Spec. Ins.* i. 73 (1781).*Gibbium sulcicolle*, *Brullé, in Webb et Berth. (Col.)* 60 (1838).*Mezium sulcatum*, *Woll., Ins. Mad.* 273 (1854).— —, *Id., Cat. Mad. Col.* 92 (1857).— —, *Id., Cat. Can. Col.* 240 (1864).*Gibbium sulcicolle*, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 140.*Habitat* Maderenses (*Mad.*) et Canarienses (*ins. omnes*), sub lapidibus scoriisque præsertim in cavernis tufæ apertis vulgaris.

This insect, which is rather sparingly distributed over central and southern Europe, abounds in these Atlantic islands—where it seems to be quite indigenous, and where I have little doubt that it will be found to be universal. And it is worth noting that the original examples from which Fabricius compiled his diagnosis of the species were Canarian ones. It is common at rather low elevations in Madeira proper, chiefly beneath stones and scorïæ in dry spots (more particularly in small open caverns of the basaltic rocks, towards the coast), often in company with the *Ptinus variegatus*; whilst at the Canaries it is still more abundant, and has been found (in similar situations) in the whole seven islands of the Group. I met with it likewise at Mogadore, on the opposite coast of Africa.

Genus 194. **GIBBIUM.**Scopoli, *Int. ad Hist. Nat.* 505 (1777).609. **Gibbium scotias.***Ptinus scotias*, *Fab., Spec. Ins.* i. 74 (1831).*Gibbium scotias*, *Kugel., in Schneid. Mag.* iv. 502 (1794).— —, *Woll., Ins. Mad.* 274 (1854).— —, *Id., Cat. Mad. Col.* 92 (1857).*Habitat* Maderenses (*Mad.*), rarissimum. Exemplar unicum, forsan ex alienis introductum, in domo quâdam cepi.

A single specimen of this common European insect, which I took many years ago in a house at Machico in Madeira proper, is the only one that I have yet seen from these Atlantic islands. Perhaps it was a mere accidental importation from more northern latitudes; though it is very possible that the species may have become established, in some of the storehouses and towns, through the medium of commerce.

Genus 195. MICROPTINUS.

Nitpus, Duval, *Glan. Entom.* 138 (1860).

Although unwilling to press too far the Linnæan rule against generic names "*simili sono exeuntia*," I nevertheless have no hesitation in acting upon it in this instance—seeing that the existence simultaneously of such titles as *Nitpus* and *Niptus*, a fact which is rendered even more objectionable still on account of their representing *consecutive groups*, cannot but prove a constant source of confusion and perplexity. It is for this reason *alone* that I would venture to alter it, by proposing instead the more euphonious one of *Microptinus*; though, on other grounds as well, few probably would be found to regret its suppression—names like *Nitpus*, *Niptus*, and *Tipnus* being a positive outrage on the laws of orthography.

610. *Microptinus gonospermi*.*Nitpus gonospermi*, Duval, *loc. cit.* 138 (1860).— —, Woll., *Trans. Ent. Soc. Lond.* i. 206 (1862).— —, *Id.*, *Cat. Can. Col.* 240 (1864).

Habitat Canarienses (*Ten.*, *Gom.*), in inferioribus intermediisque hinc inde vulgaris.

Observed hitherto only in Teneriffe and Gomera, of the Canarian Group, where it is occasionally common at low and intermediate elevations. Its general aspect is quite that of a *Sphæricus*; nevertheless its 9-jointed antennæ and the quadriarticulate hind feet of its male sex will at once separate it from the members of that genus. In Teneriffe I have taken it very abundantly off a large *Tanacetum*.

Genus 196. SPHÆRICUS.

Wollaston, *Ins. Mad.* 263 (1854).611. *Sphæricus albopictus*.*Ptinus albopictus*, Woll., *Ins. Mad.* 267, tab. v. f. 4 (1854).— *longicornis*, *Id.*, *Ibid.* 270 (1854).— *albopictus*, *Id.*, *Cat. Mad. Col.* 90 (1857).

Habitat Maderenses (*ins. omnes*), vel inter lichenes in rupium fissuris vel intra caules Carduorum (præsertim *Silybi Mariani*, Grtn.) hinc inde vulgaris. Species staturâ atque etiam colore valde inconstans.

The universal *Sphæricus* of the Madeiran Group, in all the islands of which it is locally abundant,—occurring at most elevations, though particularly at rather low and intermediate ones. Like the gen-

rality of the *Sphærici*, it varies immensely in stature (according to the circumstances under which it is found)—the examples from the northern Deserta descending to a most diminutive size. It occurs in many different situations, but is extremely partial to the pithy stems of Thistles (especially the gigantic *Silybum Marianum*, Grtn.,—the Holy Thistle of the ancients). However, it is often to be met with, in absolute profusion, harbouring amongst lichen within the crevices of the weather-beaten peaks; as well as amongst the dead leaves around the roots of *Semperviva*, the flat rosettes of which are frequently so conspicuous on the faces of the perpendicular rocks.

612. *Sphæricus simplex*.

Sphæricus simplex, *Woll., Tr. Ent. Soc. Lond.* i. 207, pl. viii. f. 6 (1862).
 ———, *Id., Cat. Can. Col.* 241 (1864).

Habitat Canarienses (*Gom., Hierro*), in locis similibus ac præcedens.

Although at first sight so closely resembling the *albopictus* of the Madeiran Group that it might well be mistaken for it, I nevertheless believe that the present *Sphæricus* must not be regarded as any local modification of that insect. And yet, on the other hand, its distinctions are so little apparent until the specimens are examined with the greatest care, that it is difficult to feel altogether satisfied that such may not be the case. At any rate since I have already recorded the *T. simplex* as a separate species, and since one at least of its small diagnostic features is structural, I will not suppress it; though, in that case, it must certainly be looked upon as at all events the Canarian representative of its Madeiran ally.

I have taken the *S. simplex* in Hierro, and it was found by the Messrs. Crotch both in that island and Gomera*.

613. *Sphæricus pilula*.

Ptinus pilula, *Woll., Ins. Mad.* 266 (1854).
 ———, *Id., Cat. Mad. Col.* 90 (1857).

Habitat Maderenses (*Mad.*), semel tantum repertus.

* The *S. simplex* differs from the *albopictus* in its prothorax (when denuded of its scales) being a little less densely, and less regularly, scabrous (having more the appearance of being roughly punctured), as also somewhat more evidently margined along its basal edge; in its elytra being usually rather rounder, as well as more deeply and sparingly punctured; and in the penultimate joint of its feet being rather less expanded, and almost simple—though this last character is not very evident until the two species are viewed, side by side, beneath the microscope.

The only example of this *Sphæricus* which I have yet seen was taken by myself many years ago in Madeira proper; and although the small characters alluded to in my diagnosis seem perhaps sufficient (if constant) to indicate it as a distinct species, nevertheless I cannot but feel that further material is greatly required in order to ascertain for certain that the *S. pilula* is no depauperated modification of the (very variable) *albopictus*.

614. *Sphæricus ambiguus*.

Sphæricus ambiguus, *Woll., Append. huj. op.* 33.

Habitat Maderenses (*Mad.*), a Dom. Bewicke olim repertus.

Found by the late Mr. Bewicke in Madeira proper; but I have no means now of ascertaining its precise locality. It is a good deal allied to the *albopictus*; nevertheless I believe that it possesses too many features of its own to admit of its being regarded as any largely developed, coarsely sculptured, thick-limbed state of that species.

615. *Sphæricus gibbicollis*.

Sphæricus gibbicollis, *Woll., Trans. Ent. Soc. Lond.* i. 208 (1862).

— — —, *Id., Cat. Can. Col.* 241 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in intermediis rarissimus.

Observed hitherto only in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group, where it occurs sparingly at intermediate elevations.

616. *Sphæricus pinguis*.

Ptinus pinguis, *Woll., Ins. Mad.* 264 (1854).

— — —, *Id., Cat. Mad. Col.* 90 (1857).

Habitat Maderenses (*Mad.*), rarissimus; præcipue in subinferioribus occurrens.

Occurs sparingly in Madeira proper, principally at rather low elevations; but it has not yet been detected elsewhere.

617. *Sphæricus impunctipennis*.

Sphæricus impunctipennis, *Woll., Cat. Can. Col.* 241 (1864).

Habitat Canarienses (*Gom.*), à W. D. Crotch, M.D., parce captus.

Detected by Dr. Crotch (during the spring of 1862) in Gomera,

of the Canarian Group, where it may be regarded as the representative of the Madeiran *S. pinguis**.

618. *Sphæricus orbatus*.

Ptinus orbatus, *Woll., Ins. Mad.* 264, tab. v. f. 6 (1854).

— —, *Id., Cat. Mad. Col.* 90 (1857).

Habitat Maderenses (Mad.), in ligno antiquo semel lectus.

Found in Madeira proper, and hitherto unique; but, apart from all other characters, the sculpture of its elytra is so peculiar (the punctures being enormous, and very remote, though not particularly deep) that it is impossible to confound it, even in the absence of further specimens to judge from, with any of the other *Sphærici* here enumerated.

619. *Sphæricus nodulus*.

Ptinus nodulus, *Woll., Ins. Mad.* 265 (1854).

— —, *Id., Cat. Mad. Col.* 90 (1857).

Habitat Maderenses (Pto Sto), inter lapillos et lichenes in rupium fissuris saltem tempore hiemali latens.

Found in Porto Santo of the Madeiran Group, where it occurs (along with the *S. albopictus*, though much more rarely) amongst lichen, and adhering to small stones, within the crevices of the exposed weather-beaten rocks, at intermediate and rather lofty elevations.

620. *Sphæricus Dawsoni*.

Ptinus Dawsoni, *Woll., Ins. Mad.* 263, tab. v. f. 5 (1854).

— —, *Id., Cat. Mad. Col.* 90 (1857).

Habitat Maderenses (Des., Bugio), sub lapidibus necnon inter lichenes in rupium fissuris nascentes rarissimus.

A large and beautiful *Sphæricus* which I have observed only on the two southern Desertas, in the Madeiran Group, where moreover it is of the greatest rarity. Like most of the species it may be found secreting itself beneath stones in high and exposed spots, or harbouring amongst lichen within the crevices of the weather-beaten rocks.

* The *impunctipennis*, when denuded of its scales, will be seen to have its prothorax much more roughly scabrous than is the case with the *pinguis*, whilst its elytra (which are a little more oblong, or less globular, and not quite so opaque) have indications of very minute and obsolete granules scattered over their surface (particularly behind), of which I cannot detect any traces in that insect. The Canarian species, also, is probably (on the average) a little larger; and its limbs are more elongate, the subapical joints of its antennæ being conspicuously less abbreviated.

621. *Sphæricus marmoratus*.

Sphæricus marmoratus, Woll., *Append. huj. op.* 33.

Habitat Canarienses (*Gom.*, *Hierro*), à DD. Crotch nuper lectus.

Taken by the Messrs. Crotch in Gomera and Hierro, during their late Canarian campaign. By a reference to my diagnosis given in the Appendix, it will be seen that the specimens from those two islands differ a little *inter se*, but that the differences are so very slight and unimportant that I do not believe they can be indicative of more than insular phases of the species.

622. *Sphæricus Crotchianus*.

Sphæricus Crotchianus, Woll., *Cat. Can. Col.* 242 (1864).

Habitat Canarienses (*Gom.*), à DD. Crotch copiose repertus.

Detected by Dr. Crotch at Hermigua, in Gomera, during his first Canarian campaign; and since captured abundantly, by himself and his brother, in the same locality—chiefly “amongst garden-refuse.”

Genus 197. **PTINODES** (nov. gen.).

(*Ptinus*, Sectio B., *Ins. Mad.* 271.)

Corpus et instrumenta cibaria fere ut in *Sphærico*, sed *antennæ pedesque* fragiles, *illæ* ad basin distantes; *tarsii* breviores, filiformes, articulis 1^o–4^m brevibus, inter se subæqualibus. *Corpus* nigrescens, plus minus albido-squamosum; *elytra* magis quadrata (nec globosa)*.

Δ *Ptinus*, et εἶδος, forma.

623. *Ptinodes nigrescens*.

Ptinus nigrescens, Woll., *Cat. Mad. Col.* 91 (1857).

Habitat Maderenses (*Mad.*), in subeditioribus rarissimus.

The only specimens which I have seen of this insect were taken by myself (at rather a high elevation) at Feijãa d'Ovelha, in the west of Madeira proper,—where, although exceedingly distinct from that species, it may perhaps be regarded as the representative of the Porto Santan *P. fragilis*.

* Apart from their structural peculiarity, of basally-distant antennæ and shorter, narrower, filiform feet (the four basal joints of which are much abbreviated, and subequal), both of the *Ptinodes* enumerated above have a different general aspect from the *Sphærici*—being blacker, though more or less covered (particularly on the head and prothorax) with snowy-white scales, with their elytra rather squarer (or less globose), and the limbs more fragile.

624. *Ptinodes fragilis*.

Ptinus fragilis, *Woll., Ins. Mad.* 271 (1854).

— —, *Id., Cat. Mad. Col.* 92 (1857).

Habitat Maderenses (*Pto S^{to}, Des., Bugio*), inter lichenes in rupium fissuris crescentes latens.

Likewise peculiar to the Madeiran Group, though hitherto it has not been detected in Madeira proper. But in Porto Santo and on the two southern Desertas (and we may expect it to occur on the northern Deserta likewise) I have taken it in tolerable abundance, from amongst the lichen which fills up the crevices of the exposed rocks. From the very fragile nature of its (slender and abbreviated) limbs, it requires considerable care to retain the specimens in a perfect state—even when captured.

Genus 198. **PIARUS.**

Wollaston, *Trans. Ent. Soc. Lond.* i. 209 (1862).

625. *Piarus basalis*.

Piarus basalis, *Woll., loc. cit.* 210, pl. viii. f. 7 (1862).

— —, *Id., Cat. Can. Col.* 243 (1864).

Habitat Canarienses (*Lanz., Fuert.*), sub lapidibus in apricis et præcipue in stercore arido bovino, equino, camelino vulgaris.

Abundant in certain districts (of low and intermediate elevations) in Lanzarote and Fuerteventura, the two eastern islands of the Canarian archipelago; but it has not yet been detected elsewhere. Like the *Dignomus gracilipes*, it usually secretes itself within the dried dung of cattle in the most hot and dusty spots; nevertheless it occurs also beneath stones and scorïæ.

Genus 199. **PIOTES.**

Wollaston, *Trans. Ent. Soc. Lond.* i. 211 (1862).

626. *Piotes inconstans*.

Piotes inconstans, *Woll., loc. cit.* 212, pl. viii. f. 8 (1862).

— —, *Id., Cat. Can. Col.* 243 (1864).

Habitat Canarienses (*Can.*), sub lapidibus in aridis apricis necnon sub cortice *Euphorbiarum* laxo minus frequens.

A most variable insect, both in colour and pubescence, and which has been taken hitherto only in Grand Canary,—where it secretes

itself beneath stones, and in the dry loosened bark of Euphorbias, principally at low elevations.

627. *Piotes vestita*.

Piotes vestita, *Woll., loc. cit.* 213, pl. 8. f. 9 (1862).

— —, *Id., Cat. Can. Col.* 244 (1864).

Habitat Canarienses (*Palma*), sub lapidibus in intermediis rarissima.

A large Canarian species which seems to be peculiar to the island of Palma, where it occurs (though very rarely) beneath stones at intermediate altitudes.

Fam. 46. ANOBIADÆ.

Genus 200. STAGETUS.

Wollaston, *Ann. Nat. Hist.* vii. 11 (1861).

628. *Stagetus crenatus*.

Stagetus crenatus, *Woll., loc. cit.* 13 (1861).

— —, *Id., Cat. Can. Col.* 245 (1864).

Habitat Canarienses (*Ten.*), inter lichenes ad truncos arborum vetustos crescentes necnon in ligno antiquo in intermediis occurrunt.

A Canarian insect which (if indeed it be positively distinct from what I have regarded as the "var. β " of the following species) has been observed hitherto only in Teneriffe, where it is widely but sparingly distributed at intermediate elevations—harbouring amongst the lichen which grows on the trunks of old trees, as well as amongst dead wood and other dry vegetable refuse.

629. *Stagetus hirtulus*.

Stagetus hirtulus, *Woll., loc. cit.* 12 (1861).

— —, *Id., Cat. Can. Col.* 245 (1864).

Habitat Canarienses (*Gom., Hierro*), in locis similibus ac præcedens. Specimina quædam minora (=var. β . *intermedia*) in Gomerâ capta minus typica sunt et forsan ad speciem præcedentem melius pertinent. Differunt præcipue staturâ minore, elytrorum striis profundioribus ac sensim subcrenatis; sed in pube longiore subrectâ *S. hirtulo* congruunt.

Found in Gomera and Hierro, where it represents the *S. crenatus* of Teneriffe. Although in its normal state very different from that species, nevertheless (as stated in my Canarian Catalogue) I cannot

feel entirely satisfied that it is more than a modification of the *crenatus*; particularly so, since some of the smaller examples have their elytral striæ appreciably deeper and subcrenate, and appear, *thus far* at all events, to be intermediate between the two. The distinctions however of these small and densely clothed Coleoptera are often so difficult to catch, that it is far from improbable that other characters which I have overlooked may eventually raise my "var. β . *intermedia*" into a separate species; and therefore I would not hastily employ it to throw doubt upon the specific validity of two other forms which are not only well defined in their external details, but likewise topographically*.

Genus 201. XYLETINUS.

Latreille, *Règne Anim.* (ed. 2) iv. 483 (1829).

In my Canarian Catalogue I distributed the *Xyletini* under two Sections—characterized by the size of their eyes, and the form (simple or excavated) of the last joint of their maxillary palpi. Although these divisions may very likely be exceedingly useful ones in a general classification, the inspection of further Canarian material has convinced me that at any rate in those islands they are much *less pronounced* (and therefore less available) than I had imagined; for I believe that both the eye and the emargination of the joint referred to are more or less expressed *according to the sex*. Thus, for instance, whilst the *X. latitans* has undoubtedly larger

* When denuded of their pubescence, the sculpture of the *S. crenatus* and *hirtulus* (as typically defined) is quite dissimilar; for not only are the minute punctules with which the surfaces of both of them are densely crowded perceptibly *coarser* in the former, but there is also no appearance in that species of the *additional* (though likewise minute and very shallow) punctures which are more or less evident on the elytra of the *hirtulus* when viewed beneath the microscope. Then, in the *crenatus* the additional punctures of the prothorax are not only coarser but extend (although shallower in that part) even over the *posterior* region; whereas in the *hirtulus* they are quite obsolete on the hinder disk. And, lastly, as stated in my diagnosis, the *crenatus* (which is, on the average, a smaller insect) has its pubescence shorter and more depressed, and its striæ deep and conspicuously crenated (instead of being fine, lightly impressed, and almost simple). Still, as mentioned above, the smaller examples of the *hirtulus* (at any rate in Gomera, if not also in Hierro) have their striæ deeper and appreciably crenated, and their entire sculpture rather more in accordance with that of the Teneriffan *crenatus*; so that it is possible, after all, that the *crenatus* and *hirtulus* may be but extreme phases of a single species. Nevertheless I think it is far more likely that I have overlooked some additional character which would tend to raise my "var. β . *intermedia*" to the rank of a separate (Gomera) species. However as I have failed to draw a satisfactory line of demarcation between this smaller form and the *hirtulus* proper, I think it safer to record it as a variety, and to leave it to future inquiry as to whether (or not) any other distinctive features have escaped me.

eyes than any of the other species, it is nevertheless only in the male that they are perfectly enormous. And the same applies, in a great measure, to the maxillary palpus; for although the females have the ultimate articulation almost *simply* securiform, I now perceive that in the opposite sex it is *slightly* scooped out, though less so than is the case in the species afterwards enumerated. It is probable therefore that all the *Xyletini* hitherto detected in the Atlantic islands, except perhaps the *flavicollis*, would fall under Duval's genus *Metholcus*; but inasmuch as I have just shown that the main feature on which his group was made to rest (namely, the excavation of the extreme apex of the maxillary palpi) is not only a variable one (according to the species and sex), but that it is sometimes so feebly pronounced as to be barely traceable, I believe that *Metholcus* cannot stand as a distinct genus, though its characters, as secondary ones, may properly be made use of for sectional purposes.

§ I. *Palpi maxillares articulo ultimo leviter securiformi, integro.*

630. *Xyletinus flavicollis.*

Xyletinus flavicollis, Woll., *Append. huj. op.* 34.

Habitat Canarienses (Gom.), in caulibus *Euphorbiæ canariensis* à DD. Crotch nuper deprehensus.

A remarkable little *Xyletinus* which was detected by the Messrs. Crotch in Gomera, during their late Canarian campaign. Having been found only within the rotten stalks of the *Euphorbia canariensis*, it is in all probability attached exclusively to that plant.

§ II. *Palpi maxillares articulo ultimo valde securiformi, sed ad apicem internum plus minus oblique-excavato.* [Genus *Metholcus*, Duval.]

631. *Xyletinus latitans.*

Xyletinus latitans, Woll., *Ann. Nat. Hist.* vii. 14 (1861).

— — —, *Id.*, *Cat. Can. Col.* 246 (1864).

Habitat Canarienses (Lanz., Fuert., Ten., Gom., Hierro), sub cortice *Euphorbiarum* arido laxo præcipue latitans.

Attached to the *Euphorbias* of the Canarian archipelago, where indeed we may be pretty sure that it is universal. In fact it has already been detected in every island of the Group except Grand Canary and Palma, in both of which however it must doubtless

exist. Its discovery in Gomera is due to the late researches of the Messrs. Crotch, who captured it abundantly by sweeping the flowers of the Euphorbias near Hermigua.

632. *Xyletinus desectus*.

Xyletinus desectus, Woll., *Ann. Nat. Hist.* vii. 13 (1861).

— — —, *Id.*, *Cat. Can. Col.* 246 (1864).

Habitat Canarienses (*Can.*, *Ten.*, *Gom.*), minus frequens.

Likewise Canarian, but whether of *Euphorbia*-infesting habits I am scarcely able to say, though I have little doubt that such will be found to be the case. I have taken it in the region of El Monte in Grand Canary, and also at Souzal in Teneriffe—from which latter island a single specimen is now before me which was captured (I believe near the Puerto Orotava) by the Messrs. Crotch, who moreover obtained another in Gomera. It is evidently very much scarcer than the *latitans*, to which however it is closely allied*.

633. *Xyletinus brevis*.

Xyletinus brevis, Woll., *Ann. Nat. Hist.* vii. 15 (1861).

— — —, *Id.*, *Cat. Can. Col.* 247 (1864).

Habitat Canarienses (*Palma*), rarissimus.

The only two examples yet detected of this *Xyletinus* I captured in the Barranco above S^{ta} Cruz, in Palma, of the Canarian Group.

634. *Xyletinus excavatus*.

Xyletinus excavatus, Woll., *Ann. Nat. Hist.* vii. 15 (1861).

— — —, *Id.*, *Cat. Can. Col.* 247 (1864).

Habitat Canarienses (*Can.*), semel tantum deprehensus.

Hitherto unique, a single specimen having been taken by myself (during April 1858) in the south of Grand Canary.

Genus 202. NOTIOMIMUS.

Wollaston, *Ann. Nat. Hist.* vii. 15 (1861).

* The *X. desectus* differs from the *latitans* in being usually a little smaller and darker, with its pubescence somewhat shorter and not quite so coarse; in its elytra being a trifle more convex (or drawn-in) posteriorly, more distinctly (though very delicately) punctulated, and apparently free from the minute and distant granules which are scattered over the anterior portion in that species; in its tibiae being appreciably slenderer; and in the basal joint of its antennæ being rather less swollen, and not exactly of the same shape.

635. *Notiomimus fimicola*.

Notiomimus fimicola, *Woll., loc. cit.* 17 (1861).

— —, *Id., Cat. Can. Col.* 247 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in stercore arido bovino, equino, camelino latens.

Apparently peculiar to Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group,—where it resides (exclusively, so far as I have yet observed) within the dried dung of oxen, horses, and camels, especially in the most arid and dusty spots.

636. *Notiomimus holosericeus*.

Notiomimus holosericeus, *Woll., loc. cit.* 17 (1861).

— —, *Id., Cat. Can. Col.* 248 (1864).

Habitat Canarienses (*Ten., Palma*), rarissimus.

Likewise Canarian, and apparently exceedingly scarce—the only two examples of it which I have seen having been captured, one of them by Mr. Gray in Palma, and the other by Dr. Crotch in Teneriffe.

637. *Notiomimus punctulatissimus*.

Notiomimus punctulatissimus, *Woll., loc. cit.* 17 (1861).

— —, *Id., Cat. Can. Col.* 248 (1864).

Habitat Canarienses (*Can.*), semel tantum deprehensus.

Hitherto unique—a single example having been taken by myself, during April 1858, in the south of Grand Canary.

Genus 203. ANOBIUM.

Fabricius, *Syst. Ent.* 62 (1775).

638. *Anobium villosum*.

Anobium villosum, *Brullé* [nec *Bon.*, ined., nec *Dej. Cat.*] *, in *Webb et Berth. (Col.)* 60 (1838).

— —, *Woll., Ann. Nat. Hist.* vii. 18 (1861).

— —, *Id., Cat. Can. Col.* 249 (1864).

Habitat Canarienses (*Ten., Gom., Hierro*), in ligno antiquo præsertim *Fici* necnon circa domos et in cultis late diffusum.

* The last Berlin Catalogue cites the *A. villosum* of Brullé as identical with Illiger's *hirtum*, from southern Europe; but, judging from an example of the latter now before me, I can hardly regard it as conspecific with the Canarian insect, although undoubtedly much resembling it; for it is not only smaller and with longer pubescence, but its prothorax is differently shaped and exceedingly gibbous on the hinder disk (where there is only a slight glabrous line or keel in

A Canarian *Anobium* which is probably universal throughout the archipelago, though as yet it has been observed only in Teneriffe, Gomera, and Hierro. It occurs principally about houses and cultivated grounds at low and intermediate altitudes, but is in reality attached to the old wood of various trees, particularly of the Fig. The Messrs. Crotch however met with it likewise in willows, and even in Euphorbias.

The examination of further material, collected by the Messrs. Crotch in Gomera and Hierro, inclines me to believe that the specimen from the former of those islands which I regarded in my Canarian Catalogue as conspecific with the *velatum* is better referred to the *villosum*; in which case it would follow that the *velatum* has, at the Canaries, been met with hitherto only in Lanzarote. The two insects however are so nearly allied to each other that I do not feel perfectly satisfied that they may not, after all, be but modifications of a single species.

639. *Anobium velatum*.

Anobium velatum, Woll., *Ins. Mad.* 276, tab. v. f. 3 (1854).

— —, *Id.*, *Cat. Mad. Col.* 92 (1857).

— —, *Id.*, *Ann. Nat. Hist.* vii. 18 (1861).

— —, *Id.*, *Cat. Can. Col.* 249 (1864).

Habitat Maderenses (*Mad.*, *Bugio*) et Canarienses (*Lanz.*), in locis similibus ac præcedens.

As already implied, this species is very closely related to the preceding one—and, apparently, with much the same habits. It has been captured in Madeira proper, and even on the southern Deserta (or Bugio); and we may expect it to occur in Porto Santo likewise. Indeed I believe that it attaches itself to (amongst other trees) the old vines; and if so, this may account for its presence on the Bugio—on one of the lower slopes of which I saw evident traces of former cultivation. The only Canarian example of it which has yet come beneath my notice I found (dead) in a house at Haria, in the north of Lanzarote. Its pubescence is not *quite* so much developed as is

the *villosum*). The mistake doubtless arose from M. Brullé having erroneously referred the Canarian species to the *villosum* of *Dejean's Catalogue*, which is properly the *hirtum* of Illiger. If my "type" from the south of France be truly typical, I believe that the *A. hirtum*, Illig. (= *villosum*, Bonelli, ined., and of Dej. Cat.) is distinct both from the *villosum* of M. Brullé's inaccurate Canarian list, and the *velatum*. The Canarian insect however ought scarcely perhaps to be quoted as the *villosum* of Brullé; for the few words in which the latter alludes to it are absolutely no kind of "description" at all; perhaps indeed they did not even profess to be so.

the case in the Madeiran type; but it is much longer than on the *villosum*; added to which, its general aspect and the shape of its prothorax are more in accordance with the *velatum* than with the *villosum*.

Whether (as above stated) the *A. velatum* be more in reality than a geographical modification of the *villosum*, I cannot undertake to decide. It seems to differ from the latter, mainly, in its much longer and more erect pubescence, in its prothorax being a little straighter at the sides and somewhat less rounded off behind, and in its elytra being just perceptibly less parallel.

640. *Anobium paniceum*.

Dermestes paniceus, *Linn., Fna Succ.* 431 (1761).

Anobium paniceum, *Woll., Ins. Mad.* 277 (1854).

— —, *Id., Cat. Mad. Col.* 93 (1857).

— —, *Id., Cat. Can. Col.* 250 (1864).

Habitat Maderenses (*Mad.*), et Canarienses (*Lanz., Can., Ten., Gom.*), in domibus mercatorumque repositoriis, passim.

The *A. paniceum*, so liable to diffusion through human agencies over the civilized world, occurs sparingly (in, and about, houses and stores) in Madeira proper; and it has likewise been captured in Lanzarote, Grand Canary, Teneriffe, and Gomera, of the Canarian Group. It will doubtless be found in all the islands which are *inhabited*.

641. *Anobium striatum*.

Anobium striatum, *Oliv., Ent.* ii. 16. 9 (1790).

— —, *Woll., Ins. Mad.* 278 (1854).

— —, *Id., Cat. Mad. Col.* 92 (1857).

— —, *Id., Cat. Can. Col.* 250 (1864).

Habitat Maderenses (*Mad., Des.*) et Canarienses (*Ten., Gom., Palma*), late sed parce diffusum.

This common European insect is widely scattered over these Atlantic islands, where very likely it has become established from higher latitudes, and where in all probability it is nearly universal. It has been taken in Madeira proper and the Deserta Grande, of the Madeiran Group, and in Teneriffe, Gomera, and Palma, of the Canaries. I have never met with it abundantly, and have captured it for the most part in and about houses and cultivated grounds; but a note from Mr. G. R. Crotch, received during his sojourn in Gomera, states that it "mines in profusion the fig- and mulberry-trees" in that island.

642. *Anobium cryptophagoides*.

Anobium cryptophagoides, *Woll., Cat. Can. Col.* 250 (1864).

Habitat Canarienses (*Hierro*), rarissime; semel repertum.

Hitherto unique, a single example having been captured by myself at a low elevation on the western side of Hierro in the Canarian Group.

643. *Anobium impressum*.

Anobium impressum, *Woll., Append. huj. op.* 35.

Habitat Canarienses (*Hierro*), à DD. Crotch semel tantum lectum.

Likewise unique, and confined apparently to Hierro, the single specimen from which my diagnosis has been compiled having been taken by the Messrs. Crotch during their late Canarian expedition.

644. *Anobium molle*.

Dermestes mollis, *Linn., Fna Suec.* 415 (1761).

Anobium molle, *Woll., Cat. Mad. Col.* 93 (1857).

— —, *Id., Cat. Can. Col.* 250 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Palma*), *Pinos antiquas* parcissime destruens.

The European *A. molle* occurs sparingly on pine-trees, above Funchal, in Madeira proper; and I also obtained a single example of it (dead) within the dried cone of a *Pinus canariensis* in the island of Palma,—the only Canarian example which I have yet seen.

645. *Anobium lyctoides*.

Anobium lyctoides, *Woll., Append. huj. op.* 35.

Habitat Canarienses (*Gom.*), rarissimum. Exemplar unicum ceperunt, DD. Crotch.

The single example of this *Anobium* from which my diagnosis has been compiled was captured by the Messrs. Crotch in Gomera, during their expedition to the Canaries in the summer of 1864.

646. *Anobium oculatum*.

Anobium oculatum, *Woll., Append. huj. op.* 36.

Habitat Canarienses (*Gom.*), à DD. Crotch parcissime deprehensum.

Detected by the Messrs. Crotch in Gomera, during their late sojourn at the Canaries. It was captured very sparingly, and, I believe, out of a dead *Euphorbia*.

647. *Anobium ptilinoides*.

Anobium Ptilinoides, *Woll., Ins. Mad.* 278 (1854).

— —, *Id., Cat. Mad. Col.* 93 (1857).

Habitat Maderenses (Mad.), rarissimum; in domo quadam antiquâ supra Funchal à Dom. Leacock frequenter captum.

Found in Madeira proper, but extremely rare. Indeed the only spot in which it has hitherto been observed is an old house (the Quinta dos Padres) about two miles from Funchal, in the parish of S. Antonio—where it was detected originally by Mr. Leacock, and where occasional specimens have been captured by him subsequently.

Genus 204. *PTILINUS*.

Geoffroy, *Hist. Abr. des Ins.* i. 65 (1764).

648. *Ptilinus pectinicornis*.

Dermestes pectinicornis, *Linn., Fna Succ.* 141 (1761).

Ptilinus pectinicornis, *Dufits., Fna Austr.* iii. 43 (1825).

— —, *Steph., Ill. Brit. Ent.* iii. 331 (1830).

— —, *Redt., Fna Austr.* 353 (1849).

Habitat Maderenses (Mad.), in domibus circa urbem Funchalensem parce occurrens; forsan ex Europâ introductus.

A few specimens of this common European *Ptilinus* were taken by the late Mr. Bewicke and myself, in his house the Quinta da Palmeira, above Funchal, in Madeira proper. There can be little doubt that the species has been introduced accidentally from more northern latitudes.

649. *Ptilinus cylindripennis*.

Ptilinus cylindripennis, *Woll., Ins. Mad.* 285 (1854).

— —, *Id., Cat. Mad. Col.* 94 (1857).

Habitat Maderenses (Mad.), in cultis et circa domos lignum antiquum perforans. Præcipue in inferioribus sed interdum in locis parum elevatis occurrit.

Taken in Madeira proper at low and intermediate elevations (especially the former), where it occurs principally about vineyards and cultivated grounds, boring into old wood generally. In fact it is strictly the representative in the Madeiran Group of the Canarian *P. lepidus*, though at the same time most distinct from that insect specifically.

The males of *both* of these Atlantic *Ptilini* are scarcely distinguishable from those of the common European *P. pectinicornis*; and

it is to the female sex, therefore, that we must look for the true characters of the species. But even the males of the *cylindripennis* are usually a trifle broader than those of their more northern ally, and have their elytra rather more decidedly granulated (or still freer from shallow, somewhat longitudinally disposed, subasperated punctures). The females however may readily be known from those of the *pectinicornis* by being paler or more rufescent, whilst their antennæ are a little darker and have the serrated joints less produced internally; their prothorax also is a little more rounded at the sides; and their elytra are less coarsely alutaceous, and almost free from the rather large though very shallow and irregular punctures which are tolerably evident in that species—being merely roughened with comparatively small transversely-subconfluent granules, which tend to merge behind into obscure subasperated punctures.

650. *Ptilinus lepidus*.

Ptilinus lepidus, Woll., *Cat. Can. Col.* 251 (1864).

Habitat Canarienses (*Ten.*, *Gom.*, *Palma*), in intermediis lignum antiquum perforans.

A Canarian *Ptilinus* which I have captured at rather low and intermediate elevations in Teneriffe and Palma, where it burrows into old wood—principally about houses and in cultivated grounds. A single (dead, and greatly mutilated) example is now before me which was taken by the Messrs. Crotch, “out of its burrows,” in Gomera. Its elytra are rather rougher, and more strongly punctured, than is the case in the Teneriffan and Palman specimens; but I have little doubt that it represents a mere local, or perhaps insular, state of the *lepidus*—though further material would be desirable, in order to ascertain this for certain.

The females of the *P. lepidus* have their entire surface more shining than is the case in the corresponding sex of the Madeiran *cylindripennis*, as also rather more rufo-ferruginous and quite glabrous (instead of being densely, though delicately, pubescent); their prothorax is finely punctulated behind (instead of being granulose); and their elytra likewise are regularly, though very minutely, punctulated (instead of being coarsely alutaceous, and roughened with obscure, somewhat transversely-confluent granules, or shallow subasperated punctures), and are apparently without even the faintest tendency to be longitudinally subcostate. The two species, however, are clearly the representatives of each other in their respective Groups.

Fam. 47. BOSTRICHIDÆ.

Genus 205. XYLOPERTHA.

Guérin, *Ann. de la Soc. Ent. de France, Bull.* 17 (1845).

651. *Xylopertha ficicola*.

Xylopertha ficicola, *Woll., Append. huj. op.* 36.

Habitat Canarienses (*Gom.*), in ligno *Fici* antiquo à DD. Crotch capta.

A large Canarian *Xylopertha* which was found by the Messrs. Crotch in Gomera, where they bred a considerable number of it from the rotten wood of an old fig-tree. In colour, clothing, and sculpture it is very closely allied to the *X. humeralis*, Lucas (= *Chevrierii*, Villa), of Mediterranean latitudes, though I think it is scarcely possible to regard it as a geographical modification of that insect*.

652. *Xylopertha barbifrons*.

Xylopertha barbifrons, *Woll., Cat. Can. Col.* 252 (1864).

— — —, *Id., Append. huj. op.* 37.

Habitat Canarienses (*Palma*), in intermediis semel tantum reperta.

The only example which I have seen of this distinct Canarian *Xylopertha* was captured by myself in Palma—on the mountains between Galga and the sea, in the east of that island.

653. *Xylopertha barbata*.

Enneadesmus barbatus, *Woll., Ann. Nat. Hist.* v. 359 (1860).

Xylopertha barbata, *Id., Append. huj. op.* 38.

Habitat Maderenses (*Mad.*), in inferioribus haud procul ab urbe Funchalensi à DD. E. Leacock et Bewicke deprehensa.

Observed hitherto only in Madeira proper, where it was first detected by Mr. E. Leacock in his garden at the Quinta de São João, near Funchal; and where it has subsequently, on several occasions, been captured (at a low altitude) by the late Mr. Bewicke—principally amongst rotten wood in an old out-house at the Praia Formosa, but in one instance in his grounds at the Palmeira.

* The *X. ficicola* differs from the *humeralis*, chiefly, in being considerably larger, and in having the various characters which distinguish the retuse portion of its elytra very much more expressed (or exaggerated).

Genus 206. **DINODERUS.**Stephens, *Man. Brit. Col.* 203 (1839).654. **Dinoderus brunneus.***Dinoderus brunneus*, *Woll., Ann. Nat. Hist.* ix. 440 (1862).— —, *Id., Cat. Can. Col.* 253 (1864).*Habitat* Canarienses (*Ten., Palma*), truncos *Pini canariensis* emortuos in pinetis editioribus destruens.

The Canarian representative of the *D. substriatus* of more northern latitudes, being attached to the rotten wood of the *Pinus canariensis* at intermediate and rather lofty elevations. Hitherto it has been found only in Teneriffe and Palma; but we may expect it to occur wherever the ancient Pinals still remain.

Genus 207. **RHIZOPERTHA.**Stephens, *Ill. Brit. Ent.* iii. 354 (1830).655. **Rhizopertha bifoveolata.***Rhizopertha bifoveolata*, *Woll., Ann. Nat. Hist.* ii. 409 (1858).*Rhizopertha*, *Id., Append. huj. op.* 39.*Habitat* Maderenses (*Mad.*), certe introducta; in urbe ipsâ Funchalensi inter farinam Americanam (?) à Dom. M. Park reperta.

Perhaps this insect should scarcely be admitted into our Atlantic Catalogue—the only specimens hitherto detected having been found by Mr. M. Park in a cask of (American?) flour at the Funchal custom-house, in Madeira proper. But as it was taken abundantly, and since it is through the agency of commerce that numerous insects become established in the islands (in like manner as they do throughout the civilized world), possibly it should not be altogether omitted—even though an evident importation. It was in company with the *Adelina farinaria*—an insect equally *foreign* in its affinities, and which has more of an American aspect about it than either a European or an Atlantic one.

656. **Rhizopertha pusilla.***Synodendron pusillum*, *Fab., Ent. Syst.* v. (Suppl.) 156 (1798).*Rhizopertha pusilla*, *Steph., Ill. Brit. Ent.* iii. 354 (1830).— —, *Woll., Ins. Mad.* 287 (1854).— —, *Id., Cat. Mad. Col.* 95 (1857).*Habitat* Maderenses (*Mad.*), in locis similibus ac præcedens et certe introducta, sed in repositoriis Funchalensibus haud infrequens; in insulam farinariis radicibusque ex alienis invecta.

Found likewise in Madeira proper, and as certainly an importation into the island as the last species. Nevertheless whilst the *bifoveolata* has been met with hitherto only on one occasion, the *pusilla* has fairly established itself in the houses and stores of Funchal. As is usually the case in other countries, it seems attached principally to dried vegetable substances and preparations—such as powdered arrowroot and various kinds of seeds and roots.

Fam. 48. LYCTIDÆ.

Genus 208. LYCTUS.

Fabricius, *Ent. Syst.* i. ii. 502 (1792).

657. *Lyctus brunneus*.

Xylotrogus brunneus, *Steph., Ill. Brit. Ent.* iii. 116 (1830).

Lyctus colydioides?, *Dej., Cat.* (edit. 3) 338 (1837).

— *Glycyrrhizæ*, *Chev., in Dej. Cat.* 338 (1837).

— *brunneus*, *Woll., Ins. Mad.* 152, tab. iv. f. 3 (1854).

— —, *Id., Cat. Mad. Col.* 50 (1857).

Habitat Maderenses (*Mad.*) et Canarienses (*Gom.*), rarissimus.

An insect which is found sparingly in Europe and northern Africa, and which is decidedly rare in these islands. It has been taken in Madeira proper, principally about houses; where we might well suppose it to have been accidentally introduced, did it not sometimes occur in spots altogether removed from the cultivated districts. And a single example is now before me which was captured by the Messrs. Crotch (in a house at Hermigua) in Gomera, during their late Canarian campaign.

658. *Lyctus Leacocianus*.

Lyctus Leacocianus, *Woll., Ann. Nat. Hist.* v. 256 (1860).

Habitat Maderenses (*Mad.*), rarissimus; à Dom. E. Leacock semel captus.

The only specimen which I have seen of this very distinct *Lyctus* was taken by Mr. E. Leacock near Funchal, in Madeira proper. Apart from minor characteristics, it may be known from the *brunneus* by its black hue and rather shorter and much squarer prothorax (the anterior angles of which are completely rounded off, instead of being produced), by its somewhat coarser elytral sculpture (the punctules being oblong and with a tendency, tolerably con-

spicuous towards either side, to be disposed in *double* rows, whilst the interstices are very obsoletely raised), and by its antennæ being appreciably thicker or more robust.

Fam. 49. CIOIDÆ.

Genus 209. CIS.

Latreille, *Précis des Caract. gén. des Ins.* 50 (1796).

659. *Cis Wollastonii*.

Cis Wollastonii, *Mellié, in Guér. Rev.* i. 586 (1849).

— — —, *Woll., Ins. Mad.* 280, tab. v. f. 8 (1854).

— — —, *Id., Cat. Mad. Col.* 94 (1857).

Habitat Maderenses (*Mad.*), sub cortice laxo in lauretis humidis editioribus latens.

A large and beautiful (though somewhat variable) *Cis*, which seems to be peculiar to the damp sylvan regions of Madeira proper, where it occurs sparingly beneath the bark of trees (especially the native laurels) at intermediate and lofty elevations.

660. *Cis cucullatus*.

Cis cucullatus, *Woll., Append. huj. op.* 39.

Habitat Canarienses (*Gom.*), à DD. Crotch parce deprehensus.

Three specimens of this very distinct *Cis* were taken by the Messrs. Crotch in Gomera, during their late expedition to the Canaries; but they are all that I have yet seen.

661. *Cis fuscipes*.

Cis fuscipes (Chev.), *Mellié, Ann. de la Soc. Ent. de Fr.* vi. 271 (1848).

— — —, *Woll., Ins. Mad.* 281 (1854).

— — —, *Id., Cat. Mad. Col.* 94 (1857).

Habitat Maderenses (*Mad.*), præcipue inter lichenes et fungos in locis subinferioribus parce occurrens.

Occurs (for the most part at rather low elevations) around Funchal in Madeira proper—principally amongst lichen and small fungi on the trunks of trees, in cultivated spots. As it is stated by Mellié to be an American species, I think it far from unlikely that it may have originally been imported into the island by accident; though, if this be indeed the case, it has at any rate completely established itself.

662. *Cis puncticollis*.

Cis puncticollis, *Woll., Ann. Nat. Hist.* v. 360 (1860).

— —, *Id., Append. huj. op.* 40.

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), vel in castanctis vel in pinetis parcissime degens.

First detected by the late Mr. Bewicke in Madeira proper, beneath the bark of Spanish chestnut-trees at "the Mount" above Funchal. And three examples are now before me which were taken by the Messrs. Crotch, during their late Canarian campaign, in the Pinal above Ycod el Alto in Teneriffe. It would therefore seem to be attached equally to various kinds of trees. Some of the Madeiran specimens are a trifle larger and browner than the remainder; but, after a very careful examination of them, I can detect nothing whatever about them to warrant the suspicion that they are specifically distinct.

663. *Cis lauri*.

Cis Lauri, *Woll., Ins. Mad.* 282, tab. v. f. 7 (1854).

— —, *Id., Cat. Mad. Col.* 94 (1857).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom.*), in laurctis editioribus hinc inde vulgatissimus.

A most variable little species (both in size and in the development of its thoracic segments), which abounds in the sylvan districts of Madeira proper, occurring principally beneath the moist bark and within the rotten wood of the old laurels (which are often devoured by it). And it occurs in similar situations at the Canaries, though not quite so universally. I have taken it in the woods at Las Mercedes and the Agua Garcia, in Teneriffe; and it was found by the Messrs. Crotch at Ycod el Alto, as well as (above Hermigua) in Gomera.

Genus 210. **OCTOTEMNUS.**

Mellié, *Ann. de la Soc. Ent. de France*, vi. 384 (1848).

664. *Octotemnus opacus*.

Octotemnus opacus, *Mellié, loc. cit.* 386 (1848).

— —, *Woll., Ins. Mad.* 283 (1854).

— —, *Id., Cat. Mad. Col.* 94 (1857).

— —, *Id., Cat. Can. Col.* 254 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom., Palma*), in lauretis humidis editioribus hinc inde vulgaris.

Found under much the same circumstances as the *Cis lauri*, and

indeed often in company with it. It abounds in the damp laurel-woods of Madeira proper, at intermediate and lofty altitudes; and I have taken it in similar situations in Teneriffe and Palma, of the Canarian Group, where however it is comparatively scarce. It was also found by the Messrs. Crotch, during the summer of 1864, in Gomera.

Fam. 50. TOMICIDÆ.

Genus 211. TOMICUS.

Latreille, *Hist. Nat. des Ins.* iii. 203 (1802).

665. *Tomicus nobilis*.

Tomicus nobilis, Woll., *Ann. Nat. Hist.* ix. 441 (1862).
 — — —, *Id.*, *Cat. Can. Col.* 254 (1864).

Habitat Canarienses (*Ten.*, *Palma*, *Hierro*), lignum antiquum in pinetis editioribus destruens.

Apparently peculiar to the Pinals of the Canarian Group, where it perforates the old trunks of the *Pinus canariensis*. I have taken it in Teneriffe and Palma; and it was captured by the Messrs. Crotch in the remote, but elevated, Pinal in the south of Hierro.

666. *Tomicus erosus*.

Tomicus erosus, Woll., *Cat. Mad. Col.* 95 (1857).

Habitat Maderenses (*Mad.*), sub cortice in castanetis præcipue degens.

Closely allied to the Canarian *T. nobilis*, of which indeed it may be regarded as the Madeiran representative. Hitherto it has been found only in Madeira proper, where it occurs sparingly beneath the bark of trees (principally, I believe, of the Spanish chestnut) on the mountains above Funchal*.

667. *Tomicus villosus*.

Bostrichus villosus, Fab., *Ent. Syst.* i. ii. 367 (1792).
Tomicus villosus, Steph., *Ill. Brit. Ent.* iii. 356 (1830).

* It is very possible that I may have overlooked characters which would additionally tend to separate the two species; but it seems to me that the *T. erosus* differs from the Canarian *T. nobilis*, merely, in its uniformly smaller size and narrower outline, in the punctures on the hinder region of its prothorax and elytral interstices being a little smaller, and in the asperities which fringe the obliquely truncated portion of its elytra being altogether less developed. Yet although so nearly allied, I am quite satisfied that they are truly and specifically distinct.

Tomicus villosus, *Woll., Ins. Mad.* 290 (1854).
 ———, *Id., Cat. Mad. Col.* 96 (1857).

Habitat Maderenses (*Mad.*), sub cortice laxo emortuo præsertim in castanetis parce occurrens.

The European *T. villosus* occurs sparingly in Madeira proper, principally beneath the bark of Spanish chestnut-trees within the cultivated districts. Possibly it may have been naturalized, accidentally, from higher latitudes.

668. *Tomicus Saxesenii*.

Bostrichus Saxesenii, *Ratz., die Forst-Insect.* i. 167 (1837).
Tomicus Dohrnii, *Woll., Ins. Mad.* 290 (1854).
 ———, *Id., Cat. Mad. Col.* 96 (1857).
 ——— *Saxesenii*, *Id., Cat. Can. Col.* 255 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom., Palma*), vel in lauretis vel in pinetis degens.

Likewise a European insect, and one which is very widely spread over these Atlantic islands—where it has adapted itself to various kinds of trees. Of the Madeiran Group I have observed it only in Madeira proper, where however it abounds at lofty elevations within the sylvan districts—attacking, almost exclusively, the native laurels. At the Canaries, on the other hand, it is comparatively scarce, and seems to prefer pine trees. At any rate the few examples which I have myself met with were taken from under the bark of the *Pinus canariensis* in Teneriffe and Palma—in the former of which islands it was also found by the Messrs. Crotch, in the Pinal above Ycod el Alto. I have likewise examined a series which was obtained by the Messrs. Crotch in Gomera—according to a note now before me, “out of poles,” though whether the poles were of fir or laurel I am unable to say.

669. *Tomicus perforans*.

Bostrichus ferrugineus?, *Fab., Syst. Eleu.* ii. 388 (1801).
Tomicus perforans, *Woll., Cat. Can. Col.* 96 (1857).

Habitat Maderenses (*Mad.*), obturamenta doliorum in cellis vinariis Funchalensibus destruens; forsan ex alienis introductus.

Although, from information which I have received, there can be little doubt that this *Tomicus* is occasionally very destructive in the wine-cellars of Madeira proper (where it feeds on the corks used as bungs for the casks), nevertheless it is somewhat remarkable that I have been unable to obtain hitherto more than a single example of

it. And although it has so many characters in common with the *T. Saxeseni* that at first sight it might almost be regarded as a pale variety of that species, I nevertheless am quite satisfied that it is totally distinct; and I believe moreover that it is not even a *European* insect, but one which has been established accidentally in the stores of Funchal (perhaps from South America) through the medium of commerce. Indeed if a Brazilian type which is now in my possession can be relied upon, and which was given me (with a very old label appended to it) by the late Mr. Melly of Liverpool, there can be no doubt that the Madeiran *Tomieus* is the *Bostrichus ferrugineus* of Fabricius; nevertheless as I can scarcely act on this conclusion without further evidence (the Fabrician *diagnosis* being, of course, utterly worthless), I will not suppress the name of *perforans* until it has been settled positively that Mr. Melly's specimen is rightly identified*.

The *T. perforans* is not only much paler, but also a trifle larger, broader and less pubescent than the *Saxeseni*; its prothorax is longer and more developed, and *very* much more polished behind—where there is no trace of the alutaceous sculpture which is always so conspicuous under a high magnifying-power in that insect, and where likewise the punctules are still more remote; and its elytra have the asperities towards their apex (which is itself less bent downwards at the extreme point) larger and fewer in number, and the punctures of their interstices more distant.

Genus 212. XYLATERUS.

Erichson, in *Wieg. Archiv*, ii. 60 (1836).

670. *Xyloterus longicollis*.

Xyloterus longicollis, *Woll., Cat. Can. Col.* 256 (1864).

Habitat Canarienses (*Fuert.*), rarissimus; semel tantum captus.

The only specimen of this insect which I have seen was captured by myself in Fuerteventura, of the Canarian Group, beneath the refuse of a camels' stable in the Rio Palmas. It is probable however that its presence in that particular situation was merely accidental.

Genus 213. CRYPHALUS.

Erichson, in *Weigm. Archiv*, ii. 61 (1836).

* If this should prove to be the case (as I cannot but think extremely probable), may not Fabricius's "*Varietas nigra, vix distincta*" refer to the European *T. Saxeseni*?

671. *Cryphalus aspericollis*.

Cryphalus aspericollis, *Woll., Ann. Nat. Hist.* v. 365 (1860).

— —, *Id., Cat. Can. Col.* 256 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom.*), in ligno arido emortuo præsertim *Fici* hinc inde vulgaris.

This minute insect will probably be found to be generally spread over these Atlantic islands, though its small size renders it very liable to escape observation. It is not uncommon around Funchal in Madeira proper, in the dead wood of old fig- and other trees; and I have taken it in Teneriffe, of the Canarian Group, in much the same situations, as well as within the rotten stalks of Geraniums. In Gomera it was found by the Messrs. Crotch—under the bark of “fig- and mulberry-trees”; but it is not peculiar to the Atlantic Groups in question, for it was captured by the late Mr. Bewicke even in the island of Ascension (where, however, in all probability, it had been introduced by mere accident).

Genus 214. **APHANARTHURUM.**

Wollaston, *Ins. Mad.* 292 (1854).

§ I. *Pronotum antice productum, caput fere occultans.*

672. *Aphanarthrum Jubæ*.

Aphanarthrum Jubæ, *Woll., Ann. Nat. Hist.* v. 164 (1860).

— —, *Id., Cat. Can. Col.* 257 (1864).

Habitat Canarienses (*Lanz., Can., Gom.*), in ramis *Euphorbiarum* emortuis præsertim *E. regis-Jubæ* hinc inde vulgare.

This large and very pubescent *Aphanarthrum* I have captured abundantly, from within dry twigs and stems of the *Euphorbia regis-Jubæ*, in Lanzarote of the Canarian Group; and during the summer of 1864 it was taken, pretty commonly, by the Messrs. Crotch both in Grand Canary and Gomera.

673. *Aphanarthrum tuberculatum*.

Aphanarthrum tuberculatum, *Woll., Append. huj. op.* 40.

Habitat Canarienses (*Hierro*), inter *Euphorbias* emortuas à DD. Crotch copiose repertum.

Found abundantly by the Messrs. Crotch (“amongst sweet *Euphorbias* only”) in Hierro, the most western island of the Canarian Group; but it has not yet been observed elsewhere.

674. *Aphanarthrum armatum*.

Aphanarthrum armatum, Woll., *Trans. Ent. Soc. Lond.* i. 167 (1862).
 ———, *Id.*, *Cat. Can. Col.* 257 (1864).

Habitat Canarienses (Lanz.), intra caules *Euphorbiarum* parce lectum.

The only two examples which I have seen of this species were taken by myself, out of *Euphorbia*-stems, in Lanzarote of the Canarian Group. Apart from colour, they differ from their immediate allies in having their elytra somewhat less parallel and more finely punctured, the punctures being less evidently disposed in longitudinal rows, and in their prothorax being a little more produced at the apex (where it is armed with *much* larger tubercles, the inner pair of which are elongate and porrect) and rather more carinated behind. Their pubescence, which is soft and very dense, appears on the elytra to be pale and nearly *decumbent*.

675. *Aphanarthrum canescens*.

Aphanarthrum canescens, Woll., *Append. huj. op.* 41.

Habitat Canarienses (Can., Gom.), in ramulis *Euphorbiarum* à DD. Crotch lectum.

Taken abundantly in Gomera by the Messrs. Crotch, and also near Las Palmas in Grand Canary,—the specimens from the latter island differing in having their minute prothoracic pustules usually obsolete.

676. *Aphanarthrum canariense*.

Aphanarthrum canariense, Woll., *Ann. Nat. Hist.* v. 164 (1860).
 ———, *Id.*, *Cat. Can. Col.* 261 (1864).

Habitat Canarienses (Can., Ten., Gom., Palma, Hierro), plantas *Euphorbiarum* putridas præcipue *E. canariensis* destruens.

Widely spread over the Canarian archipelago, in all the islands of which I have taken it except Lanzarote and Fuerteventura. It seems to be attached principally (perhaps entirely) to the rotten stalks of the *Euphorbia canariensis*; but as that plant, I believe, does not now occur in the two eastern islands of the Group, the species probably will not be found in either of them.

677. *Aphanarthrum pygmæum*.

Aphanarthrum pygmæum, Woll., *Append. huj. op.* 42.

Habitat Canarienses (Ten., Gom., Palma), intra plantas *Euphorbiæ canariensis* putridas rarius.

This extremely minute *Aphanarthrum* appears to be attached to the rotten stalks of the *Euphorbia canariensis*, being widely though sparingly diffused over the Canarian Group. I took a single specimen of it in Palma, during the spring of 1858; and a tolerable series is now before me, captured by the Messrs. Crotch in Teneriffe and Gomera during the summer of 1864. Although its elytra are quite dark compared with those of the other *Aphanarthra* (except the *A. pusillum*) here enumerated, nevertheless the Teneriffan examples are usually a shade paler than the Gomeran (and Palman?) ones, and have their central fascia (which in the latter is almost entirely suffused and obsolete) often quite appreciable,—under which circumstances it takes much the same form as that of the *A. canariense*. The specimens from Teneriffe have also the extreme apex of their pronotum for the most part rather less evidently biplicate (or minutely bipartite) than is the case in those from Gomera and Palma.

678. *Aphanarthrum bicinctum*.

Aphanarthrum bicinctum, Woll., *Ann. Nat. Hist.* v. 165 (1860).

— —, *Id.*, *Cat. Can. Col.* 260 (1864).

— —, *Id.*, *Append. huj. op.* 43.

Habitat Canarienses (*Lanz.*, *Fuert.*, *Can.*, *Ten.*); in *Euphorbiis* emortuis hinc inde vulgatissimum.

A Canarian *Aphanarthrum* which seems to put on at least three slightly different phases (probably indeed more), according to the island in which it is found; but these states, although usually separable in a general way, do in reality merge into each other so completely that I am satisfied it would be unsafe to attempt to uphold any one of them as specifically distinct from the rest. The *A. bicinctum*, as thus received, has been observed abundantly in Lanzarote, Fuerteventura, Grand Canary, and Teneriffe; but it is the form from the first and second of those islands which I have regarded as the type—simply, however, because it was the Lanzarotan and Fuerteventuran examples which supplied the *data* for my original diagnosis. The specimens (thus treated as typical) from the two eastern islands are a little smaller than the Grand-Canarian ones, and the latter (which are consequently, in that respect, intermediate) than those from Teneriffe. Moreover the Teneriffan ones are not only (on the average) somewhat larger and broader than the others, but they are also just perceptibly more opaque and a trifle more thickly pubescent; and their entire colour is *usually* darker, the fasciæ being often greatly suffused. Yet the corresponding

characters of occasional individuals from these four different islands are so similar that I am convinced it would be worse than useless to define as separate species what further material would tend only to reunite.

I have taken the normal form of the *A. bicinctum* abundantly in the rotten Euphorbias of Lanzarote and Fuerteventura, and the states “ β ” and “ γ ” sparingly in Grand Canary and Teneriffe. These two latter phases were found more commonly by the Messrs. Crotch,—the “ γ ” (or Teneriffan one) indeed in the utmost profusion, within the stems of felled Euphorbias at Souzal; and it was likewise met with by Mr. Gray in the Barranco do Passo Alto, near S^{ta} Cruz.

679. *Aphanarthrum piscatorium*.

Aphanarthrum piscatorium, Woll., *Ann. Nat. Hist.* v. 166 (1860).
 ———, *Id.*, *Cat. Can. Col.* 260 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*, *Gom.*, *Palma*, *Hierro*), ramos *Euphorbiarum* emortuos præsertim *E. piscatoriæ* erodens.

A small species which is widely spread over these Atlantic islands, where probably it will be found to occur wherever there are plants of the *Euphorbia piscatoria*—to which it seems principally to be attached. It is common, at rather low elevations, in Madeira proper; whilst at the Canaries it has been taken abundantly in Teneriffe, Gomera, Palma, and Hierro.

680. *Aphanarthrum euphorbiæ*.

Aphanarthrum Euphorbiæ, Woll., *Ins. Mad.* 293, tab. vi. f. 2 (1854).
 ———, *Id.*, *Cat. Mad. Col.* 97 (1857).

Habitat Maderenses (*Mad.*), sub cortice necnon in ligno putrido *Euphorbiæ melliferæ*, Linn. fil., in locis editioribus occurrens.

A Madeiran species, which has been captured hitherto only in the higher regions of Madeira proper—where it occurs beneath the bark (and within the damp rotting wood) of the gigantic *Euphorbia mellifera*, ascending to at least 5000 feet above the sea.

681. *Aphanarthrum affine*.

Aphanarthrum affine, Woll., *Ann. Nat. Hist.* v. 166 (1860).
 ———, *Id.*, *Cat. Can. Col.* 259 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*, *Can.*, *Gom.*), inter *Euphorbias* antiquas hinc inde vulgare.

Widely distributed over the Canarian Group, though apparently more common in the eastern islands than in the western ones. It is abundant amongst the decayed Euphorbias in Lanzarote and Fuerteventura; and it also occurs in Grand Canary, and more sparingly in Gomera.

682. *Aphanarthrum glabrum*.

Aphanarthrum glabrum, *Woll., Ann. Nat. Hist.* v. 167 (1860).
 — — —, *Id., Cat. Can. Col.* 258 (1864).

Habitat Canarienses (*Gom., Hierro*), inter *Euphorbias rarius*.

One of the rarer of the Canarian *Aphanarthra*, or at any rate extremely local, it having been observed as yet only in Gomera and Hierro.

683. *Aphanarthrum bicolor*.

Aphanarthrum bicolor, *Woll., Ann. Nat. Hist.* v. 165 (1860).
 — — —, *Id., Cat. Can. Col.* 259 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom., Palma, Hierro*), *Euphorbias emortuas copiose destruens*.

Like the *A. piscatorium*, widely spread over these Atlantic islands, where very likely it will be found to be nearly universal. It occurs in the dead Euphorbias, at rather low elevations, in Madeira proper; and it has been taken in Teneriffe, Gomera, Palma, and Hierro, of the Canarian Group.

§ II. *Pronotum antice minus productum, caput (longiusculum, fere subrostratum) haud occultans.*

684. *Aphanarthrum luridum*.

Aphanarthrum luridum, *Woll., Ann. Nat. Hist.* v. 163 (1860).
 — — —, *Id., Cat. Can. Col.* 262 (1864).

Habitat Canarienses (*Ten., Gom.*), intra caules *Euphorbiae canariensis* putridos degens.

A Canarian *Aphanarthrum* which has been observed hitherto only in Teneriffe and Gomera, though most probably it will be found wherever the *Euphorbia canariensis* (to the rotten stalks of which it seems to be peculiar) still exists. Like the *A. pusillum* (which however is dark, concolorous, and extremely minute), it differs from the other species here enumerated in having its pronotum only slightly produced in front, so that the head (which is somewhat more rostrate) is less concealed from view.

685. *Aphanarthrum pusillum*.

Aphanarthrum pusillum, *Woll., Ann. Nat. Hist.* v. 167 (1860).
 ———, *Id., Cat. Can. Col.* 263 (1864).

Habitat Canarienses (*Can., Ten., Gom.*), plantas *Euphorbiæ canariensis* putridas destruens.

This minute and uniformly dark-brown species is widely diffused over the Canarian Group, where it is attached to the putrid stalks of the *Euphorbia canariensis*. I have taken it in Grand Canary, Teneriffe, and Gomera, in the last two of which it was found also by the Messrs. Crotch.

Genus 215. **CRYPTURGUS.**

Erichson, in *Wieg. Archiv*, ii. 60 (1836).

686. *Crypturgus concolor*.

Aphanarthrum concolor, *Woll., Cat. Can. Col.* 263 (1864).

Habitat Canarienses (*Ten., Palma, Hierro*), sub cortice *Pini canariensis* latens.

A minute Canarian wood-borer, which occurs under the rotten bark of the *Pinus canariensis*. I have taken it in Teneriffe and Palma—in the former of which islands it was captured also by the Messrs. Crotch, who likewise met with it in the Pinal in the south of Hierro.

In my Canarian Catalogue I referred this insect to the genus *Aphanarthrum*—though with considerable reluctance, seeing that in its external *facies* and pine-destroying habits it is totally opposed to the members of that *exclusively Euphorbia-infesting* group; and it is therefore with some satisfaction that a more recent and critical inquiry into its structural peculiarities has convinced me that it belongs, without doubt, to the European genus *Crypturgus*—with which in the exact number and proportions of its antennal joints, and its perfectly solid (unannulated) club, it agrees entirely. Indeed it closely resembles the *C. pusillus* of more northern latitudes—from which it would seem to differ merely in being a trifle larger and more pubescent, with the spines on the outer edge of its tibiæ more elongated and developed. The minute punctules also of its elytral interstices will be seen, beneath the microscope, to be both somewhat more regular and more numerous; but as none of these characters are important ones, I think it far from unlikely that it may be in reality but a geographical modification of its European ally.

Genus 216. **TRIOTEMNUS.**Wollaston, *Cat. Can. Col.* 264 (1864).

As Dr. Crotch's original specimen, for the reception of which I established this genus in my Canarian Catalogue, happened to be a female one, I had no opportunity of detecting the singular and most anomalous character afforded by the opposite sex, and so merely called attention to its 3-jointed funiculus, the subretuse apex of its elytra, and sundry other secondary features which served to distinguish it from the immediately allied groups. But further material has now disclosed to me a sexual peculiarity of a kind which I have never before witnessed (so far as I can recollect) in any member of the Colcoptera—namely, that the males (in which the forehead appears to be concave) have a small and incurved, but upwardly-inclined, horn, or tooth (more or less expressed in different individuals), on the outer face of their *mandibles*! Had this process been a development of the front edge of the clypeus there would have been nothing *very* remarkable about it; for although such a structure is not usual in the *Tomicidæ*, it at any rate obtains in the male sex of the various forms around *Cis* (of the preceding family), the frontal tubercles of which frequently present much the same appearance, at first sight, as these mandibular processes of *Triotemnus*; but to be placed where they are, on the *upper surface* of the mandibles, is quite without a precedent in any insect with which I am acquainted.

687. **Triotemnus subretusus.**Triotemnus subretusus, *Woll., Cat. Can. Col.* 265 (1864).

Habitat Canarienses (*Ten., Gom.*), in plantis *Euphorbice canariensis antiquis aridis* emortuis à DD. Crotch deprehensus.

Found first by Dr. Crotch in Gomera, during his Canarian campaign of 1862, and subsequently by himself and his brother (in tolerable abundance) both in that island and Teneriffe. Mr. G. R. Crotch informs me that they met with it only in the *dry* but rotten stalks of the *Euphorbia canariensis*.

Genus 217. **LIPARTHURUM.**Wollaston, *Ins. Mad.* 294 [script. *Leiparthrum*] (1854).688. **Liparthrum mandibulare.**Liparthrum mandibulare, *Woll., Ins. Mad.* 295, tab. v. f. 9 (1854).—, *Id., Cat. Mad. Col.* 97 (1857).

Habitat Maderenses (*Mad.*), sub cortice in castaneto quodam captum.

The only example of this insect which has yet been brought to light I captured (during the summer of 1850) in the chestnut-woods at S^{ta} Anna, in the north of Madeira proper; and as the specimen was far from a perfect one, further material is greatly needed in order to ascertain more fully the true characters of the species.

689. *Liparthrum nigrescens*.

Liparthrum bituberculatum, *Woll., Cat. Can. C.* [nec *Ins. M.*] 265 (1864).
 — *nigrescens*, *Id., Append. huj. op.* 44.

Habitat Canarienses (*Ten.*), in intermediis et præsertim editoribus rarissimum.

A Canarian insect which has been observed hitherto only in the intermediate and loftier altitudes of Teneriffe, where moreover it would seem to be scarce. I have taken it at the Agua Garcia and on the Cumbre above the Agua Mansa (in the region of the Retamas); and several Teneriffan examples are now before me which were captured by the Messrs. Crotch. In my Canarian Catalogue I referred it to the Madeiran *L. bituberculatum*; but in the Appendix to this volume I have stated that additional material has since convinced me that it is truly distinct from that species.

690. *Liparthrum bituberculatum*.

Liparthrum bituberculatum, *Woll., Ins. Mad.* 297, tab. vi. f. 3 (1854).
 — —, *Id., Cat. Mad. Col.* 97 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis intermediis præsertim castanetis sat vulgare.

Rather common in the intermediate altitudes of Madeira proper, both in the chestnut-woods and (amongst the laurels) in the strictly sylvan districts. The examples from the latter are perhaps, on the average, more typical than those from the former,—being usually a trifle larger and darker.

691. *Liparthrum curtum*.

Liparthrum curtum, *Woll., Ins. Mad.* 298 (1854).
 — —, *Id., Cat. Mad. Col.* 97 (1857).
Liparthrum —, *Id., Cat. Can. Col.* 266 (1864).

Habitat Maderenses (*Mad.*), et Canarienses (*ins. omnes*), in intermediis et præcipue inferioribus hinc inde vulgare.

One of the most widely spread of all the wood-boring Coleoptera within these Atlantic islands, where it is nearly universal,—occurring

principally at rather low elevations, but ascending likewise into the intermediate districts. It often swarms under the dry, loosened bark of old palings, and about cultivated grounds generally. I have taken it in Madeira proper, as well as in all the seven islands of the Canarian Group except Gomera—whence however an extensive series is now before me, which was captured by the Messrs. Crotch.

I do not feel entirely satisfied that the *L. curtum* is specifically distinct from the *bituberculatum*—occasional specimens from the intermediate regions so far uniting the two forms that it is difficult to say for certain to which they should be referred. Still both of them are on the whole so well defined that I think it is far from impossible that some diagnostic character (for one or the other of them) may have escaped my observation; and therefore I will not, particularly as they have already been established, venture to unite them. Whether however the *L. bituberculatum* is indicated amongst the *Canarian* examples now before me I consider somewhat doubtful, and am rather inclined to refer the whole of the latter (even the darker ones) to the *curtum*.

692. *Liparthrum inarmatum*.

Liparthrum inarmatum, *Woll., Ann. Nat. Hist.* v. 364 (1860).

Liparthrum —, *Id., Cat. Can. Col.* 266 (1864).

Habitat Maderenses (*Mad.*), et Canarienses (in *Fuert.* solâ adhuc haud observatum), ramulos *Euphorbiarum* emortuos erodens.

Strictly a *Euphorbia*-infesting species, and one which in all probability is (like the *L. curtum*) universal throughout these Atlantic Groups,—occurring in the dead stems and twigs of the Euphorbias, principally at rather low elevations. It has been taken in Madeira proper (to the westward of Funchal), and in all the seven Canarian islands except Fuerteventura (where, however, there can be no doubt that it must exist). Its capture in Hierro is due to the Messrs. Crotch, who met with several specimens of it (now before me) in that island during the summer of 1864. It varies considerably in stature.

693. *Liparthrum artemisiæ*.

Liparthrum Artemisiæ, *Woll., Ins. Mad.* 299 (1854).

— —, *Id., Cat. Mad. Col.* 97 (1857).

Habitat Maderenses (*Ilheo Chão*) inter plantas *Artemisiæ argenteæ*, Hêrit., sat copiose deprehensum.

Found hitherto only on the northern Deserta (or Ilheo Chão), of

the Madeiran Group,—where I obtained it rather abundantly, during June 1850, by beating the dense masses of wormwood (*Artemisia argentea*, Hérít.) which clothe certain parts of that singular little island. But whether it was actually attached to the wormwood, or had come out of the dead branches of some *Euphorbia* or other plant, I am unable to say.

694. *Liparthrum Loweii*.

Liparthrum Loweii, Woll., *Trans. Ent. Soc. Lond.* i. 174 (1862).
 ———, *Id.*, *Cat. Can. Col.* 267 (1864).

Habitat Canarienses (*Ten.*, *Gom.*), in *Euphorbiis* emortuis minus frequens.

A most minute Canarian *Liparthrum*, which has been observed hitherto only in the dead Euphorbias of Teneriffe and Gomera. It was first detected by the Rev. R. T. Lowe in the former island, near Garachico; and a considerable series is now before me which was captured, likewise in Teneriffe, by the Messrs. Crotch, during the summer of 1864. We may, however, expect it to occur more generally throughout the Group.

695. *Liparthrum bicaudatum*.

Liparthrum bicaudatum, Woll., *Append. huj. op.* 44.

Habitat Canarienses (*Gom.*), in ramulis *Euphorbiarum* emortuis à DD. Crotch sat copiose lectum.

This curious little insect, so remarkable for the enlarged process, or nodule, into which the raised second interstice of each elytron is backwardly produced behind, was captured abundantly by the Messrs. Crotch in Gomera, during their late Canarian expedition. According to their report, it was found within the dead twigs of one of the "sweet" Euphorbias (perhaps the *E. balsamifera*, or the *regis-Jubeæ*).

Genus 218. HYPOBORUS.

Erichson, in *Wiegmann Archiv*, ii. 62 (1836).

696. *Hypoborus ficus*.

Bostrichus Fici, *Dej. Cat.* (edit. 1) 101 (1821).

Hypoborus Ficus, *Erich.*, *loc. cit.* 62 (1836).

———, *Lucas, Col. de l'Algérie*, 462, pl. 39. f. 2 (1849).

———, *Woll., Cat. Mad. Col.* 98 (1857).

Habitat Maderenses (*Mad.*, *Pto Sto*), in ligno antiquo præsertim *Fici* in cultis inferioribus occurrens.

An insect of Mediterranean latitudes which occurs sparingly at low elevations in the Madeiran Group, for the most part about cultivated grounds. I have taken it around Funchal in Madeira proper, and also near the Villa in Porto Santo; and it would appear to be attached normally (as indeed the name implies) to the rotten wood of old fig-trees.

Fam. 51. HYLESINIDÆ.

Genus 219. **HYLESINUS.**

Fabricius, *Syst. Eleu.* ii. 390 (1801).

697. *Hylesinus indigenus.*

Hylesinus indigenus, *Woll., Cat. Can. Col.* 267 (1864).

Habitat Canarienses (*Hierro*), sub cortice lauri cujusdam antiquæ in regione "El Golfo" semel repertus.

A single example of this Canarian wood-borer, taken (in a dead and mutilated state) out of its burrow in an old laurel on the western slopes of Hierro, embodies all that I yet know about the species. From its very imperfect condition I had no opportunity of examining the whole of its structural details, nevertheless I believe that it will be found ultimately to be a true *Hylesinus*, though further material would, of course, be very desirable in order to ascertain this for certain. There can be no doubt, I think, that it is common in at any rate the sylvan districts of Hierro; for the tree which produced it was nearly destroyed by its ravages; but as our short visit to that island was in midwinter, there was naturally but little chance of obtaining living specimens.

Genus 220. **PHLÆOPHTHORUS.**

Wollaston, *Ins. Mad.* 299 (1854).

698. *Phlæophthorus rhododactylus.*

Ips rhododactylus, *Mshn, Ent. Brit.* 58 (1802).

Hylurgus rhododactylus, *Steph., Ill. Brit. Ent.* iii. 365 (1830).

Phlæophthorus perfoliatus, *Woll., Ins. Mad.* 301, tab. vi. f. 1 (1854).

— — —, *Id., Cat. Mad. Col.* 99 (1857).

Habitat Maderenses (*Mad.*) in ligno ramulisque emortuis *Genistæ scopariæ* rarissimus.

A European insect which occurs at rather high elevations in Madeira proper, where however it is exceedingly rare. As in more

northern latitudes, it appears to be attached to the dead wood of the common Broom (*Genista scoparia*); and it is possible, therefore, that it may originally have been naturalized in the island. I have taken it at the Lombarda das Vacas (on the mountains above São Vicente), and it was captured by the late Mr. Bewicke at S. Antonio da Serra.

Genus 221. **HYLURGUS.**

Latreille, *Gen. Crust. et Ins.* ii. 274 (1807).

699. **Hylurgus ligniperda.**

Bostrichus ligniperda, *Fab., Ent. Syst.* i. ii. 367 (1792).

Hylurgus ligniperda, *Woll., Ins. Mad.* 302 (1854).

—— —, *Id., Cat. Mad. Col.* 99 (1857).

—— —, *Id., Cat. Can. Col.* 268 (1864).

Habitat Maderenses (*Mad., Des.*) et Canarienses (*Ten., Palma, Hierro*), in pinetis degens.

The European *H. ligniperda* will probably be found to occur in most of the fir-woods of these Atlantic islands. At the Madeiras I have taken it in Madeira proper, as well as in a small and *recent* plantation of fir-trees on the summit of the Deserta Grande; and at the Canaries, in the Pinals of Teneriffe and Palma. In the latter Group, it was found also by the Messrs. Crotch in the remote and elevated Pinal at the southern extremity of Hierro.

700. **Hylurgus destruens.**

Hylurgus piniperda, *Woll. [nec Linn.], Ins. Mad.* 303 (1854).

—— —, *Id., Cat. Mad. Col.* 99 (1857).

—— destruens, *Id., Append. huj. op.* 45.

Habitat Maderenses (*Mad.*), sub cortice *Pini* in subinferioribus parce captus.

Taken sparingly in Madeira proper, chiefly (I believe) at rather low elevations and beneath the bark of pine trees. I have hitherto referred it to the common European *H. piniperda*; but the numerous points in which I now perceive that it differs permanently from that insect will be gathered by a reference to my diagnosis given in the Appendix. Still, although with a certain number of decided features of its own, it is difficult to feel quite sure that it is in reality more than a fixed geographical modification of its more northern ally.

Genus 222. **HYLASTES.**

Erichson, in *Wieg. Archiv*, ii. 47 (1836).

701. *Hylastes Lowei*.

Hylastes Lowei, *Paiva, Ann. Nat. Hist.* viii. 211 (1861).

— —, *Woll., Cat. Can. Col.* 269 (1864).

Habitat Canarienses (*Ten., Palma*), in ligno *Pini canariensis* antiquo emortuo hine inde vulgaris.

Very closely allied to the European *H. ater*, of which possibly it may be but a geographical state. Hitherto it has been observed only in Teneriffe and Palma, of the Canarian Group, where like the *Hylurgus ligniperda* it is attached to the pine trees of intermediate and lofty elevations. We may, however, expect to meet with it wherever the old Pinals still exist.

702. *Hylastes clavus*.

Hylastes clavus, *Woll., Ins. Mad.* 305 (1854).

— —, *Id., Cat. Mad. Col.* 100 (1857).

Habitat Maderenses (*Mad.*), sub cortice truncisque arborum prolapsis in subinferioribus intermediisque parce occurrens.

Found hitherto only in Madeira proper, where it occurs very sparingly (beneath bark, and logs of wood) at low and intermediate elevations.

703. *Hylastes trifolii*.

Hylesinus trifolii, *Müll., in Journ. Soc. des S. du Mont Tomerre* (1803).

— —, *Schmidt, in Stett. Ent. Zeit.* v. 395 (1844).

Hylastes Trifolii, *Woll., Ins. Mad.* 304 (1854).

— —, *Id., Cat. Mad. Col.* 99 (1857).

Habitat Maderenses (*Mad.*), rarior; in locis similibus ac præcedens.

A European *Hylastes* which occurs in Madeira proper—in much the same sort of places as the last species, and with nearly the same range.

Fam. 52. CURCULIONIDÆ.

(Subfam. I. COSSONIDES.)

Genus 223. SYNTOMOCERUS*.

Wollaston, *Trans. Ent. Soc. Lond. (Eremotes)* v. 364 (1861).

704. *Syntomocerus crassicornis*.

Hylurgus crassicornis, *Brullé, in Webb et Berth. (Col.)* 71 (1838).

* Α σύντομος, breviatus, et κέρας, cornu.

Eremotes crassicornis, *Woll., loc. cit.* 365, pl. 18. f. 1 (1861).

— —, *Id., Cat. Can. Col.* 269 (1864).

Habitat Canarienses (*Can., Ten., Palma*), rarior; lignum *Pini canariensis* antiquum perforans.

Peculiar apparently to the Pinals of the Canarian archipelago, where it occurs beneath the bark and within the dead wood of the *Pinus canariensis*. I have taken it sparingly in Grand Canary, Teneriffe, and Palma, in the last two of which islands it was found also by the Messrs. Crotch. We may expect to meet with it likewise in the Pinal towards the south of Hierro.

In order to avoid confusion, I have thought it desirable to change the name which I had imposed on this genus,—*Eremotes* being too near to *Eretmotes*, of De Marseul.

Genus 224. **HEXARTHURUM.**

Wollaston, *Ann. Nat. Hist.* v. 448 (1860).

705. *Hexarthrum capitulum.*

Rhyncolus capitulum, *Woll., Ann. Nat. Hist.* ii. 410 (1858).

Hexarthrum compressum, *Id., ibid.* v. 449 (1860).

— *capitulum*, *Id., Trans. Ent. Soc. Lond.* v. 366, pl. 18. f. 2 (1861).

Habitat Maderenses (*Mad.*), rarissimum; sub ligno antiquo in inferioribus parcissime captum.

Observed only at low elevations in Madeira proper, where it is both rare and extremely local. It was detected first by Mr. M. Park; and was found subsequently by the late Mr. Bewicke, amongst old wood in an outhouse, at the Praia Formosa near Funchal.

Genus 225. **RHYNCOLUS.**

(Creutzer) *Germ., Ins. Spec.* 307 (1824).

706. *Rhyncolus crassirostris.*

Rhyncolus crassirostris, *Woll., Trans. E. S. L.* v. 367, pl. 18. f. 3 (1861).

— —, *Id., Cat. Can. Col.* 270 (1864).

Habitat Canarienses (*Can.*) lignum antiquum *Pini canariensis* in montibus parce destruens.

The only specimens which I have seen of this *Rhyncolus* were captured by myself in the rotten wood of an old pine tree on the mountains of Grand Canary. It somewhat resembles the European *R. truncorum*; nevertheless, as stated in my paper on the Atlantic

Cossonides, "its rostrum is broader and shorter, its antennæ are still more abbreviated, with their club abrupter and more straightly truncated at its apex, its prothorax is much more deeply and remotely sculptured, and its elytral punctures are also larger, the small intermediate ones especially being more perceptible."

Genus 226. **CAULOPHILUS.**

Wollaston, *Ins. Mad.* 315 (1854).

707. **Caulophilus sculpturatus.**

Caulophilus sculpturatus, *Woll., Ins. Mad.* 315, tab. vi. f. 4 (1854).

— —, *Id., Cat. Mad. Col.* 104 (1857).

— —, *Id., Trans. Ent. Soc. Lond.* v. 368 (1861).

Habitat Maderenses (*Mad.*), rarissimus. Exemplar unicum sub lapide collegi.

The only example of this small Cossonid which has hitherto been brought to light was captured by myself in Madeira proper, during the autumn of 1847—from beneath a stone on an exposed grassy slope to the eastward of Funchal, in the direction of the Cabo Garajão (or Brazen Head). It would appear, therefore, to be extremely scarce.

Genus 227. **PHLÆOPHAGUS.**

Schönherr, *Gen. et Spec. Curc.* iv. 1047 (1838).

708. **Phlæophagus tenax.**

Rhyncolus tenax, *Woll., Ins. Mad.* 307 (1854).

— —, *Id., Cat. Mad. Col.* 100 (1857).

Phlæophagus tenax, *Id., Trans. Ent. Soc. L.* v. 370, pl. 18. f. 4 (1861).

Habitat Maderenses (*Mad.*), in sylvaticis editoribus præsertim lauretis vulgaris.

Peculiar apparently to Madeira proper, where it is universal throughout the sylvan districts (particularly in the laurel-woods) of intermediate and lofty elevations.

709. **Phlæophagus sulcipennis.**

Phlæophagus sulcipennis, *Woll., Ins. Mad.* 308 (1854).

— —, *Id., Cat. Mad. Col.* 100 (1857).

— —, *Id., Trans. Ent. Soc. Lond.* v. 369 (1861).

Habitat Maderenses (*Mad.*), lignum antiquum in inferioribus colens.

Attached to old wood at low elevations, in Madeira proper—principally around Funchal. It was once captured abundantly by Senhor

Moniz even in the town itself, beneath rotten planks lying in his garden. It is very closely allied to the European *P. spadix*, of which indeed I am far from satisfied that it is more than a geographical state.

710. *Phlœophagus caulium*.

Phlœophagus caulium, *Woll., Trans. Ent. Soc. Lond.* v. 370 (1861).
 ———, *Id., Cat. Can. Col.* 270 (1864).

Habitat Canarienses (*Lanz., Fuert.*), truncos ramosque *Euphorbiarum* emortuos perforans.

Observed hitherto only in Lanzarote and Fuerteventura, the two eastern islands of the Canarian archipelago, where it is locally abundant within the dead stems and branches of the various Euphorbias.

711. *Phlœophagus laurineus*.

Phlœophagus laurineus et affinis, *Woll., Trans. Ent. Soc. Lond.* v. 371, 373 (1861).
 ———, *Id., Cat. Can. Col.* 271 (1864).

Habitat Canarienses (*Ten., Gom., Palma, Hierro*), sub cortice laxo præcipue laurorum in subinferioribus et sæpius intermediis occurrens.

Although by no means certain that the *P. laurineus* and *affinis* may not be, after all, as I originally assumed, specifically distinct; yet the recent inspection of more extensive material than I formerly possessed, including a considerable series from Gomera which are strictly intermediate between the two, has convinced me that it will be safer to regard them as but states of a single species—consequent perhaps on their attachment to particular trees and plants, some of which (as, for instance, the Laurels and Euphorbias) are widely different in their nature and properties. So long as the *affinis* appeared to be exclusively of *Euphorbia*-infesting habits, I could scarcely suppose otherwise (even though its differential characters were but small and insignificant) than that it was truly distinct from the more deeply sculptured and laurel-feeding *P. laurineus*; yet the detection of intermediate individuals in the dead wood of mulberry, willow, and fig (each set presenting some *just appreciable* feature of its own) would seem to imply that they are all of them but slight and unimportant modifications of a rather plastic form—capable of sustaining itself under various and opposite conditions. And hence I have come to the conclusion that it will be better to suppress (as a species) the *P. affinis*, which is but one of the rather

more decidedly pronounced phases, of the many *just separable* ones (*inter se*) which I have lately examined. Indeed even in its *most marked* aspect the *P. affinis* seemed to differ, from the typical *laurineus*, merely in being on the average a trifle smaller, with its elytra perhaps somewhat more convex (or less straightened at the sides) and less deeply sculptured; and I should not have hesitated therefore to regard it as a variety, had not its attachment to the Euphorbias seemed to me to imply a distinction of real importance. But if the latter peculiarity in its mode of life does not obtain universally, I think that the *affinis* should no longer be treated as separate from the *laurineus**.

If therefore my conclusion, just arrived at, be correct, the present *Phlœophagus* may be said to attach itself to many kinds of trees and (even) shrubs, but to be most partial to the native Laurels of intermediate altitudes, and to be tolerably abundant in Teneriffe, Gomera, Palma, and Hierro.

712. *Phlœophagus simplicipes*.

Phlœophagus simplicipes, *Woll., Trans. Ent. Soc. Lond.* v. 374 (1861).

— — —, *Id., Cat. Can. Col.* 272 (1864).

Habitat Canarienses (*Ten.*), lignum *Fici* antiquum aridum præcipue in inferioribus erodens.

Found hitherto only in Teneriffe, where it would seem to have a lower range than the *P. laurineus*—being attached (so far as has yet been observed) to the dead wood of old fig-trees, in cultivated spots of a low elevation.

713. *Phlœophagus piceus*.

Phlœophagus piceus, *Woll., Trans. Ent. Soc. Lond.* v. 374 (1861).

— — —, *Id., Cat. Can. Col.* 273 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), arbores antiquas *Fici* plerumque in intermediis colens.

* The question of the specific claims of certain closely allied forms is now and then so difficult of solution that we are compelled to leave it in partial doubt. Thus, although I imagine that the above conclusion is correct, I still cannot feel quite satisfied that I may not have overlooked some character which would perhaps yet prove the *affinis* to be (as I originally supposed) distinct from the *laurineus*. I will therefore merely add that if this should be the case, the specific titles will of course have to remain as hitherto. But if, on the contrary, my present explanation is the right one, we may then (ignoring all subsidiary modifications) regard the *P. laurineus* as tending to assume two slightly different states—namely, the typical one (abundant in the laurel-districts of intermediate altitudes), and the “*var. β. affinis*,” which descends to a lower elevation and attaches itself indiscriminately to various kinds of trees and shrubs.

A Canarian *Phlœophagus* which has been detected hitherto in Lanzarote, Fuerteventura, and Grand Canary,—where it seems to be attached principally to the dry, rotten wood of old fig-trees at intermediate altitudes.

714. *Phlœophagus calvus*.

Rhyncolus calvus, *Woll., Ann. Nat. Hist.* v. 448 (1860).

Phlœophagus calvus, *Id., Trans. Ent. Soc. Lond.* v. 370 (1861).

Habitat Maderenses (*Mad.*), sub ligno antiquo in inferioribus unà cum *Mesoxeno* et *Hexarthro* captus.

Detected by the late Mr. Bewicke, at a low elevation, in Madeira proper,—having been captured by him beneath logs of old wood lying in a shed, or outhouse, at the Praia Formosa near Funchal (in company with the *Hexarthrum capitulum*, *Mesoxenus Bewickianus*, and *Xylopertha barbata*).

Genus 228. **LIPOMMATA.**

Wollaston, *Cat. Mad. Col.* 100 [script. *Leipommata*] (1857).

715. *Lipommata calcaratum*.

Lipommata calcaratum, *Woll., Cat. Mad. Col.* 101 (1857).

— — —, *Id., Trans. Ent. Soc. Lond.* v. 395, pl. 19. f. 3 (1861).

Habitat Maderenses (*Pto Sto*), in colliculis arenosis ad radices plantarum, præcipue *Arundinis donacis*, mox pone oram maritimam crescentium parce fodiens.

This curious little blind Cossonid has been observed only in Porto Santo, of the Madeiran Group, where it burrows into the loose drifting sand which has gradually accumulated into ridges and hillocks immediately behind the sea-beach. I have taken it sparingly around the roots of various sand-plants, particularly the *Arundo donax*,—it subfossorial tibiæ, pilose body, undilated feet, and total freedom from eyes being alike indicative of its subterranean mode of life.

Genus 229. **PENTATEMNUS.**

Wollaston, *Trans. Ent. Soc. Lond.* v. 385 (1861).

716. *Pentatemnus arenarius*.

Pentatemnus arenarius, *Woll., loc. cit.* 388, pl. 19. f. 1 (1861).

— — —, *Id., Cat. Can. Col.* 273 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), in locis similibus ac præcedens, sub terrâ in aridis arenosis juxta radices plantarum fodiens.

Of precisely the same habits as the Porto-Santan *Lipommata calcaratum*, of which perhaps it may be regarded as the Canarian representative; but its funiculus is composed of only five joints, instead of seven (as in that insect); and although there can be little doubt that it is practically blind, its eyes nevertheless are not literally *absent*—being just indicated, in a most imperfect and rudimentary state, when viewed beneath the microscope.

The *P. arenarius* has been captured in Lanzarote, Fuerteventura, and Grand Canary, where it resides (at some depth below the surface) amongst the loose sand which has accumulated into hillocks around the various shrubby plants which stud certain arid tracts in the immediate vicinity of the sea-beach. In Fuerteventura especially I have taken it in considerable abundance, principally at Corralejo, by scooping out the sand at the roots of *Zygophyllum Fontanesii* and a small maritime *Euphorbia*; and I likewise met with it in the little island of Graciosa, off the extreme north of Lanzarote.

Genus 230. **ONYCHOLIPS.**

Wollaston, *Trans. Ent. Soc. Lond.* v. 389 (1861).

717. *Onycholips bifurcatus.*

Onycholips bifurcatus, *Woll., loc. cit.* 394, pl. 19. f. 2 (1861).

— —, *Id., Cat. Can. Col.* 274 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), in arenosis aridis submaritimis ad radices plantarum unà cum *Pentatemno* fodiens.

Found sparingly in the dry sandy districts of Lanzarote, Fuerteventura, and Grand Canary, in the vicinity of the sea-shore (though seldom actually upon it); and I likewise met with it in the little island of Graciosa, off the extreme north of Lanzarote. Its habits in fact are precisely similar to those of *Pentatemnus* (with which it is often taken in company) and of the Porto-Santan *Lipommata*,—to both of which in its fossorial mode of life, and in the long erect hairs with which it is sparingly beset, as well as in its freedom from sight, it is manifestly allied. Yet in the marvellous conformation of its tibiæ and feet it recedes from those insects altogether, as well as from every other group with which I am acquainted—a fact which, in combination with the above-mentioned peculiarities of habit and structure, stamps it as perhaps the most anomalous member of the Coleoptera which has hitherto been detected in these Atlantic islands.

The *O. bifurcatus* was first taken by Mr. Gray and myself near Puerto de Cabras in Fuerteventura, in 1858, where I again captured it in 1859. Its Grand-Canarian *habitat* is the low sandy isthmus between Las Palmas and the Isleta,—where I met with a single specimen of it, and where a second was found by Dr. Crotch during the summer of 1864.

Genus 231. **MESOXENUS.**

Wollaston, *Trans. Ent. Soc. Lond.* v. 395 (1861).

718. **Mesoxenus Monizianus.**

Pentarthrum Monizianum, *Woll., Ann. Nat. Hist.* v. 450 (1860).

Mesoxenus Monizianus, *Id., loc. cit.* 396, pl. 19. f. 4 (1861).

— — —, *Id., Cat. Can. Col.* 275 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), vel sub ligno antiquo super terram posito vel in ramis *Euphorbiarum* emortuis in inferioribus rarissimus.

Detected in Madeira proper (during 1859) by Senhor Moniz, who found several specimens of it adhering to the underside of old boards which were lying on the damp earth in his garden at Funchal. I had myself, however, a year previously, met with a single example of it at the Canaries,—in a house above the Puerto Orotava in Teneriffe, in which island the Rev. R. T. Lowe took a second (from within a dead *Euphorbia*-stem at Garachico). But in spite of the latter fact, I scarcely think that the species is normally attached to the *Euphorbias*; for the habits of the *Mesoxeni* seem to be those of *Pentarthrum*, and precisely such as the very peculiar *habitat* which was discovered for the present insect at Funchal by S^r Moniz would appear to indicate.

719. **Mesoxenus Bewickianus.**

Pentarthrum Bewickianum, *Woll., Ann. Nat. Hist.* v. 451 (1860).

Mesoxenus Bewickianus, *Id., loc. cit.* 397, pl. 19. f. 6 (1861).

Habitat Maderenses (*Mad.*), sub ligno antiquo haud procul ab nrbe Funchalensi à Dom. Bewicke deprehensus.

Found at a low elevation in Madeira proper by the late Mr. Bewicke, who captured it rather abundantly beneath old wood (in a dry and crumbling state) which was lying on the ground in a shed at the Praia Formosa near Funchal—in company with the *Hexarthrum capitulum*, *Phlæophagus calvus*, and *Xylopertha barbata*.

Genus 232. CAULOTRUPIS.

Wollaston, *Ins. Mad.* 308 (1854).720. *Caulotrupid lacertosus*.*Caulotrupid lacertosus*, *Woll., Ins. Mad.* 309, tab. vi. f. 6 (1854).— —, *Id., Cat. Mad. Col.* 102 (1857).— —, *Id., Trans. Ent. Soc. Lond.* v. 376 (1861).*Habitat Maderenses (Mad.)*, sub cortice necnon in ligno emortuo laurorum hinc inde sat vulgaris.

Peculiar to Madeira proper—where, although extremely local, it is occasionally far from uncommon within the rotten wood and under the loosened bark of the native laurels. It occurs principally towards the lower limits of the sylvan districts, and for the most part towards the north of the island.

721. *Caulotrupid subnitidus*.*Caulotrupid subnitidus*, *Woll., Ann. Nat. Hist.* v. 452 (1860).— —, *Id., Trans. Ent. Soc. Lond.* v. 376 (1861).*Habitat Maderenses (Mad.)*, in subinferioribus ramos *Euphorbiarum* emortuos parce destruens.

Likewise peculiar (so far at least as observed hitherto) to Madeira proper, where it would seem to be attached to the dead branches of the *Euphorbia piscatoria* at rather low elevations. It is very closely allied to the *C. lacertosus*, of which perhaps it may be but a modification consequent upon a change of food, though it is scarcely *probable* that the same species would subsist indiscriminately upon *Euphorbias* and Laurels*.

722. *Caulotrupid lucifugus*.*Caulotrupid lucifugus*, *Woll., Ins. Mad.* 310, tab. vi. f. 7, 9 (1854).— —, *Id., Cat. Mad. Col.* 102 (1857).— —, *Id., Trans. Ent. Soc. Lond.* v. 377 (1861).*Habitat Maderenses (ins. omnes)*, sub lapidibus ramulisque plantarum emortuis fractis humi jacentibus in inferioribus intermediisque latens.

Universal throughout the Madeiran Group, in the whole five

* The *C. subnitidus* differs from the *lacertosus*, mainly, in its surface being a little less opake, in the punctules of its prothorax being more evident, and in its elytra (which are just perceptibly more straightened towards the shoulders) being somewhat rougher and more distinctly striated.

islands of which I have myself captured it. It occurs beneath stones, and (more especially) amongst small broken sticks around the roots of shrubby plants—for the most part at rather low, but sometimes at intermediate, elevations. It is a variable insect, both in tint and sculpture, having a slightly different phasis for each of the separate islands; and it appears to be more abundant on the northern Deserta, and in Porto Santo, than elsewhere.

723. *Caulotrupid impius*.

Caulotrupid impius, *Woll., Ins. Mad.* 311 (1854).

— —, *Id., Cat. Mad. Col.* 103 (1857).

— —, *Id., Trans. Ent. Soc. Lond.* v. 376 (1861).

Habitat Maderenses (*Mad., Des., Bugio*), intra caules *Carduorum* præcipue *Silybi Mariani*, Grtn., latitans.

Found in Madeira proper and the two southern Desertas, though more especially common on the Deserta Grande. It seems to reside principally (if not indeed entirely) within the dry stems of Thistles, feeding upon the pith; and I have seen dead stalks of the gigantic *Silybum Marianum* (the "Holy Thistle" of the ancients), on the summit of the Deserta Grande, absolutely devoured by it.

724. *Caulotrupid terebrans*.

Caulotrupid terebrans, *Woll., Ins. Mad.* 312, tab. vi. f. 8 (1854).

— —, *Id., Cat. Mad. Col.* 103 (1857).

— —, *Id., Trans. Ent. Soc. Lond.* v. 377 (1861).

Habitat Maderenses (*P^{to} S^{to}*), rarissimus. In summo ipso monte "Pico do Facho" dicto specimina duo collegi.

The only two examples which I have seen of this *Caulotrupid* were captured by myself on the extreme summit of the Pico do Facho in Porto Santo, of the Madciran Group; and it would therefore seem to be rare.

725. *Caulotrupid Chevrolatii*.

Caulotrupid Chevrolatii, *Woll., Ins. Mad.* 313 (1854).

— —, *Id., Cat. Mad. Col.* 103 (1857).

— —, *Id., Trans. Ent. Soc. Lond.* v. 377 (1861).

Habitat Maderenses (*Mad.*), in sylvaticis humidis editioribus sub ligno præsertim recenter secto late sed vix copiose diffusus.

Peculiar apparently to the damp sylvan districts of Madeira proper, where it occurs beneath logs and chippings of wood, principally at a high elevation.

726. *Caulotrumpis opacus*.

Caulotrumpis opacus, *Woll., Ins. Mad.* 313 (1854).

— —, *Id., Cat. Mad. Col.* 103 (1857).

— —, *Id., Trans. Ent. Soc. Lond.* v. 377 (1861).

Habitat Maderenses (*Mad.*), in locis similibus ac præcedens.

Likewise peculiar to Madeira proper, occurring in much the same places as the last species—for the most part within the sylvan districts.

727. *Caulotrumpis conicollis*.

Caulotrumpis conicollis, *Woll., Ins. Mad.* 314 (1854).

— —, *Id., Cat. Mad. Col.* 103 (1857).

— —, *Id., Trans. Ent. Soc. Lond.* v. 378 (1861).

Habitat Maderenses (*Mad., Des.*), in locis similibus ac *C. lucifugus*—sub lapidibus sc. necnon inter ramulos plantarum emortuos fractos aridos humi jacentes in subinferioribus intermediisque latens.

Found in Madeira proper and on the Deserta Grande—principally beneath stones, and amongst small broken sticks around the roots of shrubby plants, in exposed spots of rather low and intermediate altitudes. The specimens from the Deserta Grande differ a little from the Madeiran ones, but not so much so as in the case of the *C. lucifugus*.

Genus 233. *STENOTIS*.

Wollaston, *Ins. Mad.* 316 (1854).

728. *Stenotis acicula*.

Stenotis acicula, *Woll., Ins. Mad.* 316, tab. vi. f. 5 (1854).

— —, *Id., Cat. Mad. Col.* 104 (1857).

— —, *Id., Trans. Ent. Soc. Lond.* v. 400, pl. 19. f. 8 (1861).

Habitat Maderenses (*Mad.*), folia laurorum in humidis sylvaticis parcissime destruens.

Confined to the damp sylvan districts of Madeira proper, where it is both local and exceedingly rare. I have captured it, however, on three separate occasions (always in the north of the island, and on the *foliage* of the native laurels)—namely, twice at the Montado dos Pecegueiros, and once in the Ribeira do Ponteclaro (a tributary of the São Jorge ravine). Its extremely narrow outline and general aspect are strongly suggestive of certain exotic forms—such as *Catolethrus* and *Porthetes*, from America and southern Africa.

Genus 234. **MESITES.**Schönherr, *Gen. et Spec. Curc.* iv. 1043 (1838).§ I. *Corpus sat magnum, parallelum; femoribus omnibus muticis.*729. **Mesites complanatus.***Mesites complanatus*, *Woll., Trans. Ent. Soc. Lond.* v. 401 (1861).— —, *Id., Cat. Can. Col.* 276 (1864).*Habitat* Canarienses (*Palma*), sub cortice laurorum laxo emortuo in sylvaticis editioribus occurrens.

A large Canarian *Mesites* which I have observed hitherto only in the island of Palma, where however it is locally abundant (beneath the loosened bark of the native laurels) in the damp sylvan districts of intermediate elevations.

730. **Mesites maderensis.***Mesites maderensis*, *Woll., Ins. Mad.* 319 (1854).— —, *Id., Cat. Mad. Col.* 104 (1857).— —, *Id., Trans. Ent. Soc. Lond.* v. 403 (1861).*Habitat* Maderenses (*Mad.*), sub cortice laxo emortuo in lauretis humidis editioribus congregans.

Occurs beneath the loosened bark of the native laurels in the sylvan districts of Madeira proper, particularly at a high altitude. It is extremely gregarious, and (like most of the *Mesitæ*) very variable in stature.

731. **Mesites persimilis.***Mesites persimilis*, *Woll., Trans. Ent. Soc. Lond.* v. 402 (1861).— —, *Id., Cat. Can. Col.* 276 (1864).*Habitat* Canarienses (*Ten., Gom.*), plerumque in locis similibus ac præcedens; sed interdum, sec. G. R. Crotch, etiam in ficis et salicibus occurrit.

Found in the sylvan districts of Teneriffe and Gomera, under much the same circumstances as the last species is at Madeira—of which it may be regarded strictly as the Canarian representative. There can be no doubt that, like the *M. maderensis*, it is normally attached to the native laurels; nevertheless it does sometimes occur in other trees likewise, for Mr. G. R. Crotch informs me that during their late sojourn in Gomera they occasionally met with it both “in fig and willow.”

The *M. persimilis* differs from the *maderensis*, chiefly, in its elytra

being a little flatter (or less cylindric), and nearly entirely free from the fine pubescence which is always conspicuous in that insect, with their striæ broader, deeper, and more coarsely punctured and their interstices less transversely-rugulose, in its scutellum being a trifle smaller, and in its frontal fovea and prothoracic keel (especially in front) being more obscure.

The *M. maderensis* and *persimilis* are intimately allied to the British *M. Tardii*, which is found in Ireland and the south-western parts of our own country; and I think it far from unlikely that the three forms may be in reality but geographical developments from a primeval Atlantic type.

732. *Mesites euphorbiæ*.

Mesites Euphorbiæ, Woll., *Ins. Mad.* 318 (1854).

— — —, *Id.*, *Cat. Mad. Col.* 104 (1857).

— — —, *Id.*, *Trans. Ent. Soc. Lond.* v. 403 (1861).

Habitat Maderenses (*Mad.*), ab orâ maritimâ usque ad 5000' s. m.
Euphorbias emortuas destruens.

This is emphatically the *Euphorbia*-destroying *Mesites* of the Madeiran Group, though hitherto it has been observed only in Madeira proper. In that island, however, it is universal, wherever there are dead *Euphorbias*—ascending from almost the sea-level (where it infests the *E. piscatoria*) up to an elevation of at least 5000 feet, where it abounds in the gigantic *E. mellifera*. Like all the members of this genus, it is most variable in size.

733. *Mesites proximus*.

Mesites proximus, Woll., *Trans. Ent. Soc. Lond.* v. 404 (1861).

— — —, *Id.*, *Cat. Can. Col.* 277 (1864).

Habitat Canarienses (*Ten.*), hactenus parcissime repertus.

A Canarian *Mesites* which appears to be quite distinct from the *persimilis*, and more allied perhaps to the Madeiran *M. euphorbiæ*; though, as I have seen hitherto but two examples of it, captured by myself at Taganana in the north of Teneriffe, further material is much required in order to establish its characters more completely. From its general *facies* I should be inclined to suspect that the species is of *Euphorbia*-infesting habits (though possibly attached to the *Euphorbias* of the *higher* districts); but I have no recollection of the precise spot in which my specimens were taken, though I believe that they were brushed out of dense herbage by the edges of the Vueltas on the ascent to the Cumbre.

§ II. *Corpus minus, fusiforme (elytris postice sensim acuminatis); femoribus musculis subtus obtuse subdentatis.*

734. *Mesites fusiformis.*

Mesites fusiformis, *Woll., Trans. Ent. Soc. Lond.* v. 405, pl. 19. f. 7, 9 (1861).
 — — —, *Id., Cat. Can. Col.* 278 (1864).

Habitat Canarienses (in *Palma* solâ haud observatus), vulgatissimus; truncos ramulosque *Euphorbiarum* emortuos præcipue in subinferioribus destruens.

Peculiar apparently to the Canarian archipelago, where it swarms in the rotten stems of the various *Euphorbias* at low and intermediate elevations. It is doubtless universal throughout the Group; for although it has not been observed in *Palma*, there can be little doubt that it must exist there—though it is certainly remarkable that the few *Euphorbian Mesitæ* which have hitherto been captured in that island belong to a distinct (though closely allied) species, the *M. pubipennis*. Throughout the remainder of the Group, however, it abounds; and I met with it even on the little islets of *Graciosa* and *Lobos*—off the extreme north of *Lanzarote* and *Fuerteventura* respectively.

735. *Mesites pubipennis.*

Mesites pubipennis, *Woll., Trans. Ent. Soc. Lond.* v. 406 (1864).
 — — —, *Id., Cat. Can. Col.* 278 (1864).

Habitat Canarienses (*Palma*), in locis similibus ac præcedens.

As just stated, this *Mesites* has been observed hitherto only in *Palma*—where it seems to take the place of the last species, which abounds throughout the remainder of the Canarian archipelago. Although allied to the *fusiformis*, I scarcely think that it can be regarded as any insular modification of it; for the latter does not appear to present any local peculiarities in the various islands and altitudes in which it elsewhere occurs, and moreover we have yet to ascertain for certain that it does *not* exist, simultaneously with the *pubipennis*, in the rotten *Euphorbia*-stems of *Palma*.

(Subfam. II. RHYNCHOPHORIDES.)

Genus 235. *SITOPHILUS.*

Schönheir, *Gen. et Spec. Curc.* iv. 967 (1838).

736. *Sitophilus granarius.*

Curculio granarius, *Linnaeus, Fna Succ.* 587 (1761).
Calandra linearis, *Brullé, in Webb et Berth. (Col.)* 73 (1838).

Sitophilus granarius, *Woll., Ins. Mad.* 321 (1854).

— —, *Id., Cat. Mad. Col.* 104 (1857).

— —, *Id., Cat. Can. Col.* 279 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (in *Gom.* solâ haud captus), vel in domibus et granariis vel sub recremento farris circa basin acervorum tritici sparso hinc inde vulgaris.

A cosmopolitan insect which has doubtless become naturalized in at any rate all the *inhabited* islands of these Atlantic Groups—occurring about houses and granaries, as well as beneath the refuse around the base of corn-stacks. It is common in Madeira proper; whilst at the Canaries it has been observed in the whole seven islands except Gomera, where doubtless however it must exist.

737. *Sitophilus oryzae*.

Curculio oryzae, *Linn., Cent. Ins.* 12 (1763).

Calandra oryzae, *Brullé, in Webb et Berth. (Col.)* 73 (1838).

Sitophilus oryzae, *Woll., Ins. Mad.* 322 (1854).

— —, *Id., Cat. Mad. Col.* 105 (1857).

— —, *Id., Cat. Can. Col.* 280 (1864).

— —, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 141.

Habitat Maderenses (*Mad.*) et Canarienses (ins. *omnes*), vulgaris; in locis similibus ac præcedens.

Found in the same kind of places as the last species, and equally universal. At Madeira however it is perhaps less common than it is at the Canaries, in the whole seven islands of which it has completely established itself.

(Subfam. III. CIONIDES.)

Genus 236. NANOPHYES.

• Schönherr, *Gen. et Spec. Curc.* iv. 780 (1838).

738. *Nanophyes longulus*.

Nanophyes longulus, *Woll., Cat. Can. Col.* 299 (1864).

Habitat Canarienses (*Can., Ten.*), super folia plantarum in herbidis humidiusculis rarior.

A Canarian *Nanophyes* which has been observed hitherto only in Grand Canary and Teneriffe. It appears to be rare, and occurs amongst dense vegetation in rather damp spots of intermediate altitudes. My Grand-Canarian examples are from Mogan and the region of El Monte, and the Teneriffan ones from Souzal.

739. *Nanophyes lunulatus*.

Nanophyes lunulatus, *Woll., Ann. Nat. Hist.* xi. 218 (1863).
 ———, *Id., Cat. Can. Col.* 300 (1864).

Habitat Canarienses (*Can.*), super folia *Tamaricis gallicæ* in intermediis captus.

Taken rather abundantly in Grand Canary—off some shrubs of the *Tamarix gallica*, L., at the edges of the stream at Mogan, in one of the south-western Barrancos of that island; but it has not yet been observed elsewhere.

Genus 237. **CIONUS.**

Clairville, *Ent. Helv.* i. 64 (1798).

740. *Cionus pulchellus*.

Curculio pulchellus, *Hbst, Käf.* vi. 356 (1795).
Cionus pulchellus, *Schön., Gen. et Spec. Curc.* iv. 741 (1838).
 ———, *Woll., Ins. Mad.* 323 (1854).
 ———, *Id., Cat. Mad. Col.* 105 (1857).

Habitat Maderenses (*Mad.*), super plantas *Scrofulariæ* in intermediis parce occurrens.

The European *C. pulchellus* occurs sparingly in Madeira proper, on plants of *Scrofularia*, at intermediate elevations; but it has not yet been detected in any of the other islands.

(Subfam. IV. CRYPTORHYNCHIDES.)

Genus 238. **CEUTHORHYNCHIDEUS.**

Jacq. Duval, *Gen. des Col. d'Eur. (Curcul.)* 60 (1855).

741. *Ceuthorhynchideus pyrrhorhynchus*.

Curculio pyrrhorhynchus, *Mshn, Ent. Brit.* 257 (1802).
Nedyus suturalis, *Steph., Ill. Brit. Ent.* v. 419 (1832).
Ceuthorhynchus pulvinatus, *Schön., Gen. et Spec. Curc.* iv. 494 (1837).
 ——— *pyrrhorhynchus*, *Woll., Cat. Can. Col.* 281 (1864).

Habitat Canarienses (*Fuert.*), in cultis intermediis parce deprehensus.

Likewise a common European insect, and one which I have taken sparingly in Fuerteventura of the Canarian Group—namely, at Oliva and at the Agua Bueyes. It seems to occur in and about cultivated grounds, and may perhaps have been naturalized accidentally from more northern countries.

Genus 239. **CEUTHORHYNCHUS.**(Schuppel) Schön., *Curc. Disp. Meth.* 298 (1826).742. **Ceuthorhynchus echii.***Curculio Echii*, *Fab., Ent. Syst.* i. ii. 436 (1792).*Ceuthorhynchus Echii*, *Schön., Gen. et Spec. Curc.* iv. 504 (1837).*Ceuthorhynchus* —, *Woll., Ins. Mad.* 325 (1854).— —, *Id., Cat. Mad. Col.* 105 (1857).*Habitat* Maderenses (*Mad., Pto Sto, Des.*), ad folia *Echii violacei*, Linn., in intermediis degens.

The *C. echii*, which is so generally spread throughout Europe, will probably be found to be universal in the Madeiran Group; though it has not yet been observed in the Canaries. It occurs on the foliage of the *Echium violaceum*, L., at rather low and intermediate altitudes; and it has been captured in Madeira proper, Porto Santo, and the Deserta Grande.

743. **Ceuthorhynchus pollinarius.***Curculio pollinarius*, *Forst., Nov. Ins. Spec.* 33 (1772).— dentatus, *Mshn, Ent. Brit.* 280 (1802).*Ceuthorhynchus pollinarius*, *Schön., Gen. et Spec. Curc.* iv. 543 (1837).— —, *Woll., Cat. Can. Col.* 280 (1834).*Habitat* Canarienses (*Ten., Gom., Hierro*), in foliis *Urticarum* hinc inde minus frequens.

A common European *Ceuthorhynchus* which occurs very sparingly, at low and intermediate elevations, in the Canarian Group—for the most part on the foliage of nettles, in semicultivated spots. I have taken it in Teneriffe and Hierro, and it was found by the Messrs. Crotch in Gomera.

744. **Ceuthorhynchus quadridens.***Curculio quadridens*, *Pnc., Fna Germ.* xxxvi. 13 (1796).*Ceuthorhynchus quadridens*, *Woll., Ins. Mad.* 326 (1854).— —, *Id., Cat. Mad. Col.* 105 (1857).*Ceuthorhynchus* —, *Id. Cat. Can. Col.* 280 (1864).*Habitat* Maderenses (*Mad., Des.*) et Canarienses (*Fuert., Ten., Gom., Palma, Hierro*), plerumque in cultis intermediis parce occurrens.

Almost universal (perhaps indeed quite so) throughout these Atlantic islands, where very likely it may have become established from more northern latitudes. It occurs sparingly in semicultivated spots of intermediate elevations, and has been captured in Madeira proper and the Deserta Grande of the Madeiran Group, and in all

the Canarian islands except Lanzarote and Grand Canary (in both of which, however, we may be pretty sure that it exists).

745. *Ceuthorhynchus nigroterminatus*.

Ceuthorhynchus nigroterminatus, *Woll., Ins. Mad.* 327 (1854).

— — —, *Id., Cat. Mad. Col.* 106 (1857).

— *mixtus*, *Muls. et Rey, Ann. Soc. Agr. Lyon* (sér. iii.) ii. 295 (1858).

Ceuthorhynchus nigroterminatus, *Woll., Cat. Can. Col.* 281 (1864).

Habitat Maderenses (*Mad.*), et Canarienses (*Ten., Gom., Hierro*), in herbidis subinferioribus intermediisque, passim.

A European species which is widely (though sparingly) diffused over these Atlantic islands, where in all probability it will be found to be well nigh universal. It occurs amongst herbage, at rather low and intermediate elevations, chiefly within the cultivated districts; and it has been captured in Madeira proper, as well as in Teneriffe, Gomera, and Hierro of the Canarian Group. Its detection in Gomera is due to the late researches of the Messrs. Crotch. I am informed by Mr. G. R. Crotch that it is identical with the *C. mixtus* of Mulsant and Rey; and indeed a recent inspection of an example of the latter, which was taken by myself in the east of England, leaves no doubt on this point.

746. *Ceuthorhynchus phytobioides*.

Ceuthorhynchus phytobioides, *Woll., Cat. Can. Col.* 281 (1864).

Habitat Canarienses (*Ten.*), ad folia *Sedi* in sylvaticis rarissimus.

A single example only of this Canarian *Ceuthorhynchus* has hitherto come beneath my notice. I met with it in the sylvan region above Taganana, in the north of Teneriffe.

747. *Ceuthorhynchus hesperus*.

Ceuthorhynchus hesperus, *Woll., Cat. Can. Col.* 282 (1864).

Habitat Canarienses (*Gom., Hierro*), ad rupes herbidas in editioribus folia *Sedi* destruens.

Likewise Canarian and exceedingly scarce. I have taken it at a high elevation in Hierro (where it was also captured by M. de la Perraudière), and it was found by the Messrs. Crotch in Gomera.

As conjectured in my late Catalogue, the habits of the *C. phytobioides*, *hesperus*, and *lineatotessellatus* are identical—the three insects being attached to the succulent leaves of the various species of *Sedum* and *Sempervivum*, which form so marked a feature on the sides of the perpendicular rocks at intermediate and lofty altitudes.

748. *Ceuthorhynchus lineatotessellatus*.

Ceuthorhynchus lineatotessellatus, *Woll., Ins. Mad.* 327 (1854).

— —, *Id., Cat. Mad. Col.* 106 (1857).

Habitat Maderenses (*Mad.*), folia *Sempervivi patinæ*, Lowe, ad rupes crescentis plerumque in subinferioribus erodens.

Observed hitherto only in Madeira proper, where moreover it is extremely scarce. It occurs principally at low elevations (at any rate in the north of the island), and subsists on the fleshy leaves of the *Sempervivum patina*, Lowe,—the rosette-like plants of which stud the faces of the perpendicular rocks, so conspicuously, in certain districts.

Genus 240. **CÆLIODES**.

Schönherr, *Curc. Disp. Meth.* 296 (1826).

749. *Cæliodes guttula*.

Curculio guttula, *Fab., Ent. Syst.* i. ii. 436 (1792).

— *fuliginosus*, *Mshn., Ent. Brit.* 280 (1802).

Cæliodes fuliginosus, *Woll., Ins. Mad.* 329 (1854).

— —, *Id., Cat. Mad. Col.* 106 (1857).

Habitat Maderenses (*Mad.*), forsan introductus; in cultis circa urbem Funchalensem parcissime occurrens.

This widely diffused European insect occurs very sparingly in gardens and cultivated spots around Funchal in Madeira proper, where most likely it has become established accidentally from higher latitudes.

Genus 241. **MONONYX**.

Brullé, *in litt.*

750. *Mononyx variegatus*.

Mononyx variegatus, *Brullé, in Webb et Berth.* (*Col.*) 72, pl. i. f. 16 (1838).

Habitat ins. Canarienses (sec. DD. Webb et Berthelot), mihi non obvius.

In my Canarian Catalogue I alluded to M. Brullé's *Mononyx variegatus* in the "Introductory Remarks" only, it being utterly impossible even to conjecture the systematic *position* of a genus of which there is no diagnosis on record. Still, since a *figure* is given of it in MM. Webb and Berthelot's work, and it is barely possible that M. Brullé may have intended to write "*Mononychus*" (which, of course, is a well-known group) instead of *Mononyx*, I will ven-

ture to assume its identity (or at least its relationship) with the former, and embody it in the text of this volume—placing it where I now do. Still, in reality, I know no more about it than I did formerly, and can therefore give no information as to the island in which it was captured; though, as the *illustration* of it and *specific* description equally prevent my referring it to any other Curculionid which has hitherto been met with in these Atlantic islands, I think perhaps we may conclude it to be at all events *Canarian*, and await the detection of future material to supply us with a knowledge of its undoubted affinities and its exact *habitat*. I may, however, just add that I am more inclined to suspect that it will prove ultimately to be a variegated *Acalles* than a *Mononychus*.

Genus 242. ACALLES.

Schönherr, *Curc. Disp. Meth.* 295 (1826).

The excessive variability of most of these Atlantic *Acalles* renders it next to impossible to give satisfactory diagnoses of them which shall define accurately the respective limits of their variation. Yet when examined with the aid of large numbers for comparison, they may usually be well enunciated in a *general* way, though the definitions can scarcely be made, even then, without great difficulty, to include within them occasional specimens which either depart from their respective types or which (more frequently) are in such a bad state of preservation that their true characters (of colour and clothing) have become nearly obliterated. Individuals indeed such as these last referred to, the collector would do well to destroy; for they only tend to perpetuate confusion by *appearing* to connect species which are in reality well expressed, and under one or the other of which they would themselves unmistakably fall were they sufficiently perfect to render all their external features appreciable.

The practical naturalist will not misunderstand these remarks, or suppose for a moment that I would wish to solve difficulties by simply ignoring them. They do *not* apply to *variations* (as such), in any form or shape, but simply to the retention of material (in these scale-covered, inconstant creatures) which is absolutely worthless on account of its having lost the main characteristics on which we are often compelled to rely in framing our several diagnoses. I am fully aware how difficult it is in *some* few instances, even with the best of material, to determine critically where one species may be assumed to end, and another to commence; yet I positively

affirm my belief that the difficulties gradually diminish, in proportion as we *become acquainted* with the objects themselves which we would endeavour to describe; for when viewed superficially, nothing can be more plausible than the easy and wholesale conclusion that *all of them alike* are but chance developments from a central type. Even as regards the *obscurer* forms, however, there is yet one way (whensoever a favourable opportunity may occur for practising it) by which we may hope to arrive at a considerable amount of truth,—namely, by a careful inquiry into their previous states and modes of life. The good results of such an investigation have been more than verified by the late researches of the Messrs. Crotch, who took the pains not only to *collect* but also to note the particular plants on which the species which they happened to fall in with subsist; the consequence of which has been that at least three or four forms, the distinctions between which (from the want of proper material) I had looked upon with some suspicion when compiling my Canarian Catalogue, have been so fully established that there can be no longer any doubt as to their true specific claims. Such, for instance, are the *A. argillosus* (which is peculiar to the *Kleinia neriifolia*), the *æonii* (to the *Semperviva*), the *fortunatus* (to the *Euphorbia*), and the *senilis* (to the fig).

With these few remarks therefore I would commend the numerous *Acalles* recorded in this Catalogue to the patient observation of those who may have opportunities, from time to time, of testing their diagnoses, and (if needs be) of correcting them—merely adding that, although I feel it anything but improbable that some few may eventually have to be suppressed, I nevertheless believe that by far the greater number will stand the test of a rigid inquiry, and that a careful attention to the exact plants on which they severally feed will further tend to elucidate those particular forms which the deficiency of material has compelled me to leave in partial doubt.

751. *Acalles Neptunus*.

Acalles Neptunus, *Woll., Ins. Mad.* 330 (note) (1854).

— —, *Id., Journ. of Ent.* 90 (1860).

Habitat Salvages (ins. *minorem*, *australem*), à Dom. Leacock tempore vernali A.D. 1851 deprehensus.

This noble *Acalles* appears to be peculiar to the Salvages, where several specimens of it were captured by Mr. Leacock of Madeira on the Southern island (or 'Great Piton') during the spring of

1851. It is extremely interesting geographically, through the fact of its being very closely allied to the *A. argillosus* from Teneriffe. Although greatly resembling that species, however, both in size and general aspect, I do not think that it would be safe to treat it as an insular state of it—at all events until a more accurate knowledge has been acquired as to how far these numerous Atlantic *Acalles* are subject to external modification through the long-continued action of surrounding influences*.

752. *Acalles argillosus*.

Acalles argillosus, Schön., *Gen. et Spec. Curc.* iv. 327 (1837).

Tylodes scaber, Brullé, in *Webb et Berth.* (Col.) 72, pl. 1. f. 14 (1838).

Acalles argillosus, Woll., *Cat. Can. Col.* 283 (1864).

Habitat Canarienses (*Ten.*, *Gom.*, *Hierro*), intra caules *Kleinia neriifolia*, De Cand., degens.

A large Canarian *Acalles*, which seems to undergo its transformations within the stalks of the *Kleinia neriifolia*. I obtained it from the hollow branches of the *Kleinia* at Taganana in Teneriffe; and the Messrs. Crotch met with it abundantly, under similar (and indeed under *no other*) circumstances, in Gomera and Hierro; and even Messrs. Webb and Berthelot, who seldom give us any information of either local or general interest, record its capture “dans les branches et les vieux troncs du *Cacalia Kleinia*,” so that there can be little doubt that it is attached *exclusively* to that singular plant.

The *A. argillosus* is eminently musical; but in all probability this is owing more to its large bulk, and its consequently increased power for stridulation, than to any specific peculiarity of its own. In the ‘Ann. of Nat. Hist.’ for July 1860 I gave a full account of the manner in which this fine Curculionid generates its “anal song;” but I have subsequently ascertained that *all* the *Acalles* are able to perform—more or less audibly, according to their respective sizes and capacities. Since the publication of the paper above alluded to, Mr. F. Smith has tested certain British species, and finds them to be

* The *A. Neptunus* differs from the *argillosus*, mainly, in its scales being yellower (or of a much less chalky white), in its rostrum being rather flatter and less keeled in front, in the third articulation of its feet being a trifle less expanded, and in its prothorax (when denuded of the scales), although very coarsely and densely punctured, appearing scarcely so deeply or so thickly punctured, or so decidedly opaque, as is the case in that insect. Its elytra likewise are more or less ornamented posteriorly with irregular black spots, or broken lines, which do not appear to exist in the *argillosus*; and the first joint of its funiculus is perhaps a little more elongated, being more *decidedly* longer than the second one.

gifted with a like power; and the late Mr. Bewicke heard no less than *five* of the Madeiran *Acalles* “sing” most distinctly. Future observations will probably show that a large proportion of the weevils are endowed with this capability; for I myself called attention to two gigantic Canarian *Plinthi* which were able to stridulate, and Mr. Bewicke detected a similar noise in the *Ceuthorhynchus echii*—“which (as he quaintly expressed it) *sings beautifully*, working its pygidium against the elytra, which are curiously thickened.” It is by the rapid vibration of the pygidium that the jarring is produced—its *setose* upper surface being made to play, at each movement, against the reticulated *inner* face of the elytra (the *apical portion* of which, as well as in some instances the *rim*, is specially roughened for this particular purpose).

753. *Acalles æonii*.

Acalles æonii, Chevrolat, *in litt.*

— —, Woll., *Cat. Can. Col.* 285 (1864).

— —, De Barnv., *Ann. de la Soc. Ent. de France*, iv. 452 (1865).

Habitat Canarienses (*Ten., Gom.*), intra caules *Sempervivi* occurrens.

Likewise a Canarian *Acalles*, which has been observed hitherto in Teneriffe and Gomera, and which appears to be attached to the different species of *Sempervivum* (some of which constitute the genus *Æonium* of Webb). In the latter of those islands the Messrs. Crotch took it abundantly—“from out of the great rosette-like *Sempervivum* which everywhere studs the rocks;” and examples were communicated to me from Paris by M. Chevrolat (who purchased them from a French naturalist who formerly collected at Teneriffe), with a note appended to them to the effect that they were captured within the stalks of the “*Æonium frutescens*.” Although in some respects the *A. æonii* and the *argillosus* (which infests the *Kleinia neriifolia*) are closely allied, a fine series of both species, now before me, from the recent material of the Messrs. Crotch, shows that they have much less in common than I had originally supposed*.

* The *A. æonii* ranges smaller than the *argillosus*, and the scales with which it is clothed are of a very much darker (or browner) tint; its rostrum (in both sexes) is a little longer and more deeply sculptured, as well as more naked posteriorly (which causes it to appear more conspicuously incised on either side at its *extreme* base); its prothorax is more rounded at the edges; its elytra are rather more pointed (or less obtusely bisinuated) at their apex, and have their inequalities rather more abrupt and developed; and its feet are longer. In the numerous examples now before me, the *æonii* varies in length from $2\frac{1}{2}$ to $4\frac{1}{2}$ lines, whilst the *argillosus* ranges from $3\frac{1}{2}$ to $5\frac{1}{2}$.

754. *Acalles saxicola*.

Acalles saxicola, *Woll., Ins. Mad.* 332 (1854).
 ———, *Id., Cat. Mad. Col.* 106 (1857).

Habitat Maderenses (*Des.*), sub lapidibus in elevatis parce captus.

Observed hitherto only on the Deserta Grande, of the Madeiran Group, where I have on two or three occasions captured it from within the holes (or cavities) on the undersides of stones and scoriæ on the high and exposed headland which forms the northern extremity of that island.

755. *Acalles histrionicus*.

Acalles histrionicus, *Woll., Cat. Mad. Col.* 106 (1857).

Habitat Maderenses (*Pto Sto*), semel tantum repertus.

Hitherto unique—a single example having been taken by myself in Porto Santo, of the Madeiran Group, near the ruined church of Nossa Senhora da Grace (above the Villa). It is the only *Acalles* which has yet been detected in Porto Santo.

756. *Acalles pulverulentus*.

Acalles pulverulentus, *Woll., Ins. Mad.* 333 (1854).
 ———, *Id., Cat. Mad. Col.* 107 (1857).

Habitat Maderenses (*Mad.*), in aridis subinferioribus parce lectus.

Taken sparingly in Madeira proper—at a rather low elevation, on the sunny and exposed cliffs to the eastward of Funchal. Further material is much required, both of this *Acalles* and of the following one, in order to complete their diagnoses.

757. *Acalles oblitus*.

Acalles oblitus, *Woll., Ins. Mad.* 333 (1854).
 ———, *Id., Cat. Mad. Col.* 107 (1857).

Habitat Maderenses (*Mad.*), rarissimus; in locis similibus ac præcedens.

Found in the same situation, in Madeira proper, as the last species, and equally rare. Indeed it is hitherto unique; and until further (and more satisfactory) material has been obtained, I cannot feel that either the *A. oblitus* or *pulverulentus* (although, I think, they can scarcely be referred to any of the other species here enumerated) have been properly defined.

758. *Acalles nodiferus*.

Acalles nodiferus, *Woll., Ins. Mad.* 334 (1854).

— —, *Id., Cat. Mad. Col.* 107 (1857).

Habitat Maderenses (*Mad.*), sub cortice laxo necnon inter lichenes ad truncos arborum vetustos crescentes in lauretis editioribus occurrens.

Found in the damp sylvan districts of Madeira proper, principally at a high elevation ; but whether it is actually attached to the native laurels (amongst which it occurs), or to some plant growing in the same region, I am unable to say. I have generally taken it, however, either beneath loosened bark or else amongst the grey lichen which occasionally clothes the trunks of the older trees.

759. *Acalles vau*.

Acalles Vau, *Woll., Ins. Mad.* 335 (1854).

— —, *Id., Cat. Mad. Col.* 109 (1857).

Habitat Maderenses (*Mad.*), in locis similibus ac præcedens.

Occurs in much the same places (within the sylvan districts of Madeira proper) as the *A. nodiferus*, to which indeed it is a good deal allied.

760. *Acalles sigma*.

Acalles sigma, *Woll., Cat. Can. Col.* 288 (1864).

Habitat Canarienses (*Palma*), in lauretis humidis editioribus rarissimus.

Observed hitherto only in Palma, of the Canarian Group, where it occurs in the laurel-districts of a rather high altitude—apparently under much the same circumstances as the two preceding species do at Madeira, of *either* of which it might perhaps be regarded as the Canarian representative.

761. *Acalles fortunatus*.

Acalles fortunatus, *Woll., Cat. Can. Col.* 286 (1864).

— —, *Id., Append. huj. op.* 46.

Habitat Canarienses (*Gom., Hierro*), in *Euphorbiis* emortuis à DD. Crotch sat copiose deprehensus.

Detected by the Messrs. Crotch in Gomera and Hierro, of the Canarian Group. According to their report it would appear to be a true *Euphorbia*-infesting species, being *never* found in any other plant.

Their Gomeran examples were obtained from the rotten stems of the *E. piscatoria*, and the Hierro ones from those of the *regis-Jubæ*.

762. *Acalles ornatus*.

Acalles ornatus, *Woll., Ins. Mad.* 336 (1854).
 ———, *Id., Cat. Mad. Col.* 110 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis humidis editioribus captus.

Found at a high elevation in the sylvan districts of Madeira proper; and it so closely resembles the *A. fortunatus* that I think it far from impossible that it may be a geographical modification of the same species. Still, when carefully examined, it will be seen to have distinctions of its own; and I think therefore that it would scarcely be safe to unite it absolutely with that insect. Whether its habits are similar, I have no evidence to enable me to decide.

763. *Acalles senilis*.

Acalles senilis, *Woll., Cat. Can. Col.* 288 (1864).
 ———, *Id., Append. huj. op.* 47.

Habitat Canarienses (*Gom., Hierro*), in ligno *Fici* antiquo à DD. Crotch lectus.

A Canarian *Acalles* of which I took a single (small and unusually cinereous) example close to Valverde, in Hierro, but which has lately been captured in tolerable abundance, by the Messrs. Crotch, in that island and (more particularly) Gomera. During their sojourn at the latter, indeed, they bred a considerable series of it from the rotten wood of an old fig-tree; and since their Hierro specimens were also obtained from fig-trees (near Valverde) the species would appear to be of different habits from its ally the *fortunatus*—which is attached exclusively to the Euphorbias. The additional material both of the present insect and of the *fortunatus* has enabled me to catch the characters of the two so much more satisfactorily than I had hitherto done, that I have thought it desirable to give fresh diagnoses of them in the Appendix to this volume.

764. *Acalles terminalis*.

Acalles terminalis, *Woll., Ins. Mad.* 335 (1854).
 ———, *Id., Cat. Mad. Col.* 110 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis editioribus haud infrequens.

Occurs in the higher elevations of Madeira proper, within the

sylvan districts; and if (as lately implied) the *A. ornatus* be regarded as the representative in that island of the Canarian *A. fortunatus*, the present species is as assuredly the Madeiran analogue of the *senilis* of the Canarian Group. Yet, on the whole, I think that it is perhaps more distinct from the latter than the *ornatus* is from the *fortunatus*; so that, à fortiori, I cannot treat it as any local modification of that insect.

765. *Acalles brevitarsis*.

Acalles brevitarsis, *Woll., Cat. Can. Col.* 289 (1864).

Habitat Canarienses (*Can.*), in intermediis lectus.

The only district in which I have taken this *Acalles* is that of El Monte in Grand Canary. It has a good deal in common with the *acutus*, of Teneriffe; but the characters which distinguish it from that insect have been fully alluded to in my Canarian Catalogue.

766. *Acalles acutus*.

Acalles acutus, *Woll., Cat. Can. Col.* 289 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis intermediis parum vulgaris.

A Canarian *Acalles* which is widely spread over the sylvan districts of Teneriffe, where it is tolerably common. Whether it occurs elsewhere in the archipelago I am doubtful; for although a few rubbed and unsatisfactory individuals which I have examined from Grand Canary and Gomera have much the appearance presented by *equally bad* ones of this species, I cannot regard them as affording evidence one way or the other—since (as stated in the remarks at the commencement of this genus) examples of these variable, scale-covered *Curculionidæ* in that kind of condition are generally quite useless, as being simply *undeterminable*. As hitherto observed, therefore, I do not think that it would be safe to record the *A. acutus* positively for any island except Teneriffe.

767. *Acalles instabilis*.

Acalles instabilis, *Woll., Cat. Can. Col.* 290 (1864).

Habitat Canarienses (*Can.?*, *Ten.*, *Gom.?*, *Palma?*), in sylvaticis, passim.

Like the last species, widely spread over the laurel-districts of Teneriffe; but whether the more or less imperfect and abraded examples from Grand Canary and Gomera which I have (provision-

ally) identified with it, or the highly-coloured (aberrant?) ones from Palma, be absolutely referable to the *instabilis*, the unsatisfactory nature of the material which I have hitherto been able to inspect compels me to leave somewhat in doubt; so that, as in the case of the *acutus*, I would not venture to record it positively for any island except Teneriffe. At the same time I should state that I am almost satisfied that it *does* occur both in Gomera and Palma, and probably in Grand Canary likewise; for I believe that the few specimens just alluded to are merely the exponents of slightly modified races characteristic of those islands.

Even in its typical phasis, however, the *A. instabilis* is very closely allied to the *acutus*; and it is possible indeed that it may ultimately have to be regarded as only a small form of the latter; though further material, and (above all) a knowledge of its habits, can alone decide this point for certain.

768. *Acalles dispar*.

Acalles dispar, *Woll., Ins. Mad.* 337 (1854).

— — —, *Id., Cat. Mad. Col.* 110 (1857).

Habitat Maderenses (*Mad.*), in lauretis humidis haud infrequens.

Peculiar to the sylvan districts of Madeira proper, but so much resembling the *acutus* of Teneriffe that at first sight it might almost be mistaken for that species. In spite of this general resemblance, however, I do not believe that the *A. dispar* can be regarded as any insular state of its Canarian ally*.

769. *Acalles coarctatus*.

Acalles coarctatus, *Woll., Cat. Mad. Col.* 108 (1857).

Habitat Maderenses (*Mad.*), rarissimus; in herbidis intermediis lectus.

Peculiar to Madeira proper, and of great rarity—the few specimens which I have seen having been taken by myself in the Boa Ventura and the Ribeiro de São Jorge, in the north of that island.

* The *A. dispar* is, on the average, a little larger than the *acutus*; its elytra (which are rather more rounded at the sides, and are more conspicuously ornamented with a narrow, elongate, blackish sutural patch in front of the postmedial fascia) will be seen, when denuded of their scales, to be *very* much more coarsely sculptured (the punctures of the striæ being perfectly enormous, and nearly three times the size of those of that insect); and its rostrum and limbs are perceptibly broader, or more robust.

770. *Acalles xerampelinus*.

Acalles xerampelinus, *Woll., Cat. Can. Col.* 287 (1864).

Habitat Canarienses (*Ten.*), in lauretis humidis rarissimus.

A remarkable Canarian *Acalles* which I have observed hitherto only in the laurel-regions of Teneriffe, my few specimens having been brushed out of rank vegetation (in damp spots) at the Agua Garcia and above Taganana.

771. *Acalles nubilosus*.

Acalles nubilosus, *Woll., Cat. Can. Col.* 287 (1864).

Habitat Canarienses (*Ten.*), in locis similibus ac præcedens.

Likewise Teneriffan, and found in much the same kind of places as the last species—to which indeed it is a good deal allied. Having seen as yet but two examples of it (which I took in the laurel-districts of Las Mercedes and above Taganana), its diagnosis can scarcely be said perhaps to have been satisfactorily completed until further material has been obtained for inspection. I may add however that I do not believe that it can be regarded as any extreme modification of the *xerampelinus**.

772. *Acalles cinereus*.

Acalles cinereus, *Woll., Ann. Nat. Hist.* v. 453 (1860).

Habitat Maderenses (*Mad.*), intra *Euphorbiam melliferam* in sylvaticis humidis editoribus a Rev^{do} R. T. Lowe parce lectus.

A few examples of this distinct *Acalles* were met with by the Rev. R. T. Lowe at a very high elevation, towards the head of the Boa Ventura, in Madeira proper,—within the crevices of a dead stem of the *Euphorbia mellifera*; and it is probable, therefore, that the species will be found to be of *Euphorbia*-infesting habits. In its ashy-white surface and but slightly developed nodules, though *not* in its general outline and comparatively small size, it is a little suggestive at first sight of the *A. argillosus*. There is also a specimen of it in the collection of the late Mr. Bewicke.

* The *A. nubilosus* seems to differ from the *xerampelinus* in its more ovate (or less straightened) outline, and in the apex of its elytra being less drawn out or produced, in its prothorax (when denuded of the scales) appearing rather less coarsely punctured, and in its more variegated hue—the darker scales being less rufescent, and the paler ones spread over a larger portion of the surface, whilst the postmedial fascia is *not* produced forward (in a straight line) on either side.

773. *Acalles festivus*.

Acalles festivus, *Woll., Cat. Mad. Col.* 109 (1857).

Habitat Maderenses (*Mad*), sub cortice laurorum vetustarum laxo à Dom. Bewicke in editioribus deprehensus.

Several specimens of this brightly maculated and beautiful little *Acalles* were taken by the late Mr. Bewicke, at a rather high elevation, in Madeira proper—from under the loosened bark of old laurels in a small ravine immediately over the ridge to the west of the Ribeira das Calles bridge (beyond the Pico do Arrebentão), on the mountains above Funchal.

774. *Acalles lunulatus*.

Acalles lunulatus, *Woll., Ins. Mad.* 340 (1854).

— — —, *Id., Cat. Mad. Col.* 110 (1857).

Habitat Maderenses (*Mad.*), in lauretis editioribus haud infrequens.

Rather widely spread over the laurel-regions of Madeira proper at intermediate and lofty altitudes, being taken in much the same kind of places as the allied species.

775. *Acalles albolineatus*.

Acalles albolineatus, *Woll., Ins. Mad.* 338 (1854).

— — —, *Id., Cat. Mad. Col.* 110 (1857).

Habitat Maderenses (*Mad.*), rarior; in locis similibus ac præcedens.

Likewise peculiar to Madeira proper, where it occurs sparingly (in company with several of the other species) in the wooded districts at intermediate and lofty elevations.

776. *Acalles Wollastoni*.

Acalles Wollastoni, *Chevr. in Guér. Rev.* iv. 279 (1852).

— — — et *cylindricollis*, *Woll., Ins. Mad.* 341, 342 (1854).

— — — — —, *Id., Cat. Mad. Col.* 110 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis subsylvaticisque late diffusus, etiam in regiones vix elevatas nonnunquam descendens.

Widely diffused over the sylvan and subsylvan districts of Madeira proper—where it occurs amongst herbage generally, descending sometimes into comparatively low altitudes. It and the *A. seticollis* are the most minute of all the *Acalles* of these Atlantic islands, and indeed amongst the smallest of the *Curculionidæ* here enumerated.

A more critical examination of the type on which the *A. cylindricollis* of my 'Ins. Mad.' was founded, has satisfied me that it is only a largely developed specimen of the *A. Wollastoni*.

777. *Acalles seticollis*.

Acalles seticollis, *Woll., Cat. Can. Col.* 291 (1864).

Habitat Canarienses (*Ten., Hierro*), in herbidis intermediis rarissimus.

The representative at the Canaries of the Madeiran *A. Wollastoni*, and found in much the same kind of places. It has been taken (very sparingly) by myself in Hierro, and by the Messrs. Crotch in Teneriffe. It bears so strong a *primâ facie* resemblance to the *A. Wollastoni* that it is difficult to believe that it can be more than a geographical modification of that insect; and yet, when carefully inspected, it will be seen to have a few very constant characters of its own. Thus, it is altogether more setose than its Madeiran ally, and its prothorax when denuded of its scales is *much* more coarsely and densely punctured, whilst its elytra have the punctures of their striæ less developed and their interstices more rugulose.

778. *Acalles globulipennis*.

Acalles globulipennis, *Woll., Ins. Mad.* 339 (1854).

—— —, *Id., Cat. Mad. Col.* 110 (1857).

Habitat Maderenses (*Mad.*), præcipue sub cortice laxo necnon inter lichenes ad truncos arborum vetustos crescentes in lauretis humidis editioribus occurrens.

This comparatively rounded little species, which is more on the pattern of the ordinary *Acalles* of more northern latitudes, is widely diffused over the damp sylvan districts of Madeira proper—where it occurs principally beneath the loosened bark, and amongst lichen growing upon the trunks, of the old laurels.

779. *Acalles pilula*.

Acalles pilula, *Woll., Cat. Can. Col.* 292 (1864).

Habitat Canarienses (*Ten., Gom., Palma, Hierro*), in locis similibus ac præcedens et forsân ejus varietas geographica.

Whether this *Acalles* be anything more than a Canarian modification of the last one, I will not undertake to decide; but it certainly bears *as great* a resemblance to it, at first sight, as the *A. seticollis* does to the Madeiran *A. Wollastoni*. Yet (as in the case of that

insect) it unquestionably possesses a few distinctions of its own, which are very evident when examined with care. Thus, for instance, the rostrum of its female is a little slenderer and more convex than that of the *globulipennis*; its prothorax is relatively narrower and more conical, and when denuded of its scales will be seen to be less constricted behind the apex, as also more deeply and less closely punctured; and its elytra are even convexer still—especially at their base.

The *A. pilula* is widely spread over the sylvan and subsylvan districts of the Canarian Group, at any rate in the central and western portions of it. I have taken it in Teneriffe and Palma, and it was found sparingly by the Messrs. Crotch in Gomera and Hierro.

780. *Acalles verrucosus*.

Acalles verrucosus, *Woll., Ann. Nat. Hist.* xi. 219 (1863).

— —, *Id., Cat. Can. Col.* 292 (1864).

Habitat Canarienses (*Ten., Gom., Palma*), in lauretis humidis editioribus sub cortice laxo truncisque putridis rarior.

A large and most distinct Canarian *Acalles*, which seems to be peculiar to the damp sylvan regions of a lofty altitude. I have taken it beneath the loosened bark of trees, as well as under moist rotting wood, in Teneriffe and Palma; and several specimens are now before me which were captured by the Messrs. Crotch, in the laurel-district above Hermigua, in Gomera.

Genus 243. *ECHINODERA*.

Wollaston, Cat. Can. Col. 293 (1864).

781. *Echinodera hystrix*.

Echinodera hystrix, *Woll., Cat. Can. Col.* 294 (1864).

Habitat Canarienses (*Gom., Palma, Hierro*), in sylvaticis intermediis degens.

Apparently peculiar to the western portion of the Canarian Group, where it occurs at intermediate altitudes, principally within the sylvan districts. I have taken it in Palma and Hierro; and it was captured by the Messrs. Crotch in the latter, as well as (above Hermigua) in Gomera. Although variable in tint, it is usually an obscurely coloured insect; but it may always be known by the rather long and erect setæ with which it is studded, and by the punctures

of its elytral striæ being of an enormous size—a character, however, which is appreciable only when the elytra are denuded of their scales.

782. *Echinodera crenata*.

Echinodera crenata, Woll., *Ann. Nat. Hist.* xi. 219 (1863).

— —, *Id.*, *Cat. Can. Col.* 295 (1864).

Habitat Canarienses (*Ten.*), sub lapidibus in montibus valde excelsis ultra regiones sylvaticas occurrens. Usque ad, vel etiam ultra, 9000' s. m. ascendit.

Found at a high elevation on the mountains of Teneriffe, where it would appear to occur from about 6000 to 9000 feet above the sea—beyond the upper limits of the sylvan districts. I have taken it (under stones) on the Cumbre adjoining the Cañadas, as well as on the opposite ridge above the Agua Mansa.

783. *Echinodera angulipennis*.

Echinodera angulipennis, Woll., *Cat. Can. Col.* 296 (1864).

Habitat Canarienses (*Ten.*), in intermediis sylvaticis subsylvaticisque haud infrequens.

Widely spread over the sylvan and subsylvan regions of Teneriffe, having a decidedly lower range than the last species. It occurs emphatically indeed at *intermediate* altitudes, being occasionally found even a little *below* the wooded districts. In its general colouring and aspect it might almost be mistaken for the *E. hystrix*; but its robust setæ are not quite so long or so erect, and its elytra (which have their humeral and apical halves more obliquely truncated, or lopped off, in opposite directions, so as to shape-out a more evident angle on either side at about a third of the distance from their base) will be seen when denuded of their scales to have their striæ *very* much less coarsely punctured. Despite its *primâ facie* resemblance, therefore, I do not think that it can be regarded as a Teneriffan modification of the *hystrix*,—particularly so, since the latter species appears to retain its peculiarities of sculpture unaltered in Gomera, Palma, and Hierro.

784. *Echinodera orbiculata*.

Echinodera orbiculata, Woll., *Cat. Can. Col.* 297 (1864).

Habitat Canarienses (*Ten.*, *Gom.*), in sylvaticis editioribus sæpius occurrens.

This rather smaller, rounder, and more speckled *Echinodera* seems

(on the average) to have a somewhat higher range than the *angulipennis*, but a lower one than the *crenata*,—occurring for the most part towards the upper limits of the sylvan districts, and occasionally ascending even beyond them. In Teneriffe indeed I have taken it as much as 7000 feet above the sea, though it is from about 4000 to 5000 that it is principally to be found. It was captured by the Messrs. Crotch in the laurel-regions of Gomera; but the Gomeran examples differ a *little* from the Teneriffan ones; their setæ especially not being quite so short.

785. *Echinodera compacta*.

Echinodera compacta, *Woll., Cat. Can. Col.* 297 (1864).

Habitat Canarienses (*Can.*), in intermediis semel deprehensa.

The only example of this *Echinodera* which I have yet seen was taken by myself, in the region of El Monte, in Grand Canary; and although its characters are tolerably well defined, the species nevertheless can hardly be said to have been satisfactorily established until further material has been obtained.

786. *Echinodera picta*.

Echinodera picta, *Woll., Cat. Can. Col.* 298 (1864).

Habitat Canarienses (*Fuert.*), semel tantum in intermediis reperta.

Like the last species, this one also is unique,—a single example having been taken by myself in Fuerteventura of the Canarian Group, from beneath a stone in the Rio Palmas. In its freedom from erect setæ, as well as in its many other characters fully alluded to in my diagnosis, it is so distinct from all the preceding members of the genus that I have no hesitation (even in the absence of further material) in regarding the *E. picta* as satisfactorily established.

Genus 244. TORNEUMA.

Wollaston, *Ann. Nat. Hist.* v. 453 (1860).

787. *Torneuma cæcum*.

Torneuma cæcum, *Woll., loc. cit.* 455 (1860).

Habitat Maderenses (*Mad.*), rarissimum; sub trunco quodam arboris prolapso in montibus semel captum.

The only specimen of this singular little blind Curculionid which

has yet been brought to light I captured beneath the trunk of a felled cherry-tree, at the bottom of the Curral das Romeiras, in the mountains of Madeira proper.

788. *Torneuma orbatum*.

Torneuma orbatum, *Woll., Append. huj. op.* 48.

Habitat Canarienses (*Gom.*), inter lignum putridum in lauretis humidis excelsis à DD. Crotch parcissime deprehensum.

Very closely allied to the Madeiran *T. cæcum*, of which it may be regarded as the Canarian representative; for I think perhaps that it can scarcely be looked upon as any local modification of that insect. Two examples of it were taken by the Messrs. Crotch at a high altitude in Gomera, from under rotten wood in the laurel-district above Hermigua.

(Subfam. V. BARIDIIDES.)

Genus 245. **BARIS**.

Germar, *Ins. Spec.* i. 197 (1824).

789. *Baris sellata*.

Baridius sellatus, *Schön., Gen. et Spec. Curc.* viii. 124 (1844).

— —, *Lucas, Col. de l'Algérie*, 452 (1849).

— —, *Woll., Cat. Can. Col.* 298 (1864).

Habitat Canarienses (*Fuert.*), rarissima; in aridis arenosis lecta.

The large and beautiful *B. sellata* of northern Africa occurs very rarely in the east of the Canarian Group, two examples taken by myself in Fuerteventura being all that I have yet seen. They were found on the hillocks of loose drifting sand at Corralejo, in the extreme north of that island.

(Subfam. VI. TYCHIIDES.)

Genus 246. **SIBYNIA**.

Germar, *Ins. Spec.* i. 289 [script. *Sibinia*] (1824).

790. *Sibynia sericea*.

Sibynes sericeus, *Woll., Cat. Can. Col.* 301 (1864).

Habitat Canarienses (*Lanz., Fuert., Can., Ten.*), parce occurrens.

Widely, though very sparingly, diffused over the eastern and

central parts of the Canarian Group—at low and intermediate elevations. It has been captured in Lanzarote, Fuerteventura, Grand Canary, and Teneriffe.

Genus 247. **TYCHIUS.**

(Germar) Schön., *Curc. Disp. Meth.* 245 (1826).

791. **Tychius robustus.**

Tychius robustus, Woll., *Ins. Mad.* 344 (1854).

— — —, *Id.*, *Cat. Mad. Col.* 111 (1857).

Habitat Maderenses (ins. *omnes*), sub lapidibus in aridis præcipue in apricis inferioribus occurrens.

This large *Tychius* is universal throughout the Madeiran Group—in the whole five islands of which I have myself taken it except in Madeira proper, where, however, it was found (on the São Lourenço promontory) by the late Mr. Bewicke. It occurs principally in low and arid spots, whether sandy or calcareous, and is more abundant in Porto Santo and on the northern Deserta than elsewhere.

792. **Tychius aridicola.**

Tychius aridicola, Woll., *Cat. Can. Col.* 302 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*, *Can.*); sub lapidibus in aridis, vel calcariis vel arenosis, parce degens.

It is difficult to believe that this immense *Tychius* is more than a Canarian modification of the preceding one—being found in precisely the same sort of places, and being so like it at first sight that it might well be mistaken for it. It seems to differ from the *robustus*, principally, in its elytra being less inflated and convex (or straighter and more cylindrical), in its feet being a little narrower (the bilobed third joint being appreciably less expanded), and in its scales being whiter or more cinereous.

The *T. aridicola* I have taken in Lanzarote, Fuerteventura, and Grand Canary,—namely, on the dry mountain-slopes between San Miguel de Teguisse and Los Valles de S^{ta} Catalina, of the first; near S^{ta} Maria Betanuria, of the second; and between Las Palmas and the Isleta, of the third.

793. **Tychius decoratus.**

Tychius decoratus, Rosenh., *Die Thier. Andalus.* 271 (1856).

— — —, Woll., *Cat. Can. Col.* 302 (1864).

Habitat Canarienses (*Can.*), foliis *Ononis natricis*, L., præcipue gaudens.

Captured by myself, rather abundantly, off the bushes of a yellow-flowered *Ononis* (the *O. natrix*, L.) in Grand Canary—in the Barranco de Mogan, towards the south-west of that island. I think that it does not recede sufficiently from the *T. decoratus*, which is found in the south of Spain, to be separated from that species; nevertheless I stated in my Canarian Catalogue that if future investigations should prove it to be distinct, I would then (having already given a full description) propose for it the trivial name of *gloriosus*.

794. *Tychius filirostris*.

Tychius filirostris, *Woll., Ins. Mad.* 346 (1854).

— —, *Id., Cat. Mad. Col.* 111 (1857).

Habitat Maderenses (*P^{to} S^{to}*), in aridis calcariis inferioribus parcissime lectus.

Found in Porto Santo, of the Madeiran Group—the only two specimens yet detected having been captured by myself in the low calcareous district of the Zimbral d'Areia, in the east of that island.

795. *Tychius depauperatus*.

Tychius depauperatus, *Woll., Cat. Can. Col.* 303 (1864).

Habitat Canarienses (*Fuert.*), rarissimus. Sub lapide in inferioribus submaritimis exemplaria duo deprehendi.

An insignificant little species which I have taken only in Fuerteventura, of the Canarian Group, where I captured two examples of it from beneath a stone in a low sandy spot (at the edges of the coast-road) about three miles to the north of the Puerto de Cabras.

(Subfam. VII. ORCHESTIDÆ.)

Genus 248. **RAMPHUS**.

Clairville, *Ent. Helv.* i. 104 (1798).

796. *Ramphus æneus*.

Ramphus æneus (*Dej. Cat.*), *Schön., Gen. et Spec. Curc.* i. 310 (1833).

— —, *Woll., Ann. Nat. Hist.* v. 456 (1860).

Habitat Maderenses (*Mad.*), folia pomorum in cultis destruens.

Detected by the late Mr. Bewicke, and found subsequently by myself, on the foliage of apple- and pear-trees (in cultivated grounds) on the southern side of Madeira proper, from a short distance above Funchal to almost the elevation of “the Mount.” It is not unlikely

therefore that it may have become naturalized accidentally from Portugal, where the insect is stated to occur.

(Subfam. VIII. MAGDALINIDES.)

Genus 249. **MAGDALIS.**

Germar, *in Annal. Wetterauer*, i. 130 (1819).

797. **Magdalis barbicornis.**

Rhina barbicornis, Latr., *Hist. Nat. des Crust. et Ins.* xi. 103 (1803).

Magdalis barbicornis, Germ., *Ins. Spec.* i. 192 (1824).

Magdalinus barbicornis, Schön., *Gen. et Spec. Curc.* vii. ii. 143 (1843).

Magdalis barbicornis, Woll., *Append. huj. op.* 49.

Habitat Maderenses (*Mad.*), à Dom. C. Wolff, M.D., in foliis pomorum parce capta.

Two examples of this European *Magdalis* have, as stated in the Appendix, been captured lately in Madeira proper by Dr. C. Wolff, of Bonn. They were brushed off the foliage of pear-trees at the base of the Pico do Cardo, about two miles from Funchal; and it is not improbable that the species may have been introduced into the island from more northern latitudes. Dr. Wolff has presented one of these specimens to the collection at the British Museum.

(Subfam. IX. RHINOMACERIDES.)

Genus 250. **AULETES.**

Schönherr, *Curc. Disp. Meth.* 46 (1826).

798. **Auletes cylindricollis.**

Auletes cylindricollis, Woll., *Cat. Can. Col.* 304 (1864).

Habitat Canarienses (*Ten.*, *Gom.*, *Palma*), in herbis intermediis late sed parce diffusus.

Sparingly, though widely, diffused over the central and western islands of the Canarian archipelago—where it occurs amongst dense herbage at intermediate altitudes. Its less abbreviated and comparatively cylindrical prothorax, in conjunction with its coarse punctation, which on the (more shining) *elytra* is also remote, and its rather longer pubescence and feet, will distinguish it from the other species here enumerated. I have taken it in Teneriffe and Palma; in the former of which, as well as in Gomera, it was captured by the Messrs. Crotch.

799. *Auletes anceps*.

Auletes anceps, *Woll., Cat. Can. Col.* 305 (1864).

Habitat Canarienses (*Hierro*), hactenus parcissime deprehensus.

Two examples of this *Auletes*, taken by myself in Hierro of the Canarian Group, are all that I have yet seen; and although they appear really to differ (even though slightly) both from the preceding species and the following one, further material must decide whether it be possible to regard them as representing any insular phasis of those insects.

In some respects indeed the *A. anceps* is intermediate between the *cylindricollis* and *convexifrons*, though (so far as I can judge from merely two individuals) I do not think that it would be safe to treat it absolutely as a mere state of either of them. It differs from the former in being of a paler hue, with its punctation altogether a little denser and less coarse, in its rostrum being rather longer and more lightly punctured, in its eyes being just perceptibly smaller, in its prothorax being a trifle more expanded behind (or less cylindrical), in its elytra being more elongated and less shining, in its antennal club being perhaps (if anything) more abruptly defined, and in the basal joint of its feet being somewhat shorter; whilst from the latter it recedes in its rostrum being longer, in its prothorax being less abbreviated and less rounded posteriorly, in its forehead being less convex, and in the last joint of its clava being rather less conical or acute. Of the two species, I think perhaps that it is more allied to the *convexifrons* than to the *cylindricollis*.

800. *Auletes convexifrons*.

Auletes convexifrons, *Woll., Cat. Can. Col.* 305 (1864).

Habitat Canarienses (*Can., Ten., Gom.*), in locis similibus ac *A. cylindricollis*.

Likewise a Canarian *Auletes*, and found amongst herbage in the intermediate districts. I have captured it in Grand Canary and Teneriffe, and it was taken by the Messrs. Crotch in Gomera.

801. *Auletes maderensis*.

Auletes Maderensis, *Woll., Ins. Mad.* 416, tab. viii. f. 7 (1854).

— — —, *Id., Cat. Mad. Col.* 122 (1857).

Habitat Maderenses (*Mad.*), in herbidis intermediis haud infrequens.

Widely spread over the intermediate elevations of Madeira proper,

and so nearly allied to the last species that I am doubtful whether it should be treated as more than a slight geographical modification of it.

The *A. maderensis* seems to differ from the *convexifrons*, merely (unless indeed any characters have escaped my observation), in its limbs and rostrum being just perceptibly thicker and less pale, in its forehead being a trifle less convex, in the second joint of its antennæ being a little shorter and more *oval*, whilst the last one is appreciably wider and less acute (or conical). Perhaps also, on the average, it is somewhat more densely pubescent.

(Subfam. X. APIONIDES.)

Genus 251. **APION.**

Herbst, *Käf.* vii. 100 (1797).

802. **Apion frumentarium.**

Curculio frumentarius, *Linm., Fna Succ.* 175 (1761).

Apion frumentarium, *Schön., Gen. et Spec. Curc.* i. 283 (1833).

— — —, *Woll., Ins. Mad.* 412 (1854).

— — —, *Id., Cat. Mad. Col.* 121 (1857).

Habitat Maderenses (*Mad., Pto S^{to}*), in intermediis editioribusque, passim.

This common European *Apion* occurs sparingly in Madeira proper and Porto Santo, where perhaps it may have become established from more northern latitudes; but it has not yet been detected in the Canarian Group.

803. **Apion malvæ.**

Curculio Malvæ, *Fab., Syst. Ent.* 132 (1775).

Apion Malvæ, *Schön., Gen. et Spec. Curc.* i. 272 (1833).

— — —, *Woll., Ins. Mad.* 411 (1854).

— — —, *Id., Cat. Mad. Col.* 121 (1857).

Habitat Maderenses (*Mad.*), folia *Malvarum* sæpius in cultis destruens.

Likewise a European *Apion*, and one which is locally common (on the foliage of Mallows) in Madeira proper, though hitherto it has not been found in any of the other islands.

804. **Apion senex.**

Apion senex, *Woll., Cat. Can. Col.* 306 (1864).

Habitat Canarienses (*Gom., Palma*), in intermediis rarissimum.

A Canarian *Apion*, of which two specimens were taken by myself (during May of 1858) in the island of Palma; and a third is now before me, captured by the Messrs. Crotch (during the summer of 1864) in Gomera.

805. *Apion vernale*.

- Attelabus vernalis*, *Fab., Ent. Syst.* i. ii. 392 (1792).
Apion vernale, *Schön., Gen. et Spec. Curc.* i. 273 (1833).
 ———, *Woll., Ins. Mad.* 409 (1854).
 ———, *Id., Cat. Mad. Col.* 120 (1857).
 ———, *Id., Cat. Can. Col.* 307 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Hierro*), plerumque super folia *Urticæ urentis* in cultis inferioribus parce occurrens.

The European *A. vernale* has been captured sparingly, on Nettles (for the most part at low elevations, and about cultivated grounds), both in the Madeiran and Canarian Groups—namely, in Madeira proper of the former, and in Teneriffe and Hierro of the latter.

806. *Apion delicatulum*.

- Apion delicatulum*, *Woll., Cat. Mad. Col.* 120 (1857).
 ———, *Id., Cat. Can. Col.* 307 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom., Palma, Hierro*), in inferioribus intermediisque haud infrequens. Ad folia *Parietaricæ* invenit cl. G. R. Crotch.

Widely spread over these Atlantic islands, at low and intermediate elevations, though nowhere very common. I have taken it in the north of Madeira proper; and it has been observed in Teneriffe, Gomera, Palma, and Hierro, of the Canarian Group. Its occurrence in Gomera is on the authority of the Messrs. Crotch, who obtained an extensive series of it in that island, and who state that it is peculiar to the *Parietaria* (or Pellitory).

807. *Apion sagittiferum*.

- Apion sagittiferum*, *Woll., Ins. Mad.* 410 (1854).
 ———, *Id., Cat. Mad. Col.* 121 (1857).
 ———, *Id., Cat. Can. Col.* 308 (1864).

Habitat Maderenses (*Mad., Pto S^{to}, Des.*) et Canarienses (in *Lanz.* solâ haud observatum), in subinferioribus intermediisque vulgare.

There is no *Apion* so widely diffused over these Atlantic islands as the present one. Indeed we may be nearly sure that it is absolutely universal throughout the Madeiran and Canarian Groups; for although in the former it does not happen to have been observed on

either the northern or southern Desertas, or in Lanzarote of the latter (unless indeed the following species be but a modification of it), there cannot be much doubt that it will be found ultimately to exist in them—no less than it does in the various other islands, in each of which it has been taken (more or less abundantly).

808. *Apion Germari*.

Apion Germari, Walton, *Ann. Nat. Hist.* xiii. 456 (1844).

— *albopilosum*, Lucas, *Col. de l'Algérie*, 408, pl. 35. f. 5 (1849).

— *Germari*, Woll., *Cat. Can. Col.* 308 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*), plerumque folia *Mercurialis annuæ* nisi fallor edens.

Found in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group, and so nearly related to the preceding species that I should scarcely have ventured to separate it therefrom had not Mr. Haliday informed me that he considered it to be identical with an *Apion* ("distinct from the *sagittiferum*") which he had captured in Italy. The latter species he identified with the Algerian *albopilosum* and the European *Germari*; and since both his Italian examples and my Lanzarotan ones were taken off the *Mercurialis annua*, there seemed every reason to conclude that *they* (at all events) were conspecific.

Assuming therefore my Lanzarotan (and a few of the Fuerteventuran) specimens to be rightly referred to the European *A. Germari*, it certainly follows that the *sagittiferum* approaches that species very closely. Nevertheless its habits appear to be different; and it has also a few permanent characters of its own (even though small ones), which have been fully alluded to in my Canarian Catalogue.

809. *Apion chalybeipenne*.

Apion chalybeipenne, Schön., *ined.* (teste Boheman).

— —, Woll., *Ins. Mad.* 413 (1854).

— —, *Id.*, *Cat. Mad. Col.* 122 (1857).

— —, *Id.*, *Cat. Can. Col.* 310 (1864).

Habitat Maderenses (*Mad.*, *Pto Sto, Des.*) et Canarienses (*Fuert.*, *Ten.*, *Gom.*, *Palma*, *Hierro*), foliis *Malvarum* gaudens.

Like the *A. sagittiferum*, this *Apion* will probably be found to be universal throughout these Atlantic islands—where it occurs on the foliage of Mallows, at low and intermediate elevations. It has been taken in Madeira proper, Porto Santo, and the Deserta Grande, of the Madeiran Group, and in all the Canarian islands except Lan-

zarote and Grand Canary, in both of which however there can be no question that it must exist. Its detection in Gomera is due to the late researches of the Messrs. Crotch.

810. *Apion calcaratum*.

Apion calcaratum, *Woll., Cat. Can. Col.* 310 (1864).

Habitat Canarienses (*Hierro*), plantas *Carduorum* nisi fallor destruens.

The only four examples which I have seen of this Canarian *Apion* were collected by myself—I believe, off Thistles, in the sylvan district of El Golfo on the western side of Hierro. It may be regarded as the representative at the Canaries of the common European *A. carduorum*, to which indeed it is closely allied.

811. *Apion Westwoodii*.

Apion Westwoodii, *Woll., Cat. Can. Col.* 311 (1864).

Habitat Canarienses (*Can.*), in intermediis et editioribus rarissimum.

Peculiar, so far as I have yet observed, to Grand Canary—where it is exceedingly rare, at intermediate and lofty elevations. I have taken it in the district of El Monte, and likewise, at a very high altitude, in the great Pinal of the central region of Tarajana.

812. *Apion tubiferum*.

Apion tubiferum (*Dej.*), *Schön., Gen. et Spec. Curc.* i. 284 (1833).

———, *Woll., Cat. Can. Col.* 311 (1864).

Habitat Canarienses (*Can., Hierro*), foliis *Cistorum* ut mihi videtur in editioribus delectatum.

The *A. tubiferum* of Mediterranean latitudes appears to occur, though very sparingly, at the Canaries. Indeed the only four examples of it which I have yet seen were captured by myself (I believe, off plants of *Cistus*) in Grand Canary and Hierro—namely, in the sylvan district of El Golfo, of the former, and at a very high elevation above the Pinal of Tarajana, in the latter.

813. *Apion austrinum*.

Apion austrinum, *Woll., Cat. Can. Col.* 312 (1864).

Habitat Canarienses (*Gom.*), à W. D. Crotch semel repertum.

A single example of this small *Apion* (which has much the general appearance of the European *A. seniculus*) was captured by Dr. Crotch

in Gomera, during his first Canarian campaign; and further material would be desirable, in order to complete our knowledge of the insignificant little species of which it is the exponent.

814. *Apion fallax*.

Apion fallax, *Woll., Cat. Can. Col.* 313 (1864).

Habitat Canarienses (*Lanz., Can., Ten., Palma, Hierro*), in inferioribus intermediisque, passim.

Doubtless universal throughout the Canarian Group, Fuerteventura and Gomera (in both of which we may nevertheless be pretty sure that it exists) being the only islands of the seven in which it does not happen to have been observed. It is found at low and intermediate altitudes; and, although quite distinct from them specifically, it may be regarded as the representative in the Canaries of either the *A. violaceum* or the *A. hydrolapathi* of more northern latitudes.

815. *Apion ceuthorhynchoides*.

Apion ceuthorhynchoides, *Woll., Cat. Can. Col.* 314 (1864).

Habitat Canarienses (*Ten.*), a Dom. Gray semel deprehensum.

A small and robust Canarian *Apion* which is hitherto unique—a single example having been captured by Mr. Gray, during the winter of 1858, near the Puerto Orotava in Teneriffe.

816. *Apion rotundipenne*.

Apion rotundipenne, *Woll., Ins. Mad.* 415, tab. viii. f. 6 (1854).

— — —, *Id., Cat. Mad. Col.* 122 (1857).

— — —, *Id., Cat. Can. Col.* 313 (1864).

Habitat Maderenses (*Mad., Pto Sto, Des.*) et Canarienses (*Can., Ten., Gom., Palma, Hierro*), præsertim in cultis *Vicias* destruens.

Probably universal throughout these Atlantic islands, where it occurs at low and intermediate elevations, chiefly on the species of *Vicia* in semicultivated spots. It is locally abundant in Madeira proper, Porto Santo, and the Deserta Grande, of the Madeiran Group; whilst it has been observed in all the Canarian islands except the two eastern ones—Lanzarote and Fuerteventura. Its detection in Gomera is due to the researches of the Messrs. Crotch.

817. *Apion Wollastoni*.

Apion Wollastoni, *Chevr., in Guér. Rev.* iv. 278 (1852).

Apion Wollastoni, *Woll., Ins. Mad.* 414, tab. viii. f. 4 (1854).
 ———, *Id., Cat., Can. Col.* 122 (1857).

Habitat Maderenses (*Mad.*), inter *Vicias* in humidiusculis intermediis minus frequens.

A beautiful *Apion*, which has been observed hitherto only in Madeira proper—where it occurs (principally, I believe, on a species of *Vicia*) at rather low and intermediate altitudes, and chiefly in the north of the island.

818. *Apion umbrinum*.

Apion umbrinum, *Woll., Cat. Can. Col.* 314 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma, Hierro*), in sylvaticis subsylvaticisque vulgare.

A common species throughout the sylvan and subsylvan districts of all the Canarian islands except the two eastern ones (Lanzarote and Fuerteventura), in which it has not been observed. I have taken it in Grand Canary, Teneriffe, and Palma—in the first and second of which, as well as in Gomera and Hierro, it was found by the Messrs. Crotch. It somewhat resembles the European *A. ononis*, of which perhaps it may be regarded as the Canarian representative.

819. *Apion longipes*.

Apion longipes, *Woll., Cat. Can. Col.* 315 (1864).

Habitat Canarienses (*Ten., Palma*), in sylvaticis subsylvaticisque hinc inde vulgare.

A rather abundant *Apion* in the sylvan and subsylvan districts of Teneriffe and Palma; but hitherto it does not happen to have been detected in any of the other islands. It is so closely allied to the common European *A. vorax* that I am doubtful whether it should be treated as more than a geographical phasis of that species. Indeed it seems to differ from it, merely, in being a little larger and more pubescent, and in having its legs still longer. The tarsi particularly are modified in accordance with this last peculiarity; for their basal joint is very conspicuously more lengthened.

(Subfam. XI. CRYPTOPHIDES.)

Genus 252. SMICRONYX.

Schönherr, *Gen. et Spec. Curc.* iii. 423. [script. *Micronyx*] (1836).

820. *Smicronyx albosquamosus*.

Tychius albosquamosus, *Woll., Ins. Mad.* 345 (1854).

— —, *Id., Cat. Mad. Col.* 111 (1857).

Smicronyx albosquamosus, *Id., Cat. Can. Col.* 316 (1864).

Habitat Maderenses (*Des.*) et Canarienses (*Ten., Gom., Hierro*), rarissimus.

Found very rarely both in the Madeiran and Canarian Groups. From the former indeed I have seen hitherto but a single example, which was captured by myself (in 1850) on the Deserta Grande; but at the Canaries I have taken it sparingly in Teneriffe and Hierro—in the latter of which islands, as well as in Gomera, a few specimens were met with (during the summer of 1864) by the Messrs. Crotch.

821. *Smicronyx pauperculus*.

Smicronyx pauperculus, *Woll., Cat. Can. Col.* 317 (1864).

Habitat Canarienses (*Can., Ten., Hierro*), in inferioribus intermediisque parce diffusus.

Occurs in much the same places as the last species, though only (so far as has been observed hitherto) at the Canarian Group. It is found at low and intermediate altitudes; and the smaller examples of it descend to a most minute size. I have taken it in Grand Canary and Teneriffe, and a single specimen was captured by the Messrs. Crotch in Hierro.

(Subfam. XII. ERIRHINIDES.)

Genus 253. *PROCAS*.

Stephens, *Ill. Brit. Ent.* iv. 90 (1831).

822. *Procas picipes*.

Curculio picipes, *Mshn, Ent. Brit.* 272 (1802).

Procas picipes, *Steph., Ill. Brit. Ent.* iv. 91 (1831).

Eriirhinus Steveni, *Schön., Gen. et Spec. Curc.* iii. 287 (1836).

Procas Steveni, *Id., op. cit.* vi. 387 (1842).

— *picipes*, *Id., ibid.* (1842).

— *Steveni*, *Woll., Cat. Can. Col.* 318 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Fuert., Palma*), in intermediis rarissimus.

I do not believe that the few Atlantic examples of *Procas* which I have yet seen are distinct from the *picipes* of Marsham; for although it is under the name of *Steveni* that the more southern

ones have hitherto been cited, the characters which separate the latter from the former seem to be scarcely more than imaginary. That there *are* slight differences between certain *individuals* of a species which varies so marvellously in stature is evident; but I have not yet been able to discover any which I can look upon as unquestionably of specific signification; for it is but natural that the larger specimens should have their general characters a little more developed. The only Atlantic example however (a Madeiran one) which is now before me has its prothorax a trifle shorter, and more rounded at the sides, than an English *picipes* with which I have compared it, and the central keel is quite obsolete—if we except the merest fragment of a line (which may be supposed to indicate it) on the fore disk—and its scape is just perceptibly more robust (and curved) at the base; but I doubt if these little discrepancies would be constant, and, *even supposing this to be the case*, whether they are specific ones. As it is barely possible however that further material may render it desirable to treat this Atlantic *Procas* as separate from the *picipes* (and *Steveni*), I will just record it as the “var. β . *brevicollis*,” though as already stated I do not imagine that features so minute and unimportant in a species which *doubles itself in stature* can be indicative of more than a slight geographical, or perhaps an insular, variety.

If, therefore, my premises be correct, I may add that the *P. picipes* is very sparingly though widely distributed over these Atlantic Groups—two specimens only having as yet been taken in the Madeiras, and two in the Canaries. Of the former, one was found under a stone (at a rather high elevation) near the Great Curral by the late Mr. F. A. Anderson, and the other by Mr. Bewicke (drowned in a tank, in his garden, above Funchal); whilst of the latter, the first was captured by myself at Oliva in Fuerteventura, and the second by the Rev. R. T. Lowe at a tolerable altitude in the Baranco de Nogales of Palma*.

* Considering the almost unparalleled instability as regards size which obtains in *Procas*, and the corresponding slight alteration in some of the superficial characters, I doubt whether in reality more than a single species has hitherto been described. That the *picipes* and *Steveni* are conspecific I have already recorded my suspicion; and I think it very questionable whether the *granulicollis* of Walton is distinct from the latter. Indeed Walton himself regarded it originally as a mere variety of the *picipes*, and afterwards thought that it might be identical with the *Steveni*; and of the three characters on which he founded it, two are literally worthless. Thus, he says it may be known “*by having the head foveolated* [in an example of the *granulicollis* now before me this is scarcely distinguishable, and it is absolutely ignored by Boheman in his diagnosis], *the rostrum slightly incrassated at the apex* [this is confessedly a generic

(Subfam. XIII. HYLOBIIDES.)

Genus 254. PISSODES.

Germar, *Ins. Spec.* 316 (1824).823. *Pissodes notatus*.*Curculio notatus*, *Fab., Mant. Ins.* i. 103 (1787).*Pissodes notatus*, *Schön., Gen. et Spec. Curc.* iii. 258 (1836).— —, *Woll., Ins. Mad.* 347 (1854).— —, *Id., Cat. Mad. Col.* 111 (1857).*Habitat* Maderenses (*Mad., Des.*), in pinetis haud infrequens; forsan ex Europâ introductus.

The European *P. notatus* is rather common in the pine-woods of intermediate elevations in Madeira proper, and it exists likewise in a small patch of firs which have been planted within a comparatively recent period on the summit of the Deserta Grande. Inasmuch therefore as it is clearly a mere introduction into the latter island, I am inclined to suspect that it may perhaps originally have been imported even into Madeira—along with the pines, which have now become large trees, and which clothe a considerable portion of the mountain-slopes in certain districts. It has not yet been detected in the Canaries.

(Subfam. XIV. LIXIDES.)

Genus 255. LIXUS.

Fabricius, *Syst. Ent.* ii. 498 (1775).824. *Lixus anguinus*.*Lixus anguinus*, *Linn., Syst. Nat.* i. ii. 610 (1767).— —, *Schön., Gen. et Spec. Curc.* iii. 11 (1836).— —, *Brullé, in Webb et Berth. (Col.)* 72 (1838).— —, *Woll., Ann. Nat. Hist.* x. 331 (1862).— —, *Id., Cat. Can. Col.* 318 (1864).*Habitat* Maderenses (*Mad.*), et Canarienses (*Can., Ten.*), in inferioribus rarissimus.

feature and one which is equally indicated, according to the sex, in the *picipes*, *Steveni*, and *granulicollis*], and the thorax granulated." This last, of course, has to be duly considered; but I believe that the supposed difference in sculpture is more apparent than real; for even the *picipes* has each of its large punctures furnished internally with a little prominence, or tubercle (out of which arises a short hair), and when the punctures are very closely packed together (as is the case in the smaller individuals) these inner tubercles become a trifle more developed, and give the surface rather more the appearance perhaps of being granulated than punctured. But I am exceedingly dubious as to the value of such a character, which will probably be found to merge *gradatim* into the other.

The *L. anguinus* of Mediterranean latitudes appears to occur, though very rarely, in these Atlantic islands; for although the extremely few specimens which I have yet seen are not very typical ones for the species, I nevertheless can scarcely believe that they represent more than slight geographical modifications of it. Throughout the Madeiran Group indeed only a single individual, found by the late Dr. C. Wolff (near Funchal) in Madeira proper, has hitherto been brought to light; whilst even from the Canaries I have as yet seen but two, both of which were captured by myself—one in the south of Grand Canary, and the other near S^{ta} Cruz in Teneriffe.

825. *Lixus anguiculus*.

Lixus anguiculus et *lineatus*, Schön., *Gen. et Spec. Curc.* iii. 11, 12 (1836).
 ———, Woll., *Cat. Can. Col.* 319 (1864).

Habitat Canarienses (*Fuert.*), rarissimus; à Barone “Castello de Paiva” communicatus.

Two examples of a *Lixus* which were communicated by the Barão do Castello de Paiva from Fuerteventura appeared to me, when compiling my Canarian Catalogue, to accord better with the published description of the *anguiculus* (from Greece, Egypt, &c.) than with the ordinary *anguinus*; and I consequently referred them to the former species. At the same time I cannot regard their identification as quite satisfactorily established, though it seemed pretty evident to me at the time that they could not represent any state of the *anguinus*; so that further material is much required in order to expose their diagnostic features more completely.

It is barely possible that the *Lixus* from *Madeira*, which (on the evidence afforded by a single example) I have identified above with the *anguinus*, may prove ultimately, when more satisfactory material has been obtained, to be referable to the present species.

826. *Lixus cheiranthi*.

Lixus Cheiranthi, Woll., *Ins. Mad.* 349 (1854).
 ———, *Id.*, *Cat. Mad. Col.* 112 (1857).

Habitat Maderenses (*Mad.*), folia plantarum præsertim *Genistæ scopariæ* et *Cheiranthi cheiri*, L., in subinferioribus destruens.

This fine *Lixus* is found at rather low elevations in Madeira proper, or at any rate principally within the cultivated districts,—attaching itself to various plants, such as the common Broom

(*Genista scoparia*, L.) and the Wallflower (*Cheiranthus cheiri*, L.); but it has not yet been observed elsewhere*.

827. *Lixus Chawneri*.

Lixus Chawneri, *Woll., Ins. Mad.* 350 (1854).

— —, *Id., Cat. Mad. Col.* 112 (1857).

— —, *Id., Cat. Can. Col.* 319 (1864).

Habitat Maderenses (*Mad., Pto S^{to}*) et Canarienses (*Fuert.*), plerumque in subinferioribus inter plantas *Arundinis donacis*, L., parce occurrunt.

Found in Madeira proper and Porto Santo, of the Madeiran Group; and I took a single specimen of it at Oliva in Fuerteventura, during my second visit to the Canaries. It occurs for the most part in rather low situations, and often amongst plants of the *Arundo donax*; but whether it is actually attached to that gigantic reed, I have not sufficient evidence for deciding.

828. *Lixus vectiformis*.

Lixus vectiformis, *Woll., Ins. Mad.* 351 (1854).

— —, *Id., Cat. Mad. Col.* 112 (1857).

Habitat Maderenses (*Pto S^{to}*), rarissimus; in aridis calcariis inferioribus specimen unicum collegi.

A single specimen of this *Lixus*, which was taken by myself (during December 1848) in Porto Santo of the Madeiran Group, is all that I have yet seen. It was found in a dry calcareous spot, of a low elevation, on the Campo Debaixo. It has much in common with the *L. Chawneri*; but (so far as I can judge from a solitary example) it appears to be considerably smaller, somewhat narrower, and a trifle more pubescent; its rostrum is relatively shorter; its elytra are more lightly and finely punctate-striate, as well as a little more acuminate (separately) at their apex; and its legs are less thickened.

* The *L. cheiranthi* belongs rather to an Algerian type, and is a good deal allied to the *L. Wagneri* of Lucas. It may readily be known, however, from that insect by its larger size, and by its *coarsely* and *regularly* seriate-punctate elytra; whereas in the latter insect the elytra have only the striæ on either side of the suture deeply impressed, the remainder being extremely fine and almost obsolete. The *cheiranthi* likewise has its rostrum a little thicker than is the case in the *Wagneri*, as also rather more shining, more finely punctured, and totally unkeeled; its prothorax is somewhat more *roughly* sculptured, or variolose, and with the minute intermediate punctules coarser; and its pubescence is altogether more robust.

829. *Lixus rufitarsis*.

Lixus rufitarsis, Schön., *Gen. et Spec. Curc.* iii. 78 (1836).

— —, *Woll., Ins. Mad.* 352 (1854).

— —, *Id., Cat. Mad. Col.* 112 (1857).

Habitat Maderenses (*Mad.*), præcipue in *Carduis* gaudens.

A European *Lixus* which is not uncommon in Madeira proper, where it occurs on Thistles at low and intermediate altitudes; but it has not yet been detected in any of the other islands.

830. *Lixus guttiventris*.

Lixus guttiventris (*Germ.*), Schön., *Gen. et Spec. Curc.* vii. 469 (1843).

— —, *Woll., Cat. Can. Col.* 320 (1864).

Habitat Canarienses (*Lanz., Fuert.*), inter plantas *Arundinis donacis* præcipue sed parce lectus.

A species found in Mediterranean latitudes, and which occurs in Lanzarote and Fuerteventura—the two eastern islands of the Canarian Group. In the former I have captured it near Magui (towards the north of the island), and in the latter off some plants of the *Arundo donax* in the Rio Palmas.

831. *Lixus angustatus*.

Curculio angustatus, *Fab., Syst. Ent.* 135 (1775).

Lixus angustatus, Schön., *Gen. et Spec. Curc.* iii. 43 (1836).

— —, *Woll., Ins. Mad.* 351 (1854).

— —, *Id., Cat. Mad. Col.* 112 (1857).

Habitat Maderenses (*Mad.*), in herbis subinferioribus intermediisque degens.

The European *L. angustatus* is not uncommon in Madeira proper, where it occurs amongst dense vegetation at rather low and intermediate altitudes; but I am not aware that it has been observed in any other of these Atlantic islands. It is true that it is admitted into the meagre and inaccurate list of Coleoptera which was prepared by M. Brullé for MM. Webb and Berthelot's gigantic work; but I have given the reasons in my late Catalogue (*vide* p. 320) why I cannot regard it as Canarian, until at any rate some more conclusive evidence has been obtained. Like the ordinary *Lixi*, it undergoes its transformations within the stalks of plants; and branches of a large *Malva* have lately been communicated by the Barão do Castello de Paiva, found by him near Funchal, which were completely devoured by it,—some examples being in the larva-, some in the pupa-, and others in the perfect state.

(Subfam. XV. CLEONIDES.)

Genus 256. **BOTHYNODERES.**

Schönherr, *Curc. Disp. Meth.* 147 (1826).

832. **Bothynoderes Jekelii.**

Cleonus Jekelii, *Woll., Ann. Nat. Hist.* ix. 441 (1862).

— — —, *Id., Cat. Can. Col.* 320 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), sub lapidibus in aridis inferioribus præsertim submaritimis latens.

Abounds in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group; and I have taken it, at San Juan, in the south-east of Grand Canary. It occurs beneath stones in dry and sandy, or calcareous, spots (and often in subsaline ones)—particularly near the coast.

Genus 257. **CLEONUS.**

Schönherr, *Curc. Disp. Meth.* 145 (1826).

833. **Cleonus Armitagii.**

Cleonus Armitagii, *Woll., Cat. Can. Col.* 321 (1864).

Habitat Canarienses (*Ten.*), rarissimus. Exemplar unicum, A.D. 1848, cepit Rev^{du}s W. J. Armitage; necnon alterum à DD. Crotch, lectum, nuperrime vidi.

A Canarian *Cleonus* which until quite recently was unique, a single example of it having been captured by my late friend the Rev. W. J. Armitage (during the spring of 1848) in Teneriffe; but a second has just been communicated by the Messrs. Crotch, which they met with (at Souzal) in the same island.

834. **Cleonus variolosus.**

Cleonus variolosus, *Woll., Cat. Can. Col.* 323 (1864).

Habitat Canarienses (*Fuert.*), sub lapidibus in inferioribus rarissimus.

Apparently very rare, Fuerteventura being the only island (with the exception of the little adjacent rock of Lobos) in which I have hitherto observed it. Probably, however, it is not purely Canarian; for M. Jekel informs me that it is so nearly allied to an unpublished species from Barbary that he is doubtful whether it is more than a variety of it.

835. *Cleonus tabidus*.

Lixus tabidus, *Oliv.*, *Ent.* v. 83. 262 (1807).

Cleonus tabidus, *Schön.*, *Gen. et Spec. Curc.* ii. 192 (1834).

Cleonis obliqua, *Hart.* [nec *Ill.*], *Geolog. Verhältn. Lanz. und Fuert.* 141.

Cleonus tabidus, *Woll.*, *Cat. Can. Col.* 324 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*, *Can.*, *Ten.*), sub lapidibus in aridis hinc inde vulgaris.

An insect of Mediterranean latitudes which is widely spread over the Canarian Group, but it has not yet been observed in the Madeiras. It occurs for the most part in hot and dry spots of low and intermediate elevations; and it has been captured in Lanzarote, Fuerteventura, Grand Canary, and Teneriffe.

Genus 258. RHYTIDODERES.

Schönherr, *Curc. Disp. Meth.* 149 [script. *Rhytideres*] (1826).

836. *Rhytidoderes siculus*.

Cleonis plicata, *Brullé* [nec *Oliv.*], in *Webb et Berth.* (*Col.*) 72 (1838).

Cleonus siculus (*Dupont*), *Schön.*, *Gen. et Spec. Curc.* vi. 61 (1842).

— *plicatus*, *Woll.*, *Ins. Mad.* 401 (1854).

— —, *Id.*, *Cat. Mad. Col.* 119 (1857).

Cleonis plicata, *Hart.*, *Geolog. Verhältn. Lanz. und Fuert.* 141.

Rhytidoderes siculus, *Woll.*, *Cat. Can. Col.* 325 (1864).

Habitat Maderenses (*Mad.*, *Pto Sto*, *Des.*) et Canarienses (*Lanz.*, *Fuert.*, *Can.*, *Gom.*, *Hierro*), sub lapidibus necnon in rupium fissuris late sed parce diffusus.

Likewise a species of Mediterranean latitudes, and one which is very widely (though sparingly) diffused over these Atlantic islands—in which I have little doubt it will be found ultimately to be universal. It occurs beneath stones, and in crevices of the exposed rocks, in dry spots of low and intermediate elevations; and it has been captured in Madeira proper, Porto Santo, and the Deserta Grande, of the Madeiran Group, as well as in all the Canarian islands except Teneriffe and Palma. In Gomera it was met with by the Messrs. Crotch.

(Subfam. XVI. HYPERIDES.)

Genus 259. ALOPHUS.

Schönherr, *Curc. Disp. Meth.* 166 (1826).

837. *Alophus magnificus*.

Alophus magnificus, *Woll., Cat. Can. Col.* 326 (1864).

Habitat Canarienses (*Ten.*), in editoribus rarissimus.

A noble Canarian Curculionid which appears to be of the greatest rarity, and which has been observed hitherto only at a rather high elevation in Teneriffe. Indeed the very few specimens of it which I have seen were obtained by myself, at the foot of the Organo rocks, in the damp subsylvan district above the Agua Mansa.

838. *Alophus alternans*.

Alophus alternans, *Woll., Append. huj. op.* 50.

Habitat Canarienses (*Gom.*), rarissimus; in montibus excelsis supra Hermigua à DD. Crotch semel captus.

Likewise Canarian, and equally scarce with the last species—which indeed, although abundantly distinct, it may perhaps be regarded as the Gomeran representative. A single example was taken by the Messrs. Crotch at a high elevation, on the mountains above Hermigua, in Gomera.

Genus 260. **HYPERA.**

Germar, *Mag. der Ent.* iv. 335 (1821).

839. *Hypera lunata*.

Phytonomus Dauci, *Brullé, in Webb et Berth. (Col.)* 72 (1838).

Hypera lunata, *Woll., Ins. Mad.* 398 (1854).

— — —, *Id., Cat. Mad. Col.* 118 (1857).

— — —, *Id., Cat. Can. Col.* 326 (1864).

Habitat Maderenses (*Mad., P^{to} Sto, Des.*) et Canarienses (in *Gom.* solâ haud observata), sub lapidibus in aridis præsertim calcariis inferioribus late diffusa.

A *Hypera* of Mediterranean latitudes, which there can be little doubt is universal in these Atlantic Groups—where it occurs in dry spots, whether sandy or calcareous, principally at rather low elevations. It has been taken in all the Madeiran islands except the northern and southern Desertas, and in the whole of the Canarian ones except Gomera.

840. *Hypera irrorata*.

Hypera irrorata, *Woll., Cat. Can. Col.* 327 (1864).

Habitat Canarienses (*Lanz., Fuert.*), sub lapidibus in aridis, vel arenosis vel calcariis, plerumque in inferioribus occurrens.

A large *Hypera* which I have observed hitherto only in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group,—where it occurs sparingly (beneath stones) in sandy and calcareous spots, principally at a low elevation.

841. *Hypera murina*.

Curculio murinus, *Fab., Ent. Syst.* i. ii. 463. (1792).

— *variabilis*, *Hbst, Käf.* vi. 263, tab. 80. f. 1 (1795).

Phytonomus murinus et variabilis, *Schön., Gen. et Spec. Curc.* ii. 383, 384 (1834).

Hypera murina et variabilis, *Woll., Ins. Mad.* 399, 400 (1854).

— — — —, *Id., Cat. Mad. Col.* 118, 119 (1857).

— *variabilis*, *Id., Cat. Can. Col.* 328 (1864).

Habitat Maderenses (in *Ilheo Chão* solâ haud detecta) et Canarienses (ins. *omnes*), in cultis vulgaris; forsâ ex Europâ introducta.

There is no weevil more general throughout these Atlantic Groups than this common and variable European *Hypera*. Indeed I have myself taken it in the whole seven Canarian islands, and in all the Madeiran ones except the northern Deserta (or Ilheo Chão). Yet although thus universal, I have little doubt that it has become gradually naturalized from more northern countries. It occurs for the most part about cultivated grounds, especially corn-fields, at low and intermediate elevations*.

Genus 261. *CONIATUS*.

Germer, *Mag. der Ent.* ii. 340 (1817).

842. *Coniatus tamarisci*.

Curculio tamarisci, *Fab., Mant. Ins.* 113 (1787).

Hypera tamarisci, *Germ., Mag. der Ent.* iv. 337 (1821).

Coniatus tamarisci, *Schön., Gen. et Spec. Curc.* ii. 406 (1834).

— — —, *Woll., Cat. Can. Col.* 328 (1864).

Habitat Canarienses (*Can.*), foliis *Tamaricis gallicæ* gaudens.

The *C. tamarisci* of Mediterranean latitudes occurs on shrubs of the *Tamarix gallica*, at low and intermediate elevations, in Grand Canary; but I have not yet observed it in any of the other islands.

* The two forms which stand in collections (as species) under the names of *murina* and *variabilis* are alike indicated at the Madeiras and Canaries, and indeed they were formerly treated by myself as specifically distinct. Nevertheless I am now quite satisfied that they merge gradually into each other, and therefore I will not attempt any longer to uphold them. I have consequently been compelled to cite the insect under the title of *murina*, on account of its being prior in publication to that of *variabilis*.

(Subfam. XVII. SYNAPTONICIDES.)

Genus 262. **ECHINOSOMA.**Wollaston, *Ins. Mad.* 395 (1854).843. **Echinosoma porcellus.**

Echinosoma porcellus, *Woll., Ins. Mad.* 396, tab. viii. f. 5 (1854).
 — —, *Id., Cat. Mad. Col.* 118 (1857).

Habitat Maderenses (*Mad.*), in lauretis humidis editioribus sub lapidibus lignoque putrido rarissimum.

Apparently peculiar to the damp sylvan districts of Madeira proper, at a rather high elevation, especially in the north of the island. It is however extremely rare, occurring beneath stones and moist logs of wood.

(Subfam. XVIII. PLINTHIDES.)

Genus 263. **PLINTHUS.**Germar, *Ins. Spec.* 327 (1824).844. **Plinthus musicus.**

Plinthus musicus, *Woll., Ann. Nat. Hist.* vi. 18 (1860).
 — —, *Id., Cat. Can. Col.* 329 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis humidis editioribus præcipue degens.

A large *Plinthus* which has been observed only at intermediate and lofty elevations in Teneriffe, particularly however within the sylvan districts. From about 2000 to 4000 feet above the sea is its normal range; nevertheless it ascends occasionally to a much higher altitude, for I have taken it sparingly amongst the Retamas on the Cumbre above the Agua Mansa.

845. **Plinthus velutinus.**

Plinthus velutinus, *Woll., Ann. Nat. Hist.* vi. 19 (1860).
 — —, *Id., Cat. Can. Col.* 329 (1864).

Habitat Canarienses (*Ten.*), in montibus excelsis usque ad 8000' s. m., vel etiam ultra, ascendens.

Likewise a Teneriffan *Plinthus*, but one which seems to ascend to a still higher altitude than the *musicus*—or, at any rate, which never descends so completely into the sylvan districts. The few

specimens which I have seen were captured by myself on the two elevated Cumbres—above the Agua Mansa, and adjoining the Canãadas, respectively.

846. *Plinthus cucullus*.

Plinthus cucullus, *Woll., Cat. Can. Col.* 330 (1864).

Habitat Canarienses (*Can.*), in lauretis subeditioribus semel captus.

A single example of this *Plinthus*, taken by myself in the laurel-district of Grand Canary between Osorio and Guia, embodies all that I yet know about the species. And since that one presents no very important characteristics of its own (even though readily appreciable), it is clear that further material is much required in order to enable us to ascertain whether the *P. cucullus* should be treated as any insular modification of either the *velutinus* or the *musicus*—between which it would appear, perhaps, in some respects, to be intermediate.

(Subfam. XIX. MOLYTIDES.)

Genus 264. **XENOMICRUS.**

Wollaston, *Cat. Can. Col.* 331 (1864).

847. *Xenomicrosus apionides*.

Xenomicrosus apionides, *Woll., Cat. Can. Col.* 331 (1864).

Habitat Canarienses (*Ten., Palma*), in lauretis humidis editioribus sat rarus.

Peculiar apparently to the damp sylvan districts, of a rather high altitude, in the Canarian Group. I have taken it sparingly, from amongst dense vegetation, in Teneriffe and Palma,—namely, on the wooded mountains above Taganana in the former, and in the Baranco da Agua of the latter.

(Subfam. XX. RHYTIDORHINIDES.)

Genus 265. **GRONOPS.**

Schönherr, *Curc. Disp. Meth.* 157 (1826).

848. *Gronops lunatus*.

Curculio lunatus, *Fab., Syst. Ent.* 148 (1775).

Rhynchænus costatus, *Gyll., Ins. Succ.* iii. 89 (1813).

Gronops lunatus, Schön., *Gen. et Spec. Curc.* ii. 253 (1834).

—— —, *Woll., Cat. Can. Col.* 332 (1864).

Habitat Canarienses (*Lanz., Fuert., Ten.*), sub lapidibus scoriisque in aridis inferioribus submaritimis hinc inde congregans.

The common European *G. lunatus*, although extremely local, is occasionally abundant in Lanzarote and Fuerteventura—the two eastern islands of the Canarian Group, where it congregates beneath stones and scoriæ in low arid spots near the coast. It seems to exist likewise, though much more rarely, in Teneriffe; for I captured a single specimen of it in one of the streets at S^{ta} Cruz.

Genus 266. **RHYTIDORHINUS.**

Schönherr, *Curc. Disp. Meth.* 162 [script. *Rhytirhynchus*] (1826).

849. *Rhytidorhinus brevitarsis*.

Rhytidorhinus brevitarsis, *Woll., Cat. Can. Col.* 333 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in iisdem locis ac *Gronops lunatus*.

Found in Lanzarote and Fuerteventura, in precisely the same kind of places as the *Gronops lunatus*—indeed often in company with it; and I met with it even on the little island of Lobos, off the extreme north of the latter. It is closely allied to the *R. crispatus* from the south of Spain, and may be regarded as the Canarian representative of that insect; nevertheless its shorter limbs (the tarsi especially being very much more abbreviated) will, apart from minor differences, at once separate it therefrom.

(Subfam. XXI. BRACHYCERIDES.)

Genus 267. **BRACHYCERUS.**

Fabricius, *Syst. Eleu.* ii. 412 (1801).

850. *Brachycerus opacus*.

Brachycerus opacus, *Woll., Cat. Can. Col.* 334 (1864).

Habitat Canarienses (*Lanz.*), rarissimus; semel tantum repertus.

A Canarian *Brachycerus* of excessive rarity, a single specimen which I obtained (on the hills above Haria) in the north of Lanzarote being all that I have yet seen of it. It is, moreover, the only member of the genus which has been detected hitherto in these Atlantic islands.

(Subfam. XXII. LAPAROCERIDES.)

Genus 268. ATLANTIS.

Wollaston, *Ins. Mad.* 361 (1854).(Subgenus *Amphora*, *Woll.*)851. *Atlantis canariensis*.*Laparocerus canariensis* (*Chevr.*), *Schön., Gen. et Spec. Curc.* vii. 228 (1843).*Atlantis canariensis*, *Woll., Cat. Can. Col.* 336 (1864).*Habitat* Canarienses (*Ten.*), ultra regiones sylvaticas usque ad 9000' s. m. ascendens. Sub lapidibus scoriisque inter arbusculas *Spartii nubigenæ* tempore vernali abundat.

This singular Canarian Cureulionid, so remarkable for the construction of its eyes and rostral *scrobs*, and for the strongly carinated pronotum of its female sex, seems to be peculiar to the higher elevations of Teneriffe (beyond the upper limits of the sylvan districts)—where it abounds, during the spring months, beneath stones and scoræ on the lofty Cumbres from about 7000 to 9000 feet above the sea.

(Subgenus *Canopus*, *Woll.*)852. *Atlantis subnebulosa*.*Atlantis subnebulosa*, *Woll., Cat. Can. Col.* 337 (1864).*Habitat* Canarienses (*Can.*), semel tantum deprehensa.

Hitherto unique, a single example which I obtained in Grand Canary being all that I have yet seen of the species. Although allied in general contour to the *tibialis*, I scarcely think that it can be regarded as any insular modification of that insect.

853. *Atlantis tibialis*.*Atlantis tibialis*, *Woll., Cat. Can. Col.* 338 (1864).*Lichenophagus incomptus*, *Id., Append. huj. op.* 55.*Habitat* Canarienses (*Ten., Palma, Hierro*), sub lapidibus scoriisque præcipue in aridis inferioribus degens.

A large and black species which is probably universal throughout at any rate the central and western portions of the Canarian archipelago, where it occurs beneath stones and scoræ—generally in dry

spots of a rather low altitude. I have taken it in Teneriffe and Palma; and it was found in Hierro by the Messrs. Crotch.

854. *Atlantis tetrica*.

Eremnus tetricus, Schön., *Gen. et Spec. Curc.* ii. 542 (1834).

Otiorhynchus simplex, Brullé, in *Webb et Berth. (Col.)* 71 (1838).

Laparocerus tetricus, Schön., *Gen. et Spec. Curc.* vii. 228 (1843).

Atlantis tetrica, Woll., *Cat. Can. Col.* 338 (1864).

Habitat Canarienses (*Ten.*), in inferioribus vel sub lapidibus vel in plantarum bifurcationibus parce latens.

Likewise Canarian, but observed hitherto only in Teneriffe, and only at rather low elevations around S^{ta} Cruz. It is much allied to the last species; but the many constant characters which separate it therefrom have been fully pointed out in my diagnosis.

855. *Atlantis Grayana*.

Atlantis angustula, Woll., *Ann. Nat. Hist.* xi. 219 (1863).

—— —, *Id.*, *Cat. Can. Col.* 240 (1864).

Habitat Canarienses (*Can.*), sub lapidibus in inferioribus intermedisque occurrens.

Found only, so far as observed hitherto, in Grand Canary—where it is widely diffused, though apparently nowhere abundant, at low and intermediate altitudes.

The *Omius angustulus* of my Madeiran Catalogue having been removed into the genus *Atlantis*, of which it appears to be scarcely more than one of the smaller members, I have been compelled to change the title of the present species; and I have much pleasure in dedicating it to my friend John Gray, Esq., in whose yacht I first visited the Canaries, and whose indefatigable researches (in conjunction with my own) commenced the collection which has since been gradually accumulating until it has at length enabled me to prepare an *approximate* fauna of the Coleoptera of that Group.

(*Atlantides typicæ*.)

856. *Atlantis lamellipes*.

Atlantis lamellipes, Woll., *Ins. Mad.* 364, tab. vii. f. 5 (1854).

—— —, *Id.*, *Cat. Mad. Col.* 113 (1857).

Habitat Maderenses (*Mad.*), in editioribus præsertim sylvaticis hinc inde vulgaris.

Peculiar to the higher elevations of Madeira proper, where it attains its maximum on the upper limits of the sylvan districts—being locally abundant.

857. *Atlantis calcatrix*.

Atlantis calcatrix, *Woll., Ins. Mad.* 366 (1854).

— —, *Id., Cat. Mad. Col.* 113 (1857).

Habitat Maderenses (*Mad.*), in locis similibus ac præcedens sed rarior.

Likewise peculiar to the sylvan districts of Madeira proper, but evidently much rarer than the *A. lamellipes*. Indeed of its *male* sex I have seen hitherto but a single example; and therefore, since the structure of the tibiæ of the male embodies the chief characteristics of the species, it is evident that further material is much needed in order to ascertain positively that the type (now in the British Museum) from which my original diagnosis was drawn out is a normal one of its kind.

858. *Atlantis noctivagans*.

Atlantis noctivagans, *Woll., Ins. Mad.* 367 (1854).

— *lauripotens et australis*, *Id., ibid.* 369, 370 (1854).

— *noctivagans*, *Woll., Cat. Mad. Col.* 114 (1857).

Habitat Maderenses (*Mad.*), folia laurorum in intermediis editioribusque destruens.

Like the last two species, attached to the sylvan districts of Madeira proper, though (on the average) with a considerably lower range; for it descends to a comparatively slight elevation, whilst at the same time ascending quite as high as either of them. It appears to subsist on the foliage of the native laurels, a mode of life which we may be pretty sure obtains equally with the *lamellipes* and *calcatrix*. It is an extremely variable insect, presenting many appreciable modifications according to the altitude and locality in which it occurs; and it is just possible indeed (though, I think scarcely probable) that more than a single species may perhaps be included amongst the several slightly different forms which I am now disposed to regard as mere unimportant states of the *noctivagans*, but two of which I had myself treated originally as distinct.

859. *Atlantis vespertina*.

Laparocerus piceus?, *Schön., Gen. et Spec. Curc.* ii. 531 (1834).

Atlantis vespertinus, *Woll., Ins. Mad.* 371, tab. vii. f. 4 (1854).

— —, *Id., Cat. Mad. Col.* 114 (1857).

Habitat Maderenses (*Mad.*), præcipue in locis valde elevatis apertis graminosis sub lapidibus vulgatissima.

A common *Atlantis* in the higher regions of Madeira proper, occurring beneath stones on the grassy mountain-slopes (for the most part above the upper limits of the sylvan districts) and ascending to the summits of the peaks.

I think it very likely that this *Atlantis* is coincident with the *Laparocerus piceus* of Schönherr; for both that species and the *L. morio* appear to have been described from examples supplied by Faldermann, who seems either to have collected in Madeira or else to have obtained insects from there; whilst the fact of their *both* being recorded for "Portugal," a *habitat which is now acknowledged to be erroneous as regards the latter*, is only in keeping with that excessive confusion on the subject of *localities* which is unfortunately so prevalent amongst the majority of continental entomologists. I need scarcely add that if it should prove hereafter to be identical with the *piceus*, that name will of course have the priority.

860. *Atlantis lanata*.

Atlantis lanatus, *Woll., Ins. Mad.* 372, tab. vii. f. 6 (1854).

— —, *Id., Cat. Mad. Col.* 114 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus in regionibus minus elevatis parce occurrens.

Found likewise in Madeira proper, but at a considerably lower elevation than the preceding species—occurring for the most part in barren spots *below* the sylvan districts.

861. *Atlantis navicularis*.

Atlantis navicularis, *Woll., Ins. Mad.* 374 (1854).

— —, *Id., Cat. Mad. Col.* 114 (1857).

Habitat Maderenses (*P^{to} S^{to}*), in inferioribus arenosis submaritimis rarior.

Observed hitherto only in Porto Santo of the Madeiran Group, where I have taken it sparingly about the slopes and low hillocks of drifted sand immediately behind the southern beach.

862. *Atlantis inconstans*.

Atlantis inconstans, *Woll., Ins. Mad.* 375 (1854).

— —, *Id., Cat. Mad. Col.* 115 (1857).

Habitat Maderenses (*P^{to} S^{to}*), in locis similibus ac præcedens.

Also a Porto-Santan *Atlantis*, and one which is found in exactly

the same sort of places (adjoining the southern beach) as the last species.

863. *Atlantis mendax*.

Atlantis mendax, *Woll., Ins. Mad.* 376 (1854).

— —, *Id., Cat. Mad. Col.* 115 (1857).

Habitat Maderenses (*P^{to} S^{to}*), in arenosis inferioribus submaritimis inter plantas ibidem crescentes parce occurrens.

Apparently peculiar, likewise, to Porto Santo of the Madeiran Group, where it occurs about various plants on the drifted sand-hills behind the sea-beach on the southern side of that island.

864. *Atlantis instabilis*.

Atlantis instabilis, *Woll., Ins. Mad.* 377 (1854).

— —, *Id., Cat. Mad. Col.* 115 (1857).

Habitat Maderenses (*P^{to} S^{to}, Ilheo Chão?, Bugio?*), sub lapidibus in clivis saxosis paululum elevatis latens.

Inhabits Porto Santo, like the preceding three species, but found usually at a rather higher elevation—beneath stones on the rocky slopes and headlands, for the most part towards the northern coast. I suspect that it occurs also in the Desertas; for on the Ilheo Chão and Bugio I met with some mutilated examples of an *Atlantis* which I believe are referable to the *instabilis*.

865. *Atlantis excelsa*.

Atlantis excelsus, *Woll., Ins. Mad.* 378 (1854).

— —, *Id., Cat. Mad. Col.* 115 (1857).

Habitat Maderenses (*Mad.*), per atque etiam supra regiones sylvaticas.

Widely spread over the sylvan districts of Madeira proper, and ascending likewise even somewhat above them—being occasionally common under stones in comparatively open, grassy spots of a rather lofty altitude.

866. *Atlantis Schaumii*.

Atlantis Schaumii et Foræ, *Woll., Ins. Mad.* 379, 380 (1854).

— —, *Id., Cat. Mad. Col.* 115 (1857).

Habitat (*Mad., P^{to} S^{to}*), sub lapidibus hinc inde congregans.

Found on the Ponta de São Lourenço of Madeira proper—the low rocky promontory in the east of that island—as also on the summit of the Pico do Castello in Porto Santo. It would seem, consequently, to be attached to the eastern parts of the Madeiran Group.

867. *Atlantis angustula*.

Omius angustulus, *Woll., Cat. Mad. Col.* 116 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus in graminosis apertis editioribus rarissima.

The only two examples which I have yet seen of this *Atlantis* were captured at a high elevation in Madeira proper—beneath stones, on the grassy slopes of the mountains above Funchal. The species is closely allied to the *ventrosa*; and although I believe it to be truly distinct, its diagnosis can scarcely be regarded as satisfactorily established until further material has been obtained for comparison.

868. *Atlantis ventrosa*.

Omius ventrosus, *Woll., Ins. Mad.* 382 (1854).

— — —, *Id., Cat. Mad. Col.* 115 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus in graminosis apertis editioribus usque ad summos montes ascendens.

A common insect in the higher elevations of Madeira proper—where it is found beneath stones on the grassy mountain-slopes (principally above the sylvan districts), ascending to the very summits of the peaks. During the winter and spring it often occurs in great profusion—in company with the *Atlantis vespertina*, the *Tarus Maderæ*, the *Anthicus Lubbockii*, and certain other species of those upland tracts.

869. *Atlantis ænescens*.

Omius ænescens, *Woll., Ins. Mad.* 383 (1854).

— — —, *Id., Cat. Mad. Col.* 115 (1857).

Habitat Maderenses (*Mad.*), in locis similibus ac præcedens sed multo rarior.

Found in the higher altitudes of Madeira proper, in the same kind of places as the last species—indeed often in company with it, though very much the rarer of the two. It is indeed most closely allied to the *ventrosa*—from which it principally differs in being (on the average) a little smaller, as well as a little more shining and subænescent, in its prothorax (which is a trifle more cylindrical, or less rounded at the sides) being somewhat more deeply and less densely punctured, in its eyes being just perceptibly less prominent, and in its limbs being usually rather more rufescent and robust. The erect additional hairs, also, of its elytra are generally softer and longer than those of the *ventrosa*.

870. *Atlantis Waterhousei*.

Omius Waterhousei, *Woll., Ins. Mad.* 384, tab. vii. f. 8 (1854).

— —, *Id., Cat. Mad. Col.* 116 (1857).

Habitat Maderenses (*Mad., Des.*), sub lapidibus in intermediis sæpius latens.

Not uncommon, beneath stones, in the intermediate altitudes of Madeira proper and the Deserta Grande; but it has not yet been detected in any of the other islands.

Genus 269. *CYPHOSCELIS*.

Wollaston, *Ins. Mad.* 356 (1854).

871. *Cyphoscelis distorta*.

Cyphoscelis distorta, *Woll., Ins. Mad.* 556, tab. vii. f. 2 (1854).

— —, *Id., Cat. Mad. Col.* 113 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis humidis editioribus rarissima.

This remarkable Curculionid, so singular in the structure of the tibiæ of its male sex, appears to be confined to the damp wooded districts of a high elevation in Maderia proper—where moreover it is extremely rare.

Genus 270. *LAPAROCERUS*.

Schönherr, *Gen. et Spec. Curc.* ii. 530 (1834).

872. *Laparocerus clavatus*.

Atlantis clavatus, *Woll., Ins. Mad.* 363, tab. vii. f. 3 (1854).

— —, *Id., Cat. Mad. Col.* 113 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus in graminosis plerumque valde elevatis necnon etiam in rupium fissuris parcissime latens.

Likewise peculiar to Madeira proper, and extremely scarce, but with a still higher range (on the average) than even the *Cyphoscelis distorta*—occurring beneath stones in exposed grassy places, as well as within the fissures of the rocks, at a very lofty elevation, above the sylvan districts.

873. *Laparocerus undulatus*.

Laparocerus undulatus, *Woll., Ann. Nat. Hist.* x. 332 (1862).

— —, *Id., Append. huj. op.* 51.

Habitat Maderenses (*Mad.*), in montibus valde excelsis semel captus.

The only example which I have yet seen of this insect was cap-

tured by myself at a high elevation (I believe at the Fanal) on the mountains of Madeira proper. In their comparatively narrow, elongate, apically subdiluted rostra the present species and the preceding one are somewhat removed from the other *Laparoceri* here enumerated, and are thus far allied *inter se*; nevertheless the *undulatus* is not only larger than the *clavatus*, and of a different colour (its legs being dark instead of testaceous, and its pubescence more or less opal, or greenish-cinereous, instead of golden-brown), but its head and rostrum also are nearly unsculptured, its eyes are a little larger, more oval, and less prominent, its prothorax is very much more deeply and sparingly punctured, and more uneven on the hinder disk, and the first joint of its funiculus is perceptibly longer than the second. The sexual characters, likewise, of the legs (as indicated in my diagnosis) appear to be different in the two species.

874. *Laparocerus morio*.

Laparocerus morio, Schön., *Gen. et Spec. Curc.* ii. 351 (1834).

— —, Woll., *Ins. Mad.* 300, tab. vii. f. 1 (1854).

— —, *Id.*, *Cat. Mad. Col.* 113 (1857).

— —, *Id.*, *Cat. Can. Col.* 341 (1864).

Habitat Maderenses (ins. *omnes*), ab orâ maritimâ usque ad summos montes copiosissime ascendens; Salvages? (ins. *majorem*? borealem) et Canarienses? (*Ten.*?, *Gom.*?), sub lapidibus congregans.

The universal *Laparocerus* of the Madeiran Group, abounding on every island and rock—from the sea-level to the summits of the peaks. I have not myself detected it at the Canaries, nor was it included in the extensive material of the Messrs. Crotch, neither was it met with by Messrs. Gray, Lowe, Hartung, Perraudière, or Webb and Berthelot; so that I can scarcely believe that it extends beyond the limits of the Madeiran archipelago. Yet two specimens were communicated by the Barão do Castello de Paiva, one of which was professedly from Teneriffe and the other from Gomera, differing in no appreciable particular from the ordinary Madeiran type. And since moreover the Baron Paiva's Canarian Coleoptera were all sent to me (at intervals) *from Madeira*, I cannot but feel a little doubtful whether the examples referred to may not have found their way into his boxes by some unintentional mistake. At any rate I think that further evidence must certainly be obtained before the *L. morio* should be regarded as even *probably* existing at the Canaries.

The same remark will apply, *but scarcely with equal force*, to certain specimens which the Baron Paiva has also communicated as

having been received by him from the Salvages; though I must add that I think it is far *more* likely that the *L. morio* should occur on those remote (intermediate) rocks than in the Canaries, where so many naturalists have failed entirely to detect any traces of it. Yet, considering that the Coleoptera obtained at the Salvages *were brought to Funchal* before they were delivered to the Baron Paiva, and likewise that they were kept there for some time by the latter before they were transmitted to me in England, I consider it safer to query the species for *those islands also*—even whilst feeling it far from improbable that the specimens may truly have come from thence.

875. *Laparocerus sculptus*.

Otiorhynchus sculptus, *Brullé, in Webb et Berth. (Col.) 71 (1838).*
Laparocerus sculptus, *Woll., Cat. Can. Col. 341 (1864).*

Habitat Canarienses (*Palma*), in lauretis humidis editioribus rarissimus.

A large Canarian species which I have observed hitherto only in the island of Palma, where it appears to be rare and to occur in the damp sylvan districts of a rather high elevation.

876. *Laparocerus undatus*.

Laparocerus undatus, *Woll., Cat. Can. Col. 342 (1864).*

Habitat Canarienses (*Ten.*), rarissimus; in locis similibus ac præcedens.

Likewise a very large species, and Canarian,—the few examples which I have seen having been captured by myself in Teneriffe, in the damp laurel-woods on the mountains above Taganana.

877. *Laparocerus excavatus*.

Laparocerus excavatus, *Woll., Ann. Nat. Hist. xi. 219 (1863).*
 ———, *Id., Cat. Can. Col. 343 (1864).*

Habitat Canarienses (*Ten., Gom.*), in intermediis editioribusque præsertim sylvaticis humidis occurrens.

A large and black Canarian *Laparocerus* which is found in the damp sylvan regions of Teneriffe and Gomera, in the latter of which islands it has been met with lately by the Messrs. Crotch. It is a variable insect in nearly all its characters—being either shining or comparatively opaque, bald or conspicuously studded on its elytra with remote hairs, with the punctures of its interstices either large

or small, and with its sexual peculiarities (which consist in the scooping-out of the anterior tibiæ, and the serrations of the hinder pair) *more or less* expressed. Amongst the many phases thus assumed, I have tried hard to find the indications of a second species; but after a careful comparison of individuals from many different localities and altitudes, it appears to me that the several states above alluded to pass so completely into each other that it is quite impossible to treat any of them as of specific importance. In a general sense, however, those examples in which the surface is duller, and in which the interstitial punctures are more minute and the tibiæ of the males less excavated (or, in other words, in which the essential characteristics of the species are *less pronounced*), may be regarded as falling under the "var. β . *lugubris*" of my diagnosis.

Three Gomeran individuals which are now before me are such thorough exponents of this last-mentioned state that, if taken alone, they might well be cited as specifically distinct; but when examined in conjunction with others from Teneriffe, I am satisfied that they have no claim whatever for separation. Of the Teneriffan examples, those from the laurel-woods on the mountains towards the north-east of the island (in the direction of Las Mercedes, Taganana, and Point Anaga) seem to have their specific features most exaggerated; whilst those from the Agua Garcia, and above Ycod el Alto, are appreciably somewhat more on the Gomeran (or "var. β . *lugubris*") type.

878. *Laparocerus grossepunctatus*.

Laparocerus grossepunctatus, Woll., *Cat. Can. Col.* 344 (1864).

Habitat Canarienses (*Ten.*), in locis similibus ac præcedens sed rarior.

Found under similar circumstances, and in the same district at Teneriffe, as the last species—the only two examples which I have seen having been captured by myself on the laurel-clad mountains above Taganana.

879. *Laparocerus squamosus*.

Otiorhynchus squamosus, Brullé, in *Webb et Berth.* (*Col.*) 71 (1838).

Laparocerus squamosus, Woll., *Cat. Can. Col.* 344 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis intermediis rarissimus.

Likewise found in the sylvan districts of intermediate elevations in Teneriffe, and a species of which I have captured but few examples. Further material, therefore, is much wanted, in order to complete

our knowledge of its characters and to enable us to trace out the limits of its variation.

880. *Laparocerus crassirostris*.

Laparocerus crassirostris, *Woll., Cat. Can. Col.* 345 (1864).

Habitat Canarienses (*Can.*), in pineto quodam excelso semel captus.

The only specimen hitherto detected of this distinct *Laparocerus* I captured at a high elevation on the mountains of Grand Canary, in a lofty Pinal of the central district of Tarajana.

881. *Laparocerus crassifrons*.

Laparocerus crassifrons, *Woll., Ann. Nat. Hist.* xi. 220 (1863).

— — —, *Id., Cat. Can. Col.* 346 (1864).

Habitat Canarienses (*Ten.*), sub lapidibus scoriisque in montibus valde elevatis occurrens. Usque ad 9000' s. m. ascendit.

Peculiar apparently to the very lofty regions of Teneriffe, above the sylvan districts, which are characterized by the presence of the *Spartium nubigena* (or "Retama"). I met with it abundantly during the spring of 1859, beneath stones and scoriæ, on the Cumbre adjoining the Cañadas, as well as on the opposite ridge above the Agua Mansa.

882. *Laparocerus scapularis*.

Laparocerus scapularis, *Woll., Cat. Can. Col.* 347 (1864).

Habitat Canarienses (*Ten.*), in iisdem locis ac præcedens—sub lapidibus inter arbusculas *Spartii nubigenæ* humi jacentibus latens.

Found, in company with the *L. crassifrons*, on the lofty Cumbres of Teneriffe, which are more or less clothed with the shrubs of the Retama. It is however less abundant than that species, and ascends perhaps to even a higher elevation still.

883. *Laparocerus æthiops*.

Laparocerus æthiops, *Woll., Cat. Can. Col.* 347 (1864).

Habitat Canarienses (*Hierro*), sub lapidibus in graminosis editioribus apertis lectus.

Taken (beneath stones) in Hierro, the most western of the Canarian Group,—on the open grassy Cumbre, immediately above the descent into El Golfo, which forms the extreme summit of that island.

884. *Laparocerus hirtus*.

Laparocerus hirtus, *Woll., Cat. Can. Col.* 348 (1864).

Habitat Canarienses (*Can.*), in editoribus semel deprehensus.

A single example, taken by myself at a high altitude on the mountains of Grand Canary, embodies all that I yet know about this *Laparocerus*; and although I believe it to be truly distinct from the *inæqualis*, further material would nevertheless be desirable in order to ascertain for certain that it is no insular modification of that species.

885. *Laparocerus inæqualis*.

Laparocerus inæqualis, *Woll., Ann. Nat. Hist.* xi. 220 (1863).

— — —, *Id., Cat. Can. Col.* 348 (1864).

Habitat Canarienses (*Ten.*), in lauretis humidis editoribus minus frequens.

A Canarian species which is peculiar (so far as I have observed hitherto) to the damp laurel-districts of Teneriffe, where I have brushed it off rank vegetation on the densely wooded mountains above Taganana.

886. *Laparocerus globulipennis*.

Laparocerus globulipennis, *Woll., Cat. Can. Col.* 349 (1864).

Habitat Canarienses (*Palma*), in locis similibus ac præcedens rarissimus.

Likewise Canarian, and found in much the same sort of places as the last species—only in Palma instead of Teneriffe. It appears to be extremely rare, two specimens which were taken by myself in the Barranco de Galga being all that I have yet seen.

887. *Laparocerus occidentalis*.

Laparocerus occidentalis, *Woll., Cat. Can. Col.* 350 (1864).

Habitat Canarienses (*Hierro*), in sylvaticis humidis excelsis semel captus.

Hitherto unique—a single example having been taken by myself at a high elevation in the sylvan district of Hierro, the most western island of the Canarian Group. Although apparently quite distinct *inter se*, the present species and the three preceding ones belong to much the same *type* of form; and they may perhaps be regarded as the representatives of each other in their respective islands.

888. *Laparocerus obtriangularis*.

Laparocerus obtriangularis, *Woll., Cat. Can. Col.* 351 (1864).

Habitat Canarienses (*Ten.*), rarissimus; in sylvaticis editioribus humidis semel tantum repertus.

A single (female) example of this Canarian *Laparocerus* is all that I have yet seen of the species. It was taken by myself in the intermediate districts of Teneriffe—I believe, at the Agua Mansa. Although thoroughly distinct from everything else here enumerated, its diagnosis can scarcely be regarded as complete until the male sex has also been examined.

889. *Laparocerus ellipticus*.

Laparocerus ellipticus, *Woll., Ann. Nat. Hist.* xi. 220 (1863).

— — —, *Id., Cat. Can. Col.* 351 (1864).

Habitat Canarienses (*Ten., Gom., Palma*), vel sub cortice laxo vel inter muscos et lichenes ad truncos arborum nascentes in sylvaticis editioribus latitans.

A large and curious *Laparocerus* which is widely spread over the central and western islands of the Canarian archipelago, where it occurs in the sylvan districts of intermediate and lofty altitudes. I have taken it in Teneriffe and Palma; and it was found by the Messrs. Crotch, during the summer of 1864, in Gomera.

890. *Laparocerus inflatus*.

Laparocerus inflatus, *Woll., Append. huj. op.* 51.

Habitat Canarienses (*Gom.*). à DD. Crotch semel deprehensus.

A single specimen of this large and distinct *Laparocerus* was taken by the Messrs. Crotch in the sylvan districts of Gomera, during their late Canarian campaign.

891. *Laparocerus lepidopterus*.

Laparocerus lepidopterus, *Woll., Cat. Can. Col.* 352 (1864).

Habitat Canarienses (*Can.?, Ten., Palma, Hierro*), in intermediis sylvaticis, passim.

Widely (though sparingly) diffused over the sylvan districts in the Canarian Group, where it occurs at intermediate and lofty elevations. I have captured it in Teneriffe, Palma, and Hierro; in the last of which it was found likewise by the Messrs. Crotch. I also met

with a single example at a high altitude in Grand Canary, which I believe is referable to the *lepidopterus*; nevertheless as I cannot decide positively until further material has been obtained, I have thought it safer to query its existence in that island.

892. *Laparocerus rasmus*.

Laparocerus rasmus, *Woll., Cat. Can. Col.* 354 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in montibus parce degens.

Apparently peculiar to Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group, where it occurs sparingly at intermediate and lofty elevations.

893. *Laparocerus seniculus*.

Laparocerus seniculus, *Woll., Cat. Can. Col.* 353 (1864).

Habitat Canarienses (*Can.*), in inferioribus parcissime lectus.

Two examples, which I captured near Las Palmas in Grand Canary, embody all that I yet know about this *Laparocerus*; and further material, therefore, is much required in order to complete our knowledge of the species. I believe however that it is truly distinct from everything else here enumerated, though probably belonging to much the same type of form as the *subopacus*, *mendicus*, and *obscurus*.

894. *Laparocerus subopacus*.

Laparocerus subopacus, *Woll., Append. huj. op.* 52.

Habitat Canarienses (*Gom.*), in locis valde elevatis à DD. Crotch parce repertus.

Taken sparingly by the Messrs. Crotch (during their late expedition to the Canaries) at a very high altitude in Gomera, "by beating plants of *Sedum*, above Hermigua, on Monte Fuerte." As stated in the Appendix to this volume, it may be regarded as the Gomeran representative of the *obscurus* (from Teneriffe), of the *mendicus* (from Hierro), and perhaps also of the *seniculus* (from Grand Canary), although abundantly distinct from those species.

895. *Laparocerus obscurus*.

Laparocerus obscurus, *Woll., Cat. Can. Col.* 355 (1864).

Habitat Canarienses (*Ten.*); semel tantum lectus.

The only example of this *Laparocerus* which has hitherto come beneath my notice I captured in Teneriffe ; but unfortunately I cannot recall the precise locality. I stated, however, in my Canarian Catalogue, that it was *probably* from the neighbourhood either of Orotava or S^{ta} Cruz. This may be so ; nevertheless, from its evident affinity to the *subopacus* (which was taken at a very lofty elevation in Gomera) and the *mendicus* (which is found on the Cumbre in Hierro), I am now inclined to suspect that I must have met with it in some higher district.

896. *Laparocerus mendicus*.

Laparocerus mendicus, Woll., *Cat. Can. Col.* 355 (1864).

Habitat Canarienses (*Hierro*), sub lapidibus in montosis graminosis non infrequens.

Observed as yet only on the mountains in Hierro, the most western of the Canarian Group, where I have captured it beneath stones in open spots, both in the vicinity of Valverde and on the grassy Cumbre which forms the summit of the island to the south of San André.

897. *Laparocerus gracilis*.

Laparocerus gracilis, Woll., *Cat. Can. Col.* 356 (1864).

Habitat Canarienses (*Gom.*), in clivis saxosis inferioribus ad folia *Chrysanthemi frutescentis*, L., captus.

A slender and very distinct species which was captured by Mr. Gray and myself in Gomera, during our visit to the Canaries in the winter of 1858. It was taken on the rocky slopes of the low mountain-ridge immediately outside, and to the north of, San Sebastian ; and it appeared to be attached to the plants of the *Chrysanthemum frutescens*, known locally as the "Magarza."

898. *Laparocerus dispar*.

Laparocerus dispar, Woll., *Cat. Can. Col.* 357 (1864).

Habitat Canarienses (*Lanz.*), sub lapidibus in aridis saxosis inferioribus rarissimus.

A rather small Canarian *Laparocerus* (remarkable for the great dissimilarity of its sexes) which has been observed hitherto only in the extreme north of Lanzarote—on the rocky ground between the Salinas and the Risco ; and probably, therefore, it is extremely scarce.

899. *Laparocerus debilis*.

Laparocerus debilis, *Woll., Append. huj. op.* 53.

Habitat Canarienses (*Ten.*), à DD. Crotch semel deprehensus.

A single example of this *Laparocerus* (from which my diagnosis, given in the Appendix, has been drawn up) was captured by the Messrs. Crotch in Teneriffe, during their late expedition to the Canaries; and although it seems to be perfectly distinct from everything else here enumerated, it is evident that further material must be obtained before our knowledge of the species can be regarded as satisfactory.

900. *Laparocerus vestitus*.

Laparocerus vestitus, *Woll., Cat. Can. Col.* 358 (1864).

Habitat Canarienses (*Ten.*), sub lapidibus in inferioribus latens.

Rather a common *Laparocerus* at low elevations in Teneriffe, where it occurs beneath stones in dry and cindery spots. It is abundant around the Puerto Orotava, and tolerably so near Sta Cruz; but the examples from the latter region, which I have indicated as the "var. *β. affinis*," differ a little from those (regarded by me as typical) from the former—though not sufficiently so, I think, to admit of their being treated as specifically distinct.

901. *Laparocerus tessellatus*.

Omius tessellatus?, *Brullé, in Webb et Berth.* (*Col.*) 72, pl. 1. f. 15 (1838).

Laparocerus tessellatus, *Woll., Cat. Can. Col.* 360 (1864).

Habitat Canarienses (*Ten., Palma, Hierro*), in intermediis editioribusque hinc inde vulgaris.

One of the most widely spread of the Canarian *Laparoceri*—over at any rate the central and western islands of the archipelago, being locally abundant at intermediate and lofty altitudes (both in the sylvan districts and above them). Though at all times small, it varies a good deal in size—being for the most part more largely developed within the wooded regions than elsewhere.

902. *Laparocerus obsitus*.

Laparocerus obsitus, *Woll., Cat. Can. Col.* 361 (1864).

Habitat Canarienses (*Can.*), in intermediis et præcipue editioribus parum vulgaris.

Apparently the representative in Grand Canary of the last species,

which indeed it so closely resembles that I am not altogether satisfied that it is more than an insular variety of it. It seems, merely, to be (on the average) a little smaller than the *tessellatus*, and to have its elytra rather more oblong, and densely beset with suberect setæ (or short stiffish hairs). Still, since its ally obtains in at all events *three* of the islands without any appreciable change, it is scarcely likely to become modified in a fourth one; and moreover we have yet to ascertain that the *tessellatus* proper does *not* exist, simultaneously with the *obsitus*, in Grand Canary.

903. *Laparocerus tenellus*.

Laparocerus tenellus, *Woll., Cat. Can. Col.* 362 (1864).

Habitat Canarienses (*Ten.*), in editioribus rarissimus.

A minute Canarian species, being the smallest of the *Laparoceri* hitherto detected. I have seen but two examples of it, which were taken by myself at a high elevation in Teneriffe—at the foot of the Organo Rocks, above the Agua Mansa; and therefore it would appear to be extremely scarce.

904. *Laparocerus puncticollis*.

Laparocerus puncticollis, *Woll., Cat. Can. Col.* 362 (1864).

Habitat Canarienses (*Hierro*), in intermediis graminosis parce captus.

Found in Hierro, the most western island of the Canarian Group,—the few examples of it which I have seen having been obtained by myself at the sides of the lower road between Valverde and El Golfo, at an altitude of scarcely more than about 1000 feet above the sea.

905. *Laparocerus indutus*.

Laparocerus indutus, *Woll., Append. huj. op.* 53.

Habitat Canarienses (*Gom.*), à DD. Crotch parcissime repertus.

Although perfectly distinct from it, on much the same type as the last species; but found in Gomera (instead of Hierro)—where three examples of it were captured by the Messrs. Crotch, during their late Canarian campaign.

906. *Laparocerus compactus*.

Laparocerus compactus, *Woll., Cat. Can. Col.* 359 (1864).

Habitat Canarienses (*Can.*), in editioribus rarissimus.

Four specimens of this insect were taken by myself, at a high elevation, on the mountains of Grand Canary. In their curiously compact and rather parallel outline and basally subemarginated elytra, as well as in their thick, subtriangular rostra and their small and comparatively sunken eyes, both the present species and the following one differ considerably from the whole of the *Laparoceri* with which they are here associated, and would seem to approach the larger members at the commencement of the genus, or even the *Cyphoscelis distorta*; nevertheless, upon the whole, I think perhaps that it is better to place them amongst the smaller forms than elsewhere.

907. *Laparocerus sulcirostris*.

Laparocerus sulcirostris, *Woll., Cat. Can. Col.* 359 (1864).

Habitat Canarienses (*Can.*), rarissimus; in locis similibus ac præcedens.

Hitherto unique, a single specimen having been taken by myself on the mountains of Grand Canary (in company with the preceding species). It is indeed closely allied to the *compactus*, though I believe that the many small distinctions which were pointed out in my diagnosis will more than suffice to separate it from that insect.

(Subfam. XXIII. TRACHYPHLÆIDES.)

Genus 271. *ANEMOPHILUS*.

Wollaston, *Ins. Mad.* 385 (1854).

908. *Anemophilus crassus*.

Anemophilus crassus, *Woll., Ins. Mad.* 386, tab. vii. f. 7 (1854).

— —, *Id., Cat. Mad. Col.* 117 (1857).

Habitat Maderenses (*P^{to} S^{to}*), inter lápillos lichenesque in rupium fissuris editiorum tempore hiemali hinc inde vulgaris.

Observed only in Porto Santo, of the Madeiran Group,—where I have met with it rather commonly during the winter months, harbouring amongst lichen and small stones, within the crevices of the exposed rocks of a tolerably high elevation.

909. *Anemophilus subtessellatus*.

Anemophilus subtessellatus, *Woll., Ins. Mad.* 387 (1854).

— —, *Id., Cat. Mad. Col.* 117 (1857).

Habitat Maderenses (*P^{to} S^{to}*), unà cum specie præcedente degens.

Likewise Porto-Santan, and found in company with the last species—to which indeed it is closely allied.

910. **Anemophilus trossulus.**

Anemophilus trossulus, *Woll., Ins. Mad.* 388, tab. viii. f. 1 (1854).

— —, *Id., Cat. Mad. Col.* 117 (1857).

Habitat Maderenses (*P^{to} Sto*), sub lapidibus in aridis calcariis inferioribus rarissimus.

Also a Porto-Santan insect, and apparently extremely rare, occurring beneath stones in arid and calcareous spots of a rather low elevation.

Genus 272. **SCOLIOCERUS.**

Wollaston, *Ins. Mad.* 391 (1854).

911. **Scoliocerus Maderæ.**

Scoliocerus Maderæ, *Woll., Ins. Mad.* 392, tab. viii. f. 2 (1854).

— —, *Id., Cat. Mad. Col.* 117 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus plerumque in graminosis paulo elevatis rarissimus.

Detected hitherto only in Madeira proper, where moreover it is extremely rare—occurring beneath stones, for the most part in open grassy spots of rather low and intermediate altitudes.

912. **Scoliocerus curvipes.**

Scoliocerus curvipes, *Woll., Ins. Mad.* 393 (1854).

— —, *Id., Cat. Mad. Col.* 118 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus in intermediis et editioribus hinc inde parum vulgaris.

Peculiar, likewise, to Madeira proper; but found usually at a rather higher elevation than the last species, and also (though it is extremely local) much more abundantly.

Genus 273. **TRACHYPHLÆUS.**

Germar, *Ins. Spec.* i. 403 (1824).

913. **Trachyphlæus scaber.**

Curculio scaber, *Linn., Fna Suec.* 176 (1761).

Trachyphlæus scaber, *Schön., Gen. et Spec. Curc.* ii. 490 (1834).

— —, *Woll., Ins. Mad.* 394 (1854).

Trachyphlœus scaber, *Woll., Cat. Mad. Col.* 118 (1857).

— —, *Id., Cat. Can. Col.* 363 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), hinc inde sub lapidibus in intermediis.

This common European insect is widely spread over the intermediate elevations of Madeira proper, where it appears to be truly indigenous; but at the Canaries it is extremely rare, the few specimens which I have seen having been taken (by myself above the Agua Garcia, and by the Messrs. Crotch and myself at Yeod el Alto) in Teneriffe.

Genus 274. **CÆNOPSIS.**

Bach, *Käfer-Fauna*, 268 (1854).

914. *Cænopsis* Waltoni.

Trachyphlœus Waltoni, *Schön., Gen. et Spec. Curc.* vii. 115 (1843).

Cænopsis Waltoni, *Woll., Ann. Nat. Hist.* x. 335 (1862).

Habitat Maderenses (*Mad.*), à Dom. Bewicke in cultis intermediis semel capta.

The only example of this European Curculionid which I have yet seen from these Atlantic islands was captured by the late Mr. Bewicke in Madeira proper—at “the Mount,” above Funchal. It is not unlikely that the species may have been introduced accidentally from more northern latitudes—perhaps through the agency of the English residents, who have long been in the habit of importing boxes of plants (at intervals) to replenish their gardens. Still this is but a conjecture; and it is probable, even if it *be* the case, that the insect has at all events become established.

(Subfam. XXIV. PERITELIDES.)

Genus 275. **LICHENOPHAGUS***.

Wollaston, *Ins. Mad.* 389 (1854).

* Fortunately it is not often that a species which has been established in the Appendix of a volume has to be suppressed in the text; yet I am compelled in the present instance to do so, from having been led into an unaccountable mistake concerning a Canarian Curculionid which was communicated a few months ago by De Marseul. The individual in question being immature, and also remarkably small, I failed to recognize it as the *Atlantis tibialis*, to which I am now satisfied that it should be referred; and so I inadvertently described it as a large, aberrant *Lichenophagus*, under the trivial name of *incomptus*. As implied however in the Appendix, I did not feel at all satisfied about its affinities, and even proposed for it (in consequence) a subgeneric title. Yet the recent trans-

§ I. *Corpus sat parvum; oculis minutis, rotundatis, prominentibus; funiculi art^o 2^{do} primo sub brevior.* (Lichenophagi typici, insulis Maderensibus proprii.)

915. *Lichenophagus fritillus.*

Lichenophagus fritillus, *Woll., Ins. Mad.* 390, tab. viii. f. 1 (1854).
— —, *Id., Cat. Mad. Col.* 117 (1857).

Habitat Maderenses (*Pto Sto*), sub lapidibus in aridis saxosis necnon inter lichenes in rupium fissuris crescentes hinc inde vulgaris.

Peculiar apparently to Porto Santo, of the Madeiran Group,—where it is locally abundant beneath stones in dry places, as well as amongst the masses of lichen which fill up the crevices of the exposed weather-beaten rocks. It being the species from which my generic diagnosis was originally compiled, the *L. fritillus* must be regarded as the *type* of the genus *Lichenophagus*.

916. *Lichenophagus acuminatus.*

Lichenophagus acuminatus, *Woll., Ins. Mad.* 391, tab. viii. f. 3 (1854).
— —, *Id., Cat. Mad. Col.* 117 (1857).

Habitat Maderenses (*Des.*), rarissimus; in locis similibus ac præcedens.

Hitherto I have observed this species only on the Deserta Grande, of the Madeiran Group; though we may perhaps expect to meet with it on the northern and southern Desertas likewise. It appears to be extremely rare, and to occur in much the same kind of places as the *L. fritillus*—of which it may be regarded as the Desertan representative.

§ II. *Corpus majoris magnitudinis; oculis parvis, ovalibus, demissis; funiculi art^o 2^{do} primo plus minus evidenter longiore.* (Lichenophagi aberrantes, insulas Canarienses colentes.)

917. *Lichenophagus auctus.*

Lichenophagus auctus, *Woll., Cat. Can. Col.* 363 (1864).

Habitat Canarienses (*Gom., Hierro*), sub lapidibus in intermediis

mission by De Marseul of a second (and *mature*) specimen of the same species has at once shown me that I fell into an error about the previous one, since *both* of them appear to belong to a rather depauperated state of the *A. tibialis* which is found in the island of Hierro. As the original example moreover happened to be a female one, its diagnostic characters were less conspicuous than would have been the case had it pertained to the opposite sex. I would therefore erase *in toto* the description of the *L. incomptus*, given at p. 55 of the Appendix to this work.

rarissimus. Exemplaria à Gomerâ minus typica sunt, sed, nisi fallor, *L. aucto* vix omnino discedunt.

Taken by myself (though very sparingly) in Hierro, the most western of the Canarian islands,—from beneath stones, about midway between Port Hierro and Valverde. Independently of minor distinctions, the species may easily be recognized by its comparatively swollen second funiculus-joint (which is, if anything, a trifle larger than the first—not only in length, but even in *breadth*), by its freedom from erect setæ, and by the rudiments of an obscure glabrous abbreviated keel which is more or less evident in the centre of its prothorax behind. Two examples, however, which are now before me, and which were captured by the Messrs. Crotch in Gomera, seem to be a little smaller, paler, and more deeply sculptured than the Hierro ones, with their short central prothoracic keel rather narrower and more acute (being less triangular, or noduliform), and with their elytra (which, when denuded of the scales, are less shining), more ovate, or more *regularly* narrowed anteriorly—being more rounded off, but less obliquely-truncated, at the shoulders (which are themselves consequently more sharp and porrect). But although thus numerous, I do not think that any of these slight differences are of much importance—more especially as the specimens retain the essential characters (of the funiculus, &c.) which mark the *L. auctus*, and since moreover most of the *Lichenophagi* hitherto detected seem to present some trifling secondary modifications indicative of particular islands or localities, as will readily be seen by a reference to their published diagnoses. So that I would not cite this Gomeran insect as more than an insular phasis of the Hierro one; though I will (briefly) enunciate it below, giving it a sub-specific name, in the event of further material proving it to be truly distinct*.

918. *Lichenophagus tesserula*.

Lichenophagus tesserula, *Woll., Cat. Can. Col.* 364 (1864).

Habitat Canarienses (*Ten.*), plerumque in subinferioribus hinc inde vulgaris.

* This Gomeran *Lichenophagus*, which I believe to be a modification of the *auctus*, may be recorded in the following short formula:—var. β . *amplificata* [an species?]. Paulo minor, pallidior profundiusque sculpturata, carinulâ prothoracicâ abbreviatâ posticâ angustiore, acutiore, minus triangulariter noduliformi, elytris magis ovatis, versus humeros facilius sive magis æqualiter angustatis (i. e. minus oblique truncatis, angulis ipsis humeralibus acutius subporrectis), sub squamis magis opacis.

A Canarian *Lichenophagus* which has been observed hitherto only in Teneriffe, where it is common beneath stones in certain spots of a rather low altitude—particularly around the Villa and Puerto of Orotava.

919. *Lichenophagus persimilis*.

Lichenophagus persimilis, *Woll., Cat. Can. Col.* 365 (1864).

Habitat Canarienses (*Ten., Palma*), sub lapidibus in intermediis occurrens.

Also Teneriffan, and very closely allied to the last species; but found at a higher elevation (my examples having been taken at Yeod el Alto), and differing in a few small but constant particulars which have been fully alluded to in the published diagnosis. I also met with it sparingly in the island of Palma, in the Barranco above S^{ta} Cruz; but the Palman individuals, which represent the “var. *β. seriesetosa*” of my description, differ from the Teneriffan ones in having their longitudinal rows of short setæ somewhat longer and paler (and therefore more apparent).

920. *Lichenophagus subnodosus*.

Lichenophagus subnodosus, *Woll., Cat. Can. Col.* 366 (1864).

Habitat Canarienses (*Ten., Hierro*), in intermediis præsertim sylvaticis degens.

Not uncommon at intermediate and rather lofty altitudes in Teneriffe and Hierro, of the Canarian Group, particularly within the sylvan and subsylvan districts. The examples from Hierro, taken by myself and the Messrs. Crotch, and representing the “var. *β. subcalva*” of my diagnosis, differ from the Teneriffan ones in having the setæ of their elytra considerably shorter; but I can detect nothing about them to warrant the suspicion that they are specifically distinct.

921. *Lichenophagus sculptipennis*.

Lichenophagus sculptipennis, *Woll., Cat. Can. Col.* 367 (1864).

Habitat Canarienses (*Palma, Hierro*), in intermediis minus frequens.

Found in Palma and Hierro, of the Canarian Group, and in some respects intermediate (as will be gathered by a reference to its diagnosis) between the *L. subnodosus* and *impressicollis*. Further material must decide whether it can be regarded as an extreme state

of either of them ; meanwhile I believe that its recorded distinctions (particularly those of sculpture) are quite sufficient to necessitate its isolation. At the same time I should add that three examples now before me, which were taken by the Messrs. Crotch in Hierro, seem to have their elytral punctures (although very large) less enormous than is the case in the Palman type.

922. *Lichenophagus impressicollis*.

Lichenophagus impressicollis, *Woll., Cat. Can. Col.* 368 (1864).

Habitat Canarienses (*Ten.*), in lauretis humidis editioribus hinc inde parum vulgaris.

A fine Canarian species which I have observed hitherto only in the laurel-woods of Teneriffe, where it occurs in damp and shady spots of a rather high elevation. Indeed all my specimens were obtained on the north-eastern mountains of that island—at Las Mercedes, above Taganana, and towards Point Anaga.

923. *Lichenophagus buccatrix*.

Lichenophagus buccatrix, *Woll., Append. huj. op.* 54.

Habitat Canarienses (*Gom.*), in locis valde elevatis à DD. Crotch parce lectus.

A large and most singular Canarian *Lichenophagus* which was taken sparingly by the Messrs. Crotch at a high elevation in Gomera, by beating plants of *Sedum* on Monte Fuerte—one of the loftiest mountains above Hermigua*.

(Subfam. XXV. TANYMECIDES.)

Genus 276. **THYLACITES.**

Germar, *Ins. Spec.* i. 410 (1824).

* Somewhat in this position, and probably under the subfamily *Cyphides*, I may allude to a *reputed* Teneriffan weevil, the *Curculio cribrarius* of Olivier—a rather large species, which Dejean (and, after him, Schönherr, who appears, however, never to have examined it) placed in the genus *Geonemus*. Nevertheless to the latter it clearly does *not* belong; and M. Jekel has suggested that it has probably much more in common with the South-African group *Catamonus*. But be this as it may, I feel almost certain that Olivier was mistaken as to its *habitat*, and that the insect, so far from being Teneriffan, is not even a *Canarian* one. For further remarks on this question, as well as for a diagnosis of the Curculionid referred to (the original type having been lent me by M. Chevrolat), *vide* p. 369 of my Canarian Catalogue.

924. *Thylacites obesulus*.

Thylacites obesulus, *Woll., Cat. Can. Col.* 374 (1864).

Habitat Canarienses (*Lanz.*), rarissimus; in aridis submaritimis arenosis semel tantum deprehensus.

A single example, which I took in Lanzarote of the Canarian Group, is all that I have yet seen of this distinct *Thylacites*. It was captured on a low sandy ridge, immediately behind the sea-beach, about a mile to the south of Arrecife.

Genus 277. **HERPYSTICUS.**

Germar, *Ins. Spec.* i. 413 (1824).

925. *Herpysticus eremita*.

Curculio eremita, *Oliv., Ent.* v. 85. 321, tab. 24. f. 383 (1807).

Herpysticus læsicollis, *Germ., Ins. Spec.* i. 413, tab. 2. f. 3 (1824).

— —, *Schön., Gen. et Spec. Curc.* i. 556 (1833).

— *eremita*, *Brullé, in Webb et Berth. (Col.)* 72 (1838).

— —, *Woll., Cat. Can. Col.* 370 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma*), sub lapidibus in aridis præcipue in inferioribus atque in locis paululum elevatis latens.

A Canarian insect, which is the largest of all the *Curculionidæ* hitherto detected in these numerous Atlantic islands. It is likewise extremely variable, not only in size but also in the greater or less development of its pubescence—which is for the most part barely traceable (or even totally obsolete), though sometimes quite distinct, and at others elongate and conspicuous, the three states however (corresponding to the α , β , and γ of my diagnosis) passing into each other, apparently, by imperceptible gradations. It is principally in Grand Canary that its tendency to become clothed is most evident—even the comparatively bald examples in that island being seldom entirely free from traces of a slight additional pile, whilst the individuals from certain sandy and calcareous spots are often densely covered with erect hairs.

Assuming therefore that none of these (more or less clothed) states have any real claim for specific separation, I may add that the *H. eremita* appears to be a common insect throughout the low and intermediate altitudes of Grand Canary, Teneriffe, Gomera, and Palma; and we may be pretty sure that it must exist in Hierro likewise, though as yet it does not happen to have been observed there.

926. *Herpysticus calvus*.

Herpysticus eremita, Hart. [nec Oliv.], *Geolog. Verhältn. Lanz. und Fuert.* 141, 142.

— *calvus*, Woll., *Cat. Can. Col.* 372 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in locis similibus ac præcedens.

Found in Lanzarote and Fuerteventura, where it would appear to take the place of the *H. eremita* which is so widely diffused over the more central and western parts of the Canarian archipelago. This being the case, it is almost impossible to resist the inquiry as to whether the *calvus* may not in reality be but a modification of the (essentially variable) *eremita* peculiar to those two eastern islands. Without wishing to record my belief that such is by any means impossible, I will merely add that I have given the reasons, in my Canarian Catalogue, why I think it is more likely that the *calvus* is a truly distinct (though nearly allied) species.

927. *Herpysticus oculus*.

Herpysticus oculus, Woll., *Cat. Can. Col.* 373 (1864).

Habitat Canarienses (*Lanz.*), in intermediis aridis calcariis degens.

Observed hitherto only in Lanzarote, of the Canarian Group, where it occurs beneath stones in dry calcareous spots of intermediate altitudes; but we may expect to meet with it in Fuerteventura likewise.

The remarks under the preceding species are perhaps equally applicable here; for the *H. oculus* bears much the same kind of relation to the *calvus* that the latter does to the *eremita*.

(Subfam. XXVI. NAUPACTIDES.)

Genus 278. *SITONA*.

Germar, *Ins. Spec.* i. 414 (1824).

928. *Sitona gressorius*.

Curculio gressorius, Fab., *Ent. Syst.* i. ii. 465 (1792).

Sitona gressoria, Brullé, in *Webb et Berth.* (Col.) 72 (1838).

— —, Woll., *Ins. Mad.* 403 (1854).

— —, *Id.*, *Cat. Mad. Col.* 119 (1857).

Sitones gressorius, *Id.*, *Cat. Can. Col.* 374 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom., Palma, Hierro*), foliis *Lupini thermis*, Forsk., in intermediis gaudens.

The *S. gressorius* of southern Europe is widely spread over these Atlantic islands, where it occurs principally at intermediate elevations and on the foliage of Lupines (*Lupinus thermis*). It has been taken in Madeira proper, as well as in Teneriffe, Gomera, Palma, and Hierro, of the Canarian Group.

929. *Sitona latipennis*.

Sitones latipennis, Schön., *Gen. et Spec. Curc.* ii. 99 (1834).

Sitona verrucosa?, Brullé, in *Webb et Berth. (Col.)* 72 (1838).

— *latipennis*, Woll., *Ins. Mad.* 404 (1854).

— —, *Id.*, *Cat. Mad. Col.* 119 (1857).

Sitones latipennis, *Id.*, *Cat. Can. Col.* 375 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can.*, *Ten.*), folia *Genistæ* præsertim *scopariæ*, L., in intermediis editioribusque destruens.

Rather abundant locally at intermediate and lofty altitudes in Madeira proper, where it occurs on the foliage of the common Broom (*Genista scoparia*, L.); and I have taken it under similar circumstances in Grand Canary and Teneriffe, of the Canarian Group. The specimens from the latter islands differ from the Madeiran ones in having the pile with which their elytra are studded usually longer and more erect; but this is not always the case, and I am satisfied that it is a mere geographical *tendency* of no specific signification. The insect is stated by Schönherr to be found in Portugal.

930. *Sitona punctiger*.

Sitones punctiger, Woll., *Ann. Nat. Hist.* xi. 220 (1863).

— —, *Id.*, *Cat. Can. Col.* 376 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*), sub lapidibus in aridis arenosis et calcariis parce degens.

This large *Sitona* I have observed hitherto only in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group, where moreover it would appear to be rare. It occurs for the most part at low, but occasionally at intermediate altitudes—secreting itself beneath stones in sandy and calcareous spots.

931. *Sitona cambricus*.

Sitona cambrica (*Kby*), Steph., *Ill. Brit. Ent.* iv. 140 (1831).

Sitones cribricollis, Schön., *Gen. et Spec. Curc.* ii. 101 (1834).

Sitona cambrica, Woll., *Ins. Mad.* 405 (1854).

Sitona cambrica, *Id.*, *Cat. Mad. Col.* 120 (1857).
Sitones cambricus, *Id.*, *Cat. Can. Col.* 376 (1864).

Habitat Maderenses (*Mad.*, *P^{to} S^{to}*) et Canarienses (*Can.*, *Ten.*), sub lapidibus, passim.

A European *Sitona* which is rather common in the east of Madeira proper, as well as in Porto Santo, of the Madeiran Group; and we may be pretty sure that it must occur on the Desertas likewise. In the Canaries it is decidedly scarce, the few specimens which I have yet seen having been taken by myself in Grand Canary and Teneriffe.

932. *Sitona lineatus*.

Curculio lineatus, *Linn.*, *Fna Succ.* 183 (1761).
Sitona lineata, *Woll.*, *Ins. Mad.* 406 (1854).
 ———, *Id.*, *Cat. Mad. Col.* 120 (1857).
Sitones lineatus, *Id.*, *Cat. Can. Col.* 376 (1864).

Habitat Maderenses (*Mad.*, *P^{to} S^{to}*) et Canarienses (*Can.*, *Ten.*, *Palma*), præcipue in cultis; forsan ex Europâ introductus.

This common European insect will most likely be found to be universal (or nearly so) throughout these Atlantic islands, where very probably it has become established from more northern latitudes. It occurs for the most part about corn-fields, and in other cultivated grounds. It is rather abundant in Madeira proper and Porto Santo, of the Madeiran Group; and I have taken it in Grand Canary, Teneriffe, and Palma, of the Canaries.

933. *Sitona humeralis*.

Sitona humeralis (*Kby*), *Steph.*, *Ill. Brit. Ent.* iv. 138 (1831).
Sitones promptus, *Schön.*, *Gen. et Spec. Curc.* ii. 113 (1834).
Sitona humeralis, *Woll.*, *Ins. Mad.* 407 (1854).
 ———, *Id.*, *Cat. Mad. Col.* 120 (1857).
Sitones humeralis, *Id.*, *Cat. Can. Col.* 377 (1864).

Habitat Maderenses (*Mad.*, *P^{to} S^{to}*) et Canarienses (*ins. omnes*), plerumque in aridis calcariis inferioribus late sed parce diffusus.

Likewise a common European species, and one which is perhaps more widely spread over these Atlantic Groups than any of the *Sitone* hitherto detected. Yet it is nowhere abundant—though with the appearance of being more truly indigenous than any of the remainder, except perhaps the *punctiger* and *seriesetosus*. It occurs for the most part at rather low elevations, and in dry or calcareous spots. I have taken it in Madeira proper and Porto Santo, as well as in the whole seven islands of the Canarian archipelago.

934. *Sitona seriesetosus*.

Sitones seriesetosus, Schön., *Gen. et Spec. Curc.* vi. 277 (1840).

— *setiger*, Woll., *Ann. Nat. Hist.* xi. 221 (1863).

— —, *Id.*, *Cat. Can. Col.* 378 (1864).

— *seriesetosus*, Allard, *Ann. de la Soc. Ent. de Fr.* iv. 358 (1865).

Habitat Canarienses (in *Palma* solâ haud observatus), aridos inferiores ubique colens.

Abundant (chiefly in dry spots, and at low elevations) throughout the Canarian Group, where we may be quite sure that it is universal; for although it does not happen to have been observed in *Palma*, it is impossible to doubt that it must exist there—no less than it does in the other six islands of the archipelago, in all of which I have myself captured it.

I have not been able to procure a type of the Mediterranean *S. seriesetosus*, for inspection, but in my late Catalogue I called attention to several particulars in which the Canarian species differs entirely from at any rate Schönherr's *diagnosis* of the former. As, however, I sent examples to M. Allard, and he has identified them with the Mediterranean insect, I have suppressed the name of *setiger* in favour of the one which has the priority. Nevertheless I must remark that if this Canarian *Sitona* be positively conspecific with the *seriesetosus*, the published description of the latter is so inaccurate as to be absolutely worthless.

M. Allard records the *S. seriesetosus* (nominally, on my authority) as Madeiran; but this is a mistake, for I expressly mentioned that the examples which I gave him were from the Canaries. The insect (so far as observed hitherto) does *not* occur in the Madeiran Group*.

(Subfam. XXVII. BRACHYDERIDES.)

Genus 279. BRACHYDERES.

Schönherr, *Curc. Disp. Meth.* 102 (1826).

935. *Brachyderes rugatus*.

Brachyderes rugatus, Woll., *Cat. Can. Col.* 379 (1864).

Habitat Canarienses (*Palma*), ad folia floresque *Pini canariensis* in pinetis editioribus vulgaris.

* The *Sitona setuliferus* of southern Europe and northern Africa was described in Schönherr's work from an example in the possession of M. Chevrolat, said to have come from "Teneriffe,"—a *habitat* which has consequently been again cited, by M. Allard, in a late revision of the *Sitonæ*. M. Chevrolat having kindly

Found at a high elevation in Palma, of the Canarian Group, where it is attached to the foliage and flower-cones of the *Pinus canariensis* in the ancient Pinals.

936. *Brachyderes sculpturatus*.

Brachyderes sculpturatus, *Woll., Cat. Can. Col.* 379 (1864).

Habitat Canarienses (*Can., Ten.*), in locis similibus ac præcedens.

Likewise Canarian, and found under precisely similar circumstances as the last species—only in Grand Canary and Teneriffe instead of Palma. This being the case, it is impossible to feel quite certain that the Palman insect is more than an insular modification of the present one. Yet it undoubtedly possesses characters (though perhaps of only slight importance) which immediately separate it from the *sculpturatus*; and I do not believe, therefore, that we have sufficient grounds for assuming it to be a local variety of the latter.

Genus 280. **STROPHOSOMUS.**

(Billberg) Schön., *Curc. Disp. Meth.* 97 (1826).

937. *Strophosomus coryli*.

Curculio coryli, *Fab., Syst. Ent.* 148 (1775).

Strophosomus coryli, *Steph., Ill. Brit. Ent.* iv. 126 (1831).

Cneorhinus coryli, *Schön., Gen. et Spec. Curc.* i. 535 (1833).

Strophosomus coryli, *Woll., Ann. Nat. Hist.* v. 455 (1860).

Habitat Maderenses (*Mad.*), à Dom. Moniz primum detectus.

The common European *S. coryli* was detected by Senhor Moniz, near Funchal, in Madeira proper; and it was captured subsequently by the late Mr. Bewicke—"on oaks in flower, at the Mount;" but it has not yet been observed in any of the other islands. It is far from unlikely that it may have become established, perhaps recently, from more northern latitudes.

granted me the loan of his type, I was enabled to give a diagnosis of it in a footnote of my Canarian Catalogue; but I there stated, and now repeat, that I am far from satisfied that the species *does* truly occur in those islands. Geographically there is no reason why it should not; nevertheless as there is not a trace of it in the enormous amount of material which has been brought together by various naturalists during the last few years, and since it is associated in Chevrolat's collection with another weevil (the *Catamonus? cribrarius*) which I have been compelled to reject as Canarian, I feel that I have not sufficient evidence for its admission into the fauna, though it seems at all events desirable to *notice* it as a possible member of the Atlantic Coleoptera.

Fam. 53. ANTHRIBIDÆ.Genus 281. **XENORCHESTES.**Wollaston, *Ins. Mad.* 417 (1854).938. **Xenorchestes saltitans.***Xenorchestes saltitans*, *Woll., Ins. Mad.* 418, tab. viii. f. 8 (1854).— — —, *Id., Cat. Mad. Col.* 122 (1857).*Habitat* Maderenses (*Mad.*), sub cortice laxo in lauretis humidis editoribus rarissimus.

Peculiar to Madeira proper, where it is extremely rare, occurring for the most part beneath loosened bark in the damp laurel-woods of intermediate and lofty elevations. It is one of the most extraordinary of the Atlantic Coleoptera, though, in its subsaltatorial habits and general structure, it has an evident affinity with the European genus *Choraqus*.

Fam. 54. AGLYCYDERIDÆ.Genus 282. **AGLYCYDERES.**Westwood, in *Proc. Ent. Soc. Lond.* clxxix (1863).939. **Aglycyderes setifer.***Aglycyderes setifer*, *Westw., loc. cit.* (1863).— — —, *Woll., Cat. Can. Col.* 385 (1864).*Habitat* Canarienses (*ins. omnes*), vel in caulibus *Euphorbiarum* putridis vel sub cortice *Ficorum* arido laxo hinc inde congregans.

A most anomalous little beetle which has been taken in the whole seven islands of the Canarian archipelago. I feel sure that it is attached exclusively to the Euphorbias in at all events its earlier states; though, unlike most of the *Euphorbia*-infesting species, the perfect insect is found in various situations—particularly beneath the bark of old fig-trees, where I have observed it in profusion. But in all such instances the trees were in the immediate vicinity of Euphorbias; whilst the fact of its having been captured abundantly, both by myself and the Messrs. Crotch, actually within the putrid stalks of the *E. canariensis* would go far to establish its mode of life. I have met with it in Lanzarote, Fuerteventura (or rather on the rock of Lobos, off the extreme north of that island), Grand Canary, Teneriffe, and Palma; whilst in Gomera and Hierro it was obtained by the Messrs. Crotch.

Fam. 55. BRUCHIDÆ.

Genus 283. BRUCHUS.

Geoffroy, *Ins. de Paris*, i. 163 (1762).

940. *Bruchus pisi*.

Bruchus pisi, *Linn., Syst. Nat.* i. ii. 604 (1767).

— —, *Schön., Gen. et Spec. Curc.* i. 57 (1833).

— *Fabæ?*, *Brullé, in Webb et Berth. (Col.)* 71 (1838).

— *pisii*, *Woll., Cat. Can. Col.* 380 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*ins. omnes*), in cultis et granariis sat vulgaris.

The European *B. pisi* is widely spread over these Atlantic Groups, where it has doubtless become established from higher latitudes. It occurs more particularly in pea-fields, but may be found in cultivated spots generally—as well as in granaries and about houses. It has been taken in Madeira proper, and in the whole seven islands of the Canarian archipelago.

941. *Bruchus rufimanus*.

Bruchus rufimanus, *Schön., Gen. et Spec. Curc.* i. 58 (1833).

— —, *Woll., Ins. Mad.* 419 (1854).

— —, *Id., Cat. Mad. Col.* 123 (1857).

— —, *Id., Cat. Can. Col.* 381 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*ins. omnes*), præcipue in cultis.

A more abundant European *Bruchus* than the *B. pisi*, and one which has probably (like the latter) become naturalized in these Atlantic Groups, from more northern countries. It occurs for the most part about houses and cultivated grounds—under which circumstances it has been taken in Madeira proper, as well as in the whole seven of the Canarian islands.

942. *Bruchus terminatus*.

Bruchus terminatus, *Woll., Cat. Can. Col.* 381 (1864).

Habitat Canarienses (*Ten.*), in intermediis parce captus.

Two specimens of this *Bruchus* were captured by myself in Teneriffe—on the mountains above Sta Cruz; and a third is now before me, taken (likewise in Teneriffe) by the Messrs. Crotch, which seems to differ from my own, merely, in being free from the small, robust, upwardly-directed, subbifid spine, or process, at the inner apical

angle of its intermediate tibiæ. Unless, therefore, this latter example be the representative of a distinct species, in all probability it will prove to be a female of the *B. terminatus*—the pair from which my diagnosis was drawn up having been males.

943. *Bruchus subellipticus*.

Bruchus subellipticus, *Woll., Ins. Mad.* 420 (1854).

— —, *Id., Cat. Mad. Col.* 123 (1857).

Habitat Maderenses (*Mad.*), in domibus granariisque interdum vulgaris.

Found about houses and granaries in Madeira proper, sometimes in profusion, being more particularly attached to dried beans. In all probability, therefore, it is an introduced species; nevertheless I have not been able to satisfy myself that it is known elsewhere.

944. *Bruchus Teneriffæ*.

Bruchus Teneriffæ (*Steven*), *Schön., Gen. et Spec. Curc.* v. 105 (1839).

— —, *Woll., Cat. Can. Col.* 382 (1864).

Habitat Canarienses (*Can., Ten., Palma*), floribus *Spartii* ac *Cytisi* in intermediis et præsertim editoribus gaudens.

A common (and truly indigenous) *Bruchus* in the higher altitudes of the Canarian Group, where it occurs principally on the blossoms of the *Cytisus proliferus* and the *Spartium nubigena*. It is found likewise in the intermediate districts, though it is far more abundant from about 7000 to 9000 feet above the sea—in the regions of the “Retama.” It has been taken in Grand Canary, Teneriffe, and Palma.

945. *Bruchus lichenicola*.

Bruchus lichenicola, *Woll., Ins. Mad.* 421, tab. viii. f. 9 (1854).

— —, *Id., Cat. Mad. Col.* 123 (1857).

— floricola, *Id., Cat. Can. Col.* 383 (1864).

Habitat Maderenses (*Pto Sto, Ilheo Chão, Des.*) et Canarienses (in *Palma* solâ haud observatus), vel ad flores varios vel inter lichenes in rupium fissuris crescentes late diffusus.

This very minute *Bruchus* is widely spread over these Atlantic Groups, where I have little doubt that it will be found ultimately to be quite universal. It is a truly indigenous species—either occurring on flowers, or else secreting itself (particularly during the winter season) amongst the masses of lichen which fill up the crevices of the exposed weather-beaten rocks at intermediate altitudes. Under

the latter circumstances I have taken it abundantly in Porto Santo and on the two northern Desertas, of the Madeiran archipelago; whilst Palma (where, however, we may be quite sure that it exists) is the only one of the seven Canarian islands in which it does not happen to have been captured. Its detection in Gomera is due to the recent researches of the Messrs. Crotch.

In my last published Catalogue I regarded the Canarian examples of this *Bruchus* as specifically distinct from the Madeiran ones; but a careful inspection of fresh material has since convinced me that the very small differential characters on which my diagnosis was made to depend are quite insufficient to indicate more than a most trifling geographical phasis of the insect—some of them indeed being perhaps sexual, rather than specific. But most of the *Bruchi* are so eminently variable, both in size and general development, that the only thing to be surprised at is that there should not be a greater amount of discrepancy than is really the case between the representatives of the *B. lichenicola* in the two Groups.

946. *Bruchus antennatus*.

Bruchus antennatus, *Woll., Cat. Can. Col.* 383 (1864).

Habitat Canarienses (*Can., Ten., Palma*), in pinetis editioribus rarissimus.

This singularly long-horned *Bruchus* appears to be confined (so far as I have observed hitherto) to the higher altitudes of the Canarian Group, where it occurs sparingly in the regions occupied by the Pinals; though whether it is positively attached to the fir trees I have not sufficient evidence to decide. At any rate, I have taken it in Grand Canary, Teneriffe, and Palma,—in every instance, either amongst or near the *Pinus canariensis*.

Fam. 56. CERAMBICIDÆ.

Genus 284. STROMATIUM.

Serville, *Ann. de la Soc. Ent. de France*, iii. 80 (1834).

947. *Stromatium unicolor*.

Callidium unicolor, *Oliv., Ent.* iv. 70. 58, pl. 7. f. 84 (1795).

— *strepens*, *Fab., Ent. Syst.* v. Suppl. 150 (1798).

Stromatium unicolor, *Woll., Ins. Mad.* 423 (1854).

— —, *Id., Cat. Mad. Col.* 123 (1857).

Habitat Maderenses (*Mad.*), introductum; hinc inde in domibus.

A Longicorn of Mediterranean latitudes which occurs sparingly in and about houses in Madeira proper, where it has doubtless been established from more northern countries.

Genus 285. **HYLOTRYPES.**

Serville, *loc. cit.* 77 [script. *Hylotrupes*] (1834).

948. **Hylotrypes bajulus.**

Cerambyx Bajulus, *Linn., Fna Suec.* 489 (1746).

Callidium Bajulus, *Brullé, in Webb et Berth. (Col.)* 62 (1838).

Hylotrupes Bajulus, *Woll., Cat. Mad. Col.* 125 (1857).

Hylotrypes bajulus, *Id., Cat. Can. Col.* 386 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), circa domos in oppidis parce occurrens; certe ex alienis introductus.

This widely spread European insect has established itself both at the Madeiras and Canaries, in both of which it would however appear to be scarce. It occurs in and about the houses of Funchal, in Madeira proper; and I have taken it, in similar situations, at S^{ta} Cruz in Teneriffe.

Genus 286. **PHYMATODES.**

Mulsant, *Longic. de France*, 47 (1840).

949. **Phymatodes variabilis.**

Cerambyx variabilis, *Linn., Fna Suec.* 669 (1761).

Phymatodes variabilis, *Muls., loc. cit.* 47 (1840).

— —, *Woll., Ins. Mad.* 425 (1854).

— —, *Id., Cat. Mad. Col.* 126 (1857).

Habitat Maderenses (*Mad.*), sub cortice laxo in castanetis intermediis parce latens; forsân ex Europâ introductus.

Found sparingly in the chestnut-woods of intermediate elevations in Madeira proper, where most likely it has been introduced accidentally from higher latitudes. I have observed it principally at S^{ta} Anna, in the north of the island.

Genus 287. **BLABINOTUS.**

Wollaston, *Ins. Mad.* 426 (1854).

950. **Blabinotus spinicollis.**

Blabinotus spinicollis, *Woll., Ins. Mad.* 426, tab. ix. f. 1 (1854).

— —, *Id., Cat. Mad. Col.* 126 (1857).

— —, *Id., Cat. Can. Col.* 386 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom., Palma*), sub cortice laxo in lauretis humidis editioribus parce latens.

A truly indigenous Longicorn both at the Madeiras and Canaries, where it occurs in the damp laurel-woods of intermediate and rather lofty elevations. It is not uncommon in Madeira proper; and I have met with it, beneath the loosened bark of old trees, in Teneriffe and Palma, of the Canarian Group; whilst in Gomera it was found by the Messrs. Crotch.

Genus 288. **OXYPLEURUS.**

Mulsant, *Longic. de France*, 57 (1840).

951. **Oxypleurus Bewickii.**

Blabinotus Bewickii, *Woll., Cat. Mad. Col.* 126 (1857).

Habitat Maderenses (*Mad.*), rarissimus; sub cortice *Pinorum* mox supra urbem Funchalensem à Dom. Bowicke deprehensus.

Detected in Madeira proper by the late Mr. Bewicke, who captured several examples of it beneath the bark of old pine trees (in his garden at the Palmeira) above Funchal.

952. **Oxypleurus pinicola.**

Oxypleurus pinicola, *Woll., Journ. of Ent.* ii. 102 (1863).

— —, *Id., Cat. Can. Col.* 386 (1864).

Habitat Canarienses (*Palma*), in cono quodam *Pini canariensis* semel repertus.

The only example which I have yet seen of this *Oxypleurus* was taken by myself from the interior of a dried cone of the *Pinus canariensis* in Palma, of the Canarian Group, where it may probably be looked upon as the representative of the Madeiran *O. Bewickii*. It is indeed closely allied to that species, as well as to the *O. Nodieri* of southern Europe; but the characters which distinguish it from them both have been fully pointed out in my Canarian Catalogue.

Genus 289. **CRIOCEPHALUS.**

Mulsant, *Longic. de France*, 63 (1840).

953. **Criocephalus rusticus.**

Cerambyx rusticus, *Linn., Fna Succ.* 492 (1746).

Callidium rusticum, *Brullé, in Webb et Berth. (Col.)* 62 (1838).

Criocephalus rusticus, *Woll., Cat. Mad. Col.* 124 (1857).

— —, *Id., Cat. Can. Col.* 387 (1864).

— pinetorum, *Id., ibid.* 388 (1864).

Habitat Maderenses (*Mad., Des.*) et Canarienses (*Ten., Palma, Hierro*), truncos arborum antiquos emortuos in pinetis destruens.

The European *C. rusticus* is widely spread over these Atlantic Groups, where most likely it will be met with wherever there are pine trees. In Madeira proper it may perhaps have originally been naturalized from more northern countries, being found in the fir-woods of a comparatively recent introduction which clothe large tracts of the mountain-slopes towards the east and south of the island; and it seems to have made its appearance even in the fir-plantation which has been established within the last few years on the extreme summit of the Deserta Grande, whence a specimen has been communicated by the Barão do Castello de Paiva. But, on the other hand, it may perhaps be truly indigenous to the Canaries, where it abounds in the ancient Pinals of intermediate and lofty elevations. I have taken it in Palma; and it has been captured by the Messrs. Crotch in Teneriffe and Hierro.

A more critical comparison of the (immature) specimen, from Palma, which I described under the trivial name of *pinetorum* has convinced me that it cannot properly be regarded as distinct from the extremely variable *C. rusticus*.

Genus 290. **HESPEROPHANES.**

Mulsant, *Longic. de France*, 66 (1840).

954. **Hesperophanes senex.**

Trichoferus senex, *Woll., Ins. Mad.* 428, tab. ix. f. 3 (1854).

Hesperophanes senex, *Id., Cat. Mad. Col.* 127 (1857).

— — —, *Id., Cat. Can. Col.* 388 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), lignum antiquum præcipue in inferioribus destruens.

Found about old wood in Madeira proper, principally at low elevations and in cultivated spots; and a single example of it was obtained by the Barão do Castello de Paiva from a small, but accurate, collection which was made many years ago in Teneriffe. Although I have no reason to question the authenticity of that particular specimen (but quite the reverse), I should add that it embodies all the evidence that I yet possess for the occurrence of the *H. senex* in the Canaries.

955. **Hesperophanes roridus.**

Callidium (*Hesperophanes*) *roridum*, *Brullé, in Webb et Berth. (Col.)* 62, pl. 1. f. 6 (1838).

Hesperophanes roridus, *Woll., Cat. Can. Col.* 389 (1864).

Habitat Canarienses (sec. DD. Webb et Berthelot), mihi non obviis.

I know nothing whatever about this insect except that it is figured in the work of MM. Webb and Berthelot, and that the description of even M. Brullé is sufficient to prevent its being identified (at all events in both sexes) with any of the other Longicorns here enumerated. As no single remark of local interest is to be found, from beginning to end, in the meagre list of Canarian Coleoptera which M. Brullé elaborated for that gigantic History, I am of course unable to state in which of the seven islands the *H. roridus* is supposed to have occurred. But it is far from unlikely that it was captured in the town of Sta Cruz, in Teneriffe, (one of the most prolific collecting-grounds of MM. Webb and Berthelot,) and that it was a mere accidental importation from some other country. Judging however from M. Brullé's *diagnosis*, I think it is very *probable* that he has regarded two distinct species as sexes of his *Callidium roridum*, one of which might *possibly* be identical with my *H. senex*; but as I could get no sight of his types, when in Paris, I cannot state this for certain.

Genus 291. **CLYTUS.**

Fabricius, *Syst. Eleu.* ii. 345 (1801).

956. **Clytus arietis.**

Leptura Arietis, *Linn., Fna Suec.* 695 (1761).

Clytus Arietis, *Fab., Syst. Eleu.* ii. 347 (1801).

— —, *Woll., Ins. Mad.* 429 (1854).

— —, *Id., Cat. Mad. Col.* 127 (1857).

Habitat Maderenses (*Mad.*), rarissimus; forsan ex alienis introductus.

Two specimens only of this common European *Clytus* have as yet occurred, so far as I am aware, in these Atlantic islands. They were both of them taken in Madeira proper—one (many years ago) by the late Dr. Heineken, and the other (much more recently) by Mr. Bewicke. Having been found near Funchal, it is probable that the species (if indeed it be truly established, which I somewhat doubt) has become naturalized accidentally from higher latitudes.

957. **Clytus Webbi.**

Clytus 4-punctatus (var.)?, *Fab., Ent. Syst.* i. ii. 337 (1792).

— *Webbii*, *Brullé, in Webb et Berth.* (*Col.*) 63 (1838).

— *Webbei*, *Gory, Mon. des Clytus*, 80 (1841).

— *Webbii*, *Wall., Cat. Can. Col.* 389 (1864).

Habitat Canarienses (*Ten.*, sec. Dom. Webb), mihi non obvi.

As in the case of the *Hesperophanes roridus*, the occurrence in the

Canaries of this *Clytus* (which is probably a mere variety of the common European 4-*punctatus*) rests on the most meagre and unsatisfactory evidence. It appears that both Gory and M. Brullé cited it as Teneriffan on the authority of a specimen in the collection of Mr. Webb, who seems to have so confused its *habitat* as to have reported it both for *Madeira and the Canaries*. But as I possess the most conclusive evidence of Mr. Webb's unpardonable inaccuracy in mixing up his Madeiran and Canarian material, this perhaps is not to be wondered at. My own belief is that the species pertains to *neither* of these Atlantic Groups; though it is far from unlikely that an accidentally imported example may have been captured by Mr. Webb in one or the other of them, and afterwards described by Gory as a distinct species. And I certainly should not have admitted the *C. Webbii* into the present Catalogue at all, had it not already been cited as Teneriffan in two separate works*.

958. *Clytus erythrocephalus*.

Callidium erythrocephalum, *Fab., Ent. Syst. i. ii. 335* (1792).

Clytus erythrocephalus, *Id., Syst. Eleu. ii. 350* (1801).

— —, *Lap. et Gory, Mon. 20, tab. v. f. 23* (1835).

Habitat Salvages (ins. *majorem*, borealem), à Barone Castello de Paiva communicatus.

It is a most remarkable fact that this strictly North-American *Clytus* should occur in any of these Atlantic Groups—above all, on the remote, *uninhabited*, and almost inaccessible rocks of the Salvages. Yet a single example has lately been communicated by the Barão do Castello de Paiva, who certainly obtained it from the larger (and more northern) island—known as the Great Salvage; and after a careful comparison of it with American ones, I can see nothing to warrant the suspicion that it is specifically distinct. The small raised transverse lines on the disk and posterior region of its prothorax differ a *little*, in shape and development, from those on the ordinary type; but it is so little, and the insect is altogether so well defined, that such slight discrepancies are scarcely worth alluding to, and afford no evidence whatever of anything approaching to a specific character.

As the existence of this *Clytus* on the Salvages is a unique fact, it must probably be dependent upon something altogether excep-

* Cf. the remarks on this *Clytus* at pp. 389 and 390 of my Canarian Catalogue, as also the *reasons* for rejecting the *C. griseus*, which is quoted as Canarian by MM. Gory and Brullé.

tional; and it seems far from unlikely therefore that the wreck of an American vessel upon those dangerous rocks may have been the occasion of timbers being cast on shore which were infested by a wood-borer so eminently likely to attack recently-sawn planks. At least some such solution as this, of a problem otherwise difficult, appears to me to be by no means impossible.

Genus 292. **GRACILIA.**

Serville, *Ann. de la Soc. Ent. de France*, iii. 81 (1834).

959. **Gracilia pygmæa.**

Callidium pygmæum, *Fab., Ent. Syst.* i. ii. 323 (1792).

Obrium minutum, *Steph., Ill. Brit. Ent.* iv. 250 (1831).

Gracilia pygmæa, *Muls., Longic. de France*, 103 (1840).

— —, *Woll., Cat. Can. Col.* 390 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Fuert., Gom., Palma*), præsertim in vimineis circa domos, hinc inde haud infrequens.

The European *G. pygmæa* is widely spread over these Atlantic Groups, where in all probability it has become established from higher latitudes. It occurs for the most part about houses, or in their immediate neighbourhood, and seems to be attached principally to different kinds of wicker- or basket-work—on the dry sticks, and wood, of which it feeds. It has been found sparingly, around Funchal, in Madeira proper, and, more commonly, in Fuerteventura, Gomera, and Palma, of the Canaries. During my sojourn in the last-mentioned island, I took it (at the Souces) emerging from its perforations in the sides of some light open trays in which silkworms were being fed.

Fam. 57. LAMIADÆ.

Genus 293. **DEUCALION.**

Wollaston, *Ins. Mad.* 430 (1854).

960. **Deucalion Desertarum.**

Deucalion Desertarum, *Woll., Ins. Mad.* 434, tab. ix. f. 2 (1854).

— —, *Id., Cat. Mad. Col.* 127 (1857).

Habitat Maderenses (*Des., Bugio*), in summis insularum rarissimus.

This fine Longicorn has been detected hitherto only on the extreme summits of the two southern Desertas, in the Madeiran Group, where it is truly indigenous and of excessive rarity. I have taken it in

both of those islands, from under stones and within the fissures of the rocks; and on the southern one of them (or Bugio) a single specimen was found by the Rev. R. T. Lowe, whilst a second was obtained from it by the Barão do Castello de Paiva. Although the few examples as yet brought to light have been captured either beneath slabs of stone or in the crevices of the exposed rocks, there can be no doubt that the insect is attached in reality to the stalks of some of the shrubby plants (perhaps Euphorbias) which grow on those remote islands.

961. *Deucalion oceanicus*.

Deucalion oceanicus, *Woll., Ins. Mad.* 433 (note) (1854).

— —, *Id., Journ. of Ent.* i. 90 (1860).

Habitat Salvages (ins. *minorem*, *australem*), à Dom. Leacock repertus.

Several specimens of this noble insect were captured by Mr. T. S. Leacock, of Madeira, during 1851, on the *southern* island of the Salvages—known as the “Great Piton.” Although taken under stones, we may be pretty sure that their proper *habitat* must have been (as in the case of the *Leprosoma gibbum* in the Canaries) within the rotten stems of some plant—possibly of a *Euphorbia* or *Kleinia*.

Genus 294. **LEPROMORIS.**

Pascoe, in *Journ. of Ent.* ii. 278 (1864).

962. *Lepromoris gibba*.

Leprosoma asperatum, *Dej., Cat.* 372 (1837).

Lamia gibba, *Brullé, in Webb et Berth. (Col.)* 62, pl. i. f. 5 (1838).

Leprosoma asperatum, *Thoms., loc. cit.* 23 (1860).

— *gibbum*, *Woll., Trans. Ent. Soc. Lond.* i. 178 (1862).

— —, *Id., Cat. Can. Col.* 391 (1864).

Habitat Canarienses (*Fuert., Ten., Gom., Hierro*), truncos *Euphorbiarum* emortuos destruens.

Peculiar apparently to the Canarian archipelago, in all the islands of which it will most likely be found to exist. I have taken it in Fuerteventura and Teneriffe; in the latter of which, as well as in Gomera and Hierro, it was captured by the Messrs. Crotch. It is attached exclusively to the Euphorbias, and occurs for the most part at intermediate altitudes. The generic title of *Leprosoma* (under which it was described by M. Thomson in 1860) having been pre-occupied by Baerensprung, I have been compelled to adopt the one which was proposed for it subsequently by Mr. Pascoe.

Genus 295. **POGONOCHERUS.**(Megerle) Steph., *Ill. Brit. Ent.* iv. 233 (1831).963. *Pogonocherus hispidus.**Cerambyx hispidus*, Linn., *Fna Suec.* 484 (1761).*Pogonocherus hispidus*, Steph., *loc. cit.* 234 (1831).— —, *Muls.*, *Longic. de France*, 159 (1840).— —, *Woll.*, *Cat. Mad. Col.* 128 (1857).*Habitat* Maderenses (*Mad.*), rarissimus; forsan ex Europâ introductus.

Of this European insect I have seen hitherto but three specimens from these Atlantic islands. They were all taken in Madeira proper—two of them by Mr. Mason (I believe near Funchal), and the third by the late Mr. Bewicke (off a myrtle on the summit of the Cabo Giram). It is not unlikely that the species may have been naturalized accidentally from some more northern country.

Genus 296. **STENIDEA.**Mulsant, *Coléopt. de France (Lamell. Suppl.)* (1842).964. *Stenidea annulicornis.**Cerambyx annulicornis*, Brullé, in *W. et B. (Col.)* 62, pl. 1. f. 3 (1838).*Blabinotus annulicornis*, Woll., *Trans. Ent. Soc. Lond.* i. 179 (1862).*Stenidea annulicornis*, *Id.*, *Journ. of Ent.* ii. 108 (1863).— —, *Id.*, *Cat. Can. Col.* 391 (1864).*Habitat* Canarienses (*Ten.*, *Gom.*, *Hierro*), sub cortice *Euphorbiarum* laxo emortuo latens.

A Canarian Longicorn which seems to be attached to the dead Euphorbias, at low and intermediate altitudes, beneath the loose bark of which it is locally far from uncommon. It will probably be found universally throughout the Group, though hitherto it has been observed only in Teneriffe, Gomera, and Hierro. I have taken it in the first and third of those islands, and it was captured in the whole three of them by the Messrs. Crotch.

965. *Stenidea albida.**Cerambyx albidus*, Brullé, in *Webb et Berth. (Col.)* 62, pl. 1. f. 4 (1838).*Blabinotus albidus*, Woll., *Trans. Ent. Soc. Lond.* i. 180 (1862).*Stenidea albida*, *Id.*, *Journ. of Ent.* ii. 109 (1863).— —, *Id.*, *Cat. Can. Col.* 392 (1864).*Habitat* Canarienses (*Lanz.*, *Fuert.*, *Ten.*, *Gom.*, *Hierro?*), in locis similibus ac præcedens.

Likewise Canarian, and of *Euphorbia*-infesting habits. Indeed it occurs in exactly the same kind of places as the last species (to which it is closely allied), and often in company with it. It will doubtless be found universally throughout the Group, though hitherto it does not happen to have been observed in either Grand Canary or Palma; but we may be pretty sure that it exists there, as it does in the remaining five islands. I have captured it in Lanzarote, Fuerteventura, and Teneriffe; and it was taken by the Messrs. Crotch in Gomera and Hierro*.

966. *Stenidea pilosa*.

Blabinotus pilosus, *Woll., Trans. Ent. Soc. Lond.* i. 181 (1862).

Stenidea pilosa, *Id., Journ. of Ent.* ii. 109 (1863).

— —, *Id., Cat. Can. Col.* 392 (1864).

Habitat Canarienses (*Lanz.*), in *Euphorbiis* emortuis rarissima.

The few examples which I have seen of this Canarian *Stenidea*, which I believe to be likewise attached to the Euphorbias, were taken by Mr. Gray and myself in Lanzarote. In a paper on Euphorbian Coleoptera, I cited this and the two preceding species as *Blabinoti*; but their deflexed heads and more deeply emarginate eyes, added to their apically acute (instead of securiform) palpi, and their much longer antennæ, assign them (equally with the following one) to a different section of the Longicorns.

967. *Stenidea Hesperus*.

Stenidea Hesperus, *Woll., Journ. of Ent.* ii. 110 (1863):

— —, *Id., Cat. Can. Col.* 392 (1864).

Habitat Canarienses (*Hierro*), super folia *Rumicis lunarie* semel lecta.

Hitherto unique, a single example having been captured by myself in Hierro, the most western island of the Canarian Group. It was beaten from a bush of the *Rumex lunaria*, at a low elevation (scarcely indeed above the sea-level), on the ascent from Port Hierro to Valverde; but whether it was in any way dependent on that plant, or whether its presence there was merely accidental, I am of course unable to decide. But, judging from analogy, I should suspect, rather, that the species is of *Euphorbia*-infesting habits.

* I have queried the existence of the *S. albida* in Hierro, because a series of specimens now before me which were taken by the Messrs. Crotch in that island have their distinctive characters (which consist chiefly in the colour and arrangement of their clothing) so completely obliterated, through their having been preserved in alcohol and *glycerine*, that it is next to impossible to decide absolutely to which of these two closely-allied *Stenideæ* some of them pertain. I feel almost certain, however, that *both* species are represented.

Genus 297. **AGAPANTHIA.**

Serville, *Ann. de la Soc. Ent. de France*, iv. 35 (1835).

968. **Agapanthia cardui.**

Cerambyx cardui, *Linn., Syst. Nat.* (edit. 12) i. 632 (1767).

Saperda suturalis, *Fab., Syst. Eleu.* ii. 326 (1801).

Leptura suturalis, *Brullé, in Webb et Berth.* (Col.) 63 (1838).

Agapanthia cardui, *Woll., Cat. Can. Col.* 393 (1864).

Habitat Canarienses (*Can., Ten., Palma*), præcipue ad flores carduorum tempore vernali in intermediis occurrens.

The *A. cardui*, of southern Europe and northern Africa, occurs in the Canarian Group—where it is widely diffused, although nowhere very abundant. It is found at intermediate elevations, principally on the flowers of Thistles; and it has been captured in Grand Canary, Teneriffe, and Palma.

Fam. 58. **CRIOCERIDÆ.**Genus 298. **LEMA.**

Fabricius, *Ent. Syst.* v. Suppl. 90 (1798).

969. **Lema melanopa.**

Chrysomela melanopa, *Linn., Fna Suec.* 573 (1761).

Lema melanopa, *Brullé, in Webb et Berth.* (Col.) 74 (1838).

— —, *Woll., Ins. Mad.* 436 (1854).

— —, *Id., Cat. Mad. Col.* 129 (1857).

— —, *Id., Cat. Can. Col.* 393 (1864).

— —, *Hartung, Geolog. Verhältn. Lanz. und Fuert.* 141.

Habitat Maderenses (*Mad., Pto Sto, Des.*), Salvages (ins. *majorem*, borealem), et Canarienses (ins. *omnes*), præcipue in cultis vulgarissimis; forsan ex Europâ introducta.

This common European insect abounds throughout these Atlantic Groups, where we may feel tolerably sure that it is universal. It has been found in all the Madeiran islands except the northern and southern Desertas, and in the whole seven of the Canarian archipelago; and a specimen has been obtained, by the Barão do Castello de Paiva, even from the Great Salvage. Yet, although thus general, I have little doubt that it has become established from more northern countries; for it is a remarkable fact that many of the species which are met with in the greatest profusion, and at nearly every altitude, are the most unmistakeably naturalized. It occurs chiefly in cultivated spots, particularly corn-fields, at low and intermediate elevations.

Genus 299. **CRIOCERIS.**Geoffroy, *Ins. des Env. de Paris*, i. 237 (1764).970. **Crioceris asparagi.**Chrysomela asparagi, *Linn., Fna Suec.* 567 (1761).Crioceris asparagi, *Fab., Ent. Syst.* i. ii. 10 (1792).— —, *Woll., Ins. Mad.* 437 (1854).— —, *Id., Cat. Mad. Col.* 129 (1857).*Habitat* Maderenses (*Mad.*), in cultis rarissima; forsan ex Europâ introducta.

I am doubtful whether this common European *Crioceris* should any longer be included in the fauna of these Atlantic islands,—two specimens, which were taken many years ago (near Funchal) in Madeira proper by the late Dr. Heineken, embodying the entire evidence, up to the present date, on which its claim for admission rests. Still, as it has already been published as Madeiran, and since it is certainly possible that it may be found to occur even on the *indigenous* species of *Asparagus*, I will not venture to suppress it.

971. **Crioceris nigropicta.**Crioceris nigropicta, *Woll., Cat. Can. Col.* 394 (1864).*Habitat* Canarienses (*Can.*), rarissima; ad folia *Arundinis donacis* in intermediis parcissime deprehensa.

An extremely rare, and most elegant, species which I have observed hitherto only in Grand Canary,—where I obtained four examples of it off some plants of the *Arundo donax*, at Mogan, in a Barranco towards the south-west of that island.

Fam. 59. EUMOLPIDÆ.Genus 300. **PSEUDOCOLASPIS.**Laporte, *Hist. Nat. des Ins. Col.* ii. 514 (1840).§ I. *Scutellum subsemicircularare.*972. **Pseudocolaspis divisa.**Pseudocolaspis divisa, *Woll., Cat. Can. Col.* 394 (1864).*Habitat* Canarienses (*Lanz.*), sub lapidibus in aridis rarissima.

Observed hitherto only in the extreme north of Lanzarote, of the

Canarian Group,—where it occurs (though very sparingly) on the dry rocky ground at the base of the Risco, immediately behind the Salinas.

§ II. *Scutellum subquadratum.*

973. *Pseudocolaspis dubia.*

Pseudocolaspis dubia, *Woll., Cat. Can. Col.* 395 (1864).

Habitat Canarienses (*Fuert.*), in intermediis rarissima.

The only three specimens which I have seen of this Canarian *Pseudocolaspis* were taken by myself in the Rio Palmas, of Fuerteventura.

974. *Pseudocolaspis splendidula.*

Pseudocolaspis splendidula, *Woll., Ann. Nat. Hist.* ix. 442 (1862).

— — —, *Id., Cat. Can. Col.* 395 (1864).

Habitat Canarienses (*Can., Ten., Palma, Hierro*), in inferioribus intermediisque occurrens.

Widely spread over the Canarian Group, where we may be pretty sure that it occurs in all the islands except perhaps the two eastern ones. It is found for the most part in hot sunny spots of low and intermediate elevations (especially the former), frequenting the foliage of various shrubs. I have taken it abundantly in the south of Grand Canary, particularly in the sandy tract at Maspalomas (and, to a certain distance, on the mountains which rise gradually to the north of it), and likewise in the Barranco above S^{ta} Cruz of Palma. In Hierro it was captured by Mr. Gray—almost at the sea-level, on the ascent to Valverde from Port Hierro; and in Teneriffe it was beaten in profusion by Mr. G. R. Crotch off a Nectarine-tree, between Matanza and the Villa of Orotava.

975. *Pseudocolaspis obscuripes.*

Pseudocolaspis obscuripes, *Woll., Ann. Nat. Hist.* ix. 441 (1862).

— — —, *Id., Cat. Can. Col.* 396 (1864).

Habitat Canarienses (*Can.*), ad flores *Cistorum* in montibus excelsis sat copiose deprehensa.

Found at a high elevation in the mountains of Grand Canary, where I captured it on *Cistus*-blossoms in a lofty Pinal of the central district of Tarajana. It is closely allied to the *splendidula*; but, apart from its different habits and range, it may be known from that species by its obscurer surface (even the limbs, with the exception of

the second antennal joint, being of a metallic black), by its somewhat narrower tibiæ, and by the short silvery pile of its elytra being rather more evidently arranged in longitudinal rows*.

Fam. 60. CRYPTOCEPHALIDÆ.

Genus 301. CRYPTOCEPHALUS.

Geoffroy, *Hist. Abr. des Ins. de Paris*, i. 232 (1762).

976. *Cryptocephalus crenatus*.

Cryptocephalus crenatus, *Woll., Ins. Mad.* 456 (1854).

— —, *Id., Cat. Mad. Col.* 135 (1857).

Habitat Maderenses (*Mad.*), hinc inde in graminosis herbisque intermediis.

Detected hitherto only in Madeira proper, where it occurs sparingly (in grassy places, and amongst dense herbage) at intermediate altitudes.

977. *Cryptocephalus nitidicollis*.

Cryptocephalus nitidicollis, *Woll., Cat. Can. Col.* 397 (1864).

Habitat Canarienses (ins. omnes), late sed parce diffusus. Ab orâ maritimâ usque ad 9000' s. m., ascendit.

* The "*Colaspis barbara*, Fab." (= *Colaphus ater*, Oliv., of the more modern and correct catalogues), is admitted by M. Brullé into the meagre list of Canarian Coleoptera which he compiled from the material of MM. Webb and Berthelot; and I think therefore that it should at all events be noted in the present place—which is its proper one in a natural system. Although there is no reason (since it is an insect of Mediterranean latitudes) why it should not occur at the Canaries—beyond the fact of its *not* having been brought to light amongst the enormous mass of specimens which have been collected (by myself, Mr. Gray, the Messrs. Crotch, and other naturalists) during the last few years in that archipelago—I nevertheless cannot admit it into the fauna without *some* kind of evidence beyond that which is supplied by M. Brullé having merely inserted it (unaccompanied by a word of information) into a short list which is only remarkable for its unparalleled inaccuracy and its total silence on every single point of local or scientific interest. And this course seems to be the more necessary on account of several other species (such as the *Erodus europæus*, the *Akis acuminata*, the *Cicindela nilotica*, &c.), on which I have already had occasion to comment, being in a similar predicament, and with every appearance of being mere importations from the African coast. Moreover a simple *list* affords us no possible guarantee that the individual (on the strength of which we may suppose that he admitted the *C. barbara* into the fauna) was ever correctly *identified* by M. Brullé; whilst, judging from the almost incredible proportion which are wrongly determined, amongst the very few species which his catalogue contains, there is more than an average probability that the (so-called) "*Colaspis barbara*" which he there records was in reality something entirely different. So that, until further evidence has been obtained, it is impossible that I can safely regard the insect in question as a Canarian one.

Universal, though by no means abundant, throughout the Canarian archipelago,—in the whole seven islands of which it has been captured, occurring from the sea-level to an altitude of about 9000 feet. In the higher elevations it varies a good deal in colour—its limbs, and the obscurer portions of its surface, becoming at times nearly black. This is particularly the case with many of the specimens which I have taken off the blossoms of the *Retama*, on the upland Cumbres of Teneriffe.

978. *Cryptocephalus puncticollis*.

Cryptocephalus puncticollis, *Woll., Cat. Can. Col.* 398 (1864).

Habitat Canarienses (*Ten., Gom., Palma, Hierro*), in intermediis parce degens.

Likewise Canarian, but perhaps somewhat scarcer than the last species, occurring at intermediate altitudes. I have taken it in Teneriffe, Palma, and Hierro; and it was found by the Messrs. Crotch (“above Hermigua, towards the Valle Hermoso”) in Gomera.

Genus 302. **STYLOSOMUS.**

Suffrian, in *Linn. Ent.* iii. 146 (1848).

979. *Stylosomus biplagiatus*.

Stylosomus biplagiatus, *Woll., Cat. Can. Col.* 399 (1864).

Habitat Canarienses (*Fuert.*), ad folia *Tamaricis gallicæ* in intermediis deprehensus.

The present Canarian *Stylosomus*, which appears to be quite distinct from the European *S. tamarisci*, I took rather abundantly in Fuerteventura—off shrubs of the *Tamarix gallica*, in the Rio Palmas; but it has not yet been observed elsewhere.

Fam. 61. **CHRYSOMELIDÆ.**

Genus 303. **CHRYSOMELA.**

Linnæus, *Syst. Nat.* edit. 1. (1735).

980. *Chrysomela sanguinolenta*.

Chrysomela sanguinolenta, *Linn., Fna Succ.* 165 (1761).

— sanguinea, *Brullé, in Webb et Berth. (Col.)* 73 (1838).

— lucidicollis?, *Küst. Käf. Europ.* ii. 73 (1844).

Chrysomela sanguinolenta, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 141, 142.

— —, *Woll., Cat. Can. Col.* 399 (1864).

Habitat Canarienses (in *Gom. solâ* haud observata), plerumque in subinferioribus occurrunt.

Doubtless universal throughout the Canarian Group, in all the islands of which it has been taken except Gomera—where, nevertheless, we may be pretty sure that it exists. It appears to be tolerably common in the more eastern islands (occurring principally at rather low elevations), and to become scarcer as we approach the western ones. Its detection in Hierro is due to the late researches of the Messrs. Crotch.

The Canarian examples differ a little from the ordinary European type, and may perhaps be referable to the *C. lucidicollis* of Küster; but as the latter is acknowledged to be a mere variety of the *sanguinolenta*, there is no reason for suspecting that the Canarian form is specifically distinct.

981. *Chrysomela regalis*.

Chrysomela bicolor, *Fab. [nec Linn.], Syst. Ent.* 95 (1775).

— *regalis*, *Oliv., Ent.* v. 91. 538, tab. vii. f. 98 (1807).

— *canariensis*, *Brullé, in Webb et Berth. (Col.)* 73 (1838).

— *regalis*, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 141.

— *bicolor*, *Woll., Cat. Can. Col.* 400 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), sub lapidibus in inferioribus intermediisque minus frequens.

The *C. regalis* of Mediterranean latitudes occurs, though locally, in at any rate the eastern portion of the Canarian Group; but it has not yet been observed in the central and western islands. It has been taken in Lanzarote, Fuerteventura, and Grand Canary—occurring beneath stones, principally at rather low elevations*.

982. *Chrysomela obsoleta*.

Chrysomela obsoleta, *Brullé, in Webb et Berth. (Col.)* 73 (1838).

— —, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 141.

— —, *Woll., Cat. Can. Col.* 401 (1864).

Habitat Canarienses (*Ten., Gom.?*), præcipue in sylvaticis editoribus.

* I have indeed received the *C. regalis* from Paris with the label "Teneriffe" attached to it; but as it appears to be a custom of certain continental entomologists to cite all *Canarian* insects as *Teneriffan* when they do not know the precise *habitat*, and since species undoubtedly from *Lanzarote* have been communicated at the same time, bearing this universal appendage, I do not consider the evidence afforded by a label of that kind as worth notice.

A Canarian *Chrysomela* which is widely spread over the intermediate and rather lofty elevations of Teneriffe, where it occurs principally in sylvan spots. I have not myself detected it in any of the other islands; but a single example was communicated by Dr. Crotch, obtained (as he believes) in Gomera during his first sojourn there in 1862.

M. Hartung cites the *C. obsoleta* as found in Lanzarote; but I have not the slightest hesitation in regarding this *habitat* as erroneous—the species being emphatically a sylvan one and confined to the central portion of the archipelago. The mistake must undoubtedly have arisen from his having failed to take sufficient precautions against the after-intermixture of the material which he collected in the various islands,—a fact on which I have already been compelled to comment, in the case of several insects concerning the localities of which there could be no room for question. It is a grievous misfortune for the subject of topographical distribution when travellers omit to take that amount of care in the separation of their specimens which can alone enable them, afterwards, to report faithfully on the exact districts in which the latter were found.

983. *Chrysomela fortunata*.

Chrysomela fortunata, Woll., *Cat. Can. Col.* 402 (1864).

Habitat Canarienses (*Palma*), in montibus semel capta.

A single example of this *Chrysomela*, taken by myself in Palma of the Canarian Group (on the mountains above S^{ta} Cruz), embodies all that I know about the species of which it is the exponent. I scarcely think that it can represent any insular phasis of the *obsoleta*; nevertheless until further material has been obtained for inspection, it would be unsafe to regard its diagnosis as satisfactorily established.

984. *Chrysomela rutilans*.

Chrysomela rutilans, Woll., *Cat. Can. Col.* 402 (1864).

Habitat Canarienses (*Gom.*), rarissima.

A noble Canarian species which has been found hitherto only in Gomera. It was taken by Mr. Gray and myself in the Barranco above San Sebastian, and recently in greater abundance by the Messrs. Crotch. Its large size, and brassy, unalutaceous, brilliant surface, added to its subquadrate and considerably developed prothorax (which is very deeply impressed on either side), will at once abundantly distinguish it.

985. *Chrysomela gemina*.

Chrysomela gemina et nitens, Brullé, in *Webb et Berth.* (Col.) 73, 74 (1838).

— — —, *Woll., Cat. Can. Col.* 403 (1864).

Habitat Canarienses (*Ten., Gom., Palma*), in inferioribus intermediisque sat vulgaris.

Likewise a Canarian *Chrysomela*, and perhaps the commonest of the species hitherto detected—even whilst not the most widely spread. I have taken it in Teneriffe and Palma; and it was found in Gomera by the Messrs. Crotch. It attaches itself to various plants. Thus, in Teneriffe, it was captured abundantly by Mr. Gray and myself upon the *Lavandula abrotanoides*, near the Puerto Orotava; and I subsequently met with a bush of *Bystropogon*, above Taganana, literally sparkling with it,—a fact of which I have seen the exact counterpart at Madeira, in the case of the *C. onychina*. And near S^{ta} Cruz I have observed it congregating around the roots of the Euphorbias.

The prothorax of the present *Chrysomela* is usually quite entire; but sometimes there are faint indications of a longitudinal depression towards either side, which in rare instances is exaggerated so as to become quite conspicuous. Nevertheless the two forms graduate into each other so completely that I am satisfied there is no indication of a second species amongst the large mass of material which I have examined, from various altitudes and three different islands. Yet I have little doubt that M. Brullé's *C. gemina* and *nitens* were founded on an extreme example (or examples) of these particular states. Most of the (few) Gomeran and Palman individuals now before me have the sides of their prothorax more evidently impressed than the ordinary Teneriffan ones; but in one or two the impression is obsolete, whilst occasional specimens even from Teneriffe have it pretty strongly expressed.

986. *Chrysomela onychina*.

Chrysomela Fragariæ, *Woll., Ins. Mad.* 458, tab. ix. f. 7 (1854).

— — —, *Id., Cat. Mad. Col.* 135 (1857).

— — —, *Id., Ann. Nat. Hist.* v. 459 (1860).

Habitat Maderenses (*Mad.*), in sylvaticis subeditioribus plantas præsertim *Bystropogonis punctati*, Hérít., destruens.

A most remarkable *Chrysomela* which appears to be peculiar to the damp sylvan districts of Madeira proper, where, however, it is

extremely scarce. It is much attached to the foliage of the *Bystrpogon punctatus*, Hérit.,—bushes of which I have (on one or two occasions), at the Ribeiro Frio, seen absolutely glittering with it.

Genus 304. **GASTROPHYSA.**

(Chevrolat) Redt., *Fna Austr.* 553 (1849).

987. *Gastrophysa polygoni*.

Chrysomela Polygoni, Linn., *Fna Succ.* 520 (1761).

Gastrophysa Polygoni, Redt., *op. cit.* 553 (1849).

— —, Woll., *Ins. Mad.* 459 (1854).

— —, *Id.*, *Cat. Mad. Col.* 135 (1857).

Habitat Maderenses (Mad.), à Dom. Heineken semel deprehensa.

I am very doubtful whether I ought still to admit this common European insect into our Catalogue,—a single example, taken many years ago in Madeira proper by the late Dr. Heineken, being the only one (so far as I am aware) that has hitherto occurred in these Atlantic islands. In all probability, therefore, that specimen was a mere accidental introduction from more northern latitudes.

Genus 305. **PHÆDON.**

(Megerle) in Dahl, *Cat.* 74 (1823).

988. *Phædon menthæ*.

Chrysomela rufipes?, Brullé [nec *De Geer*], in *Webb et Berth. (Col.)* 74 (1838).

Phædon menthæ, Woll., *Cat. Can. Col.* 404 (1864).

Habitat Canarienses (Can.), foliis *Menthæ* in humidis intermediis gaudens.

Hitherto I have observed this *Phædon* only in Grand Canary,—where it is locally abundant, at intermediate elevations and in watery spots, on the foliage of a large *Mentha*.

Genus 306. **PHRATORA.**

(Chevrolat) Redt., *Fna Austr.* 554 (1849).

989. *Phratora vulgatissima*.

Chrysomela vulgatissima, Linn., *Syst. Nat.* i. ii. 589 (1767).

— —, *Dufits.*, *Fna Austr.* iii. 210 (1825).

Phædon unicolor, Steph., *Ill. Brit. Ent.* iv. 336 (1831).

Phratora vulgatissima, Woll., *Cat. Can. Col.* 405 (1864).

Habitat Canarienses (Palma), à W. D. Crotch semel capta.

Of this common European insect I have seen as yet but a single example from these Atlantic islands. It was taken by Dr. Crotch, during the spring of 1862, in Palma of the Canarian Group.

Genus 307. **MNIOPHILOSOMA.**

Wollaston, *Ins. Mad.* 453 (1854).

990. **Mniophilosoma læve.**

Mniophilosoma læve, *Woll., Ins. Mad.* 454, tab. ix. f. 8 (1854).

—— —, *Id., Cat. Mad. Col.* 135 (1857).

Habitat Maderenses (*Mad.*), præcipue inter muscos ad truncos arborum crescentes in lauretis editioribus haud infrequens.

Peculiar apparently to the higher elevations of Madeira proper, where it is far from uncommon amongst moss—whether growing on the trunks of trees or on rocks.

Fam. 62. GALLERUCIDÆ.

Genus 308. **CALOMICRUS.**

(Dillwyn) Steph., *Ill. Brit. Ent.* iv. 293 (1831).

991. **Calomicrus Wollastoni.**

Calomicrus Wollastoni, Paiva, *Ann. Nat. Hist.* viii. 210 (1861).

—— —, *Woll., Cat. Can. Col.* 405 (1864).

Habitat Canarienses (*Ten., Gom., Palma, Hierro*), ad flores varios præsertim *Cistorum* in intermediis editioribusque occurrens.

This pallid *Calomicrus* would appear to be essentially Canarian, occurring on various flowers and for the most part at rather lofty altitudes. It has been taken in Teneriffe, Gomera, Palma, and Hierro. I have usually met with it on the blossoms of the *Cistus vagans* and *monspeliensis*; but Mr. G. R. Crotch obtained it in Gomera “by sweeping potatoe-plants in the laurel-region.”

Fam. 63. HALTICIDÆ.

Genus 309. **HALTICA.**

Geoffroy, *Hist. Abr. des Ins.* i. 244 [script. *Altica*] (1762).

(Subgenus *Crepidodera*, Chev.)992. *Haltica Allardii*.

Haltica Allardii, Woll., *Journ. of Ent.* i. 1 (1860).

Crepidodera Allardii, All., *Ann. de la Soc. Ent. de France*, 312 (1861).

Haltica Allardii, Woll., *Cat. Can. Col.* 406 (1864).

Habitat Canarienses (*Ten.*), foliis *Physalidis aristatae* in apricis inferioribus gaudens.

A Canarian *Haltica* which I have observed hitherto only in the north of Teneriffe—in hot cindery spots of a low elevation around the Puerto Orotava. It is closely allied to the European *H. atropa*, and is attached to the foliage of the *Physalis aristata*—a shrub intimately related to the *Atropa belladonna*, on which its more northern representative exclusively subsists.

993. *Haltica ventralis*.

Haltica ventralis, Illig., *Mag. für Ent.* vi. 58 (1807).

— *Salicariæ*, Woll. [nec Payk.], *Ins. Mad.* 442 (1854).

— —, *Id.*, *Cat. Mad. Col.* 131 (1857).

Crepidodera ventralis, All., *Ann. de la Soc. Ent. de France* 54 (1860).

Habitat Maderenses (*Mad.*, *Pto Sto*), in inferioribus haud infrequens.

The European *H. ventralis* occurs at low elevations in Madeira proper and Porto Santo, of the Madeiran Group—being rather scarce in the former island, but tolerably common in the latter.

994. *Haltica lubrica*.

Haltica lubrica, Woll., *Cat. Can. Col.* 406 (1864).

Habitat Canarienses (*Ten.*), à W. D. Crotch semel deprehensa.

A single specimen of this *Haltica* was taken by Dr. Crotch in Teneriffe, during his first Canarian campaign (in the spring of 1862). The many characters which distinguish it from the *ventralis*, to which it is allied, have been fully pointed out in my diagnosis.

(Subgenus *Phyllotreta*, Chev.)995. *Haltica procera*.

Haltica procera, Redt., *Fna Austr.* 532 (1849).

— *subtilis*, Woll., *Ins. Mad.* 441 (1854).

— —, *Id.*, *Cat. Mad. Col.* 131 (1857).

Phyllotreta procera, All., *Ann. de la Soc. Ent. de France*, 378 (1860).

Habitat Maderenses (*Mad.*, *Pto Sto.*, *Des.*), hinc inde, præcipue in cultis subinferioribus.

A species of southern Europe which occurs sparingly in the Madeiran Group—having been captured in Madeira proper, Porto Santo, and the Deserta Grande. It is found for the most part at rather low elevations and in cultivated spots, and may perhaps have become established from more northern latitudes.

996. *Haltica variipennis*.

Haltica variipennis, *Boield., Ann. de la Soc. Ent. de France* 477 (1859).

Phyllotreta varians, *Foudr., Altisides*, 248 (1860).

— *variipennis*, *All., Ann. de la Soc. Ent. de France*, 385 (1860).

Haltica variipennis, *Woll., Cat. Can. Col.* 407 (1864).

Habitat Canarienses (*Ten.*), à W. D. Crotch semel lecta.

The only specimen of this *Haltica* which I have yet seen from these Atlantic islands was captured by Dr. Crotch in Teneriffe, during his first expedition to the Canaries (in 1862). It is a species of Mediterranean latitudes.

(Subgenus *Aphthona*, *Chev.*)

997. *Haltica Paivana*.

Haltica Paivana, *Woll., Journ. of Ent.* i. 2 ((1860).

Aphthona Paivana, *All., Ann. de la Soc. Ent. de France*, 333 (1861).

Haltica Paivana, *Woll., Trans. Ent. Soc. Lond.* i. 182 (1862).

— —, *Id., Cat. Can. Col.* 407 (1864).

Habitat Canarienses (*Lanz., Can., Ten., Gom., Hierro*), folia *Euphorbiarum* destruens.

Attached to the foliage of the various Euphorbias in the Canarian Group, where we may be pretty sure that it is universal—Fuerteventura and Palma being the only islands of the seven in which it does not happen to have been detected. Its occurrence in Gomera is on the authority of the Messrs. Crotch. Although local, it is found at nearly all elevations—in most of the districts which are occupied by the Euphorbias. The species was named after the Barão do Castello de Paiva, to whose researches I have on several occasions been much indebted for additions to the Atlantic fauna.

998. *Haltica plenifrons*.

Haltica plenifrons, *Woll., Cat. Can. Col.* 408 (1864).

Habitat Canarienses (*Palma*), à W. D. Crotch semel capta.

Hitherto I have seen but a single example of this fine Canarian

Haltica. It was taken by Dr. Crotch in Palma, during the spring of 1862.

999. *Haltica crassipes*.

Haltica crassipes, *Woll., Journ. of Ent.* i. 3 (1860).

Aphthona crassipes, *All., Ann. de la Soc. Ent. de France*, 331 (1861).

Haltica crassipes, *Woll., Cat. Can. Col.* 408 (1864).

Habitat Canarienses (*Ten., Gom., Palma, Hierro*), foliis *Sempervivi* et *Sedi* in intermediis editoribusque gaudens.

A Canarian species, which appears to be attached more particularly to the plants of *Sempervivum* and *Sedum* which grow on the rocks at intermediate and lofty elevations. I have taken it in Teneriffe and Palma, and examples are now before me which were captured by the Messrs. Crotch in Gomera and Hierro.

Genus 310. **LONGITARSUS.**

Latreille, *Fam. Nat. des Ins.* 405 [script. *Longitarse*] (1825).

1000. *Longitarsus cinerariæ*.

Longitarsus Cinerariæ, *Woll., Ins. Mad.* 444, tab. ix. f. 6 (1854).

— — —, *Id., Cat. Mad. Col.* 131 (1857).

— consanguineus, *Id., ibid.* 132 (1857).

Teinodactyla Cinerariæ, *All., Ann. de la Soc. Ent. de France*, 316 (1861).

Habitat Maderenses (*Mad.*), plantas *Cinerariæ auritæ*, Hérit. (= *Senecionis maderensis*, DC.), in editoribus crescentes colens.

A singular and very beautiful *Longitarsus*, which has been observed only in the higher altitudes of Madeira proper—where it is locally abundant on the flowers and foliage of the *Cineraria aurita*, the purple clusters of which are often so conspicuous within the damp sylvan regions. Although generally a constant species, it varies a little in certain districts—so that *all* the legs, and even the apex of the elytra, are sometimes pale. That particular form I described in my Madeiran Catalogue under the trivial name of *consanguineus*; but I have since satisfied myself that it is a mere variety, passing into the typical state gradually and completely.

1001. *Longitarsus echii*.

Haltica Echii, *Illig., Mag. für Ins.* vi. 171 (1807).

Longitarsus excurvus, *Woll., Cat. Mad. Col.* 133 (1857).

Teinodactyla Echii, *All., Ann. de la Soc. Ent. de France*, 90 (1860).

Longitarsus echii, *Woll., Cat. Can. Col.* 415 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*Can., Ten., Gom., Palma*); in foliis *Echiorum* degens.

This European species is widely spread over these Atlantic islands, where it occurs on the leaves of *Echium* (particularly the *E. violaceum*, L.) at intermediate elevations. It has been found in Madeira proper and Porto Santo (by the late Messrs. F. A. Anderson and Bewicke, respectively), and in Grand Canary, Teneriffe, Gomera, and Palma of the Canarian Group.

1002. *Longitarsus fuscoæneus*.

Longitarsus fuscoæneus, Redt., *Fna Austr.* 535 (1849).

Teinodactyla fuscoænea, All., *Ann. de la Soc. Ent. de France*, 92 (1860).

Longitarsus fuscoæneus, Woll., *Cat. Can. Col.* 415 (1864).

Habitat Salvages (ins. *majorem*, borealem) et Canarienses (*Fuert.*, *Ten.*) in locis similibus ac præcedens.

Likewise a European *Longitarsus*, and one which has precisely the same habits as the last species—with which indeed it is often found in company. It has been obtained from the Great Salvage by the Barão do Castello de Paiva; and it has been captured (upon the *Echium violaceum*) in the Canarian islands of Fuerteventura and Teneriffe.

1003. *Longitarsus Masoni*.

*Longitarsus Isoplexididis**, Woll., *Ins. Mad.* 443, tab. ix. f. 4 (1854).

— *Masoni*, *Id.*, *Cat. Mad. Col.* 131 (1857).

Teinodactyla Masoni, All., *Ann. de la Soc. Ent. de France*, 318 (1861).

Habitat Maderenses (*Mad.*), foliis *Echii candicantis*, L. fl., in subeditoribus gaudens.

A noble *Longitarsus* which is peculiar (so far as observed hitherto) to the intermediate and lofty elevations of Madeira proper, where it is attached to the robust leaves of the gigantic *Echium candicans*—the large shrubs of which form so marked a feature on the damp rocks—principally within the sylvan districts.

1004. *Longitarsus persimilis*.

Longitarsus persimilis, Woll., *Journ. of Ent.* i. 4 (1860).

Teinodactyla persimilis, All., *Ann. de la Soc. Ent. de Fr.* 319 (1861).

Longitarsus persimilis, Woll., *Cat. Can. Col.* 409 (1864).

Habitat Canarienses (*Ten.*, *Hierro*), folia *Echiorum* præsertim *E. simplicis* in subeditoribus destruens.

Strictly the representative in the Canaries of the Madeiran *L.*

* For the reason which compelled me to alter the specific title of this insect, see the note at p. 131 of my Madeiran Catalogue.

Masoni, of which indeed (despite its many *constant* points of dissimilarity) I cannot feel altogether certain that it may not be an extreme insular modification. Like that insect it occurs at intermediate and rather lofty altitudes, and seems to be attached to the various *Echia*—particularly a large species (perhaps the *simplex*) which is closely related to the gigantic *E. candicans*, of Madeira, on which the *L. Masoni* subsists. I have however observed it, likewise, at any rate in Hierro, on the foliage of the common *E. violaceum*. The *L. persimilis* has been captured, as yet, only in Teneriffe and Hierro; but we may expect it to be found more generally distributed.

1005. *Longitarsus messerschmidtiae*.

Longitarsus messerschmidtiae, Woll., *Journ. of Ent.* i. 6 (1860).

Teinodactyla messerschmidtiae, All., *Ann. Soc. Ent. de Fr.* 319 (1861).

Longitarsus messerschmidtiae, Woll., *Cat. Can. Col.* 410 (1864).

Habitat Canarienses (*Ten.*, *Palma*, *Hierro*), ad plantas *Messerschmidtiae fruticosae* in inferioribus intermediisque hinc inde vulgaris.

So far as I have observed hitherto, this Canarian *Longitarsus* appears to subsist on the leaves of the fragrant *Messerschmidtia fruticosa*—principally at rather low, but sometimes at intermediate altitudes,—under which circumstances I have taken it abundantly in Teneriffe, Palma, and Hierro. Although most thoroughly dissimilar in its normal state to the *L. persimilis*, it is somewhat curious that occasional highly-coloured examples of it should make so decided a *primâ facie* approach to the paler ones of that insect that it is almost impossible to resist the inquiry whether it might not be an extreme (unspotted) modification of the latter, brought about perhaps by the adoption of a food-plant so totally different from the *Echia*. As recorded however in my Canarian Catalogue, I believe nevertheless (despite the existence of the very rare, and exceptional, individuals just alluded to) that the two species are completely distinct.

1006. *Longitarsus kleiniiperda*.

Longitarsus Kleiniiperda, Woll., *Journ. of Ent.* i. 4 (1860).

Teinodactyla Kleiniiperda, All., *Ann. de la Soc. Ent. de Fr.* 325 (1861).

Longitarsus Kleiniiperda, Woll., *Cat. Can. Col.* 409 (1864).

Habitat Canarienses (*Ten.*, *Gom.*, *Palma*, *Hierro*), folia *Kleinice nerii-folice*, DC., in inferioribus præcipue destruens.

A large and pale Canarian species which has been observed in

Teneriffe, Gomera, Palma, and Hierro. It is found principally in the lower districts, and seems to subsist for the most part on the *Kleinia nerüfolia*. At least I believe that to be the plant which I have often observed absolutely devoured by it; and it is merely through the fact of Mr. G. R. Crotch having assured me that he has met with it in Teneriffe on Euphorbias that I am inclined to question the possibility of my having mistaken the shrub on which my own specimens were captured.

1007. *Longitarsus saltator*.

Longitarsus saltator, *Woll., Ins. Mad.* 445 (1854).

— —, *Id., Cat. Mad. Col.* 132 (1857).

— *fractus*, *Id., ibid.* 133 (1857).

Teinodactyla saltator, *All., Ann. de la Soc. Ent. de France*, 319 (1861).

Habitat Maderenses (*Mad.*), in inferioribus et intermediis rarissimus.

A large *Longitarsus* which has been captured hitherto only in Madeira proper, where it occurs very rarely at rather low and intermediate elevations. I have taken it beneath stones at a short distance (probably about 800 feet above the sea) outside Funchal; and a single example was found by the late Mr. Bewicke at the Ribeiro Frio. It was this latter specimen, which happened to be an unusually highly coloured one, that I described under the trivial name of *fractus*; but as I have since ascertained that the *saltator* is decidedly a variable insect (being sometimes of a uniform lurid or yellowish brown, and at others ornamented with an obscurely darkened sutural band, as well as with a broken lateral dash), I have no hesitation in regarding the *fractus* as a variety of it.

The *L. saltator* in its *unmaculated* state has a good deal in common with the European *L. verbasci*. It is, however, a little smaller than that species, with its head, posterior femora, and the apical portion of its antennæ darker; and the punctation of its elytra is finer and less dense.

1008. *Longitarsus brevipennis*.

Longitarsus brevipennis, *Woll., Journ. of Ent.* i. 8 (1860).

Teinodactyla brevipennis, *All., Ann. de la Soc. Ent. de Fr.* 320 (1861).

Longitarsus brevipennis, *Woll., Cat. Can. Col.* 412 (1864).

Habitat Canarienses (*Lanz.*), ad plantam *Heliophyti erosi*, Lem., per litus arenosum crescentem deprehensus.

Taken by myself in Lanzarote, of the Canarian Group—off a plant of the *Heliophytum erosum*, growing in the loose sand behind the sea-beach, about a mile to the south of Arrecife.

1009. *Longitarsus atricapillus*.

Haltica atricapilla, *DufTs.*, *Fna Austr.* iii. 257.

Longitarsus lutescens, *Woll.* [nec *Gyll.*], *Ins. Mad.* 446 (1854).

— — —, *Id.*, *Cat. Mad. Col.* 132 (1857).

Teinodactyla atricapilla, *All.*, *Ann. de la Soc. Ent. de Fr.*, 117 (1860).

Habitat Maderenses (*Mad.*, *Pto Sto.*, *Ilheo Chão*), in graminosis intermediis haud infrequens.

A European *Longitarsus* which is rather common, in grassy spots of intermediate elevations, in the Madeiran Group. It has been taken in Madeira proper, Porto Santo, and on the northern Deserta (or Ilheo Chão).

1010. *Longitarsus nervosus*.

Longitarsus nervosus, *Woll.*, *Ins. Mad.* 447 (1854).

— — —, *Id.*, *Cat. Mad. Col.* 133 (1857).

Teinodactyla nervosa, *All.*, *Ann. de la Soc. Ent. de France*, 326 (1861).

Habitat Maderenses (*Mad.*, *Pto Sto.*, *Des.*), in locis similibus ac præcedens.

Found at the Madeiran Group, in much the same situations as the last species; and, according to M. Allard, it is distinct from everything European. I have taken it in Madeira proper, Porto Santo, and the Deserta Grande. It has a good deal in common with the *L. ochroleucus*, from which it seems to differ principally in its rather convexer, shorter, and more ovate body, darker hue, coarser punctation, and somewhat less elongated limbs.

1011. *Longitarsus ochroleucus*.

Chrysomela ochroleuca, *Msh.*, *Ent. Brit.* 202 (1802).

Longitarsus ochroleucus et cognatus, *Woll.*, *Journ. of Ent.* i. 7 (1860).

Teinodactyla ochroleuca, *All.*, *Ann. de la Soc. Ent. de Fr.* 131 (1860).

Longitarsus ochroleucus, *Woll.*, *Cat. Can. Col.* 411 (1864).

Habitat Canarienses (*Fuert.*, *Can.*, *Ten.*, *Gom.*), hinc inde in inferioribus intermediisque; forsan ex Europâ introductus.

This European *Longitarsus* is widely spread over the Canarian Group, where it is somewhat scarce and may perhaps have been introduced from higher latitudes. In all probability it will be found to be universal; nevertheless hitherto it has been observed only in Fuerteventura, Grand Canary, Teneriffe, and Gomera. Its occurrence in the last-mentioned island is on the authority of the Messrs. Crotch. The "*L. cognatus*" (which I described in the 'Journ. of Ent.,' and suppressed in my recent Canarian Catalogue) was founded upon a rather infuscated specimen of the *ochroleucus*, captured by Mr. Gray in Fuerteventura.

1012. *Longitarsus circumseptus*.

Altica dorsalis, Brullé [nec Fab.], in Webb et Berth. (Col.) 74 (1838).

Longitarsus dorsalis, Woll. [nec Fab.], Journ. of Ent. i. 8 (1860).

Teinodactyla circumsepta (Gené), All., Ann. Soc. Ent. Fr., 105 (1860).

Longitarsus dorsalis, Woll., Cat. Can. Col. 413 (1864).

Habitat Canarienses (Lanz.), in graminosis intermediis, præsertim ad folia *Senecionis crassifolii*, Wilden., occurrens.

A species which is recorded by M. Allard from Sardinia and Algeria, and one which occurs sparingly in the Canarian Group—having been taken by Mr. Gray and myself (during January 1858) around Haria in the north of Lanzarote, and again by myself in the same district during March of 1859. It seems very partial to the foliage of the *Senecio crassifolius*, Wilden.

Hitherto I have referred this *Longitarsus* to the ordinary European *L. dorsalis*; but a recent comparison of it with types of that insect and of the *circumseptus*, which have been communicated by M. Allard, has convinced me that it is better identified with the latter—which moreover is peculiarly a Mediterranean species, whereas the *dorsalis* is found not only in Mediterranean latitudes but likewise throughout central Europe. The Canarian examples however differ from the Algerian one now before me in having their prothorax testaceous instead of black; but as they agree with it in every other particular, I feel satisfied that this peculiarity is merely a geographical one and is totally insufficient to indicate a distinct species*.

1013. *Longitarsus strigicollis*.

Longitarsus strigicollis, Woll., Cat. Can. Col. 412 (1864).

Habitat Canarienses (Ten.), à W. D. Crotch semel captus.

The only specimen which I have seen of this insignificant *Longitarsus* was taken by Dr. Crotch in Teneriffe, during his first Canarian expedition (in 1862).

1014. *Longitarsus nubigena*.

Longitarsus nubigena, Woll., Ins. Mad. 447 (1854).

— —, Id., Cat. Mad. Col. 133 (1857).

* The *L. circumseptus* seems to differ from the *dorsalis*, mainly, in being a little smaller and more shining, with its limbs (except the hinder femora) pale, its antennæ longer, its eyes a trifle smaller, and its elytra somewhat convexer, more distinctly punctulated, and less rounded off separately at their apex. In their testaceous prothorax, however, the Lanzarotian examples agree with the *dorsalis*; and I would therefore acknowledge this slight insular modification of the *circumseptus* by recording it as the "var. β . *pallidicollis*."

Longitarsus nubigena, *Woll., Journ. of Ent.* i. 8 (1860).

Teinodactyla nubigena, *All., Ann. de la Soc. Ent. de Fr.*, 329 (1861).

Longitarsus nubigena, *Woll., Cat. Can. Col.* 413 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom.*), rarissimus.

Found, though very rarely, at intermediate and lofty elevations in Madeira proper; and it has likewise been taken in Teneriffe and Gomera, of the Canarian Group.

1015. *Longitarsus lycopi*.

Teinodactyla Lycopi, *Foudras, Altis.* 193 (1859).

— — —, *All., Ann. de la Soc. Ent. de France*, 832 (1860).

Habitat Maderenses (*Mad.*), in intermediis parce degens.

A common European *Longitarsus* which occurs very rarely, at intermediate altitudes in Madeira proper; but it has not yet been detected in any of the other islands. It was formerly referred by M. Allard to the *abdominalis* of Duftschmidt; but he appears (from a note subsequently published) to have confounded at that time two closely allied forms—namely, the one just alluded to and the *lycopi* of Foudras; and although its rather stronger punctation would tend to identify the Madeiran insect with the *abdominalis* (at all events as defined in M. Allard's *diagnostic note*), yet its more elongated and less convex elytra assign it rather to the *lycopi*; whilst *types* of both species which M. Allard has communicated would still further necessitate its identification with the latter*.

1016. *Longitarsus pusillus*.

Haltica pusilla, *Gyll., Ins. Suec.* iii. 549 (1813).

Thyamis pusilla, *Steph., Ill. Brit. Ent.* iv. 313 (1831).

Teinodactyla pusilla, *All., Ann. de la Soc. Ent. de France*, 125 (1860).

Longitarsus pusillus, *Woll., Cat. Can. Col.* 414 (1864).

Habitat Canarienses (*Ten.*), à W. D. Crotch semel deprehensus.

Of this minute species, so abundant throughout Europe, I have seen hitherto but a single Atlantic example. It was taken by Dr. Crotch in Teneriffe, during his first sojourn (in 1862) at the Canaries.

* Judging from the examples (communicated by M. Allard) which are now before me, the *L. lycopi* is a trifle more elongated (or less bent inwards at its apex) than the *abdominalis*, which causes the elytra to be somewhat less convex posteriorly, and its punctation is a little coarser. But the Madeiran examples appear to have their shoulders rather more rounded off (or falling away) than is the case in the (single) European type from which my comparison is drawn.

1017. *Longitarsus inconspicuus*.

Longitarsus inconspicuus, *Woll., Journ. of Ent.* i. 9 (1860).

Teinodactyla inconspicua, *All., Ann. de la Soc. Ent. de Fr.* 317 (1861).

Longitarsus inconspicuus, *Woll., Cat. Can. Col.* 414 (1864).

Habitat Canarienses (*Ten.*), in intermediis et præcipue editioribus rarior.

A Canarian species which has been observed hitherto only in the intermediate and lofty districts of Teneriffe, where moreover it would appear to be scarce*.

1018. *Longitarsus vilis*.

Longitarsus vilis, *Woll., Cat. Can. Col.* 415 (1864).

Habitat Canarienses (*Can., Ten.*), adhuc parcissime lectus.

A rather insignificant little *Longitarsus* which has been taken only in Grand Canary and Teneriffe—namely, by myself in the former, and by the Messrs. Crotch in the latter.

1019. *Longitarsus maderensis*.

Teinodactyla Maderensis, *All., Ann. de la Soc. Ent. de Fr.* 659 (1863).

Longitarsus maderensis, *Woll. Append. huj. op.* 56.

Habitat Maderenses (*Mad.*), à Dom. F. A. Anderson in graminosis editioribus detectus.

A few examples of this small *Longitarsus* were captured by the late Mr. F. A. Anderson in Madeira proper—by brushing some grass at the Palheiro, on the mountains to the eastward of Funchal. It appears to be allied to the *obliterata* of Rosenhauer.

* Eight individuals are now before me, taken by the Messrs. Crotch in Teneriffe, which may possibly be the representatives of a distinct (though closely allied) species. I do not believe, however, that they are more than a slight local phasis of the *inconspicuus*; though this question can be decided only when further, and more satisfactory, examples of the *latter* have been obtained. Unfortunately the *two* specimens of the *inconspicuus* to which I have access are females, so that I am unable to tell whether the males have the first joint of their anterior tarsi as greatly dilated as is here the case. And moreover, as these eight examples are more *uniformly* brown than the only mature one of the *inconspicuus* with which I have compared them, and since also they have their elytra a trifle more elliptical and convex, the punctures being a little coarser and with a rather more evident *tendency* to arrange themselves in oblique longitudinal rows, I think perhaps it will be desirable just to record the form of which they are the exponents in the following diagnosis—lest it should prove ultimately to be specifically distinct. Var. β . *ellipsodes*.—Fere concolor, plus minus testaceo-brunneus; elytris subconvexioribus atque etiam magis ellipticis, sensim profundius punctatis, punctis vix magis subseriatim dispositis; tarsis anterioribus (sed præsertim anticis) in maribus articulo basilari valde incrassato.—Long. corp. lin. 1.

Genus 311. **PSYLLIODES.**

Latreille, *Fam. Nat. des Ins.* 405 [script. *Psylliode*] (1825).

1020. **Psylliodes chrysocephala.**

Chrysomela chrysocephala, Scop. [nec Linn., sec. Mus.], *Ent. Carn.* 213 (1763).

Psylliodes chrysocephala, Woll., *Ins. Mad.* 449 (1854).

— —, *Id.*, *Cat. Mad. Col.* 134 (1857).

— —, *All.*, *Ann. de la Soc. Ent. de France*, 810 (1860).

Habitat Maderenses (Mad.), hinc inde in intermediis præcipue cultis.

This common European *Psylliodes* occurs sparingly in the intermediate districts of Madeira proper, particularly in cultivated spots; but it has not yet been observed in the Canaries. Very probably it may have been established at Madeira from more northern latitudes.

1021. **Psylliodes umbratilis.**

Psylliodes umbratilis, Woll., *Ins. Mad.* 450 (1854).

— —, *Id.*, *Cat. Mad. Col.* 134 (1857).

— —, *All.*, *Ann. de la Soc. Ent. de France*, 339 (1861).

Habitat Maderenses (Mad.), in editioribus rarissima.

The very few specimens which I have yet seen of this *Psylliodes* were captured by myself in the higher elevations of Madeira proper, where it would appear to be extremely rare. Possibly it may prove to be but a geographical state of the common European *P. napi*; but until further, and more satisfactory, material has been obtained, it is difficult to arrive at any positive conclusion on this point*.

1022. **Psylliodes amplicollis.**

Psylliodes amplicollis, Woll., *Append. huj. op.* 56.

Habitat Maderenses (Mad.), à Dom. Bewicke semel deprehensa.

The only example of this species which has hitherto come beneath my notice was captured in Madeira proper by the late Mr. Bewicke, in whose collection alone it consequently exists. In some respects it is intermediate between the *umbratilis* and *vehemens*, and, although I do not believe that it can be any modification of either of them, I feel that further material is necessary before the species is satisfactorily established.

* Mr. Rye, to whom I communicated an example of the *P. umbratilis*, remarked as follows: "Closely allied to our *napi*, from which, however, it seems to differ somewhat—chiefly in the very evident punctuation of its interstices, but likewise in the more feeble build of its legs, smaller size, slightly different colour, and more sloped shoulders."

1023. *Psylliodes stolidæ*.

- Psylliodes stolidæ*, Woll., *Journ. of Ent.* i. 11 (1860).
 ———, *All., Ann. de la Soc. Ent. de France*, 340 (1861).
 ———, *Woll., Cat. Can. Col.* 417 (1864).

Habitat Canarienses (Lanz., Fuert.), foliis *Mercurialis annuæ* nisi fallor præcipue gaudens.

A small and rather insignificant *Psylliodes* which has been captured hitherto only in Lanzarote and Fuerteventura, the eastern islands of the Canarian Group, where I believe that it is principally attached to the common *Mercurialis annua*.

1024. *Psylliodes hospes*.

- Psylliodes hospes*, Woll., *Ins. Mad.* 449 (1854).
 ———, *Id., Cat. Mad. Col.* 134 (1857).
 ———, *Id., Journ. of Ent.* i. 10 (1860).
 ———, *All., Ann. de la Soc. Ent. de France*, 340 (1861).
 ———, *Woll., Cat. Can. Col.* 416 (1864).

Habitat Maderenses (*Mad., Pto Sto, Des.*) et Canarienses (ins. omnes), in herbidis præcipue cultis vulgaris.

There can be little doubt that this *Psylliodes* is universal throughout these Atlantic Groups. Indeed I have myself captured it in all the Madeiran islands except the northern and southern Desertas, as well as in the whole seven of the Canarian archipelago. Yet although thus general, it has somewhat the appearance of being an introduced species—occurring for the most part in and about cultivated spots, where it attaches itself principally to certain plants of the *Sinapis*-tribe*.

1025. *Psylliodes vehemens*.

- Psylliodes vehemens*, Woll., *Ins. Mad.* 451 (1854).
 ———, *Id., Cat. Mad. Col.* 134 (1857).
 ———, *Id., Journ. of Ent.* i. 10 (1860).
 ———, *All., Ann. de la Soc. Ent. de France*, 341 (1861).
 ———, *Woll., Cat. Can. Col.* 416 (1864).

Habitat Maderenses (*Mad., Pto Sto, Des.*) et Canarienses (ins. omnes), in intermediis editioribusque herbidis vulgaris. Species colore valde inconstans—modo pallida concolor, modo læte nigro picta.

* Unless the *P. hospes* be but a geographical modification of the *cuprea*, Illig., of more northern latitudes, the fact of its being distinct from every European species hitherto recorded would certainly militate against the hypothesis that it was introduced originally into these Atlantic islands. It is possible therefore that it may be truly aboriginal, but attached to some of the *indigenous* members of the *Cruciferæ*.

As widely diffused as the last species over these Atlantic Groups, where we may be equally certain that it is universal. Moreover there can be no doubt that it is truly indigenous; for it occurs in the most remote districts of intermediate and lofty elevations, and comparatively seldom within the regions that are cultivated. It has been taken in all the Madeiran islands except the northern and southern Desertas (where, however, we may be pretty sure that it exists), as well as in the whole seven of the Canarian archipelago.

1026. *Psylliodes tarsata*.

Psylliodes tarsata, *Woll., Ins. Mad.* 452, tab. ix. f. 5 (1854).

— —, *Id., Cat. Mad. Col.* 135 (1857).

— —, *All., Ann. de la Soc. Ent. de France*, 339 (1861).

Habitat Maderenses (*Mad.*), in sylvaticis humidis intermediis degens.

Peculiar apparently to the damp sylvan regions of Madeira proper, at intermediate and rather lofty altitudes, occurring principally in the north of the island.

Genus 312. **DIBOLIA.**

Latreille, *Règne Anim.* v. 139 (1829).

1027. *Dibolia obtusa*.

Dibolia obtusa, *Woll., Cat. Can. Col.* 417 (1864).

Habitat Canarienses (*Fuert.*), rarissima; semel tantum reperta.

Hitherto I have seen but a single example of this *Dibolia*, which was captured by myself in Fuerteventura of the Canarian Group.

Genus 313. **CHÆTOCNEMA.**

Stephens, *Ill. Brit. Ent.* iv. 325 (1831).

1028. *Chætocnema tarsalis*.

Chætocnema tarsalis, *Woll., Journ. of Ent.* i. 11 (1860).

Plectroscelis tarsalis, *All., Ann. de la Soc. Ent. de France*, 337 (1861).

Chætocnema tarsalis, *Woll., Cat. Can. Col.* 418 (1864).

Habitat Canarienses (*Can.*), in graminosis humidis inferioribus detecta.

The few examples hitherto detected of this *Chætocnema* I captured at Arguiniquin, in the south of Grand Canary, by brushing the short grass along the margins of the freshwater lake immediately behind the sea-beach.

Fam. 64. HISPIDÆ.Genus 314. **HISPA.**Linnæus, *Syst. Nat.* (1776).1029. **Hispa occator.**

Hispa occator, Brullé, in *Webb et Berth. (Col.)* 73, pl. i. f. 17 (1838).
 ———, *Woll., Cat. Can. Col.* 418 (1864).

Habitat Canarienses (*Ten., Palma, Hierro*), præsertim ad folia *Cistus* in pinetis editioribus crescentium hinc inde vulgatissima.

An abundant insect throughout certain regions of a rather high altitude in the Canarian Group, where it may be looked upon as the representative of the *H. testacea* of southern Europe (to which indeed it is closely allied). I have captured it in profusion off the shrubs of the *Cistus monspeliensis* and *vagans* in Teneriffe and Palma, particularly in the districts occupied by the Pinals; and two examples are now before me, taken by M. de la Perraudière in the island of Hierro, which differ from the Palman and Teneriffan ones in being uniformly of an obscure black (even the *limbs* being darkened). But, after a very careful examination of them, I can detect no character to warrant the supposition that they are specifically distinct; and I conclude, therefore, that they must represent some insular phasis of the *occator*, peculiar to Hierro. I would however record them as the “var. β . *adumbrata*,” in the event of future material rendering their separation desirable. I am informed by De Marseul that these individuals from Hierro were found (along with many others) on the shrubs of *Cistus monspeliensis*, in the district of El Golfo.

Fam. 65. CASSIDIDÆ.Genus 315. **CASSIDA.**Linnæus, *Syst. Nat.* i. (1735).1030. **Cassida nebulosa.**

Cassida nebulosa, Linn., *Fna Suec.* 468 (1761).
 ———, *Steph., Ill. Brit. Ent.* iv. 367 (1831).
 ———, *Woll., Ins. Mad.* 439 (1854).
 ———, *Id., Cat. Mad. Col.* 129 (1857).

Habitat Maderenses (*Mad.*), à Dom. Heineken, M.D., semel lecta.

The only example of this European *Cassida* which I have yet seen

from these islands was taken by the late Dr. Heineken, many years ago, near Funchal, in Madeira proper; and I am extremely doubtful whether it can be regarded as more than an accidental importation from higher latitudes, and whether the species should properly be admitted any longer into the Atlantic fauna.

1031. *Cassida hemisphærica*.

- Cassida hemisphærica*, *Hbst, Käf.* viii. 226 (1799).
 — *viridis*, *Br. [nec Fab.], in Webb et Berth. (Col.)* 74 (1838).
 — *hemisphærica*, *Woll., Ins. Mad.* 440 (1854).
 — —, *Id., Cat. Mad. Col.* 130 (1857).
 — —, *Id., Cat. Can. Col.* 419 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can., Ten., Palma; Hierro*), in inferioribus intermediisque, passim.

A European *Cassida* which occurs sparingly, for the most part within the cultivated regions, in Madeira proper. In the Canaries it is far more common, and more widely spread—having been captured in Grand Canary, Teneriffe, Palma, and Hierro.

1032. *Cassida Rossii*.

Cassida Rossii, *Woll., Cat. Mad. Col.* 130 (1857).

Habitat Maderenses (*Mad.*) a J. J. Ross semel deprehensa.

The single example on which I founded this species was captured by Mr. J. J. Ross, near Funchal, in Madeira proper; but I am extremely doubtful whether it is more, after all, than a large and pallid (because immature) variety of the *C. hemisphærica*. At any rate, until further material has been obtained, its diagnosis can scarcely be regarded as quite satisfactory.

Fam. 66. COCCINELLIDÆ.

Genus 316. CHILOCORUS.

Leach, *Edinb. Encyclop.* xv. 116 (1815).

1033. *Chilocorus renipustulatus*.

- Coccinella renipustulata*, *Scriba, Journ.* 276 (1790).
 — *Cacti*, *Mshn, Ent. Brit.* 163 (1802).
Chilocorus renipustulatus, *Steph., Ill. Brit. Ent.* iv. 374 (1831).
 — —, *Woll., Cat. Can. Col.* 424 (1864).

Habitat Canarienses (ins. *omnes*), in inferioribus aridis apricis præsertim inter plantas *Opuntiae tunæ* et *Plocamæ pendulæ*.

A common European insect which is universal throughout the Canarian archipelago, in the whole seven islands of which it has been captured. It occurs principally in dry sunny spots of a low elevation, and is very partial to the *Opuntia tuna* (or Prickly Pear) as well as to the *Plocama pendula*. In higher latitudes, however, I have generally met with it on the stems of ash trees.

Genus 317. **EPILACHNA.**

Chevrolat, *Dict. Univ. d'Hist. Nat.* iv. 43 (1844).

1034. **Epilachna 4-plagiata.**

Epilachna 4-plagiata, *Woll., Cat. Can. Col.* 425 (1864).

Habitat Canarienses (*Fuert.*), in inferioribus aridis arenosis rarissima.

A Canarian *Epilachna* of great rarity, and of which I captured a few specimens in the extreme north of Fuerteventura—in the low, arid, sandy district at Corralejo.

1035. **Epilachna bella.**

Epilachna bella, *Woll., Cat. Can. Col.* 425 (1864).

Habitat Canarienses (*Can.*), in locis similibus ac præcedens.

Detected hitherto only in Grand Canary, and with much the same habits as the last species—occurring in low, sandy spots near the coast. I met with a single example of it at Maspalomas, in the extreme south of that island; and a considerable series is now before me, taken by the Messrs. Crotch, near Las Palmas—in the extreme north.

1036. **Epilachna 10-plagiata.**

Scymnus 10-plagiatus, *Woll., Cat. Mad. Col.* 137 (1857).

Epilachna 10-plagiata, *Id., Cat. Can. Col.* 426 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom., Palma*), in subinferioribus intermediisque late sed parce diffusa.

A small *Epilachna* which seems to be widely spread over these Atlantic islands, where we may expect that it will be found ultimately to be well nigh universal. I have taken it sparingly in the sylvan districts of Madeira proper, as also at rather low and intermediate elevations in Teneriffe and Palma, of the Canarian Group. And several examples are now before me which were obtained by the Messrs. Crotch, “from off the flowers of Euphorbias,” in Gomera.

Genus 318. COCCINELLA.

Linnaeus, *Syst. Nat.* edit. i. [script. *Coccionella*] (1735).

1037. *Coccinella mutabilis*.

Coccinella mutabilis, *Scriba, Journ.* 183 (1790).

Adonia mutabilis, *Muls., Sécurip. de France*, 39 (1846).

Coccinella mutabilis, *Woll., Ins. Mad.* 461 (1854).

— — —, *Id., Cat. Mad. Col.* 136 (1857).

Habitat Maderenses (*Mad., P^{to} S^{to}*), sat vulgaris, præcipue ad flores.

The European *C. mutabilis* is rather common in Madeira proper and Porto Santo, of the Madeiran Group, occurring principally on flowers and at most elevations; but it has not yet been detected in the Canaries.

1038. *Coccinella 7-punctata*.

Coccinella 7-punctata, *Linn., Fna Succ.* 477 (1761).

— — —, *Brullé, in Webb et Berth. (Col.)* 74 (1838).

— — —, *Woll., Ins. Mad.* 462 (1854).

— — —, *Id., Cat. Mad. Col.* 136 (1857).

— — —, *Id., Cat. Can. Col.* 422 (1864).

— — —, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 141, 142.

Habitat Maderenses (*Mad., P^{to} S^{to}, Des.*) et Canarienses (*ins. omnes*), vulgaris.

This almost cosmopolitan *Coccinella* is doubtless universal throughout these Atlantic Groups. It has been taken in all the Madeiran islands except the northern and southern Desertas, as well as in the whole seven of the Canarian archipelago. In Madeira it is called by the inhabitants "Joaninha," and at the Canaries "San Antonio." It is a remarkably *constant* insect, seldom showing any appreciable tendency to become modified by external influences.

1039. *Coccinella 14-pustulata*.

Coccinella 14-pustulata, *Linn., Fna Succ.* 502 (1761).

— — —, *Muls., Sécurip. de France*, 93 (1846).

— — —, *Woll., Ins. Mad.* 462 (1854).

— — —, *Id., Cat. Mad. Col.* 136 (1857).

Habitat Maderenses (*Mad.*), à Dom. Heineken semel capta.

The only example of this European species which I have yet seen from these islands was taken, many years ago, in Madeira proper by the late Dr. Heineken. I am doubtful therefore whether it ought to be regarded as more than an accidental introduction from higher latitudes.

1040. *Coccinella* *Doublieri*.

Harmonia *Doublieri*, *Muls., Sécursion de France*, 118 (1846).

Coccinella *Doublieri*, *Woll., Cat. Can. Col.* 423 (1864).

Habitat Canarienses (*Fuert.*), in foliis *Tamaricis gallicæ* capta.

A small *Coccinella* which I have taken off Tamarisks in Fuerteventura, of the Canarian Group, and which occurs on the same shrub in the south of Europe.

1041. *Coccinella* *Andersoni*.

Coccinella *Andersoni*, *Woll., Ann. Nat. Hist.* x. 337 (1862).

— —, *Id., Append. huj. op.* 57.

Habitat Maderenses (*Mad.*), ad folia *Pini pineæ* à Dom. F. A. Anderson reperta.

Captured in Madeira proper by the late Mr. F. A. Anderson, and subsequently by Mr. Bewicke, off trees of the "Stone-pine" in the parish of S. Antonio—about two miles from Funchal.

1042. *Coccinella* *testudinea*.

Coccinella *testudinea* (*Hein.*), *Woll., Ins. Mad.* 463 (1854).

— — (—), *Id., Cat. Mad. Col.* 136 (1857).

Habitat Maderenses (*Mad.*), ad folia plantarum (sc. *Hibisci*, *Daturæ* et cæst.) in cultis inferioribus plerumque occurrens.

Found in Madeira proper, and chiefly at low elevations in gardens and other cultivated grounds. It occurs on various plants and shrubs, doubtless in quest of *Aphides*; but I have more often met with it on the species of *Hibiscus* and *Datura* than elsewhere.

1043. *Coccinella* *Miranda*.

Coccinella *hieroglyphica*, *Brullé* [nec *Oliv.*], in *Webb et Berth. (Col.)* 74 (1838).

— *Miranda*, *Woll., Cat. Can. Col.* 422 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma*), in intermediis editioribusque degens. Usque ad 9000' s. m. ascendit.

Widely spread over the Canarian Group, where it occurs at intermediate and lofty elevations, ascending to at least 9000 feet above the sea. It has been taken in Grand Canary, Teneriffe, Gomera, and Palma; and we may be pretty sure that it exists in Hierro likewise. I have met with it more commonly in the higher districts than elsewhere, particularly amongst the blossoms of the *Retama* on the Cumbres of Teneriffe.

1044. *Coccinella genistæ*.

Coccinella Genistæ, *Woll., Ins. Mad.* 464, tab. x. f. 5 (1854).
 ———, *Id., Cat. Mad. Col.* 136 (1857).

Habitat Maderenses (*Mad.*), rarissima; foliis *Genistæ scoparice*, L., in editoribus præcipue gaudens.

A beautiful little species, allied to the *C. phalerata* of Mediterranean latitudes, which has been observed hitherto only in the higher regions of Madeira proper,—where it occurs very sparingly on the *Genista scoparia* (or common Broom), and where it may perhaps be regarded as representing the *C. Miranda* of the Canarian Group*.

Genus 319. SCYMNUS.

Kugelann, in *Schneid. Mag.* 515 (1794).

1045. *Scymnus marginalis*.

Coccinella marginalis, *Rossi, Mant. Ins.* ii. 87 (1794).
Scymnus marginalis, *Muls., Sécurip. de France* 244 (1846).
 ———, *Woll., Ins. Mad.* 466 (1854).
 ———, *Id., Cat. Mad. Col.* 137 (1857).

Habitat Maderenses (*Mad.*), ad folia plantarum (se. *Tamni edulis*, *Muscæ sapientum* et cæt.) in inferioribus crescentium vulgaris.

The European *S. marginalis* is common, principally at low elevations, in Madeira proper; but it has not yet been observed in any of the other islands. It occurs for the most part in gardens and other cultivated grounds; and I have often taken it in profusion off the large leaves of the Banana and the *Tamnus edulis*—known by the English residents as the “Yam.”

1046. *Scymnus durantæ*.

Scymnus Durantæ, *Woll., Ins. Mad.* 465 (1854).
 ———, *Id., Cat. Mad. Col.* 137 (1857).

Habitat Maderenses (*Mad.*), plantis diversis præcipue *Durantá* et *Hibisco* in cultis gaudens.

* In his list of a few Canarian Coleoptera which was prepared by M. Brullé for MM. Webb and Berthelot's gigantic work, there is a *Coccinella* quoted under the name of “*semipustulata*, Oliv.” To what it can refer I have no means of conjecturing; and although in the elaborate account of it, which is contained in six words—“Espèce du midi de l'Europe,” it is asserted to be likewise European, I nevertheless do not see that any European species is acknowledged under that title. Perhaps it may have represented one of the many states of the variable *C. Miranda*; but, happily, as the question is quite unsolvable without either a diagnosis or so much as a single observation to serve as some kind of clue, it is scarcely perhaps of much importance to inquire.

Likewise common in Madeira proper,—occurring for the most part at low, but sometimes at intermediate, altitudes; and frequenting the foliage of various trees and plants, particularly the *Duranta Plumieri* and the different species of *Hibiscus*. I have observed it abundantly in gardens, especially on the northern side of the island.

1047. *Scymnus canariensis*.

Scymnus canariensis, Woll., *Cat. Can. Col.* 426 (1864).

Habitat Canarienses (ins. omnes), vulgaris.

Universal throughout the Canarian archipelago, in the whole seven islands of which I have myself captured it. It is a variable species both in size and colour; and it may be regarded as the representative in the Canaries of the Madeciran *S. durantæ*. It is indeed closely allied to the latter, but the characters which distinguish it therefrom have been fully pointed out in my Canarian Catalogue.

1048. *Scymnus oblongior*.

Scymnus oblongior, Woll., *Cat. Can. Col.* 427 (1864).

Habitat Canarienses (*Ten.*), in montibus valde elevatis paucissime captus.

The only two examples which I have yet seen of this *Scymnus* were taken by myself at a very high altitude (upwards of 9000 feet above the sea) on the mountains of Teneriffe. Although undoubtedly much allied to the *canariensis*, I do not believe them to be the exponents of any local phasis of that insect; nevertheless further material is greatly needed in order to complete the diagnosis of the species, which at present I can scarcely regard as altogether satisfactory.

1049. *Scymnus cercyonides*.

Scymnus cercyonides, Woll., *Cat. Can. Col.* 428 (1864).

Habitat Canarienses (*Ten.*, *Gom.*, *Palma*, *Hierro*), minus frequens.

Sparingly distributed over the Canarian islands, principally at low and intermediate altitudes; and we may expect that it will be found to be universal. Hitherto it has been taken in Teneriffe, Gomera, Palma, and Hierro,—in the last of which it was found by the Messrs. Crotch.

1050. *Scymnus maculosus*.

Scymnus maculosus, *Woll., Cat. Can. Col.* 428 (1864).

Habitat Canarienses (in *Hierro* solâ haud observatus), late sed parce diffusus.

Widely but sparingly distributed over the Canarian archipelago, where there can be little doubt that it is universal—though as yet it does not happen to have been observed in Hierro. In Lanzarote, Fuerteventura, Grand Canary, Teneriffe, and Palma I have myself taken it; and in Gomera it was found by the Messrs. Crotch.

1051. *Scymnus flavopictus*.

Scymnus flavopictus, *Woll., Ins. Mad.* 469, tab. x. f. 2 (1854).

— — —, *Id., Cat. Can. Col.* 138 (1857).

Habitat Maderenses (*Mad., Ilheo Chão*), in inferioribus intermediisque degens.

Closely allied to the last species, of which it may perhaps be regarded as the Madeiran representative. In Madeira proper it is decidedly rare, but on the northern Deserta (or Ilheo Chão) it is comparatively common. The characters which distinguish it from the *S. maculosus* have been alluded to, under the diagnosis of that insect, in my Canarian Catalogue.

1052. *Scymnus arcuatus*.

Coccinella arcuata, *Rossi, Mant. Ins.* ii. 88 (1794).

Scymnus arcuatus, *Woll., Ins. Mad.* 468 (1854).

— — —, *Id., Cat. Mad. Col.* 138 (1857).

— — —, *Id., Cat. Can. Col.* 429 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Palma*), super folia plantarum præcipue in cultis inferioribus occurrans.

The *S. arcuatus* of Mediterranean latitudes abounds at a low elevation in Madeira proper—occurring on the leaves of various plants, particularly in gardens and other cultivated grounds. In the Canaries it would appear however to be rare, at least so far as has been observed hitherto. Indeed the only three examples which I have yet seen were taken by myself—two of them in Teneriffe, and the third in Palma.

1053. *Scymnus minimus*.

Coccinella minima, *Rossi, Mant. Ins.* ii. 89 (1794).

Scymnus minimus, *Woll., Ins. Mad.* 470 (1854).

Scymnus minimus, *Woll., Cat. Mad. Col.* 138 (1857).
 ———, *Id., Cat. Can. Col.* 429 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (in *Palma* solâ haud detectus), in inferioribus intermediisque late diffusus.

This small European *Scymnus* is widely spread over these Atlantic islands, where very probably it will be found to be universal. It occurs on the foliage of various plants, at low and intermediate elevations, particularly in cultivated grounds. It is rather common in Madeira proper; and it has been captured sparingly in all the Canarian islands except Palma, where however we may be pretty sure that it exists.

1054. *Scymnus limnichoides*.

Scymnus Limnichoides, *Woll., Ins. Mad.* 470, tab. x. f. 3 (1854).
 ———, *Id., Cat. Mad. Col.* 139 (1857).

Habitat Maderenses (*Mad., Pto Sto*), in intermediis rarissimus.

A curious little ovate, apterous *Scymnus*, which might almost be made to form the type of an allied *genus*. It seems to be peculiar to the Madeiran Group, and extremely rare. I have taken it sparingly in the sylvan districts of Madeira proper, and more abundantly from beneath stones in Porto Santo—on an open, grassy mountain-ridge between the Pico do Facho and the Pico do Castello.

Genus 320. RHIZOBIUS.

Stephens, *Ill. Brit. Ent.* iv. 396 [script. *Rhyzobius*] (1831).

1055. *Rhizobius litura*.

Nitidula litura, *Fab., Mant. Ins.* i. 52 (1787).
Cacidula litura, *Brullé, in Webb et Berth. (Col.)* 74 (1838).
Rhyzobius litura, *Woll., Ins. Mad.* 472 (1854).
 ———, *Id., Cat. Mad. Col.* 139 (1857).
Rhizobius litura, *Id., Cat. Can. Col.* 430 (1864).

Habitat Maderenses (*Mad., Pto Sto, Des.*) et Canarienses (ins. *omnes*), sub lapidibus necnón in graminosis vulgaris.

There is scarcely any Coleopterous insect which is so widely, and so generally, spread over these Atlantic Groups as the common European *R. litura*. At the Madeiras it is doubtless universal, the northern and southern Desertas being the only islands of the five in which it does not happen to have been detected; and it has been found in the whole seven of the Canarian archipelago. Its detection in Gomera is due to the recent researches of the Messrs. Crotch. It is recorded by M. Morelet in the Azores.

1056. *Rhizobius oculatissimus*.

Rhizobius oculatissimus, *Woll., Cat. Mad. Col.* 139 (1857).

Habitat Maderenses (*Mad.*), à Dom. Bewicke semel tantum repertus.

Hitherto unique, a single specimen having been captured in Madeira proper by the late Mr. Bewicke. The characters which separate it from all the known varieties of the preceding species are so pronounced that I do not think it is possible to regard it as any state, or even monstrosity, of that insect; nevertheless it is certainly remarkable that the combined researches in Madeira of so many Coleopterists should not have succeeded hitherto in detecting a second example.

Genus 321. **LITHOPHILUS.**

Fröhlich, *Naturforsch.* xxviii. 11 (1799).

1057. *Lithophilus deserticola*.

Lithophilus deserticola, *Woll., Cat. Can. Col.* 431 (1864).

Habitat Canarienses (*Fuert.*), sub lapide quodam in inferioribus aridis arenosis semel deprehensus.

The only specimen which I have seen of this Canarian insect was taken by myself, at a low elevation, in the extreme north of Fuerteventura—from beneath a stone in the dry, sandy district at Corralejo.

Fam. 67. ENDOMYCHIDÆ.Genus 322. **DAPSA.**

(Ziegler) Latr., *Règne Anim.* (édit. 2) v. 159 (1829).

1058. *Dapsa edentata*.

Dapsa edentata, *Woll., Cat. Can. Col.* 432 (1864).

Habitat Canarienses (*Can., Ten., Palma*), hinc inde sat vulgaris.

Rather a common insect in the Canarian Group, where we may be pretty sure that it will be found universally throughout at any rate the central and western islands. Hitherto however it has been taken only in Grand Canary, Teneriffe, and Palma. In all probability it is closely allied to the *D. barbara* of northern Africa; but as I have not been able to procure a type of the latter for comparison, I cannot say whether or not it would be possible to regard it as any geographical modification of that species.

Genus 323. **LYCOPERDINA.**Latreille, *Gen. Crust. et Ins.* iii. 73 (1807).1059. **Lycoperdina humeralis.***Lycoperdina humeralis*, *Woll., Cat. Can. Col.* 432 (1864).*Habitat* Canarienses (*Ten.*), rarissima; in sylvaticis editoribus bis tantum capta.

A Canarian *Lycoperdina* of the greatest rarity, which has been found hitherto only in Teneriffe. Indeed but two specimens of it have come beneath my notice—one of which I captured in the damp laurel-woods on the mountains above Taganana, whilst the other was found by the Messrs. Crotch “under leaves in the Pinal above Ycod el Alto.”

Fam. 68. EROTYLIDÆ.Genus 324. **XESTUS.**Wollaston, *Cat. Can. Col.* 420 (1864).1060. **Xestus throscoides.***Xestus throscoides*, *Woll., Cat. Can. Col.* 421 (1864).*Habitat* Canarienses (*Ten.*), ad fungos necnon etiam sub cortice arborum laxo putrido in lauretis humidis excelsis rarissimus.

A fungus-eater of great rarity which appears to be peculiar to the Canaries. Indeed hitherto I have observed it only in the damp laurel-districts of a high elevation in Teneriffe, where I captured eleven specimens of it (partly within *fungi*, and partly under the putrid bark of trees where minute Cryptogams were more or less evident) on the densely clad mountains above Taganana and Point Anaga.

1061. **Xestus fungicola.***Xestus fungicola*, *Woll., Append. huj. op.* 57.*Habitat* Canarienses (*Gom.*), ad fungos putridos à DD. Crotch in lauretis humidis parce repertus.

Likewise Canarian, but found hitherto only in Gomera—where it would seem to take the place of *X. throscoides* of Teneriffe. It appears to have the same mode of life as that species, and to be equally scarce,—four examples of it having been captured by the

Messrs. Crotch, in a dead fungus, on the laurel-clad mountains above Hermigua.

Genus 325. **EUXESTUS.**

Wollaston, *Ann. Nat. Hist.* ii. 411 (1858).

1062. **Euxestus Parkii.**

Euxestus Parkii, *Woll.*, *loc. cit.* 413 (1858).

— — —, *Id.*, *Append. huj. op.* 58.

Habitat Maderenses (*Mad.*), sub quisquiliis necnon rarius in formicarum nidis, hinc inde loca inferiora colens.

This curious little insect, so suggestive at first sight of the common *Olibrus Stephensii* (or *liquidus*), is locally abundant around Funchal in Madeira proper—where it was originally detected by Mr. M. Park. It occurs principally in gardens, under dry vegetable refuse; but it is also found occasionally in the nests of ants.

Fam. 69. ZOPHOSIDÆ.

Genus 326. **ZOPHOSIS.**

Latreille, *Gen. Crust. et Ins.* ii. 146 (1807).

1063. **Zophosis 4-carinata.**

Zophosis 4-carinata, *Deyr.*, in *Woll. Cat. Can. Col.* 433 (1864).

Habitat Canarienses (*Ten.*), à Barone “Castello de Paiva” communicata.

A Canarian *Zophosis* of which I have seen hitherto but four examples, which were communicated by the Barão do Castello de Paiva from Teneriffe.

1064. **Zophosis plicata.**

Zophosis plicata, *Brullé*, in *Webb et Berth.* (*Col.*) 64, pl. i. f. 8 (1838).

— — —, *Woll.*, *Cat. Can. Col.* 434 (1864).

— — — vagans, *Hart.* [nec *Br.*], *Geol. Verh. Lanz. und Fuert.* 140, 141.

Habitat Canarienses (*Lanz.*, *Fuert.*), ubique vulgaris.

Abounds in the two eastern islands of the Canarian Group—Lanzarote and Fuerteventura, in which it would appear to be universal; and I likewise met with it on the small adjacent islets of Graciosa and Lobos, off the extreme north of the former and latter respectively.

1065. *Zophosis vagans*.

Zophosis vagans, *Brullé*, in *Webb et Berth. (Col.)* 64 (1838).

— *vagans*, *Woll.*, *Cat. Can. Col.* 435 (1864).

Habitat Canarienses (*Can.*), in intermediis editoribusque occurrens.

Found hitherto only in Grand Canary, where it would appear to represent the *Z. plicata* of Lanzarote and Fuerteventura. It is indeed much allied to that species, though I hardly think that it can possibly be looked upon as an insular modification of it. The *Z. vagans* occurs for the most part at intermediate and rather lofty altitudes.

1066. *Zophosis Clarkii*.

Zophosis Clarkii, *Deyr.*, in *Woll. Cat. Can. Col.* 435 (1864).

Habitat Canarienses (*Can.*), in inferioribus intermediisque, passim.

Likewise Grand-Canarian, and very closely allied to the *Z. vagans*—being in some respects intermediate between that insect and the *bicarinata*. It is barely possible that it may be, in reality, an extreme phasis of *either* of them; though I scarcely think that this is the case. It seems to be found at low and intermediate elevations.

1067. *Zophosis bicarinata*.

Erodius minutus?, *Fab.*, *Ent. Syst.* i. 93 (1792).

Zophosis bicarinata, *Sol.*, *Ann. de la Soc. Ent. de France*, iii. 617 (1834).

— *et minuta*?, *Brullé*, in *Webb et Berth. (Col.)* 64 (1838).

— —, *Woll.*, *Cat. Can. Col.* 436 (1864).

Habitat Canarienses (*Can.*, *Ten.*, *Gom.*), in inferioribus late diffusa.

Taken at low altitudes in Grand Canary, Teneriffe, and Gomera,—having a *slightly* different phasis for each island. Indeed in Grand Canary there seem to be at least *two* forms of it, if not more; but the different aberrations are included within such narrow limits that I cannot think there is any ground for the suspicion that more than a single (rather plastic) species is indicated amongst them all.

Fam. 70. ERODIADÆ*.

Genus 327. ARTHRODES.

Solier, *Ann. de la Soc. Ent. de France*, iii. 513 [script. *Arthrodeis*] (1834).

* Although I believe that *all* the Canarian members of this family belong to the genus *Arthrodes*, which seems to be the representative of *Erodius* proper in

§ I. *Epistoma apice plus minus evidenter tridentatum.*

a. *Epipleuræ plica humeralis nulla.*

1068. *Arthrodes Perraudieri.*

Arthrodes Perraudieri, Woll., *Append. huj. op.* 58.

Habitat Canarienses, à Dom. de la Perraudière (an in *Lanzarota*?)
capta.

A single example of this distinct *Arthrodes*, which is remarkable *inter alia* for its humeral plica being *entirely absent*, was taken at the Canaries by M. de la Perraudière; but I have no information as to the exact island.

b. *Epipleuræ plica humeralis obsoleta.*

1069. *Arthrodes inflatus.*

Arthrodes inflatus, Woll., *Cat. Can. Col.* 439 (1864).

Habitat Canarienses (*Lanz.*), sub lapidibus in aridis rarissimus.

The only specimens which I have myself met with of this large and exceedingly inflated *Arthrodes* were captured in the little islet of Graciosa (of the Canarian Group), off the extreme north of Lanzarote. A single example, however, has been communicated by De Marseul with the label "Teneriffe" appended to it; but as the

that archipelago, I ought nevertheless to add that M. Brullé's list contains what appeared to me (when I inspected the types, hastily, in Paris) to be a true *Erodius*—where it is cited as the "*E. europæus*, F." Whether it be rightly identified with the *europæus*, or not, I was unable to examine it with sufficient accuracy to decide; but, be that as it may, I have so strong a suspicion that the examples of MM. Webb and Berthelot were in reality imported from the coast of Africa that I cannot admit the species into the present volume without evidence of a more conclusive nature than that which is supplied by the mere fact of its having been inserted into the loosely prepared catalogue of M. Brullé—unaccompanied by a single word either as to its *habitat* or the circumstances under which it was taken. Indeed I think it exceedingly probable that the insect in question (whether the *europæus*, or not) will prove to be identical with an *Erodius* which is common on the opposite coast of Morocco—having been captured at Mogadore by the Rev. R. T. Lowe, the Messrs. Crotch, and myself—and which also Dr. Crotch picked up alive (on the Mole, at S^{ta} Cruz) in Teneriffe, escaped from the actual vessel which had conveyed him from Mogadore! It was (on that occasion) in company with a *Pimelia* and a large *Scaurus*, which are equally abundant on the African shore; and I think it extremely likely therefore that MM. Webb and Berthelot's "*Erodius europæus*," as well as their "*Akis acuminata*," were obtained under similar circumstances. At any rate, in the total absence of any information vouchsafed to us, either by them or M. Brullé, I prefer this *probable* explanation to the risk of perpetuating (what perhaps might be) a grave geographical error by admitting the species into my fauna—particularly since it appears to me to be a fact (and if so, a most important one) that the genus *Arthrodes* does strictly, as above stated, take the place of *Erodius* in the Canarian Group.

same consignment includes insects similarly labelled which *without doubt* were never taken in Teneriffe at all, I can place no reliance whatever on its professed *habitat*.

1070. *Arthrodes curtus*.

Erodium curtus, *Brullé*, in *Webb et Berth. (Col.)* 63, pl. i. f. 7 (1838).
Arthrodes curtus, *Woll., Cat. Can. Col.* 439 (1864).

Habitat Canarienses (*Can.*), in montibus hinc inde vulgaris.

Found on the mountains of Grand Canary, principally at a rather high elevation, where it is locally abundant; but I did not observe it in the lower districts.

c. *Epipleurce plica humeralis brevissima*.

1071. *Arthrodes obesus*.

Erodium obesus, *Brullé*, in *Webb et Berth. (Col.)* 63 (1838).
Arthrodes obesus, *Woll., Cat. Can. Col.* 440 (1864).

Habitat Canarienses (*Can., Ten., Palma, Hierro*), præcipue in inferioribus, passim.

An *Arthrodes* which appears to be more widely spread over the Canarian Group than any of the others yet detected; though since it is just possible that my "var. β . *simillima*" (from Palma and Hierro) and the "var. γ . *crassa*" (from Grand Canary) may, either of them, prove to be specifically distinct, further material is perhaps required before this can be affirmed for certain. Still I have little doubt that the slight aberrations just referred to are mere unimportant insular states of a rather variable species—the *type* of which I have assumed to be from Teneriffe, through the simple fact that the particular modification which there obtains appeared best to accord with the individual described by M. Brullé. Assuming therefore that the little differences of punctation, and even in the development of the humeral costa, are but topographical ones, the *A. obesus* may be said to occur sparingly, for the most part at low (but sometimes at intermediate) elevations, in Grand Canary, Teneriffe, Palma, and Hierro. Its detection in Grand Canary is due to the late researches of the Messrs. Crotch, who obtained three examples of it near Las Palmas*.

* These three specimens from Grand Canary differ from at all events two Palman ones now before me (and, I *think*, likewise from the Teneriffan type) in being somewhat more distinctly punctulated, with their shoulders a trifle rounder

1072. *Arthrodes byrrhoides*.

Arthrodes byrrhoides, *Woll., Cat. Can. Col.* 441 (1864).

Habitat Canarienses (*Fuert.*), adhuc parce deprehensus.

Two examples, taken by myself in Fuerteventura of the Canarian Group, are all that I have yet seen of this *Arthrodes*. In general sculpture, contour, and immarginate prothorax it has much in common with the *inflatus*; but it appears to be smaller, and to have a short humeral plica well developed.

1073. *Arthrodes laticollis*.

Erodius laticollis, *Brullé, in Webb et Berth. (Col.)* 63 (1838).

Arthrodes laticollis, *Woll., Cat. Can. Col.* 441 (1864).

Habitat Canarienses (*Fuert.*), sub lapidibus rarior.

Found sparingly in Fuerteventura of the Canarian Group, whence Messrs. Webb and Berthelot's types, as would appear by a label still attached to them (for I need scarcely add that M. Brullé does not allude to the *habitat*), seem to have come. I captured a few examples of it *either* in the same island or else on the small adjacent rock of Lobos (unfortunately I cannot now exactly recall which of them); but since I invariably cite the latter as a portion of Fuerteventura, in like manner as I regard Graciosa as pertaining to Lanzarote, it is of but slight consequence whether they were taken on the mainland or not.

d. *Epipleuræ plica humeralis longior (sed vix ad medium ducta)*.

1074. *Arthrodes Hartungii*.

Erodius obesus? *Hart. [nec Br.], Geolog. Verhältn. Lanz. und Fuert.* 141.

Arthrodes Hartungii, *Woll., Cat. Can. Col.* 442 (1864).

Habitat Canarienses (*Fuert.*), à Dom. Hartung repertus.

The only example of this large *Arthrodes* which I have yet seen is from the collection of M. Hartung, by whom it was taken in Fuerteventura; and further material therefore is desirable, in order to complete our knowledge of the species of which it would appear to be the representative.

—consequent on the humeral costa being still less developed, and nearly obsolete. I would record briefly the state of which they are the exponents, as follows: var. *γ. crassa* [an species?]. Sensim profundius punctata; elytris ad humeros paulo magis rotundatis, plicâ humerali etiam brevior (fere obsoletâ). *Habitat* Canariam Grandem, in inferioribus capta.

1075. *Arthrodes punctatulus*.

Arthrodes punctatulus, *Woll., Cat. Can. Col.* 443 (1864).

Habitat Canarienses (*Lanz., Fuert.*), haud infrequens sub lapidibus.

Pretty general throughout Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group, where it is not uncommon (beneath stones) at rather low and intermediate altitudes.

1076. *Arthrodes parcepunctatus*.

Arthrodes parcepunctatus, *Woll., Cat. Can. Col.* 443 (1864).

Habitat Canarienses (*Gom.*), à DD. Gray et Crotch lectus.

Two examples are all that I have yet seen of this species. They were both found in Gomera—one by Mr. Gray, and the other by Dr. Crotch (during his first trip to the Canaries).

§ II. *Epistoma apice vel fere vel omnino simpliciter emarginatum*.a. *Epiplource plica humeralis obsoleta*.1077. *Arthrodes subciliatus*.

Arthrodes subciliatus, *Woll., Cat. Can. Col.* 444 (1864).

Habitat Canarienses (*Fuert.*), in aridis arenosis submaritimis juxta radices plantarum fodiens.

A comparatively small species which has been observed hitherto only in the low sandy districts of Fuerteventura, adjoining the sea-coast—where it burrows into the hillocks of loose sand which have gradually accumulated around the roots of shrubby plants. It was taken by Mr. Gray and myself about a mile to the south of Puerto de Cabras, and subsequently by myself at Corralejo (in the extreme north of that island).

1078. *Arthrodes subcostatus*.

Erodium (*Arthrodeis*) *subcostatus*, *Brullé, in Webb et Berth. (Col.)* 64 (1838).

Arthrodes subcostatus, *Woll., Cat. Can. Col.* 445 (1864).

Habitat Canarienses (*Can.*), in locis similibus ac præcedens, sc. in aridis arenosis submaritimis, juxta urbem Las Palmas sat vulgaris.

Found in the same kind of places as the last species, but in Grand Canary instead of Fuerteventura. It is indeed closely allied to the

subciliatus, but the several points in which it permanently differs have been fully alluded to in my Canarian Catalogue. It has been taken abundantly, both by myself and the Messrs. Crotch, in the low sandy submarine district of Grand Canary between Las Palmas and the Isleta*.

b. *Epipleuræ plica humeralis distincta sed vix ad medium ducta.*

1079. *Arthrodes costifrons.*

Arthrodes costifrons, Woll., *Cat. Can. Col.* 445 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in aridis arenosis fodiens.

Observed hitherto only in the eastern islands of the Canarian Group, Lanzarote and Fuerteventura, where it appears to have much the same habits as the last two species—burrowing into the dry, loose sand in submarine spots.

1080. *Arthrodes malleatus.*

Arthrodes malleatus, Woll., *Cat. Can. Col.* 446 (1864).

Habitat Canarienses (*Lanz.*), sub lapidibus minus frequens.

Found apparently in the intermediate districts of Lanzarote, though occasionally in the lower ones also; for I took a single example of it in the little island of Graciosa (off the north of Lanzarote), at but a short distance from the sea. It was captured sparingly by Mr. Gray and myself between Haria and the Risco.

1081. *Arthrodes emarginatus.*

Arthrodes emarginatus, Woll., *Cat. Can. Col.* 447 (1864).

Habitat Canarienses (*Fuert.*), semel tantum repertus.

A single example of this Canarian *Arthrodes*, taken by myself in Fuerteventura, is all that I have yet seen. Although apparently distinct from everything else here enumerated, it is evident that further material is required in order to complete our knowledge of the species.

* The *A. subcostatus* seems to differ from the *subciliatus*, principally, in having its punctation altogether a little denser, but with two or three obscure, irregular, ill-defined lines down each of its elytra (as well as a small rounded space on either side of its prothoracic disk) which are comparatively glabrous or free from sculpture, in its prothorax being quite immarginate along the anterior edge, and in its antennæ being usually a trifle shorter.

1082. *Arthrodes geotrupoides*.

Arthrodes geotrupoides, *Woll., Cat. Can. Col.* 447 (1864).

Habitat Canarienses (*Fuert.*), hactenus parce deprehensus.

Likewise Fuerteventuran, a few examples of it having been taken by myself in that island—which would seem to be specially rich in the genus *Arthrodes*.

Fam. 71. TENTYRIADÆ.

Genus 328. TENTYRIA.

Latreille, *Hist. Nat. des Crust. et Ins.* x. 270 (1804).

1083. *Tentyria interrupta*.

Tentyria interrupta [*Latr.?*], *Brullé, in Webb et Berth. (Col.)* 66 (1838).

— — — [—], *Woll., Cat. Can. Col.* 448 (1864).

Habitat Canarienses (sec. DD. Webb et Berthelot), mihi non obvia.

A *Tentyria* which is admitted by M. Brullé into his meagre Canarian list on the evidence of a specimen supposed to have been captured by MM. Webb and Berthelot. I examined it hastily, when in Paris, and it certainly appeared to be different both from the *T. elongata* and the *Paivæa hispida*; but as no information whatever is given us as to its *habitat*, I think it is not unlikely that it may have been accidentally introduced in some of the trading vessels from the coast of Africa—in like manner as was the case with other Coleopterous insects to which I have already had occasion to allude*. I feel a little doubtful, therefore, whether it ought properly to be admitted into this Catalogue.

(Subgenus *Eulipus*, *Woll.*)

1084. *Tentyria Brullæi*.

Tentyria elongata, *Brullé* [nec *Gebler*, 1830, nec *Waltl*, 1835], *in Webb et Berth. (Col.)* 66 (1838).

— — —, *Woll., Cat. Can. Col.* 448 (1864).

Habitat Canarienses (*Fuert., Can.*), in arenosis aridis submaritimis juxta radices plantarum latens.

A large and slender Canarian insect which resides amongst the

* Cf. 'Cat. Can. Col.', pp. 437, 469 (note).

loose sand, in the vicinity of the sea-shore, which has drifted into hillocks around the stems of shrubby plants. It has been taken about a mile to the south of Puerto de Cabras in Fuerteventura, and on the low sandy isthmus of Grand Canary between Las Palmas and the Isleta. I have been compelled to change its specific title, the name of *elongata* having been employed no less than *twice* in the genus *Tentyria* previously to the publication of M. Brullé's insect.

Genus 329. **PAIVÆA.**

Wollaston, *Cat. Can. Col.* 449 (1864).

1085. **Paivæa hispida.**

Tentyria hispida, Brullé, in *Webb et Berth. (Col.)* 66 (1838).

—— —, *Hartung, Geolog. Verhältn. Lanz. und Fuert.* 140, 141.

Paivæa hispida, Woll., *Cat. Can. Col.* 450 (1864.)

Habitat Canarienses (*Lanz., Fuert.*), sub lapidibus vulgaris.

A common insect throughout Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group, where it occurs under stones at nearly all elevations. I likewise met with it on the small adjacent rocks of Graciosa and Lobos, off the extreme north of the former and latter respectively; but I have no evidence as yet for supposing that it extends further westward in the archipelago,—though it is far from impossible that it may make its appearance in, at all events, Grand Canary*.

Genus 330. **HEGETER.**

Latreille, *Hist. Nat. des Crust. et Ins.* iii. 172 (1802).

* It is a grievous fact for geographical distribution that more accuracy, as regards precise *habitat*, is not observed in many even tolerably well arranged collections. From no less than *two* different sources, in Paris, I have received this insect as coming from "Teneriffe;" yet out of more than 20,000 Coleopterous specimens found by myself at the Canaries, and at least half that number obtained by the Messrs. Crotch, besides the numerous smaller batches which have from time to time been submitted to me, there is no trace of the *Paivæa hispida* from any of the islands except Lanzarote and Fuerteventura. Yet it is sent to me unhesitatingly as Teneriffan—probably for no better reason than that some lazy collector who touched at several of the islands put his material into a single bottle, or box, and either forgot or did not much care to preserve his *habitats* correctly! In like manner one of the Parisian consignments now before me has the *Licinus Manriquianus* and the *Arthrodes inflatus*, which are also unmistakably Lanzarotian and Fuerteventuran, marked with the universal label "Teneriffe;" and a similar ticket is appended even to the "*Phylax validus*" (so-called in collections), which is peculiar exclusively to the Cape de Verdes. Surely it would be far better to give no localities at all than thus to falsify the plainest facts, and so help to disseminate error. On this subject, *vide* the foot-note at page vii of the Introductory Remarks in my Canarian Catalogue.

1086. *Hegeter tristis*.

- Blaps tristis*, *Fab., Ent. Syst.* i. 108 (1792) [sec. *Schaum*].
 — elongata, *Oliv., Ent.* iii. 60, pl. i. f. 7 (1795).
Hegeter striatus, *Lat., loc. cit.* x. 276 (1804).
 — —, *Brullé, in Webb et Berth. (Col.)* 64 (1838).
 — elongatus, *Woll., Ins. Mad.* 510, tab. xi. f. 7 (1854).
 — —, *Id., Cat. Mad. Col.* 157 (1857).
 — tristis, *Id., Cat. Can. Col.* 451 (1864).

Habitat Maderenses (*Mad., Pto S^{to}*) et Canarienses (ins. *omnes*), sub
 . lapidibus in aridis necnon in cavernis tufæ congregans.

A large *Hegeter* which is more widely spread than any of the other members of the genus, and which is doubtless universal throughout these Atlantic Groups. Of the Madeiras, however, it has been observed only in Madeira proper and Porto Santo; but there can be little question that it must exist on the Desertas likewise. In the Canaries, where it is still more abundant, it has been captured on the whole seven islands of the archipelago*.

1087. *Hegeter Webbianus*.

- Hegeter Webbianus*, *Heineken, in Zool. Journ.* v. 40 (1835).
 — —, *Woll., Cat. Can. Col.* 452 (1864).

Habitat Canarienses (*Can., Ten.?*), in editoribus captus.

I met with several examples of this *Hegeter* at a high elevation on the mountains of Grand Canary, and I believe it to be the one which was described by the late Dr. Heineken under the above title; but in that case it is probably Teneriffan also, for he expressly mentions that his type was from Teneriffe. It is scarcely of much importance, however, whether it is or not; for I am extremely doubtful whether the *H. Webbianus* can be regarded as more than a small state of the *tristis*.

1088. *Hegeter glaber*.

- Hegeter glaber*, *Brullé, in Webb et Berth. (Col.)* 65, pl. i. f. 9 (1838).
 — —, *Woll., Cat. Can. Col.* 453 (1864).

Habitat Canarienses (*Palma*), sub lapidibus hinc inde vulgaris.

* The *H. tristis* has been taken by Messrs. Gray, Clark, Dohrn, &c. at the Cape de Verdes, and it is recorded by M. Morelet at the Azores; so that it would appear to exist throughout the whole of these Atlantic Groups. Nevertheless it is not absolutely peculiar to the islands, at any rate *now*, though it is far from improbable that it may have been so originally; for it is found likewise on the northern and western coasts of Africa. I believe however that it is *not* European, having very properly been expunged (together with the *H. amaroides*) from the recent Catalogues.

Likewise a Canarian species, but one which I have observed hitherto only in the island of Palma—where it is far from uncommon, beneath stones.

1089. *Hegeter amaroides*.

Hegeter amaroides, Sol., *Ann. de la Soc. Ent. de France*, iv. 378 (1835).

— —, *Brullé, in Webb et Berth. (Col.)* 64 (1838).

— *politus*, *Id., loc. cit.* 65 (1838).

— *amaroides*, *Woll., Cat. Can. Col.* 453 (1864).

Habitat Canarienses (*Ten., Gom., Hierro*), sub lapidibus vulgaris.

Next to the *H. tristis* this appears to be the most widely spread of the several *Hegeters* here enumerated; nevertheless hitherto it has been observed only in the Canarian Group. It is a variable species, having many slightly different states, or races,—most of which however merge gradually into each other, and all of which rest on characters extremely superficial and unimportant. It is locally abundant in Teneriffe, Gomera, and Hierro; and if the *H. glaber* should prove eventually to be but an insular modification of it (which I consider far from improbable), it will then have been detected in Palma likewise.

1090. *Hegeter transversus*.

Hegeter transversus, *Brullé, in Webb et Berth. (Col.)* 65 (1838).

— —, *Woll., Cat. Can. Col.* 455 (1864).

Habitat Canarienses (*Ten.*), in intermediis et rarius in inferioribus occurrens, in illis staturæ majorem latiore (α.), sed in his minoræ (β.) efficiens.

A Canarian *Hegeter* which has been observed only in Teneriffe, for the most part on the northern side of the island, where it ranges from the sea-level to an altitude of about 4000 feet; but it is towards the *upper* of those limits that it attains its maximum, becoming gradually larger and broader as it ascends. This change in its outward contour is very perceptible if we trace it from the Puerto Orotava (where it is comparatively small) up to the damp sylvan region of the Agua Mansa, or (though somewhat less conspicuously) to that above Ycod el Alto*.

* In M. Hartung's volume, the *H. transversus* is cited for Fuerteventura; but this is clearly a mistake—the result either of his having omitted (as in numerous other cases) to preserve his *habitats* with sufficient precision, or else of an error on the part of Dr. Heer (who compiled the list) in regarding some truly Fuerteventuran species (such, for instance, as the *Thalpophila plicifrons*, to which it bears a considerable *primâ facie* resemblance) as identical with it.

1091. *Hegeter brevicollis*.

Hegeter brevicollis, *Brullé, in Webb et Berth. (Col.)* 65 (1838).
 ———, *Woll., Cat. Can. Col.* 456 (1864).

Habitat Canarienses (*Ten., Gom.*), plerumque in locis inferioribus.

In its typical state (or that on which the species was originally founded) the present *Hegeter* seems to be peculiar to the lower districts of Teneriffe, where it is rather common in the vale of Orotava towards the coast; and large examples of it might often well be confounded, at first sight, with small ones of the *transversus*. Nevertheless the characters which I pointed out in my *Canarian Catalogue* appear to be sufficient for distinguishing even these *quasi*-intermediate individuals (aberrations in opposite directions) of the two species.

In Gomera it seems on the average to be a little larger and more appreciably punctulated than is the case in Teneriffe, and its hinder prothoracic angles are somewhat more sharply defined (or rectangular); but I cannot think that more than a slight insular phasis of the species is indicated, though I recorded that particular state as the “var. *β. gomerensis*.”

1092. *Hegeter abbreviatus*.

Hegeter abbreviatus, *Brullé, in Webb et Berth. (Col.)* 66 (1838).
 ———, *Woll., Cat. Can. Col.* 457 (1864).

Habitat Canarienses (*Can.*), in lauretis editioribus sub lapidibus parce captus.

One of the rarest, and best defined, of the *Hegeters* hitherto detected, and one which I have observed only in Grand Canary—where I captured eight examples of it in the laurel-district, at a rather high elevation, on the mountains between Osorio and Guia.

1093. *Hegeter costipennis*.

Hegeter costipennis, *Woll., Cat. Can. Col.* 457 (1864).

Habitat Canarienses (*Can.*), sub lapidibus in montibus rarissimus.

Likewise peculiar (so far as observed hitherto) to Grand Canary, and probably the rarest of all the species yet detected. Indeed the only five examples of it which I have yet seen were captured by myself at a high altitude on the mountains above San Mateo, on the ascent to the Roca del Soucilho.

1094. *Hegeter impressus*.

Hegeter impressus, *Brullé*, in *Webb et Berth.* (Col.) 64 (1838).
 — — —, *Woll.*, *Cat. Can. Col.* 458 (1864).

Habitat Canarienses (*Can.*), sub lapidibus ubique vulgaris.

The universal *Hegeter* in Grand Canary, to which island it seems to be peculiar. Like most of the species, it presents many slight local modifications—in size, breadth, and its more or less *crumpled* (or corrugated) surface; but all the states that I have yet seen pass into each other by imperceptible gradations. It is more particularly common in dry cindery districts of intermediate altitudes, and abounds throughout the region of El Monte.

1095. *Hegeter subrotundatus*.

Hegeter subrotundatus, *Woll.*, *Cat. Can. Col.* 459 (1864).

Habitat Canarienses (*Can.*), sub lapidibus parce deprehensus.

It is barely possible that the three examples from which my diagnosis of this *Hegeter* was compiled may be but extreme aberrations of the *H. impressus*; nevertheless they certainly cannot represent any *local* state of that species, for they were found in company with it—in the south of Grand Canary. Although therefore I believe the *H. subrotundatus* to be truly distinct, future and more extensive material can alone decide whether I am correct in that conclusion.

1096. *Hegeter tenuipunctatus*.

Hegeter tenuipunctatus?, *Brullé*, in *Webb et Berth.* (Col.) 65 (1838).
 — — —, *Woll.*, *Cat. Can. Col.* 459 (1864).

Habitat Canarienses (*Ten.*), sub lapidibus in regionibus valde elevatis latens. Usque ad, vel etiam ultra, 9000' s. m. ascendit.

A Teneriffan species which seems to occur only in very elevated districts, from about 7000 to at least 9000 feet above the sea. On the lofty Cumbre overlooking the Cañadas I took it in profusion, from under stones and scorix amongst the bushes of the Retama.

1097. *Hegeter lateralis*.

Hegeter lateralis, *Brullé*, in *Webb et Berth.* (Col.) 65 (1838).
 — — —, *Woll.*, *Cat. Can. Col.* 460 (1864).

Habitat Canarienses (*Ten.*), unà cum specie præcedente degens.

Captured abundantly, in company with the preceding species, in

the lofty regions of Teneriffe, which are characterized by the presence of the *Spartium nubigena* (or Retama). It will perhaps be found to ascend even still higher than the *tenuipunctatus*.

1098. **Hegeter latebricola.**

Hegeter latebricola, *Woll., Ins. Mad.* 510 (note) (1854).

— — —, *Id., Journ. of Ent.* i. 91 (1860).

Habitat Salvages (ins. *majorem*, borealem, et *minorem*, australem), sub lapidibus vulgatissimus.

An abundant *Hegeter* on the rocks of the Salvages, being found equally on the northern island (or Great Salvage) and the southern one (or Great Piton). From the former it has been obtained in profusion, during the last few years, by the Barão do Castello de Paiva; whilst on the latter it was captured (in 1851) by Mr. T. S. Leacock, of Madeira, by whom the species was then for the first time detected.

Genus 331. **THALPOPHILA.**

Solier, *Ann. de la Soc. Ent. de France*, iv. 370 (1835).

1099. **Thalpophila plicifrons.**

Hegeter brevicollis, *Hart. [nec Br.] Geolog. Verhältn. Lanz. und Fuert.* 140, 141.

Thalpophila plicifrons, *Woll., Cat. Can. Col.* 461 (1864).

Habitat Canarienses (*Fuert.*), sub lapidibus scoriisque in aridis.

Found hitherto only in Fuerteventura of the Canarian Group, where it was captured by Mr. Gray and myself near Puerto de Cabras, and subsequently by myself at Oliva.

1100. **Thalpophila Deyrollii.**

Hegeter politus, *Hart. [nec Br.] Geolog. Verhältn. Lanz. und Fuert.* 141.

Thalpophila Deyrollii, *Woll., Cat. Can. Col.* 462 (1864).

Habitat Canarienses (*Lanz., Fuert.*), sub lapidibus ubique vulgatissima.

A universal and most abundant insect throughout Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group, occurring likewise on the small adjacent islets of Graciosa and Lobos (off the extreme north of the former and latter, respectively); but I have no evidence as yet of its having been captured further westward in the archipelago*.

* In accordance with the sad want of accuracy (as regards precise *habitat*), in certain collections, on which I have already felt it necessary to comment, this

1101. *Thalpophila fuscipes*.

Hegeter *fuscipes*, *Brullé, in Webb et Berth. (Col.)* 66 (1838).

— — —, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 140.

Thalpophila fuscipes, *Woll., Cat. Can. Col.* 463 (1864).

Habitat Canarienses (*Lanz., Fuert.*), sub lapidibus in intermediis vulgaris.

Likewise peculiar (so far at least as has yet been observed) to the two eastern islands of the Canarian Group, Lanzarote and Fuerteventura, where it is abundant beneath stones at intermediate altitudes.

1102. *Thalpophila submetallica*.

Thalpophila submetallica, *Woll., Cat. Can. Col.* 464 (1864).

Habitat Canarienses (*Lanz., Fuert.*), unà cum specie præcedente occurrens.

The smallest of the *Thalpophilæ* hitherto detected, and one which bears a close *primâ facie* resemblance to the last species. Like it, it seems to be peculiar to Lanzarote and Fuerteventura—where it occurs beneath stones, often in company with its ally, at intermediate elevations.

Genus 332. GNOPHOTA.

Erichson, *in Wieg. Archiv*, ix. 237 (1843).

1103. *Gnophota cribricollis*.

Hegeter *cribricollis*, *Brullé, in Webb et Berth. (Col.)* 66 (1838).

Gnophota cribricollis, *Woll., Cat. Can. Col.* 465 (1864).

Habitat Canarienses (*Can.*), in inferioribus intermediisque degens.

Not uncommon in the central and southern districts of Grand Canary, but I have not yet observed it in any of the other islands.

1104. *Gnophota inæqualis*.

Gnophota inæqualis, *Woll., Cat. Can. Col.* 466 (1864).

Habitat Canarienses (*Can.*), adhuc parce deprehensa.

insect has on several occasions been transmitted to me from Paris with the label "Teneriffe" appended to it. Yet I am perfectly satisfied that the specimens communicated were never taken in Teneriffe at all, but are either Lanzarotan or Fuerteventuran. When naturalists at home receive material unaccompanied by any positive statement of the exact district in which it was obtained, would it not be far wiser *not* to attempt to define the localities thus rigidly? Had these examples been called simply "Canarian," it would have been perfectly correct; but by affirming them to be from "Teneriffe"—merely perhaps because the person who collected them made his head quarters in that island, or else did not much care to preserve a memorandum of his *habitats*—a downright misstatement, involving a serious topographical blunder, is at once placed on record.

Three examples, which I captured in Grand Canary, embody all that I yet know about this *Gnophota*. Although agreeing with neither of them, it appears in some respects to be intermediate between the *cribricollis* and *punctipennis*; and therefore, until further material has been obtained for a more complete inspection of its characters, I can scarcely regard its diagnosis as entirely satisfactory.

1105. *Gnophota punctipennis*.

Gnophota punctipennis, *Woll., Cat. Can. Col.* 467 (1864).

Habitat Canarienses (*Can.*), in subinferioribus intermediisque hinc inde vulgaris.

Also found in Grand Canary, where it would appear to represent in the more northern parts of that island the *G. cribricollis*, which is as widely distributed over the central and southern districts. The *G. punctipennis* is universal throughout the region of El Monte and in the vicinity of Las Palmas.

Genus 333. **MELANOCHRUS.**

Wollaston, *Cat. Can. Col.* 467 (1864).

1106. *Melanochrus Lacordairii*.

Melanochrus Lacordairii, *Woll., Cat. Can. Col.* 468 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in arenosis maritimis submaritimisque ad radices plantarum fodiens.

A Canarian insect which has been observed hitherto only in Lanzarote and Fuerteventura, where it resides in low sandy places near the coast—burrowing amongst the loose sand around the roots of shrubby plants.

Fam. 72. BLAPIDÆ.

Genus 334. **BLAPS.**

Fabricius, *Syst. Ent.* 254 (1775).

1107. *Blaps gages*.

Tenebrio gages, *Linn., Syst. Nat.* ii. 676 [script., per err., *gigas*] (1767).

Blaps gages, *Brullé, in Webb et Berth. (Col.)* 68 (1838).

— —, *Woll., Ins. Mad.* 506 (1854).

— —, *Id., Cat. Mad. Col.* 157 (1857).

— —, *Id., Cat. Can. Col.* 469 (1864).

Habitat Maderenses (*Mad., Pto Sto*), Salvages (ins. *majorem*,

borealem) et Canarienses (*Lanz., Can., Ten., Gom.*), in inferioribus late sed parce diffusa.

This large European *Blaps*, although nowhere very common, is widely spread over these Atlantic islands—where we may be pretty sure that it will be found to be nearly (if not indeed quite) universal. It has been taken in Madeira proper and Porto Santo, of the Madeiran Group, and in Lanzarote, Grand Canary, Teneriffe, and Gomera, of the Canaries. And it was obtained by the Barão do Castello de Paiva even from the Great Salvage.

1108. *Blaps alternans*.

- Blaps alternans*, *Brullé, in Webb et Berth. (Col.)* 68 (1838).
 ———, *Hart., Geolog. Verhültn. Lanz. und Fuert.* 140.
 ———, *Woll., Cat. Can. Col.* 470 (1864).

Habitat Canarienses (*Lanz., Fuert.*), sub lapidibus magnis necnon in cavernis tufæ præcipue in editioribus congregans.

Locally abundant in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group; but it has not yet been detected elsewhere. It is more particularly in Lanzarote that I have myself observed it—where I met with it in profusion, beneath slabs of stone, on the hills around Haria.

1109. *Blaps similis*.

- Blaps similis*, *Lat., Hist. Nat. Crust. et Ins.* x. 279 (1803).
 ——— *fatidica*, *Brullé, in Webb et Berth. (Col.)* 68 (1838).
 ——— *fatadica*, *Woll., Ins. Mad.* 508 (1854).
 ——— ———, *Id., Cat. Mad. Col.* 157 (1857).
 ——— *similis*, *Id., Cat. Can. Col.* 470 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*Fuert., Ten.*), minus frequens.

The common European *B. similis* occurs sparingly both at the Madeiras and Canaries, where very likely it may have become established from more northern latitudes. It has been taken in Madeira proper and Porto Santo, of the former, and in Fuerteventura and Teneriffe, of the latter.

Fam. 73. PIMELIADÆ.

Genus 335. PIMELIA.

Fabricius, *Syst. Ent.* 251 (1775).

§ I. *Scutellum* (ut in *Pimeliadis* typicis) *conspicuum, postice dilatato-transversum.*

1110. *Pimelia lutaria.*

Pimelia lusaria, *Brullé*, in *Webb et Berth.* (Col.) 68, pl. i. f. 11 (1838).

— *lutaria**, *Woll.*, *Cat. Can. Col.* 471 (1864).

— *canariensis*, *Hart.* [nec Br.], *Geol. Verh. Lanz. u. Fuert.* 140, 141.

Habitat Canarienses (*Lanz.*, *Fuert.*), sub lapidibus vulgaris.

This pubescent *Pimelia*, the short cinereous *under-pile* of which gives it the appearance of being partially clothed with a *muddy* deposit, is the common species throughout Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group; and I also met with it on the little islet of Graciosa, off the extreme north of the former: but so far as I am aware, it has not yet been observed further westward in the archipelago.

I should state, however, that a specimen has just been communicated by De Marseul with the label "Teneriffe" attached to it; but as several of the insects in the same consignment *which are unmistakably either Lanzarotan or Fuerteventuran ones* have a similar ticket appended to them, I cannot place sufficient reliance on this *habitat* to feel justified in citing the species for any other island than the two to which my own observations would imply that it is essentially peculiar. At the same time I must add that this single example does really differ a *little* from the ordinary type; though the differences are so very slight that I cannot attach much importance to them †.

1111. *Pimelia canariensis.*

Pimelia canariensis, *Brullé*, in *Webb et Berth.* (Col.) 67 (1838).

— —, *Woll.*, *Cat. Can. Col.* 472 (1864).

Habitat Canarienses (*Ten.*), in summo ipso monte "Pico de Teyde" (12,100' s. m.) à DD. Webb et Berthelot necnon de la Perraudière deprehensa.

* On the singular manner in which the orthography of this specific title has been tampered with, through M. Brullé having spelt it wrongly in his letter-press but rightly on his plate, compare 'Cat. Can. Col.' p. 471 (note).

† As it is of course barely *possible* (even though, I think, most unlikely) that this individual may really be a Teneriffan one, I will just record it as follows; and I have given the race which it represents (or may be supposed to represent) a subspecific name, in the event of further material proving it to be truly distinct:—

Var. *β. lutulenta.* Vix angustior, oblongior, depressior; prothorace sublongiore ac paulo minus lato, ad latera præsertim antice minus rotundato (quare postice paulo rectius angustato, angulis posticis sensim magis determinatis).

A *Pimelia* which appears to occur in the highest elevations of Teneriffe, having been captured by MM. Webb and Berthelot on the very top of the "Peak" itself (at an altitude of more than 12,000 feet). Their types indeed, which I examined carefully when in Paris, were until quite lately all that I had seen; but an example is now before me which has just been communicated by De Marseul from the collection of M. de la Perraudière, and which (although labelled merely as Teneriffan) must doubtless have been taken in the same locality. As considerations of health would not permit me to venture much higher than about 9000 feet on the mountains of Teneriffe, I did not reach the summit of the Peak, and consequently did not obtain this beautiful *Pimelia*, though the elevated Cumbre (overlooking the Cañadas) which formed the upper limit of my explorations was thickly strewed with the *P. ascendens*.

1112. *Pimelia fornicata*.

- Pimelia fornicata*?, *Hbst, Natursyst.* viii. 79, tab. 122. f. 8 (1799).
 — *obesa*?, *Sol., Ann. de la Soc. Ent. de France*, v. 191 (1836).
 — —, *Brullé, in Webb et Berth. (Col.)* 67 (1838).
 — *fornicata*, *Woll., Cat. Can. Col.* 472 (1864).

Habitat Canarienses (sec. DD. Webb et Berth.), mihi non obvia.

A *Pimelia* of Mediterranean latitudes which is admitted by M. Brullé into his short and inaccurate list of Canarian Coleoptera, on the evidence of specimens supposed to have been captured by MM. Webb and Berthelot. I examined the latter, whilst in Paris, and they certainly are different from every other species recorded in this volume, and *perhaps* also rightly identified with the *obesa* (or *fornicata*) of southern Europe. I need scarcely add that M. Brullé gives us no kind of information about them; and therefore, until further evidence has been obtained on the subject of their *habitat*, I cannot regard them as by any means undoubtedly Canarian—and especially so, since a *Pimelia* much resembling the *fornicata* swarms on the opposite coast of Morocco, and I have already had occasion to comment on the accidental importations, through the medium of trading vessels, which from time to time have unquestionably taken place at S^{ta} Cruz.

1113. *Pimelia ascendens*.

- Pimelia barbara*, *Br. [nec Sol.], in Webb et Berth. (Col.)* 67 (1838).
 — *ascendens*, *Woll., Cat. Can. Col.* 473 (1864).

Habitat Canarienses (*Ten.*), in montibus excelsis usque ad 10,000 s. m. ascendens.

An abundant *Pimelia* on the elevated Cumbres of Teneriffe, from about 7000 to 9000 feet above the sea, and ascending, I believe, even still higher—though scarcely, I imagine, to the very highest point of all (which seems to be tenanted by the *P. canariensis*). On the upland tracts adjoining, and overlooking, the Cañadas, I took it in profusion—beneath stones and scorix, as well as crawling sluggishly on the ground, amongst the bushes of the Retama.

1114. *Pimelia radula*.

Pimelia radula (*Dej.*), *Sol., Ann. de la Soc. Ent. de Fr.*, v. 136 (1836).
 ———— (—), *Woll., Cat. Can. Col.* 474 (1864).

Habitat Canarienses (*Ten.*), plerumque in inferioribus degens.

Likewise Teneriffan, but found at a low elevation (almost at the sea-level), and seldom ascending into even the intermediate districts. Around the Puerto Orotava, on the northern side of the island, its elytral tubercles are less strongly defined than is the case around S^{ta} Cruz; and the former state corresponds to the “ α ” of my diagnosis, whilst the latter is defined as the “ β . *granulata*.”

1115. *Pimelia sparsa*.

Pimelia sparsa, *Brullé, in Webb et Berth. (Col.)* 67 (1838).
 ————, *Woll., Cat. Can. Col.* 475 (1864).

Habitat Canarienses (sec. DD. Webb et Berthelot), mihi non obvia.

Recorded by M. Brullé as having been found by MM. Webb and Berthelot at the Canaries, but without any information as to the island. I examined the type, when in Paris, and do not feel quite certain that it is more than a variety of the *radula* in which the elytral tubercles (between the costæ) are *very* much less numerous. Still, as I could not compare it with sufficient accuracy, and the species has already been established, I think it would hardly be safe, without further evidence, to treat it as otherwise than specifically distinct.

1116. *Pimelia ambigua*.

Pimelia ambigua, *Woll., Cat. Can. Col.* 475 (1864).

Habitat Canarienses (*Hierro*), à Dom. Deyrolle olim communicata, sed à DD. Crotch nuperrime deprehensa.

A Canarian *Pimelia* which I described from a single example communicated from Paris by M. Deyrolle. It had been received by him as coming from Teneriffe; but, as implied in the remarks accom-

panying my diagnosis, that was no proof whatever of its being positively Teneriffan,—a conclusion indeed which was still further evident at the time from the fact of his having sent me other insects likewise, with the label “Teneriffe” appended to them, which clearly were not from that island, but which were captured (without doubt) either in Lanzarote or Fuerteventura (where the fauna is most characteristic, and unmistakeable). But a second specimen of the *P. ambigua*, which was found by the Messrs. Crotch in Hierro, fortunately sets at rest the question of its *habitat*; and I think it is most probable therefore that M. Deyrolle’s example was from the collection of M. de la Perraudière, who it is well known *visited Hierro*.

Although quite satisfied however that the present *Pimelia* is *not Teneriffan*, its proper island becomes of less importance from the consideration that I cannot but feel a slight doubt whether it is more (after all) than a local variety of the *costipennis*, in which the elytra are much *crumpled* transversely (occasioning the ridges to appear rather angular and undulated) and the prothoracic punctures are a trifle more evident. Still I have not been able to connect it with the ordinary type of that insect (which abounds in Hierro); and therefore I must leave in doubt the question of its specific claims, to be solved by future observation and more extensive material.

1117. *Pimelia costipennis*.

Pimelia costipennis, Woll., *Cat. Can. Col.* 476 (1864).

Habitat Canarienses (*Gom.*, *Hierro*), præcipue in subinferioribus vulgaris.

The common *Pimelia* of Gomera and *Hierro*, where it is occasionally abundant at rather low elevations. The Gomeran specimens are on the average a little larger than the Hierro ones, and have their limbs thicker; but I can detect nothing about them to warrant the suspicion that they represent more than a slight insular phasis of the latter.

1118. *Pimelia lævigata*.

Pimelia lævigata, Brullé, in *Webb et Berth.* (*Col.*) 67 (1838).

—— *lævigata*, Woll., *Cat. Can. Col.* 477 (1864).

Habitat Canarienses (*Ten.*?, *Palma*), sæpius in subinferioribus hinc inde vulgaris.

An abundant species at rather low elevations in Palma, of the

Canarian Group; and it appears also to occur in Teneriffe, though I have not myself observed it in that island*.

1119. *Pimelia serrimargo*.

Pimelia verrucosa, Br. [nec Fisch. de Waldh., 1821], in Webb et Berth. (Col.) 67 (1838).

— *serrimargo*, Woll., Cat. Can. Col. 477 (1864).

Habitat Canarienses (Can.), late diffusa et hinc inde vulgaris.

A *Pimelia* which has been observed hitherto only in Grand Canary, over which island however it is widely diffused. It is an extremely variable species, both in stature and in the greater or less development of its elytral tubercles.

§ II. *Scutellum brevissimum, pronoto tectum* (nec pone basin elytrorum ipsissimam extendens), *ergo superne vix observandum*. [Subg. *Aphanaspis*, Woll.]

1120. *Pimelia granulicollis*.

Pimelia granulicollis, Woll., Cat. Can. Col. 478 (1864).

Habitat Canarienses (Can.), in arenosis submaritimis prope urbem Las Palmas parce deprehensa.

This large and subopaque species occurs in the low sandy district of Grand Canary between Las Palmas and the Isleta, where, however, it would appear to be scarce. It has been taken sparingly both by myself and the Messrs. Crotch.

1121. *Pimelia auriculata*.

Pimelia bajula, Br. [nec Klug, 1830], in Webb et Ber. (Col.) 57 (1838).

— *auriculata*, Woll., Cat. Can. Col. 479 (1864).

Habitat Canarienses (Can.), late diffusa, ab orâ maritimâ usque ad regiones montosas ascendens.

An oblong, shining, and comparatively unsculptured *Pimelia*, which

* Although I can scarcely doubt the occurrence of the *P. levigata* in Teneriffe, I nevertheless cannot but feel that more conclusive evidence is still wanted on the subject of its extra-Palman range. Considering however that MM. Webb and Berthelot, Hartung, and Crotch are supposed to have met with it in "Teneriffe," it may perhaps seem unreasonable that further proof for its existence in that island should be required. But as I have not been able to elicit any kind of information as to where the Teneriffan examples were found, and it is a remarkable fact that all of its captors visited Palma, I must crave their indulgence if I should appear to be unnecessarily sceptical concerning its Teneriffan *habitat*.

seems to be peculiar to Grand Canary. It is widely spread over that island—occurring at quite low, intermediate, and even rather lofty elevations.

Fam. 74. CONIONTIDÆ.

Genus 336. CRYPTICUS.

Latreille, *Règn. An.* (édit. i.) iii. 298 (1817).

1122. *Crypticus navicularis.*

Crypticus? *navicularis*, *Brullé*, in *Webb et Berth.* (Col.) 69 (1838).
 ———, *Woll., Cat. Can. Col.* 481 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis editioribus sat rarus.

A Canarian *Crypticus* which has been observed hitherto only in Teneriffe, where it occurs sparingly in the damp sylvan districts of a rather high elevation.

1123. *Crypticus punctatissimus.*

Crypticus punctatissimus, *Woll., Cat. Can. Col.* 480 (1864).

Habitat Canarienses (*Palma*), in locis similibus ac præcedens.

Found in much the same kind of places as the last species, but in Palma (instead of Teneriffe)—where it appears to be universal throughout the wooded districts of intermediate and lofty altitudes.

1124. *Crypticus calvus.*

Crypticus canariensis (p.), *Woll., Cat. Can. Col.* 482 (1864).
 ——— *calvus*, *Woll., Append. huj. op.* 59.

Habitat Canarienses (*Hierro*), in sylvaticis intermediis degens.

Taken abundantly by the Messrs. Crotch in Hierro, during their late Canarian campaign, in which island, however, a single example had been captured previously by myself—in the wooded district of El Golfo. It would seem therefore to have much the same habits as the last two species, to which it is evidently allied. Indeed, as stated in the Appendix, I think it is not unlikely that these three *Cryptici* may be, in reality, but permanent phases of a single, somewhat plastic species—each of them peculiar to its respective island. But since it is impossible to affirm this for certain, I have no option but to treat them as specifically distinct; and future observers must decide for themselves whether they consider it safe to amalgamate them.

1125. *Crypticus canariensis*.

Crypticus glaber, Br. [nec Fab.], in *Webb et Berth.* (Col.) 69 (1838).
 — canariensis, Woll., *Cat. Can. Col.* 481 (1864).

Habitat Canarienses (*Ten.*), sub lapidibus foliisque dejectis in intermediis editioribusque occurrens. Per regiones sylvaticas usque ad 9000' s. m., vel etiam ultra, ascendit.

Widely spread over the intermediate and lofty elevations of Teneriffe, but it has not yet been detected in any of the other islands. It occurs both in the sylvan districts and on the lofty, open Cumbres above them—ascending to an altitude of more than 9000 feet. The examples from the latter regions differ a little from those in less elevated spots; but the points of difference are very slight, and the two forms merge gradually into each other.

1126. *Crypticus nitidulus*.

Crypticus nitidulus, Woll., *Append. huj. op.* 60.

Habitat Canarienses (*Gom.*), à DD. Crotch parce deprehensus.

A few examples of this comparatively shining and deeply punctured *Crypticus* were taken in Gomera by the Messrs. Crotch, during their late expedition to the Canaries. The characters which distinguish it from its allies have been fully pointed out in the Appendix.

1127. *Crypticus oblongus*.

Crypticus oblongus, Woll., *Cat. Can. Col.* 482 (1864).

Habitat Canarienses (*Ten.*, *Gom.*, *Hierro*), in intermediis editioribusque late diffusus.

Widely diffused over the intermediate and lofty elevations of Teneriffe, Gomera, and Hierro, in the Canarian Group, occurring beneath stones and fallen leaves. Its detection in Gomera is due to the late researches of the Messrs. Crotch. The examples from Hierro have their sculpture just perceptibly finer than those from Teneriffe, and the Gomeran ones than those from Hierro.

1128. *Crypticus minutus*.

Crypticus minutus, Brullé, in *Webb et Berth.* (Col.) 69 (1838).
 — —, Woll., *Cat. Can. Col.* 483 (1864).

Habitat Canarienses (*Can.*), in intermediis et editioribus rarior.

Two specimens only, with the exception of M. Brullé's type (which I examined, when in Paris), of this comparatively minute *Crypticus*

have as yet come beneath my notice. They were taken by myself in Grand Canary,—one of them in the region of El Monte, and the other at a high altitude on the mountains to the south of the Roca del Soucilho.

Genus 337. **ELLIPSODES.**

Wollaston, *Ins. Mad.* 485 (1854).

1129. **Ellipsodes glabratus.**

Sphæridium glabratum, *Fab., Ent. Syst.* i. 79 (1792).

— —, *Id., Syst. Eleu.* i. 93 (1801).

Ellipsodes glabratus, *Woll., Ins. Mad.* 486, tab. xi. f. 2 (1854).

— —, *Id., Cat. Mad. Col.* 150 (1857).

Habitat Maderenses (Mad.), sub lapidibus in intermediis editioribusque vulgaris.

An abundant insect at intermediate and (more particularly) lofty elevations in Madeira proper, ranging from about 1500 feet above the sea to the summits of the peaks. It occurs principally beneath stones.

1130. **Ellipsodes oblongior.**

Ellipsodes glabratus, var. *β.*, *Woll., Ins. Mad.* 486 (1854).

— oblongior, *Id., Cat. Mad. Col.* 150 (1857).

Habitat Maderenses (P^{to} Sto, Des., Bugio), sub lapidibus in editioribus rarior.

Likewise peculiar to the Madeiran Group, and so closely allied to the preceding species that I am extremely doubtful whether it ought to be regarded as more than a modification of it. I have taken it sparingly, under stones, at a rather high elevation, in Porto Santo, the Deserta Grande, and on the Bugio.

Fam. 75. PEDINIDÆ.

Genus 338. **MELASMA.**

Wollaston, *Cat. Can. Col.* 484 (1864).

1131. **Melasma lineatum.**

Phylax? lineatus, *Brullé, in Webb et Berth. (Col.)* 69 (1838).

— —, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 140.

Melasma lineatum, *Woll., Cat. Can. Col.* 485 (1864).

Habitat Canarienses (Lanz., Fuert.), sub lapidibus vulgare.

Common throughout Lanzarote and Fuerteventura, the two eastern

islands of the Canarian Group; and I likewise met with it on the little islet of Graciosa, off the extreme north of the former. It occurs beneath stones, principally at intermediate altitudes*.

Fam. 76. OPATRIDÆ.

Genus 339. CNEMOPLATIA.

Costa, *Ann. Ac. Asp. Nat. Nap.* i. 146 [script. *Cnemeplatia*] (1847).

1132. *Cnemeplatia laticeps*.

Autocera laticeps, *Woll., Cat. Mad. Col.* 155, fig. 2 (1857).

Cnemeplatia laticeps, *Id., Cat. Can. Col.* 485 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), in intermediis, præcipue sub recremento ad basin acervorum fœni sparso, rarissima.

A curious little insect very closely allied to the Italian *C. Atropos*, of which it is just possible that it may be but a geographical modification. Still I believe it to be truly distinct; for its small differential characters remain constant both in the Madeiras and Canaries, which would hardly be the case if it were any mere *local* phasis of the Mediterranean species. It occurs rarely, at intermediate altitudes, in Madeira proper—having been taken by myself on the ascent from S^{ta} Cruz to S. Antonio da Serra, by the late Mr. Bewicke beneath haystack-refuse at Camacha, and by Senhor Moniz at “the Mount” above Funchal. From the Canaries I have seen hitherto but a single example, which was captured by Dr. Crotch (during the spring of 1862) in Teneriffe; though we may expect to meet with it more abundantly, if searched for in the proper situations.

* I have no shadow of evidence that the *M. lineatum* has occurred anywhere except in Lanzarote and Fuerteventura (and on their small adjacent rocks), and feel satisfied that it is peculiar to the eastern part of the Canarian archipelago; yet, as usual, I have been somewhat troubled by receiving from Paris an example of it labelled “Teneriffe.” It really would appear as if *accuracy of habitat* was a subject totally uncared for in many of the continental collections; for it is grievous to observe how the species from these various islands, and some even from the Cape de Verdes, are hawked about indiscriminately as *Teneriffan*, and that too with a confidence bordering on pugnacity. If naturalists would but consider the amount of falsehood which they wantonly propagate by this slovenly confusion of their *localities*, they would pause before attempting to define the latter too rigidly on *insufficient evidence*. If in cases like the present one they would but cite their specimens simply as “Canarian,” instead of assigning them to some particular island to which they do not belong, it would be far more satisfactory, and at the same time less offensive to those who are labouring to arrive at the truth on special questions of topographical interest.

Genus 340. **SCLERUM.**(Dej.) Hope, *Col. Man.* iii. 111 [script. *Scleron*] (1840).1133. **Sclerum asperulum.***Sclerum asperulum*, *Woll., Cat. Can. Col.* 486 (1864).*Habitat* Canarienses (*Can.*), sub lapidibus in inferioribus arenosis captum.

Several examples of this fine *Sclerum* were taken by myself, at a low elevation, in the south of Grand Canary—beneath stones, at Maspalomas.

Genus 341. **OPATRUM.**Fabricius, *Syst. Ent.* 76 (1775).1134. **Opatrum lutosum.***Opatrum lutosum*, *Woll., Cat. Can. Col.* 486 (1864).*Habitat* Canarienses (*Lanz., Fuert.*), sub lapidibus vulgare.

The universal *Opatrum* of Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group, where it is common beneath stones at low and intermediate altitudes. I have no evidence for supposing that it occurs further westward in the archipelago, though I think it far from unlikely that it will be found in the sandy parts of (at all events) Grand Canary.

1135. **Opatrum fuscum.***Opatrum fuscum*, *Hbst, Käf.* v. 225, tab. 52. f. 1 (1793).— —, *Brullé, in Webb et Berth.* (*Col.*) 68 (1838).— errans, *Woll., Ins. Mad.* 501, tab. xi. f. 3 (1854).— —, *Id., Cat. Mad. Col.* 156 (1857).— fuscum, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 140.— —, *Woll., Cat. Can. Col.* 487 (1864).*Habitat* Maderenses (*Mad.*) et Canarienses (*Lanz., Fuert., Can., Ten.*), late diffusum.

An *Opatrum* of Mediterranean latitudes which is widely distributed over these Atlantic islands, though seldom very abundant. In Madeira proper (whence I described it as a new species, under the name of *errans*) it has been observed hitherto only at rather lofty elevations; but in the Canarian islands of Lanzarote, Fuerteventura, Grand Canary, and Teneriffe (in each of which it has been taken) it seems to be found equally in the low and intermediate districts.

1136. *Opatrum hispidum*.

- Opatrum tomentosum*, *Dej., Cat.* (édit. 3) 214 (1837).
 — *hispidum*, *Brullé, in Webb et Berth. (Col.)* 68 (1838).
 — *prolixum*, *Erich., in Wieg. Archiv*, 248 (1843).
 — *fuscum*, *Woll. [nec Hbst], Ins. Mad.* 500, tab. xi. f. 1 (1854).
 — —, *Id., Cat. Mad. Col.* 156 (1857).
 — *hispidum*, *Id., Cat. Can. Col.* 488 (1864).

Habitat Maderenses (ins. omnes) et Canarienses (ins. omnes), sub lapidibus, passim.

There is no insect more general throughout these Atlantic Groups than this *Opatrum*, in all the islands of which (namely, the five Madeiran and the seven Canarian ones), except those of the Salvages, it has been captured—more or less abundantly. It is likewise common at the Cape de Verdes. In my 'Ins. Mad.' and Madeiran Catalogue I erroneously regarded it as the *fuscum* (or *rusticum*) of southern Europe; which led me into the further mistake of describing the latter (under the name of *errans*) as a new species.

1137. *Opatrum oblitum*.

Opatrum oblitum, *Woll., Cat. Can. Col.* 489 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in aridis arenosis et calcariis, præsertim submaritimis, occurs.

A rather small species (somewhat allied to the *O. pygmaeum* of southern Europe) which occurs at low elevations in the two eastern islands of the Canarian archipelago, Lanzarote and Fuerteventura; and I likewise met with it on the little islet of Graciosa, off the north of the former. It is found generally in sandy and calcareous spots, towards the coast.

1138. *Opatrum dilatatum*.

Opatrum dilatatum, *Woll., Ins. Mad.* 501 [note] (1854).
 — —, *Id., Journ. of Ent.* i. 91 (1860).

Habitat Salvages (ins. *minorem, australem*), à Dom. Leacock semel deprehensum.

The only example which I have yet seen of this distinct *Opatrum* was taken on the southern of the two islands of the Salvages (known as the "Great Piton"), in 1851, by Mr. Leacock of Madeira.

Genus 342. MELANSIS.

Wollaston, Cat. Can. Col. 491 (1864).

1139. *Melansis costata*.

Phylax costatus, *Brullé, in Webb et Berth. (Col.)* 69 (1838).
Melansis costata, *Woll., Cat. Can. Col.* 491 (1864).

Habitat Canarienses (*Can.*), hinc inde in editioribus haud infrequens.

Hitherto I have observed this insect only on the mountains of Grand Canary, where it is locally far from uncommon at a rather high altitude. On the ascent to the great Pinal above San Bartolomé, in the central region of Tarajana, I met with it in tolerable abundance.

1140. *Melansis angulata*.

Melansis angulata, *Woll., Cat. Can. Col.* 492 (1864).

Habitat Canarienses (*Palma, Hierro*), in intermediis rarissima.

I captured about twenty examples of this well-defined species in Palma, of the Canarian Group,—beneath stones in the Barranco above S^a Cruz, at about two miles from the latter. And a specimen has been communicated by De Marseul, which was taken by M. de la Perraudière in Hierro*.

Genus 343. *HADRUS*.

(*Dej. Cat.*) *Wollaston, Ins. Mad.* 502 (1854).

1141. *Hadrus alpinus*.

Hadrus alpinus, *Woll., Ins. Mad.* 502, tab. xi. f. 5 (1854).
 ———, *Id., Cat. Mad. Col.* 156 (1857).

Habitat Maderenses (*Mad.*), in intermediis editioribusque sat vulgaris.

Rather common in the intermediate and somewhat lofty altitudes of Madeira proper, occurring (beneath stones) both in the sylvan regions and above them; but it does not appear to descend into the lower districts.

1142. *Hadrus Paivæ*.

Hadrus Paivæ, *Woll., Ann. Nat. Hist.* vi. 50 (1860).
 ———, *Id., Append. huj. op.* 61.

Habitat Maderenses (*Mad.*), in inferioribus prope oppidulum Porto da Cruz adhuc tantum lectus.

* The Hierro specimen has its costæ just perceptibly less sharply developed, and its hinder prothoracic angles more decidedly *simple* (or with no apparent tendency to be subrecurved); but such slight characters are hardly worth noticing, being scarcely appreciable.

Likewise found in Madeira proper, but at quite low elevations. Indeed the only spot in which I have met with it hitherto is, at the sea-level, close to the little town of Porto da Cruz (on the eastern coast)—where I captured it in profusion beneath stones. It was named after the Barão do Castello de Paiva, to whose researches in Madeira I have often been indebted for much interesting material.

1143. *Hadrus cinerascens*.

Hadrus cinerascens, *Dej., Cat.* (édit. 3) 214 (1837).
 ———, *Woll., Ins. Mad.* 503, tab. xi. f. 4 (1854).
 ———, *Id., Cat. Mad. Col.* 156 (1857).

Habitat Maderenses (*Mad., Ilheo Chão, Des., Bugio*), sub lapidibus ubique vulgatissimus.

One of the most abundant of the Coleopterous insects of the Madeiran Group, to which it seems to be peculiar. It occurs from the sea-level to the summits of the peaks (being most common, however, at rather low elevations), and is found in all the islands except Porto Santo—where its place is taken by the *H. illotus*.

1144. *Hadrus illotus*.

Hadrus illotus, *Woll., Ins. Mad.* 503, tab. xi. f. 6 (1854).
 ———, *Id., Cat. Mad. Col.* 156 (1857).

Habitat Maderenses (*Pto S^{to}*), sub lapidibus in inferioribus intermediisque abundans.

As already stated, this *Hadrus* seems to be the Porto-Santan representative of the *H. cinerascens*, which abounds on all the other islands of the Madeiran Group. And such being the case, one can scarcely resist the inquiry whether it is not in reality an insular modification of that species. It is certainly possible that this may be so; nevertheless the fact that the *cinerascens* remains constant on the various other islands (and adjacent rocks) would render it *à priori* unlikely that it should have become permanently altered in Porto Santo.

Genus 344. *HALONOMUS*.

Wollaston, *Ann. Nat. Hist.* vii. 201 (1861).

1145. *Halonomus salinicola*.

Halonomus salinicola, *Woll., loc. cit.* 203 (1861).
 ———, *Id., Cat. Can. Col.* 490 (1864).

Habitat Canarienses (*Lanz., Can.*), sub lapidibus in locis salinis hinc inde vulgatissimus.

A Canarian insect which was taken in great abundance by Mr. Gray and myself at the Salinas (or salt-works) in the extreme north of Lanzarote, and of which I subsequently captured a single example at the southern point of Grand Canary. I am far from certain that it is more than a geographical state of the *H. ovatus* (= *Heterophaga ovata*, Dej. Cat., = *Opatrum ovatum*, Erich., = *Halonomus Grayii*, Woll.), which is recorded from Senegal and Sicily, and which occurs likewise at the Cape de Verdes. But whether this be the case or not, it certainly exists on the opposite coast of Morocco—it having been captured by the Messrs. Crotch at Mogadore.

Fam. 77. TRACHYSCELIDÆ.

Genus 345. PSEUDANEMIA.

Wollaston, *Cat. Can. Col.* 492 (1864).

1146. *Pseudanemia brevicollis*.

Pseudanemia brevicollis, Woll., *Cat. Can. Col.* 493 (1864).

Habitat Canarienses (*Lanz.*), in arenosis submaritimis capta.

The only specimen which I have yet seen of this singular Canarian insect was captured by myself in Lanzarote—on a low sandy slope immediately behind the sea-beach, about a mile to the south of Arrecife. The fact of its antennæ being only 10-articulate and the edges of its body unciliated, will, apart from the less important differences in the shape of its head, eyes, and prothorax, readily separate it, even at first sight, from the members of the closely allied genus *Anemia*.

Genus 346. TRACHYSCELIS.

Latreille, *Gen. Crust. et Ins.* iv. 379 (1809).

1147. *Trachyscelis aphodioides*.

Trachyscelis aphodioides, Lat., *loc. cit.* (1809).

— —, *Guérin-Mén., Icon. Ins.* pl. 31. f. 3.

— —, Woll., *Cat. Can. Col.* 494 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), sub fucis necnon juxta radices plantarum in arenosis maritimis crescentium fodiens.

An insect of Mediterranean latitudes which occurs in the more eastern portions of the Canarian Group—where it burrows beneath marine *rejectamenta* on the sea-beach, as well as around the roots of plants (growing in the loose sand) immediately behind it. It has been taken in Lanzarote, Fuerteventura, and Grand Canary.

Genus 347. PHALERIA.

Latreille, *Hist. des Crust. et Ins.* iii. 162 (1802).

1148. *Phaleria bimaculata*.

Tenebrio bimaculatus, *Hbst, Natursyst.* viii. 16 (1799).

Habitat Salvages (ins. *majorem*, borealem), à Barone "Castello de Paiva" missa.

A single example of this rather large *Phaleria* has been communicated by the Barão do Castello de Paiva, by whom it was obtained from the Great Salvage.

In the European Catalogues the *P. bimaculata* is given as a variety of the *cadaverina*, but I believe nevertheless that it is specifically distinct. Unquestionably there is a maculated phasis of the *cadaverina*; but the examples now before me, from the Salvages and Portugal, can scarcely be referred to it; for not only are they paler with a much more rigidly defined patch on the disk of each elytron, but the latter are likewise more convex and oval (or less straightened at the sides) and have their edges (instead of being nearly bald) conspicuously ciliated. Their prothorax also is less bisinuate along its basal edge (which causes the hinder angles to be more decidedly right angles), and their interstices are more transversely wrinkled.

1149. *Phaleria cadaverina*.

Tenebrio cadaverinus, *Fab., Ent. Syst.* i. 113 (1792).

— —, *Sturn, Deutsch. Fna.* ii. 230 (1807).

Phaleria cadaverina, *Steph., Ill. Brit. Ent.* v. 15 (1832).

— —, *Woll., Cat. Can. Col.* 494 (1864).

Habitat Canarienses (*Gom.*), juxta oram maritimam à W. D. Crotch reperta.

This common European insect was captured in Gomera, of the Canarian Group, by Dr. Crotch—who obtained a few examples of it, during the spring of 1862, on the sea-shore at San Sebastian. I met with it at Mogadore, on the opposite coast of Morocco.

1150. *Phaleria ornata*.

Phaleria cadaverina, *Br. [nec Fab.], in Webb et Berth. (Col.)* 70 (1838).

— picta, *Woll. [nec Mann.], Ann. Nat. Hist.* vii. 246 (1861).

— ornata, *Id., Cat. Can. Col.* 494 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), in arenosis maritimis hinc inde vulgaris.

An elegant *Phaleria* which has been observed only in Lanzarote,

Fuerteventura, and Grand Canary,—where it is locally abundant on (and near) the sandy sea-shores, burrowing beneath algæ and other *rejectamenta*. It has much in common with an equally beautiful species, the *P. Clarkii*, which was found by Mr. Gray and the Rev. Hamlet Clark at the Cape de Verdes; but the many characters which distinguish it permanently from that insect have been fully alluded to in my Canarian Catalogue.

1151. *Phaleria ciliata*.

Phaleria ciliata, *Woll., Ins. Mad.* 488 (1854).

— —, *Id., Cat. Mad. Col.* 151 (1857).

Habitat Maderenses (*P^{to} S^{to}*), in locis similibus ac præcedens.

A comparatively small and oval species which I have observed only in Porto Santo, of the Madeiran Group,—where it is occasionally abundant, beneath marine and other *rejectamenta*, along the sandy sea-shores.

Fam. 78. ULOMIDÆ.

Genus 348. ADELINA.

(Chevr.) Wollaston, *Ann. Nat. Hist.* ii. 413 (1858).

1152. *Adelina farinaria*.

Adelina farinaria, *Woll., loc. cit.* 414 (1858).

— —, *Id., Append. huj. op.* 61.

Habitat Maderenses (*Mad.*), certe introducta. Inter farinam Americanam (?) in urbe ipsâ Funchalensi collegit Dom. M. Park.

As has been already stated under the *Rhizopertha bifoveolata*, this insect was found by Mr. M. Park in Madeira proper—where it had *without doubt* been imported accidentally into the island in a cask of flour. Indeed it was taken absolutely in the Custom-House, at Funchal; and *I believe* that the flour was American. Under these circumstances I certainly should not have admitted the species into the present Catalogue at all, had it not been so extremely abundant that there is at least a possibility that it may have established itself in some of the warehouses and stores, and that it may consequently be again met with at a future time. And moreover, when we consider what a number of insects have already been naturalized in a similar manner, such a contingency cannot be regarded as by any means an improbable one.

Genus 349. **ALPHITOBIUS.**Stephens, *Ill. Brit. Ent.* v. 11 (1832).1153. **Alphitobius diaperinus.**Tenebrio diaperinus, *Kugel., in Panz. Fna Ins. Germ.* 37. 16 (1797).Uloma opatroides, *Brullé, in Webb et Berth. (Col.)* 70 (1838).Alphitobius diaperinus, *Woll., Ins. Mad.* 498 (1854).— — —, *Id., Cat. Mad. Col.* 154 (1857).— — —, *Id., Cat. Can. Col.* 497 (1864).Crypticus opatroides?, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 142.*Habitat* Maderenses (*Mad.*) et Canarienses (*Can., Ten.*), in domibus mercatorumque repositoriis ex alienis introductus.

This widely diffused insect occurs sparingly, about houses and stores, both in the Madeiran and Canarian Groups—where it has doubtless become established from more northern latitudes. It has been taken in Madeira proper, as well as in Grand Canary and Teneriffe.

1154. **Alphitobius piceus.**Tenebrio mauritanicus, *Fab. [nec Linn. 1767], Ent. Syst.* i. 113 (1792).Helops piceus, *Oliv., Ent.* iii. 58. 17. 22 (1795).Tenebrio Fagi, *Pnz., Fna Ins. Germ.* 61. 3 (1799).Alphitobius picipes, *Steph., Ill. Brit. Ent.* v. 11 (1833).Heterophaga mauritanica, *Dej., Cat. (édit. 3),* 220 (1837).Alphitobius mauritanicus, *Woll., Ann. Nat. Hist.* i. 20 (1858).*Habitat* Maderenses (*Mad.*) et Can. (*Ten.?*), certe introductus; in locis similibus ac præcedens.

Found in just the same kind of places as the last species, and like it clearly introduced (along with farinaceous and other substances) through the medium of commerce. In Madeira proper it is more frequently met with than the *diaperinus*, being often rather abundant in the stores and warehouses of Funchal; but at the Canaries it seems the scarcer of the two. Indeed the only example of it which I have yet seen from that Group has been communicated by De Marseul with the label "Teneriffe" appended to it; but, although it is far from unlikely (judging from the numerous mistakes of *habitat* in the same consignment) that this particular specimen is not Teneriffan at all, yet I have no hesitation in citing it as *Canarian* (and possibly from Teneriffe); for we may be pretty sure that it would be found in most of the towns, if searched for in the right localities. It will be seen that its nomenclature has been much confused,—the insect having been published under four specific names, and assigned to at least as many different genera.

Genus 350. GNATHOCERUS.

Thunberg, *Act. Holmiens.* 47 (1814).1155. *Gnathocerus cornutus*.*Trogosita cornuta*, *Fab., Ent. Syst. Suppl.* 51 (1798).*Uloma cornuta*, *Brullé, in Webb et Berth. (Col)* 70 (1838).*Cerandria cornuta*, *Woll., Ins. Mad.* 490 (1854).— —, *Id., Cat. Mad. Col.* 151 (1857).*Gnathocerus cornutus*, *Id., Cat. Can. Col.* 496 (1864).*Habitat* Maderenses (*Mad.*) et Canarienses (*Fuert., Can., Ten., Gom., Hierro*), in domibus officinisque pistoriis, ex alienis introductus.

The common and widely spread *G. cornutus* has established itself both in the Madeiras and Canaries, where it is found principally amongst farinaceous substances in houses and stores. It occurs in the towns and villages of Madeira proper; and it has been taken sparingly in Fuerteventura, Grand Canary, Teneriffe, Gomera, and Hierro, of the Canarian Group.

1156. *Gnathocerus maxillosus*.*Trogosita maxillosa?*, *Fab., Syst. Eleu.* i. 155 (1801).*Gnathocerus maxillosus*, *Woll., Ann. Nat. Hist.* vi. 49 (1860).— —, *Id., Append. huj. op.* 61.*Habitat* Maderenses (*Mad.*), sub cortice *Platani* laxo etiam in urbe ipsâ Funchalensi repertus.

Detected by myself in Madeira proper, beneath the bark of plane-trees growing in the Praça da Rainha in Funchal. I need scarcely state that it is, as undoubtedly as the *G. cornutus*, a mere introduction from some other country, though the latter perhaps is more likely (in this case) to be America than Europe*.

Genus 351. TRIBOLIUM.

MacLeay, *Ann. Javan.* 47 (1825).1157. *Tribolium ferrugineum*.*Tenebrio ferrugineus*, *Fab., Spec. Ins.* i. 324 (1781).*Tribolium castaneum*, *MacLeay, Ann. Javan.* 47 (1825).— ferrugineum, *Woll., Ins. Mad.* 491 (1854).

* As the *maxillosus* is the *only* other known *Gnathocerus*, I have had but little hesitation in referring the Madeiran insect to it. Nevertheless, as stated in the remarks accompanying my diagnosis in the 'Ann. of Nat. Hist.,' if the latter should prove to be distinct from the Fabrician species, I would then propose for it the trivial name of *falcatus*.

Tribolium ferrugineum, *Woll., Cat. Mad. Col.* 151 (1857).

— —, *Id., Cat. Can. Col.* 496 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Fuert., Ten., Gom.*), hinc inde in domibus mercatorumque repositoriis.

An almost cosmopolitan insect which has become established, through the medium of commerce, both in the Madeiran and Canarian Groups—where it occurs sparingly about houses and stores. It is not uncommon in Madeira proper; and it has been captured in Fuerteventura, Teneriffe, and Gomera, of the Canaries.

Genus 352. **PSEUDOSTENE.**

Wollaston, *Ann. Nat. Hist.* vii. 247 (1861).

1158. *Pseudostene fossoria.*

Pseudostene fossoria, *Woll., loc. cit.* 250 (1861).

— —, *Id., Cat. Can. Col.* 497 (1864).

Habitat Canarienses (*Lanz.*), rarissima; in salinis necnon sub fucis per oram arenosam maritimam fodiens.

Observed hitherto only in Lanzarote, of the Canarian Group,—where it would appear to be both extremely rare and perfectly indigenous. The very few examples of it which I have yet seen were found by myself, in salt places, at the level of the sea-shore—namely, at the Salinas in the extreme north of the island, and under marine *rejectamenta* on the sandy beach to the south of Arrecife. It is so closely allied to an insect from the Cape de Verdes, which I described as the *P. angusta*, that I am doubtful whether it should be regarded as more than a slight geographical modification of it.

Genus 353. **HYPOPHLÆUS.**

Fabricius, *Skrivt. af Natur. Selsk.* (1790).

1159. *Hypophlæus pini.*

Hypophlæus pini (*Creutz.*), *Panz., Fna Ins. Germ.* 67. 19 (1799).

— —, *Redt., Fna Austr.* 592 (1849).

— *nocivus*, *Woll., Ann. Nat. Hist.* ix. 442 (1862).

— *pini*, *Id., Cat. Can. Col.* 498 (1864).

Habitat Canarienses (*Ten., Palma*), in subeditoribus pinos emortuos destruens.

A European *Hypophlæus* which is found sparingly in the Canarian Group, where it occurs in the old pine trees of intermediate and lofty

elevations. Hitherto it has been taken only in Teneriffe and Palma, but it will probably be met with wherever the Pinals still exist.

1160. *Hypophlœus euphorbiæ*.

Hypophlœus euphorbiæ, *Woll., Trans. Ent. Soc. Lond.* i. 183 (1862).
 ———, *Id., Cat. Can. Col.* 499 (1864).

Habitat Canarienses (*Lanz., Can., Ten., Gom., Hierro*), sub cortice *Euphorbiarum* emortuo late sed parce diffusus.

A very narrow and comparatively minute species which occurs sparingly under the bark of dead Euphorbias in the Canarian Group, in all the islands of which it has been detected except Fuerteventura and Palma. There can be little doubt, consequently, that it is universal. It has much the same habits as the Madeiran *H. ambiguus*, of which it may be regarded as the Canarian representative. It differs however from that insect in being altogether narrower, with its prothorax relatively longer (and *not* transverse), with the striæ of its elytra (the latter of which completely cover the apex of the abdomen) both fainter and more finely punctulate, and with its antennæ less abbreviated.

1161. *Hypophlœus ambiguus*.

Hypophlœus ambiguus, *Woll., Cat. Mad. Col.* 152 (1857).

Habitat Maderenses (*Mad.*), in *Euphorbiis* antiquis, nisi fallor, parce degens.

The few examples which I have yet seen of this *Hypophlœus* were taken in the higher elevations of Madeira proper; and although I have not myself met with it, I feel almost satisfied (from its manifest affinity with the preceding species) that it is attached to the Euphorbias. Indeed I have little doubt that the individuals from which my diagnosis was originally compiled, and which were taken by Mr. Mason in the upland region of the Fanal, must have occurred beneath the bark of the *E. mellifera*—which attains a gigantic size in that particular district.

1162. *Hypophlœus subdepressus*.

Hypophlœus subdepressus, *Woll., Cat. Can. Col.* 499 (1864).

Habitat Canarienses (*Fuert.*), haecenus semel deprehensus.

Closely allied to the European *H. depressus*, of which, indeed, it is just possible that it may represent some geographical state; but

until further material has been obtained for inspection, it is difficult to pronounce definitely concerning it. The only example which I have seen was captured by myself in the Rio Palmas of Fuerteventura, in the Canarian Group.

Fam. 79. COSSYPHIDÆ.

Genus 354. COSSYPHUS.

Olivier, *Ent.* iii. 44 *bis* (1795).

1163. *Cossyphus insularis*.

Cossyphus sculus, *Dej., Cat.* 220 (1837).

— *insularis*, *Laporte, Hist. des Col.* ii. 228 (1840).

— —, *Brème, Ess. sur les Cossyph.* ii. 16, pl. 2. f. 2 (1846).

— —, *Woll., Cat. Can. Col.* 500 (1864).

Habitat Canarienses (*Ten.*), mihi non obviis.

A *Cossyphus* of Mediterranean latitudes which is apparently found in Teneriffe; but it is most remarkable that, whilst I have received it from no less than *five* different quarters as having been captured in that island, it should totally have escaped my own observations hitherto, as well as those of the Messrs. Crotch. Yet it appears unquestionably to have been taken by several naturalists—most of whom merely *touchèd* at the Canaries, and who paid but little or no attention to general collecting*.

Fam. 80. CÆLOMETOPIDÆ.

Genus 355. MACROSTETHUS.

Wollaston, *Ins. Mad.* 504 (1854).

1164. *Macrostethus tuberculatus*.

Macrostethus tuberculatus, *Woll., Ins. Mad.* 505, tab. xi. f. 8 (1854).

— —, *Id., Cat. Mad. Col.* 157 (1857).

Habitat Maderenses (*Ilheo Chão*), rarissimus; sub lapidibus magnis bis captus.

Of this rather large and singular insect I have seen but two examples. They were both of them captured on the northern

* The *C. insularis* was found by MM. Hartung and De la Perraudière; and it has likewise been communicated by the Baron do Castello de Paiva, by Mr. A. Fry of London, and by M. Deyrolle of Paris.

Deserta (or Ilheo Chão), in the Madeiran Group—from beneath slabs, or blocks, of stone in the centre of that peculiar little island. I am doubtful whether the *genus* is sufficiently distinct from *Cœlo-metopus*, of Solier, found in Spain and Portugal, but of which I possess no type for comparison.

Fam. 81. TENEBRIONIDÆ.

Genus 356. TENEBRIO.

Linnæus, *Syst. Nat.* edit. 6 (1748).

1165. *Tenebrio molitor*.

Tenebrio molitor, *Linn., Fna Suec.* 815 (1761).

— —, *Fab., Ent. Syst.* i. 111 (1792).

— —, *Woll., Ins. Mad.* 496 (1854).

— —, *Id., Cat. Mad. Col.* 153 (1857).

Habitat Maderenses (*Mad.*), rarissimus; inter farinam ex Europâ introductus.

I have not myself observed this common European insect in any of these islands, though its near ally the *T. obscurus* is almost universal throughout the whole of them. But of the *molitor* the only two Atlantic specimens which I have yet seen are from the small collection of the late Dr. Heineken—by whom they were captured, many years ago, in Madeira proper. Of course the insect is a mere introduction, through the medium of commerce, from more northern latitudes.

1166. *Tenebrio obscurus*.

Tenebrio obscurus, *Fab., Ent. Syst.* i. 111 (1792).

— *molitor?*, *Brullé, in Webb et Berth. (Col.)* 68 (1838).

— *obscurus*, *Woll., Ins. Mad.* 497 (1854).

— —, *Id., Cat. Mad. Col.* 153 (1857).

— —, *Id., Cat. Can. Col.* 500 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (in *Lanz. solâ* haud observatus), in domibus, granariis, et præsertim sub recremento farris ad basin acervorum tritici sparso, vulgaris.

There can be little doubt that this *Tenebrio*, which is the scarcer of the two species in central Europe, is universal throughout the whole of these islands *which are inhabited*—it having become permanently established, through the medium of commerce. In Madeira proper it is locally abundant, and it has been obtained by the Barão do Castello de Paiva from Porto Santo; whilst at the Canaries it has

been observed in all the seven islands except Lanzarote (where, however, we may be quite certain that it exists). It occurs about granaries and bakehouses, but is more particularly abundant beneath the refuse around the base of corn-stacks.

1167. *Tenebrio olivensis*.

Tenebrio olivensis, *Woll., Cat. Can. Col.* 501 (1864).

Habitat Canarienses (*Fuert.*), sub lapide in intermediis semel lectus.

Of this curious *Tenebrio* a single specimen is all that I have yet seen. It was captured by myself in Fuerteventura, of the Canarian Group—from beneath a stone on a flat semicultivated piece of ground, about a mile to the south of Oliva. In the very acute angles of its prothorax, and the wide and extremely securiform last joint of its maxillary palpi, it would appear at first sight to recede almost *generically* from the other species here enumerated.

1168. *Tenebrio Crotchii*.

Tenebrio Crotchii, *Woll., Append. huj. op.* 62.

Habitat Canarienses (*Ten., Gom.*), in caulibus *Euphorbia canariensis* emortuis à DD. Crotch copiose deprehensus.

A remarkable little Canarian *Tenebrio*, of *Euphorbia*-infesting habits, which was captured abundantly by the Messrs. Crotch in Teneriffe and Gomera. It is a truly indigenous insect; and it will perhaps therefore be found to be widely spread over the archipelago, when the dead stalks of the *Euphorbia canariensis* (to which plant it would seem to be attached) have been more generally examined.

Genus 357. **CALCAR.**

(*Dej. Cat.*) Latreille, *Règn. An.* (édit. 2) v. 25 (1829).

1169. *Calcar elongatus*.

Tenebrio elongatus, *Hbst, Käf.* vii. 259, tab. 112. f. 2 (1797).

Trogosita calcar, *Fab., Syst. Eleu.* i. 153 (1801).

Calcar elongatus, *Woll., Ins. Mad.* 495 (1854).

— —, *Id., Cat. Mad. Col.* 153 (1857).

Habitat Maderenses (*Mad., Pto Sto, Bugio?*), sub lapidibus in inferioribus.

An insect of Mediterranean latitudes which is locally far from uncommon in the Madeiran Group, where it occurs (beneath stones)

principally at low elevations. It has been taken in Madeira proper and Porto Santo; and I have received specimens from the Barão do Castello de Paiva purporting to come from the southern Deserta (or Bugio). Although I cannot feel *quite* satisfied concerning the latter *habitat*, I have little doubt that it is correct—the species being one which I should expect to meet with on the Desertas.

Genus 358. **BOROMORPHUS.**

(Mots.) Wollaston, *Ins. Mad.* 492 (1854).

1170. **Boromorphus tagenioides.**

Boros tagenioides, Lucas, *Col. de l'Algérie*, 338, pl. 30. f. 9 (1849).

Boromorphus Maderæ, Woll., *Ins. Mad.* 493, tab. xi. f. 9 (1854).

— —, *Id.*, *Cat. Mad. Col.* 153 (1857).

Habitat Maderenses (*Mad.*, *Pto S^{to}*), sub lapidibus plerumque in apricis inferioribus.

Found likewise in Mediterranean latitudes, and tolerably common in the Madeiran Group; but it has not yet been observed at the Canaries. It occurs, principally, beneath stones and scoriæ, in open grassy spots of a sunny aspect and a rather low elevation; and it has been captured hitherto in Madeira proper and Porto Santo.

1171. **Boromorphus parvus.**

Boromorphus parvus, Woll., *Cat. Can. Col.* 502 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*, *Ten.*), in intermediis et præcipue editioribus rarissimus.

The Canarian representative of the *B. tagenioides*, yet certainly distinct from it—both in structure and habits. It occurs under stones and in crevices of the rocks at rather lofty altitudes, and is extremely rare,—having been observed in Lanzarote, Fuerteventura, and Teneriffe.

Fam. 82. HELOPIDÆ.

Genus 359. **HELOPS.**

Fabricius, *Syst. Ent.* 257 (1775).

1172. **Helops altivagans.**

Helops altivagans, Woll., *Cat. Can. Col.* 503 (1864).

Habitat Canarienses (*Ten.*), in montibus valde excelsis usque ad 9000' s. m. ascendens.

A Canarian *Helops* which appears to be peculiar to the elevated regions of Teneriffe, ascending to at least 9000 feet above the sea (perhaps indeed higher still). I have taken it sparingly on the Cumbre overlooking the Cañadas, as well as on the opposite ridge above the Agua Mansa.

1173. *Helops elliptipennis*.

Helops elliptipennis, *Woll., Cat. Can. Col.* 503 (1864).

Habitat Canarienses (*Ten.*), in locis paulo minus elevatis parce occurrens.

Likewise Teneriffan, and closely resembling the last species. Indeed it is far from unlikely that it may prove to be but a phasis of that insect peculiar to the sylvan regions of (although sufficiently elevated) a rather lower altitude; but as I possessed only a single example from which to compile my diagnosis, it is impossible until further material has been obtained to pronounce definitely concerning the permanence (or otherwise) of its distinctive features.

1174. *Helops Marseulii*.

Helops Marseulii, *Woll., Append. huj. op.* 63.

Habitat Canarienses (*Ten.?*), à cl. De Marseul communicatus.

As stated in the Appendix, a single example of this *Helops*, from which my diagnosis is compiled, has been communicated by De Marseul. It has the label "Teneriffe" attached to it, and I think it far from unlikely that that *habitat* may be correct; nevertheless, as the localities of a considerable number of the insects which have been sent from the same quarter I have found to be positively inaccurate, I cannot regard its *island* as satisfactorily ascertained.

1175. *Helops arboricola*.

Helops arboricola, *Woll., Ann. Nat. Hist.* x. 338 (1862).

— — —, *Id., Append. huj. op.* 64.

Habitat Maderenses (*Mad.*), sub cortice laxo in intermediis à Dom. Bewicke lectus.

A large *Helops* which was detected in Madeira proper by the late Mr. Bewicke, under the loosened bark of an old tree in the Ribeira de S^{ta} Luzia, and which he captured subsequently (in a similar situation) in the Vasco Gil ravine—about three miles from Funchal. It is much allied to the *H. Vulcanus*, but differs in being relatively

narrower and more cylindric—in its prothorax being less transverse, rather less convex, more narrowly margined, more scooped out before the hinder angles (which are consequently acuter), and somewhat more densely punctulated, with the punctures a trifle smaller and more confluent—and in its elytral interstices being less wrinkled, but *closely and minutely granulated*, and with the remote additional tubercles which stud them posteriorly and towards the sides considerably smaller and less developed.

1176. *Helops Vulcanus*.

Helops Vulcanus, *Woll., Ins. Mad.* 513, tab. xii. f. 1 (1854).
 ———, *Id., Cat. Mad. Col.* 158 (1857).

Habitat Maderenses (*Mad., Chão, Des., Bugio*), sub lapidibus necnon in rupium fissuris præcipue versus oram maritimam congregans.

Common in the vicinity of the coast in Madeira proper and, especially, on the smaller islands of the Group,—abounding on the three Desertas, where it attains a still more gigantic size. It congregates beneath stones and in the fissures of the exposed rocks, at low and intermediate altitudes; but I have not yet observed it in any districts which are removed from the immediate influence of the sea (unless indeed the *H. asper* be regarded as a small, more or less sylvan, modification of it).

1177. *Helops asper*.

Helops asper, *Küst., Käf. Eur.* xxi. (1850) [sec. *Schaum*].
 ——— confertus, *Woll., Ins. Mad.* 515, tab. xii. f. 2 (1854).
 ———, *Id., Cat. Mad. Col.* 158 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus corticeque laxo ubique vulgaris.

This is the common *Helops* of Madeira proper, abounding under stones and beneath the loosened bark of trees at most elevations—though more frequently perhaps within the sylvan districts than elsewhere. It is extremely variable, both in size and sculpture; and, as already stated, I do not feel quite certain that it is more, in reality, than a small phasis of the *H. Vulcanus*—or (which amounts to much the same thing) that the latter is more than a monstrous, sublittoral development of the *asper*. In my ‘*Ins. Mad.*’ however, I took some pains to point out the exact characters (such as they are) which nearly always suffice for separating the two; and I must therefore (as originally) leave the question of their specific distinct-

ness an *open* one—to be decided by each naturalist, according to his belief in the modifying effect of local influences on external form.

1178. *Helops gomerensis*.

Helops gomerensis, *Woll., Append. huj. op.* 64.

Habitat Canarienses (*Gom.*), à DD. Crotch sat copiose repertus.

Taken in tolerable abundance, by the Messrs. Crotch, in Gomera—of the Canarian Group. As mentioned in the Appendix, it is closely allied to the *H. congener* (and, I might have added, to the Madeiran *H. asper* likewise); nevertheless I think it has too many distinctive features of its own to be regarded as any insular state of even that most variable species.

1179. *Helops congener*.

Helops congener, *Woll., Cat. Can. Col.* 504 (1864).

Habitat Canarienses (*Can., Ten., Palma, Hierro*), hinc inde præcipue in intermediis congregans.

Widely spread over the Canarian archipelago, where it is found principally at intermediate altitudes, and where it may be looked upon strictly as the representative of the Madeiran *H. asper* (to which it is very closely allied). Like that species it is extremely variable, having a slightly different phasis for nearly every district in which it occurs; and on this account it is impossible to resist the inquiry whether it may not, in reality, be but a Canarian modification of the Madeiran insect. Yet, amidst its many fluctuations, it certainly does possess secondary characters which serve practically to separate it from the *asper*; and, this being the case, I will not waste time in attempting to speculate on the exact amount of importance which we ought properly to attach to these (or any such) distinctions.

1180. *Helops carbunculus*.

Helops transversus?, *Brullé, in Webb et Berth. (Col.)* 70 (1838).

— *carbunculus*, *Woll., Ins. Mad.* 519 (note) (1854).

— —, *Id., Cat. Can. Col.* 505 (1864).

Habitat Canarienses (*Ten., Palma, Hierro*), plerumque in inferioribus, rarius in intermediis, degens.

Widely spread over the central and western parts of the Canarian Group, where it occurs principally at low (but sometimes at intermediate) elevations. Like most of the other species it is extremely

variable, having a slightly different aspect for nearly every district in which it is found,—each race, however, remaining constant in its own particular region. It has been captured in Teneriffe, Palma, and Hierro; and in the first of those islands it is the common *Helops* around S^{ta} Cruz and Orotava.

1181. *Helops aterrimus*.

Helops aterrimus, *Woll., Cat. Can. Col.* 506 (1864).

Habitat Canarienses (*Gom.*), sub lapidibus juxta et supra Sanctum Sebastianum præcipue congregans.

Apparently peculiar to Gomera, of the Canarian Group, where it was taken abundantly by Mr. Gray and myself (beneath stones) around San Sebastian—both in the Barranco itself and on the hills above it.

1182. *Helops nitens*.

Helops nitens, *Woll., Cat. Can. Col.* 506 (1864).

Habitat Canarienses (*Ten., Gom.*), à DD. Crotch sat copiose repertus.

A slightly metallic Canarian *Helops* which was captured abundantly by the Messrs. Crotch in Gomera, (according to a note now before me) “beneath stones under a mulberry-tree in the village of Hermigua;” and they likewise obtained it, though much more sparingly, in Teneriffe.

1183. *Helops lucifugus*.

Helops lucifugus, *Woll., Ins. Mad.* 518, tab. xii. f. 5 (1854).

— — —, *Id., Cat. Mad. Col.* 159 (1857).

Habitat Maderenses (*P^{to} S^{to}*), sub lapidibus, sæpius in editioribus.

Found in Porto Santo, of the Madeiran Group, where (although perfectly distinct from that species) it may perhaps be regarded as the representative of the *H. asper* of Madeira proper. It occurs beneath stones at most elevations, but chiefly towards the summits of the peaks.

1184. *Helops gagatinus*.

Helops gagatinus, *Küst., Käf. Eur.* xxi. (1850) [sec. *Schaum*].

— — —, *Pluto, Woll., Ins. Mad.* 516, tab. xii. f. 3 (1854).

— — —, *Id., Cat. Mad. Col.* 158 (1857).

Habitat Maderenses (*Mad.*), in editioribus abundans. Usque ad summos montes copiose ascendit.

An abundant insect in the higher regions of Madeira proper, where

it occurs beneath stones on the exposed mountain-slopes—from about 3000 feet above the sea to the summits of the peaks.

Dr. Schaum informs me that he has compared types of the *H. gatinus* of Küster (in Germar's collection) with my *H. Pluto*, and that the two are unquestionably conspecific, though, by a mistake, Küster's species is recorded as having come from Portugal (instead of Madeira).

1185. *Helops Leacocianus*.

Helops Leacocianus, *Woll., Ins. Mad.* 517 (note) (1854).

— — —, *Id., Journ of Ent.* i. 92 (1860).

Habitat Salvages (ins. *majorem*, *borealem*, et *minorem*?, *australem*) à Dom. Leacock et Barone "Castello de Paiva" communicatus.

Common on the rocks of the Salvages, from the larger (or northern) one of which it has often been received by the Barão do Castello de Paiva. It was however originally detected (during the spring of 1851) by Mr. T. S. Leacock of Madeira, who captured a single specimen of it—I believe, on the *southern* island of the two, known as the "Great Piton"*.

1186. *Helops infernus*.

Helops infernus, *Woll., Ins. Mad.* 517, tab. xii. f. 4 (1854).

— — —, *Id., Cat. Mad. Col.* 158 (1857).

Habitat Maderenses (*P^{to} S^{to}*), in inferioribus intermediisque vulgaris.

Universal at low and intermediate altitudes in Porto Santo, of the Madeiran Group, occurring likewise on the small adjacent rocks; but, as is the case of the *H. lucifugus*, it has not been observed elsewhere in the archipelago.

1187. *Helops subdepressus*.

Helops subdepressus, *Woll., Cat. Mad. Col.* 158 (1857).

Habitat Maderenses (*Mad.*), adhuc parcissime repertus.

Three examples of this *Helops* were taken by Mr. Mason in the north of Madeira proper, and three more are in the collection of the

* The few Coleopterous insects which Mr. Leacock obtained at the Salvages were communicated as coming from the "Great Piton;" but as he landed first on the northern island (which he left almost immediately for the southern one, finding it unprofitable), I cannot but feel it *possible* that his single example of this *Helops* may in reality have been picked up on the Great Salvage. At any rate both it and the *Hegeter latebricola* (which were first brought to light by Mr. Leacock) are certainly *abundant* on the Great Salvage, from which they have frequently been received by the Baron do Castello de Paiva. Nevertheless it is far from unlikely that they may exist on the Great Piton likewise.

late Mr. Bewicke; but it is a species which entirely escaped my own observation.

1188. *Helops congregatus*.

Helops congregatus, *Woll., Ins. Mad.* 518, tab. xii. f. 6 (1854).

— —, *Id., Cat. Mad. Col.* 159 (1857).

Habitat Maderenses (*Mad., Des., Bugio*), sub lapidibus necnon in rupium fissuris plerumque in locis parum elevatis congregans.

Found in Madeira proper and on the two southern Desertas, where it congregates beneath stones and in the crevices of the exposed rocks—principally at a rather high elevation.

1189. *Helops quadratus*.

Helops quadratus?, *Brullé, in Webb et Berth. (Col.)* 70 (1838).

— —, *Woll., Cat. Can. Col.* 507 (1864).

Habitat Canarienses (*Can.*), in pinetis editioribus parce lectus.

Taken at a rather high altitude on the mountains of Grand Canary—where (during April 1858) I met with it, not uncommonly, in an elevated Pinal above San Bartolomé in the central district of Tarajana.

1190. *Helops rimosus*.

Helops rimosus, *Woll., Cat. Can. Col.* 508 (1864).

Habitat Canarienses (*Fuert.*), à Dom. Gray semel deprehensus.

The only specimen of this *Helops* which has yet come beneath my notice was taken by Mr. Gray in Fuerteventura, of the Canarian Group, during January 1858.

1191. *Helops porrectus*.

Helops porrectus, *Woll., Cat. Can. Col.* 508 (1864).

Habitat Canarienses (*Lanz.*), sub lapidibus minus frequens.

A Canarian *Helops* which is apparently rather scarce, and one which (unless indeed the *H. æthiops* be but a modification of it) has been captured hitherto only in the north of Lanzarote.

1192. *Helops æthiops*.

Helops æthiops, *Woll., Cat. Can. Col.* 509 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in inferioribus intermediisque, passim.

Occurs sparingly, at low and intermediate altitudes, in Lanzarote

and Fuerteventura—the two eastern islands of the Canarian Group ; and I likewise met with it on the little islet of Lobos, off the extreme north of the latter. It is just possible that it may prove ultimately to be but a phasis of the preceding species ; but until more extensive material (of both) has been obtained for comparison, I can scarcely decide this question positively.

1193. *Helops picescens*.

Helops caraboides?, *Br.* [nec *Linn.*], in *Webb et Berth.* (*Col.*) 69 (1838).
 — *picescens*, *Woll., Cat. Can. Col.* 509 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in intermediis hinc inde vulgaris.

Peculiar apparently to the two eastern islands of the Canarian archipelago, Lanzarote and Fuerteventura, where it is locally abundant (particularly in the former) at intermediate altitudes. It is a variable species in stature, occasional large and dark examples of it approaching a good deal at first sight to the smaller and less blackened ones of the *H. æthiops*.

1194. *Helops fuscus*.

Helops fuscus, *Woll., Cat. Can. Col.* 511 (1864).

Habitat Canarienses (*Ten.*), à W. D. Crotch semel deprehensus.

A single example is all that I have yet seen of this Canarian *Helops*. It was captured by Dr. Crotch, during the spring of 1862, in Teneriffe.

1195. *Helops futilis*.

Helops futilis, *Woll., Ins. Mad.* 520, tab. xii. f. 7 (1854).
 — — —, *Id., Cat. Mad. Col.* 159 (1857).

Habitat Madercenses (*Mad., Des., Bugio*), in inferioribus intermediisque minus frequens.

A species which occurs at low and intermediate altitudes in the Madeiran Group, particularly in the eastern parts of it. It has been found in Madeira proper and on the two southern Desertas, and we may expect to meet with it on the Ilheo Chão likewise. In Madeira proper I have taken it chiefly about Machico and on the Ilheo de Fora—the detached extremity of the Ponta de São Lourenço ; and it was captured by Dr. Bauer on the fossil-bed near Caniçal. The examples from the Desertas, and the east of Madeira, are usually altogether rufo-ferruginous ; but I have seen others, taken elsewhere, in which the elytra are distinctly darker than the head and prothorax.

1196. *Helops portosanctanus*.

Helops Portosanctanus, *Woll., Ins. Mad.* 521, tab. xii. f. 9 (1854).
 ———, *Id., Cat. Mad. Col.* 159 (1857).

Habitat Maderenses (P^{to} S^{to}), sub lapidibus in aridis inferioribus abundans.

Abundant in Porto Santo, of the Madeiran Group, where it occurs beneath stones in dry spots of a low elevation; but it has not yet been detected elsewhere.

1197. *Helops graniger*.

Helops graniger, *Küst., Käf. Eur.* xxi. (1850) [sec. *Schaum*].
 ——— cinnamomeus, *Woll., Ins. Mad.* 520, tab. xii. f. 8 (1854).
 ———, *Id., Cat. Mad. Col.* 160 (1857).

Habitat Maderenses (Mad.), in locis similibus ac præcedens.

Found in much the same kind of places as the last species, only in Madeira proper instead of Porto Santo. It is occasionally abundant under stones at a low altitude, particularly in the vicinity of the sea-shore. Examples of it were compared by Dr. Schaum with types of Küster's *H. graniger*, in the collection of Dr. Germar; and he assures me that it is referable positively to that species. But, as in the case of the *H. asper*, it was reported erroneously by Küster to have come from Portugal—instead of Madeira.

1198. *Helops pallidus*.

Helops pallidus, *Curtis, Brit. Ent.* vii. 298 (1830).
 ———, *Woll., Cat. Mad. Col.* 160 (1857).

Habitat Maderenses (P^{to} S^{to}), in aridis arenosis submaritimis parce fodiens.

The European *H. pallidus*, which occurs likewise in northern Africa, was detected by myself (during the spring of 1855) in Porto Santo, of the Madeiran Group. I obtained it on the hillocks of loose sand behind the sea-beach, in the neighbourhood of the Villa, by scooping out cavities around the roots of the *Arundo donax* and the few other plants which grow in that particular locality.

Fam. 83. CEDEMERIDÆ.

Genus 360. DITYLUS.

Schmidt, in *Linn. Ent.* i. 87 (1846).

1199. *Ditylus concolor*.

- Ditylus concolor*, *Brullé*, in *Webb et Berth.* (Col.) 70, pl. i. f. 13 (1838).
 — *fulvus*, *Woll.*, *Ins. Mad.* 523 (note) (1854).
 — *concolor*, *Id.*, *Cat. Can. Col.* 512 (1864).

Habitat Salvages (ins. *majorem*, borealem, et *minorem*, australem) et Canarienses (*Can.*, *Ten.*, *Gom.*, *Palma*, *Hierro*), plerumque juxta radices plantarum præsertim *Euphorbiarum* latens.

This beautiful *Ditylus* seems to be widely spread over the Canarian archipelago, where very likely it will be found to be universal. It occurs beneath stones and amongst small broken sticks around the roots of plants, particularly the Euphorbias; and although I have not observed it in its previous states, I think it far from improbable that it is of *Euphorbia*-infesting habits. It has been captured in Grand Canary, Teneriffe, Gomera, Palma, and Hierro; and it is found likewise on the rocks of the Salvages—a single example having been taken on the southern island (or Great Piton) by Mr. Leacock of Madeira, whilst a second has recently been communicated by the Barão do Castello de Paiva from the northern one (or Great Salvage). Its detection in Hierro is due to the late researches of the Messrs. Crotch. It is so closely allied to a species from the Cape de Verdes, which I described under the trivial name of *pallidus*, that I cannot feel quite satisfied that the latter is more in reality than a geographical (though well-marked) modification of it.

Genus 361. ISCHNOMERA.

Stephens, *Ill. Brit. Ent.* v. 53 (1832).

1200. *Ischnomera melanura*.

- Cantharis melanura*, *Linn.*, *Syst. Nat.* ii. 651 (1767).
Ischnomera melanura, *Steph.*, *loc. cit.* 54 (1832).
Ditylus rufus, *Brullé*, in *Webb et Berth.* (Col.) 70 (1838).
Nacerdes melanura, *Schmidt*, in *Linn. Ent.* i. 29 (1846).
Ischnomera melanura, *Woll.*, *Cat. Can. Col.* 512 (1864).

Habitat Canarienses (sec. DD. Webb et Berthelot), mihi non obvia.

This European insect is included by M. Brullé (under the name of "*Ditylus rufus*, Fisch.") in his short list of Canarian Coleoptera, on the evidence of examples supposed to have been found by MM. Webb and Berthelot. I inspected the latter when in Paris, and they appeared to me to be most unquestionably identical with the *I. melanura* of more northern latitudes; so that I have no option but to admit the species into the present Catalogue. I need hardly state

that M. Brullé gives us no kind of information about them, and does not mention even the island in which they were captured; but it is far from unlikely that they may have been taken at one of the ports—the insect being eminently liable, from its peculiar mode of life, to become diffused accidentally by means of trading vessels.

Genus 362. **STENAXIS.**

Schmidt, in *Linn. Ent.* i. 87 (1846).

1201. **Stenaxis Loweii.**

Stenaxis Loweii, *Woll., Ins. Mad.* 524, tab. xiii. f. 2 (1854).

— —, *Id., Cat. Mad. Col.* 160 (1857).

Habitat Maderenses (*Mad.*), floribus variis in intermediis delectans.

Occurs on flowers in the intermediate districts of Madeira proper, especially towards the north of the island. Although extremely local, it is occasionally abundant; and I once met with it in profusion in a garden at S^{ta} Anna.

Fam. 84. SALPINGIDÆ.

Genus 363. **SALPINGUS.**

Illiger, *Mag. für Ins.* i. 301 (1802).

1202. **Salpingus impressus.**

Salpingus impressus, *Woll., Cat. Mad. Col.* 161 (1857).

Habitat Maderenses (*Mad.*), in intermediis rarissimus.

Found in the intermediate districts of Madeira proper, where it would seem to be of great rarity. I took a single specimen of it in the wooded region of the Lombarda das Vacas, in the north of the island; and two or three more were captured subsequently by the late Mr. Bewicke on the hills above Funchal—namely, at “the Mount” and near Camacha.

Fam. 85. MELOIDÆ.

Genus 364. **MELOË.**

Linnæus, *Syst. Nat.* edit. 1 (1735).

1203. **Meloë tuccia.**

Meloë tuccia, *Rossi, Fna Etrusc.* i. 238 (1792).

— —, *Brullé, in Webb et Berth. (Col.)* 70 (1838).

Meloë tuccia, *Hart., Geolog. Verhältn. Lanz. und Fuert.* 141, 142.
 — *tuccius*, *Woll., Cat. Can. Col.* 513 (1864).

Habitat Canarienses (*Lanz., Fuert., Can., Ten., Gom.*), passim.

The *M. tuccia* of Mediterranean latitudes is widely spread over the Canarian archipelago, where we may be nearly sure that it is universal—it having been captured in all the islands except Palma and Hierro; but it has not yet been observed in the Madeiran Group.

1204. *Meloë austrina.*

Meloë austrinus, *Woll., Ins. Mad.* 527 (1854).
 — —, *Id., Cat. Mad. Col.* 162 (1857).

Habitat Maderenses (*Mad.*), in herbidis subinferioribus parce degens.

Not an uncommon *Meloë* in the south of Madeira proper, where it occurs in grassy places and principally at a rather low elevation.

1205. *Meloë rugosa.*

Meloë rugosus, *Mshn, Ent. Brit.* 483 (1802).
 — *rugulosa*, *Brullé, in Webb et Berth. (Col.)* 70 (1838).
 — *rugosus*, *Woll., Ins. Mad.* 527 (1854).
 — —, *Id., Cat. Mad. Col.* 162 (1857).
 — —, *Id., Cat. Can. Col.* 513 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*Ten., Gom., Hierro*), minus frequens.

A European *Meloë* which is very widely spread over these Atlantic islands, where most likely it will prove to be well nigh universal. In the Maderian Group it is rather common throughout Madeira proper, and scarcer in Porto Santo; whilst of the Canaries it has been taken sparingly in Teneriffe, Gomera, and Hierro.

1206. *Meloë murina.*

Meloë murina, *Brundt et Erich., Mon. Mel. Nov. Act. Acad.* xvi. 127 (1832).
 — *flavicomus*, *Woll., Ins. Mad.* 528, tab. xiii. f. 1 (1854).
 — —, *Id., Cat. Mad. Col.* 162 (1857).
 — *murinus*, *Id., Cat. Can. Col.* 514 (1864).

Habitat Maderenses (*Mad., Pto Sto, Des.*) et Canarienses (*Can., Ten., Gom.*), passim.

Found in Mediterranean latitudes, and perhaps even more widely diffused over these islands than the preceding species. It occurs in much the same districts—principally at low, but sometimes at intermediate, elevations. It abounds in Porto Santo of the Madeiran

Group, and is less common in Madeira proper and on the Deserta Grande. In the Canaries it would appear, on the whole, to be rare; but it has been taken in Grand Canary, Teneriffe, and Gomera.

1207. *Meloë nuda*.

Meloë nudus, *Woll., Cat. Can. Col.* 514 (1864).

Habitat Canarienses (*Fuert.*), minus frequens.

The only three examples which I have yet seen of this species were taken in Fuerteventura, of the Canarian Group,—two of them by myself, and the third by M. Hartung. It is somewhat allied to the *M. majalis* of southern Europe; but the points which distinguish it from that insect have been recorded in my Canarian Catalogue.

1208. *Meloë subcyanea*.

Meloë subcyaneus, *Woll., Cat. Can. Col.* 514 (1864).

Habitat Canarienses (*Lanz.*), adhuc semel deprehensa.

A Canarian *Meloë* of which only a single example has yet come beneath my notice. It was taken by myself in the intermediate districts of Lanzarote.

Genus 365. ZONITIS.

Fabricius, *Syst. Ent.* 126 (1775).

1209. *Zonitis imperialis*.

Zonitis 4-punctata, *Woll.* [nec *Fab.*], *Ins. Mad.* 530 (1854).

— — —, *Id.*, *Cat. Mad. Col.* 163 (1857).

— — — *imperialis*, *Id.*, *Ann. Nat. Hist.* viii. 106 (1861).

— — —, *Id.*, *Append. huj. op.* 65.

Habitat Maderenses (*Mad., Pto Sto*), floribus in apricis inferioribus gaudens.

This large *Zonitis* occurs, on flowers, in hot sunny spots of a low elevation, in the Madeiran Group,—being rather scarce in Madeira proper, and common in Porto Santo. I formerly regarded it as identical with the *Z. punctata* of Mediterranean latitudes; but after a more critical comparison of it, in 1861, with examples from Lombardy, I published it as specifically distinct, under the trivial name of *imperialis*. And in the observations accompanying my diagnosis, given in the ‘Ann. of Nat. Hist.’ I stated that “It differs from the *Z. 4-punctata* in being a little larger, and in having its head propor-

tionally a trifle broader, and its scutellum somewhat longer; in the pubescence of its dark portions being rather more elongate and dark; and in its limbs being robuster, less abbreviated (as is particularly evident in the antennæ and tarsi), and of a much deeper black—the last antennal joint, moreover, being cylindric, instead of gradually tapering as in that insect. Its elytra also are a shade darker and perhaps a trifle less pubescent, and their *extreme apex* (instead of being black) is concolorous with the rest of the surface.”

Fam. 86. MORDELLIDÆ.

Genus 366. MORDELLISTENA.

Costa, *Faun. del Regn. Napol., Mordell.* 16 (1849).

1210. *Mordellistena pumila*.

Mordella pumila, *Gyll., Fna Suec.* ii. 605 (1810).

— — —, *Steph., Ill. Brit. Ent.* v. 48 (1832).

Mordellistena pumila, *Woll., Cat. Can. Col.* 515 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma*), ad flores in inferioribus et præsertim intermediis late sed parce diffusa.

A European insect which is widely diffused over the Canarian archipelago, though nowhere very abundant. It occurs on flowers, chiefly at intermediate but sometimes at low elevations; and there can be little doubt that it is found in at any rate all the islands except the two eastern ones. Indeed if (as is far from unlikely) the *M. sericata* should prove to be but a Lanzarotan and Fuerteventuran state of the *pumila*, we may then expect the species to be universal throughout the Group; for it has already been captured in all the other islands except Hierro.

1211. *Mordellistena sericata*.

Mordellistena sericata, *Woll., Cat. Can. Col.* 515 (1864).

Habitat Canarienses (*Lanz., Fuert.*), in locis similibus ac præcedens; forsân ejus varietas insularis.

A *Mordellistena* which appears to take the place of the *pumila* in the two eastern islands of the Canarian Group, and one which (as already intimated) I feel far from certain is more than a modification of that insect. It seems to differ from the *pumila*, merely, in having its pubescence of a paler (or somewhat golden-cinereous) hue, especially down the sutural region of the elytra; which imparts to

the surface, when it is viewed in a particular direction, a remarkably silken appearance. But whether a variety of the *pumila*, or not, the *M. sericata* seems to remain constant in Lanzarote and Fuerteventura; and I also met with it on the little islet of Graciosa, off the extreme north of the former. It appears, however, to be scarce.

Genus 367. **ANASPIS.**

Geoffroy, *Hist. Abr. des Ins.* 315 (1762).

1212. **Anaspis Proteus.**

Anaspis Proteus, *Woll., Ins. Mad.* 532 (1854).

— —, *Id., Cat. Mad. Col.* 163 (1857).

— —, *Id., Cat. Can. Col.* 516 (1864).

Habitat Maderenses (ins. omnes) et Canarienses (ins. omnes), hinc inde ad flores vulgatissima. Ab orâ maritimâ usque ad summos montes ascendit.

There is scarcely any Coleopterous insect so abundant throughout these Atlantic Groups as this most variable little *Anaspis*, which may perhaps enter into the subgenus *Silaria* of Mulsant. It has been found in the whole five Madeiran islands, and in the seven Canarian ones,—occurring on flowers, from the sea-level to the summits of the peaks. It is however more common in hot sunny places of a rather low altitude than elsewhere; and it occasionally teems in the vicinity of the coast, particularly in the Madeiran archipelago.

Fam. 87. ANTHICIDÆ.

Genus 368. **XYLOPHILUS.**

(Bonelli) Latr., *Fam. Nat.* 383 (1825).

§ I. *Corpus ovatum. Antennæ (in utroque sexu) breviores, haud serratæ, articulis intermediis brevibus, inter se subæqualibus. Oculi minores, in utroque sexu distantes. Pedes breviores.* (Phytobænus, Sahlb.)

1213. **Xylophilus pallescens.**

Xylophilus pallescens, *Woll., Ins. Mad.* 538, tab. xiii. f. 3 (1854).

— —, *Id., Cat. Mad. Col.* 167 (1857).

— —, *Id., Cat. Can. Col.* 526 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom.*), sub quibus præcipue in inferioribus, sed interdum in intermediis, degens.

A pallid *Xylophilus* which is far from uncommon at low eleva-

tions around Funchal, in Madeira proper, where it occurs beneath vegetable refuse in gardens and other cultivated grounds. In the Canaries however it seems (so far as observed hitherto) to be exceedingly rare, the few specimens moreover which have yet been brought to light having been captured at a rather higher altitude. I have taken it in Teneriffe—on the ascent of the hills behind S^{ta} Cruz; and a single example was met with at Souzal, in the same island, by the Messrs. Crotch—who likewise found another in Gomera.

§ II. *Corpus gracile, subcylindricum. Antennæ in maribus longissimæ, intus serratæ, art^o 2^{do} (in utroque sexu) brevi. Oculi magni, in maribus maximi supra fere contigui. Pedes longiusculi* (Eugenes, Westw.).

1214. **Xylophilus oculatissimus.**

Xylophilus oculatissimus, Woll., *Cat. Can. Col.* 525 (1864).

Habitat Canarienses (*Palma*), rarissimus; inter lapillos ad rupes humidas excelsas in editoribus lectus.

Three examples (which are all that I have yet seen) of this beautiful Canarian *Xylophilus* were taken by myself, at a high elevation, in the island of Palma—from under small stones and sticks at the base of some damp rocks above the Pinal of the Banda, and near to the edge of the great Caldeira.

Genus 369. **MECYNOTARSUS.**

La Ferté, *Mon. des Anth.* 57 (1848).

1215. **Mecynotarsus semicinctus.**

Mecynotarsus semicinctus, Woll., *Append. huj. op.* 65.

Habitat Canarienses (*Can.*), in aridis arenosis submaritimis à W. D. Crotch parce deprehensus.

Detected by Dr. Crotch in the low sandy region (adjoining the sea-beach) in Grand Canary, immediately to the north of Las Palmas, where he obtained three examples of it during the summer of 1864. As stated in the Appendix, it is probably allied to the *M. bison* from Arabia; nevertheless (judging from La Ferté's diagnosis) it can scarcely be identical with that species, which is described as entirely testaceous. I should state, however, that I have not been able to procure a type of the latter for comparison.

Genus 370. **FORMICOMUS.**La Ferté, *Mon. des Anth.* 70 (1848).1216. **Formicomus pedestris.**Carabus pedestris, *Rossi, Fna Etrusc.* i. 224 (1790).Anthicus pedestris, *Fab., Syst. Eleu.* i. 291 (1801).Formicomus pedestris, *La Ferté, loc. cit.* 76 (1848).— —, *Woll., Cat. Mad. Col.* 163 (1857).

Habitat Maderenses (*Mad.*), hinc inde sub quisquiliis in apricis sub-inferioribus.

An insect of Mediterranean latitudes which, although extremely local, has been observed abundantly in one or two places of a rather low altitude in Madeira proper. It was first detected by Mr. E. Leacock in his garden at the Quinta dos Padres (about three miles from Funchal), in the parish of S. Antonio; and I met with it subsequently in the same spot.

1217. **Formicomus cæruleipennis.**Anthicus cæruleipennis (*Dufour*), *Dej. Cat.* 249 (1836).Formicomus cæruleipennis, *La Ferté, loc. cit.* 73 (1848).Anthicus cæruleipennis, *Lucas, Col. de l'Algérie*, 369 (1849).Formicomus cæruleipennis, *Woll., Cat. Can. Col.* 517 (1864).

Habitat Canarienses (*Can.*), in graminosis inferioribus parcissime captus.

Likewise a Mediterranean species, and one of which I have seen as yet but two examples from these Atlantic Groups. They were taken by myself, at a low elevation, in Grand Canary—by brushing the short grass along the edges of the freshwater pools (close to the sea) at Arguiniquin, in the south of that island.

Genus 371. **OCHTHENOMUS.**(Dejean) Schmidt, in *Stett. Ent. Zeit.* iii. 196 (1842).1218. **Ochthenomus senilis.**Ochthenomus senilis, *Woll., Cat. Can. Col.* 525 (1864).

Habitat Canarienses (*Palma*), unà cum *Xylophilo oculatissimo* captus.

The only specimen which I have yet seen of this *Ochthenomus* was taken by myself at a lofty altitude in Palma, of the Canarian Group. It was found in company with the *Xylophilus oculatissimus*, at the base of some wet rocks near the edge of the great Caldeira. It

differs from the *O. punctatus* in being a little smaller and (relatively) much slenderer, in its head being rather more oblong, less rounded-off posteriorly, and less convex, with the eyes somewhat less developed, and with the lateral angles of the clypeus more raised (which causes the forehead to be more excavated), and in its antennæ being considerably thicker towards their extremity. Although its dark and pale portions are better defined than is the case in that insect, nevertheless in colour and clothing it has a good deal in common with the *O. punctatus*.

1219. *Ochthenomus punctatus*.

- Ochthenomus punctatus*, *Déj. Cat.* 239 (1837).
 ———, *La Ferté, Mon. des Anth.* 283 (1848).
 ———, *Lucas, Col. de l'Algérie*, 380 (1849).
 ———, *Woll., Ann. Nat. Hist.* ii. 415 (1858).

Habitat Maderenses (*Mad.*), in subinferioribus rarissimus.

A species which occurs in the south of Europe, and which is found very rarely (at rather low elevations) in Madeira proper. Indeed two examples of it are all that I have yet seen,—one of which was taken by Mr. M. Park in the Ribeira de S^{ta} Luzia, and the other by the late Mr. Bewicke near Funchal.

Genus 372. ANTHICUS.

Paykull, *Fna Succ.* i. 253 (1798).

1220. *Anthicus floralis*.

- Anthicus floralis*, *Fab., Syst. Eleu.* i. 29 (1801).
 ———, *La Ferté, Mon. des Anth.* 150 (1848).
 ———, *Woll., Cat. Mad. Col.* 164 (1857).
 ———, *Id., Cat. Can. Col.* 517 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Fuert., Ten., Gom., Hierro*), sub quisquiliis præsertim in cultis degens.

The common European *A. floralis*, which has established itself in many distant parts of the civilized world, is far from scarce in these islands—where most likely it has become naturalized through human agencies. It occurs for the most part beneath vegetable refuse, particularly in cultivated grounds,—under which circumstances it is often abundant around Funchal, in Madeira proper. At the Canaries it has been observed hitherto in Lanzarote, Fuerteventura, Teneriffe, Gomera, and Hierro; but we may be pretty sure that it will be found to be universal. Its detection in Hierro is due to the late researches of the Messrs. Crotch.

1221. *Anthicus hispidus*.

- Notoxus hispidus*, *Rossi, Mant. Ins.* i. 46 (1792).
Anthicus hispidus, *La Ferté, Mon. des Anth.* 209 (1848).
 ———, *Woll., Ins. Mad.* 535 (1854).
 ———, *Id., Cat. Mad. Col.* 166 (1857).
 ———, *Id., Cat. Can. Col.* 518 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*Lanz.*), sub lapidibus quisquiliisque in apricis inferioribus hinc inde vulgaris.

An *Anthicus* of Mediterranean latitudes which abounds, under stones and refuse, in certain dry and sunny spots of a rather low elevation in the Madeiran archipelago—occurring both in Madeira proper and Porto Santo. In the Canaries it is apparently scarce (so far at least as has been observed hitherto),—a single example of it, taken by myself in the north of Lanzarote, being all that I have yet seen from that Group. It is not uncommon at Mogadore, on the opposite coast of Africa.

1222. *Anthicus crinitus*.

- Anthicus crinitus*, *La Ferté, Mon. des Anth.* 204 (1848).
 ———, *Woll., Cat. Mad. Col.* 165 (1857).
 ———, *Id., Cat. Can. Col.* 518 (1864).

Habitat Maderenses (*Mad.*), et Canarienses (*Can., Ten., Gom*), plerumque in inferioribus late sed parce diffusus.

A species, found in northern and western Africa, which is widely but sparingly diffused over these Atlantic islands—where it occurs, for the most part (though not invariably), in low places near the coast. It has been taken in Madeira proper, as well as in Grand Canary, Teneriffe, and Gomera, of the Canarian Group.

1223. *Anthicus humilis*.

- Anthicus humilis*, *Germ., Fna Ins. Eur.* 10. 6 (1817).
 ——— constrictus (*Rudā*), *Steph., Mon.* 342 (1839).
 ——— *humilis*, *La Ferté, Mon. des Anth.* 125 (1848).
 ———, *Woll., Cat. Can. Col.* 519 (1864).

Habitat Canarienses (*Lanz.*), præcipue in salinis submaritimis rarior.

The few Atlantic examples which I have yet seen of this European *Anthicus* were captured by Mr. Gray and myself in Lanzarote, of the Canarian Group. I believe that it was at the Salinas, or salt-works, in the extreme north of the island, that we found them. I

have taken it abundantly at Mogadore, on the opposite coast of Morocco; and we may expect it therefore to be pretty general in at any rate the eastern parts of the Canarian archipelago. It seems indeed to be a curious fact, that the Coleoptera of maritime and saline habits have usually a wider geographical range than is the case with the generality of species.

1224. *Anthicus opaculus*.

Anthicus opaculus, *Woll., Cat. Can. Col.* 519 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), præsertim in inferioribus aridis arenosis hinc inde vulgaris.

A locally abundant *Anthicus* in the eastern portion of the Canarian Group, where it occurs for the most part (though by no means exclusively) in dry sandy spots towards the coast. It is common in Lanzarote and Fuerteventura, and less so in Grand Canary.

1225. *Anthicus notoxoides*.

Anthicus notoxoides, *Woll., Cat. Can. Col.* 520 (1864).

Habitat Canarienses (*Lanz., Fuert.*), adhuc parcissime deprehensus.

Found in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group; but as unfortunately I had only two examples of it (both of which were captured by myself) from which to draw up the diagnosis, I feel that further material is greatly wanted in order to complete our knowledge of the species. The points in which it would appear to differ both from the *opaculus* and *instabilis* have been fully alluded to in my Canarian Catalogue.

1226. *Anthicus instabilis*.

Anthicus instabilis (*Hoffm.*), *Dej. Cat.* 217 (1836).

— tibialis, *Curt.* [nec *Waltl.*], *Brit. Ent.* 714 (1838).

— instabilis, *Schmidt, in Stett. Ent. Zeit.* iii. 184 (1842).

— tibialis, *La Ferté* [sed vide p. 305], *Mon. des Anth.* 165 (1848).

— instabilis, *Woll., Ins. Mad.* 534 (1854).

— —, *Id., Cat. Mad. Col.* 165 (1857).

Habitat Maderenses (*Mad., Pto Sto*), sub lapidibus in inferioribus et rarius in intermediis occurrens.

The European *A. instabilis* is tolerably common in the Madeiran Group, where it occurs principally in hot grassy spots of a rather low elevation. It has been taken in Madeira proper and Porto Santo. I met with it also at Mogadore, on the opposite coast of Africa.

1227. *Anthicus litoralis*.

Anthicus litoralis (*Heer*), *Woll., Ins. Mad.* 535 (1854).
 ———, *Id., Cat. Mad. Col.* 165 (1857).

Habitat Maderenses (*Mad.*), in locis similibus ac præcedens.

Observed hitherto only in Madeira proper, where it is not very uncommon at rather low altitudes—occurring in much the same kind of places as the preceding species.

1228. *Anthicus dimidiatus*.

Anthicus dimidiatus, *Woll., Cat. Can. Col.* 521 (1864).

Habitat Canarienses (*Lanz., Can., Gom.*), in inferioribus submaritimis, præsertim salinis, minus frequens.

Widely, though sparingly, diffused over the Canarian archipelago—where it occurs at low elevations, and principally in brackish places near the coast. I have taken it at the Salinas both in the north of Lanzarote and at Juan Grande in Grand Canary, as well as by the edges of the salt lake of Januvio (towards the south-west of the former of those islands): and it has been found by the Messrs. Crotch, below Hermigua, in Gomera.

1229. *Anthicus lapidosus*.

Anthicus lapidosus, *Woll., Cat. Can. Col.* 521 (1864).

Habitat Canarienses (*Ten., Gom.*), inter lapillos per margines aquarum, vel stagnantium vel fluentium, sese occultans.

Likewise Canarian, and found amongst wet shingle along the margins of the streams and pools. I once met with it abundantly in Teneriffe—at the edge of a small pond in the Barranco Santo, near S^{ta} Cruz; and it has been found by the Messrs. Crotch, under much the same circumstances, in Gomera. In both instances it was accompanied by the *Perileptus nigrutilus*, and certain small Staphylinids of subaquatic habits.

1230. *Anthicus angustatus*.

Anthicus angustatus, *Curt., Brit. Ent.* fo. 714 (1838).

———, *Steph., Man.* 342 (1839).

———, *Woll., Cat. Can. Col.* 522 (1864).

Habitat Canarienses (*Fuert.*), à Dom. Gray semel deprehensus.

A single specimen of this little European *Anthicus* was captured

by Mr. Gray in Fuerteventura, of the Canarian Group; but it is the only one which I have yet seen from these Atlantic islands.

1231. **Anthicus Lubbockii.**

Anthicus tristis, *Woll.* [nec *Schmidt*, 1842], *Ins. Mad.* 536 (1854).
— *Lubbockii*, *Id.*, *Cat. Mad. Col.* 166 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus in montibus abundans.

Observed hitherto only on the mountains of Madeira proper, where however it is extremely abundant at a very high elevation—occurring beneath stones on the open grassy slopes, from about 3000 feet above the sea to the summits of the peaks.

1232. **Anthicus guttifer.**

Anthicus guttifer, *Woll.*, *Cat. Can. Col.* 522 (1864).

Habitat Canarienses (ins. omnes), plerumque in inferioribus degens.

A universal insect throughout the Canarian archipelago, in all the islands of which, except Gomera (where, however, it was found by Dr. Crotch), I have myself captured it. It occurs principally at rather low elevations, and is so closely allied to the *A. tristis* of southern Europe that I am far from satisfied that the few small distinctions which characterize it are indicative in reality of more than a geographical state of that species.

1233. **Anthicus canariensis.**

Anthicus canariensis, *Woll.*, *Cat. Can. Col.* 523 (1864).

Habitat Canarienses (in *Hierro* solâ haud detectus), hinc inde in inferioribus intermediisque vulgaris.

Doubtless universal in the Canarian Group (to which it seems to be peculiar); for although it does not happen to have been captured in Hierro, there can be little question that it must exist there—as it does elsewhere throughout the archipelago: and I met with it even on the little islet of Graciosa, off the north of Lanzarote. It is more abundant in dry spots of a rather low elevation than in the higher districts, and is often very common beneath the refuse around the base of corn-stacks. Under the latter circumstances I have often observed it, throughout Lanzarote and Fuerteventura, in company with the *Attalus anthicoides*—an insect to which in size, colour, and general contour it bears such a curious *primâ facie* resemblance that, until closely examined, it might almost be mistaken for it.

1234. *Anthicus scydmænoides*.

Anthicus scydmænoides, *Woll., Cat. Can. Col.* 524 (1864).

Habitat Canarienses (*Ten.*), sub quisquiliis in intermediis a DD. Crotch lectus.

This curious little *Anthicus*, so suggestive at first sight of a *Scydmænus*, was first detected in Teneriffe by Dr. Crotch, during his expedition to the Canaries in 1862; and it was from the unique example which he obtained that my diagnosis of the species was drawn up. But it has since been met with abundantly, by himself and his brother, in the same island, and in much the same district—namely at, and near, Ycod el Alto. Mr. G. R. Crotch informs me that their specimens were taken chiefly by “sifting rubbish and leaves,” and that it was common “under dead bean-stalks” in their garden at Yeod.

Fam. 88. SCYDMÆNIDÆ.

Genus 373. SCYDMÆNUS.

Latreille, *Gen. Crust. et Ins.* i. 232 (1806).

§ I. *Palporum maxillarium art^o 4^{to} distincto, subulato.*

1235. *Scydmænus Helferi*.

Scydmænus Helferi, *Schaum, Anal. Ent. (Dissert. inaug.)* 7 (1841).

— —, *Lucas, Col. de l'Algérie*, 131 (1849).

— —, *Woll., Ins. Mad.* 539 (1854).

— —, *Id., Cat. Mad. Col.* 167 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus in graminosis intermediis editoribusque sat vulgaris.

A rather abundant *Scydmænus* at intermediate and lofty elevations in Madeira proper; but it has not yet been observed in any of the other islands. It occurs beneath stones and at the roots of grass, and is perhaps more common on the open mountain-slopes (above the upper limits of the wooded districts) than elsewhere. According to Schaum, it does not differ specifically from the Sicilian *S. Helferi**.

* At first sight the *S. Helferi* much resembles the *collaris* of more northern latitudes: but it is neither quite so black nor quite so pubescent; its prothorax (which is branded with about six large rounded foveæ at the base) is a little shorter, and less widened anteriorly; its elytra are rather rounder, or more ovate, and not quite so coarsely punctured; and its antennæ are a little more abbreviated, and less thickened towards their apex, with the terminal joint appreciably smaller and more acute.

1236. *Scydmaenus castaneus*.

Scydmaenus castaneus, *Woll., Append. huj. op.* 66.

Habitat Canarienses (*Gom., Hierro*), sub foliis dejectis a DD. Crotch repertus.

Detected by the Messrs. Crotch in Gomera and Hierro, of the Canarian Group, by sifting dead leaves. Although scarce, they obtained a tolerable series of it in the former of those islands; but in Hierro they met with only two examples.

§ II. *Palporum maxillarium* art^o 4^{to} fere obsoleto.

1237. *Scydmaenus tarsatus*.

Scydmaenus tarsatus, *Kunze, Mon. Scyd.* 11, f. 3 (1823).

— — —, *Denny, Mon. Pselaph. et Scyd.* 57 (1825).

— — —, *Steph., Ill. Brit. Ent.* v. 80 (1832).

— — —, *Woll., Cat. Can. Col.* 526 (1864).

Habitat Canarienses (*Ten.*), à W. D. Crotch parce captus.

Of the European *S. tarsatus* six examples were taken in Teneriffe by Dr. Crotch, during the spring of 1862; but they are all that I have yet seen from these Atlantic islands.

Fam. 89. PSELAPHIDÆ.

Genus 374. EUPLECTUS.

(Kirby) Leach, *Zool. Miscell.* (1817).

1238. *Euplectus sanguineus*.

Euplectus sanguineus, *Denny, Mon. Pselaph. et Scyd.* 10 (1825).

— — —, *Heer, Fna Col. Helv.* 362 (1841).

— — —, *Aubé, Ann. de la Soc. Ent. de France*, 146 (1844).

— — —, *Woll., Cat. Can. Col.* 528 (1864).

Habitat Canarienses (*Ten.*), à W. D. Crotch semel deprehensus.

A single example of what seems to me to be perfectly conspecific with the European *E. sanguineus* was captured by Dr. Crotch in Teneriffe during his first expedition to the Canaries; but it is the only one which I have yet seen from these islands.

1239. *Euplectus Karstenii*.

Pselaphus Karstenii, *Reich., Mon. Pselaph.* 71, tab. ii. f. 21 (1816).

Euplectus Karstenii, *Denny, Mon. Pselaph. et Scyd.* 12 (1825).

Euplectus Karstenii, Aubé, *Ann. de la Soc. Ent. de France*, 146 (1844).
 ———, *Woll., Cat. Can. Col.* 527 (1864).

Habitat Canarienses (*Ten., Palma*), sub cortice laxo putrido in sylvaticis intermediis rarissimus.

Exceedingly rare, at intermediate and rather lofty altitudes, in the Canarian Group, where it occurs for the most part beneath the damp rotting bark of trees within the sylvan districts. I have taken it in the laurel-woods at Las Mercedes in Teneriffe, and also high up in the Barranco da Agua in Palma. Although its head does not seem to be *quite* so broad, or its elytra perhaps quite so developed, as is the case in a European type of the *E. Karstenii* which is now before me, I nevertheless cannot detect any character about the Canarian specimens of sufficient importance to warrant the supposition that they are distinct from that species.

1240. *Euplectus monticola*.

Euplectus monticola, *Woll., Cat. Can. Col.* 527 (1864).

Habitat Canarienses (*Ten.*), rarissimus. In montibus valde excelsis exemplaria duo collegi.

Likewise Teneriffan, and apparently extremely rare—the only two specimens which I have seen having been captured by myself at a very high elevation, amongst the Retamas, on the Cumbre adjoining the Cañadas. Although closely allied to the last species, I believe nevertheless that it is truly distinct; though further material can alone decide whether it will be possible to regard it as a large and slightly modified state of that insect, peculiar to those lofty altitudes.

1241. *Euplectus intermedius*.

Euplectus intermedius, *Woll., Cat. Mad. Col.* 168 (1857).

Habitat Maderenses (*Mad.*) et Canarienses (*Gom.*), sub cortice laxo emortuo in intermediis rarissimus.

This *Euplectus* occupies much the same place in the intermediate sylvan districts of Madeira proper as the *E. Karstenii* does at the Canaries; nevertheless it would appear to occur in the latter Group likewise; for a single example now before me, which was captured by the Messrs. Crotch in Gomera, although not perfectly agreeing with the Madeiran ones, seems sufficiently near them to render it probable that it is but the exponent of a very slight and unimportant insular phasis of the same species. I have taken it from under bark

in the densely wooded region at the Montado dos Pacegueiros, in the north of Madeira proper; and it was met with by the late Mr. Bewicke at Campanario and the Fanal.

In the *E. intermedius* the head is less coarsely and less closely punctured, and the eye is appreciably smaller, than in the *E. Karstenii*; and its antennæ have their subclaval joints less evidently thickened, the club being *scarcely* composed of more than a single articulation. Apart from other microscopic characters, this comparative smallness of the eye and anteclaval joints will serve to separate it from the European *E. signatus* (which it very greatly resembles); whilst its head also is perhaps somewhat more punctured and less deeply foveolated, and its elytra are a little shorter, than is the case in that insect.

1242. *Euplectus signatus*.

Pselaphus signatus?, *Reich.*, *Mon. Pselaph.* 73, tab. ii. f. 22 (1816).
Euplectus signatus?, *Denny*, *Mon. Pselaph. et Scyd.* 13 (1825).

Habitat Maderenses (*Mad.*), à Dom. Bewicke sub recremento ad basin acervorum fœni sparso in intermediis parce captus.

Two specimens which were taken by the late Mr. Bewicke in Madeira proper—I believe, under haystack refuse at S. Antonio da Serra—I refer in doubt to the European *E. signatus*; for until further material has been obtained for examination, I will not commit myself to any positive statement concerning them. They seem to differ from the *intermedius* in being a trifle smaller, in having their antennæ a little shorter with the subclaval joints appreciably broader and less perfoliate, in their eyes being just perceptibly larger, and in their elytra being somewhat longer and less depressed. Their head however is rather more punctured than is the case in the few specimens of the *signatus* with which I have compared them.

Genus 375. ENOPTOSTOMUS.

Schaum, in *Woll. Cat. Can. Col.* 528 (1864).

1243. *Enoptostomus Wollastoni*.

Enoptostomus Wollastoni, *Schaum*, *loc. cit.* 529 (1864).

Habitat Canarienses (*Ten.*, *Gom.*), sub lapidibus in inferioribus rarissimus.

A Canarian *Pselaphid*, which appears to be both rare and local. The only spot in which I have myself taken it is close to S^{ta} Cruz in

Teneriffe—under stones, at a low elevation, in Barranco do Passo Alto; but a single specimen was found by Dr. Crotch, during the spring of 1862, in Gomera.

Genus 376. **PSELAPHUS.**

Herbst, *Käf.* iv. 106 (1792).

1244. *Pselaphus palpiger.*

Pselaphus palpiger, *Woll., Append. huj. op.* 67.

Habitat Canarienses (*Gom.*), à DD. Crotch parcissime repertus.

A few examples of this remarkable little Canarian *Pselaphus*, the eyes of which are so nearly obsolete that it must practically be almost blind, were taken by the Messrs. Crotch in Gomera. As stated in the Appendix, the above-mentioned peculiarity, in conjunction with the singular form of the immensely developed last joint of its maxillary palpi, might possibly suffice to separate the insect even generically from the true *Pselaphi*.

Fam. 90. STAPHYLINIDÆ.

(Subfam. I. ALEOCHARIDES.)

Genus 377. **FALAGRIA.**

(Leach) Mannerh., *Brachél.* 86 (1831).

1245. *Falagria obscura.*

Aleochara obscura, *Grav., Col. Micropt.* 74 (1802).

Falagria obscura, *Woll., Ins. Mad.* 541 (1854).

— —, *Id., Cat. Mad. Col.* 169 (1857).

— —, *Id., Cat. Can. Col.* 530 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*Fuert., Can., Ten., Gom., Palma*), sub quisquiliis necnon in humidis vulgaris.

This common European insect abounds in these Atlantic Groups, where we may be pretty sure that it will be found universally,—occurring beneath stones and vegetable refuse, in damp spots, at most elevations. It has been taken in Madeira proper and Porto Santo, of the Madeiran archipelago, and in all the Canarian islands except Lanzarote and Hierro (in both of which, however, there can be no doubt that it must exist).

Genus 378. **ECHIDNOGLOSSA.**

Wollaston, *Cat. Can. Col.* 530 (1864).

1246. *Echidnoglossa constricta*.

Echidnoglossa constricta, *Woll., Cat. Can. Col.* 531 (1864).

Habitat Canarienses (*Ten., Gom.*), in humidis per margines rivulorum necnon inter lapillos ad rupes aquosas in intermediis editioribusque degens.

A Canarian Staphylinid which was detected originally in Teneriffe, during the spring of 1862, by Dr. Crotch—who found a single example of it (from which my generic and specific diagnoses were compiled) near to the little town of Guia, on the western slopes of that island. But an extensive series is now before me which has been obtained subsequently, by himself and his brother, in Gomera—where the insect would appear to be common, in wet places of intermediate and lofty altitudes. I am informed by Mr. G. R. Crotch that it was principally along the edges of the small streams, and about dripping rocks, that their specimens were captured.

Genus 379. **PHYTOSUS.**

(Rudd) Curtis, *Brit. Ent.* xv. 718 (1838).

1247. *Phytosus dimidiatus*.

Phytosus spinifer, *Kraatz* [nec *Curt.*, 1838], *Nat. der Ins. Deutsch.* ii. 44 (1858).

— —, *Woll., Cat. Can. Col.* 532 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), sub fucis per oras arenosas maritimas hinc inde vulgaris.

Rather common, beneath *fuci* and other marine *rejectamenta*, along the sandy sea-shores in the eastern part of the Canarian archipelago; and we may expect it to be found more generally, when searched for in the proper situations. I have taken it in Lanzarote and Fuerteventura; and it was captured by the Messrs. Crotch near Las Palmas in Grand Canary. It seems to be widely spread over Mediterranean latitudes; and I met with it abundantly at Mogadore, on the opposite coast of Morocco.

In my Canarian Catalogue I referred this *Phytosus* to the *spinifer* of Curtis, found in northern and subnorthern Europe; but, having since obtained a type of the latter for comparison (which I did not then possess), I now believe that it is truly distinct from that species. I think it most probable however that it is the *spinifer* of *Kraatz* (which *Schaum* informed me that he had met with on the sea-shore at Venice); but, be that as it may, I feel satisfied that it cannot be

conspecific with *Curtis's* (more northern) type,—it being not only a little narrower and smaller, but having its elytra appreciably shorter, more depressed, and with the posterior region more or less broadly and brightly rufo-testaceous; whereas in the *spinifer* the elytra are *totally black*. In the *spinifer*, likewise, the femora and tibiæ are picescent; whereas in the present insect the entire legs are pale. In general colour and contour, it has almost exactly the *primâ facie* appearance of the European *Hygronoma dimidiata*—a circumstance which has suggested its trivial name*.

1248. *Phytosus nigriventris*.

Myrmedonia nigriventris, *Chevr.*, in *Guér. Rev. Zool.* 42 (1843).

Phytosus nigriventris, *Duval*, *Gen. des Col. d'Eur.* ii. pl. 3. f. 11 (1857).

— —, *Kraatz*, in *Berl. Ent. Zeit.* [nec in *Stett. Ent. Zeit.*, nec in *Nat. der Ins. Deutsch.*] 53 (1859).

— —, *Fauvel*, *Ann. de la Soc. Ent. de France*, 86 (1862).

— *minyops*, *Woll.*, *Cat. Can. Col.* 531 (1864).

Habitat Canarienses (*Fuert.*), in locis similibus ac præcedens.

A single specimen, taken by myself in Fuerteventura of the Canarian Group (from under sea-weed, on the sandy beach about a mile to the south of Puerto de Cabras), is all that I have yet seen of this European *Phytosus* in these Atlantic islands. In my late Catalogue I felt compelled to separate it from the ordinary *P. nigriventris*, on the authority of a "type" of the latter which had been lent to me by Dr. Schaum; nevertheless it accords so precisely with the figure of that species given by Duval, as well as with a French example lately communicated by Mr. Janson, that I feel satisfied I was led into an error through Schaum's specimen having been incorrectly determined; and hence I have no hesitation in citing it as the true *nigriventris*†.

* That these characters obtain universally in this (more southern) *Phytosus*, it appears evident; for in 52 examples now before me (from Lanzarote, Fuerteventura, Grand Canary, and the coast of Africa), and nearly double that number were examined by me when I compiled the diagnosis given in my Canarian Catalogue, there is no *single* instance in which they fail. The only approach to a difference is in the specimens from Morocco, in which the peculiarity of coloration is even *still more* exaggerated—the elytra being almost entirely rufo-testaceous, with merely their basal region darkened. I do not consider it necessary to insert a fresh diagnosis in this volume (on account of having now proposed for the species a new name), for I have already published one in my Canarian Catalogue.

† The *P. nigriventris* may be characterized as a little larger and broader than the *balticus* (with its limbs relatively somewhat longer), and of an exceedingly pale rufo-testaceous hue,—the fifth as well as either the *whole* or *part* of the fourth and sixth segments of its abdomen (which is nearly opaque, and very closely and finely asperate-punctate) being black.

1249. *Phytosus balticus*.

Phytosus nigriventris, Kraatz [nec Chevr., 1843], in *Stett. Ent. Zeit.* xiv. 257 (1853).

— —, *Id.* [— —], *Nat. der Ins. Deutsch.* ii. 43 (1856).

— —, *Woll.* [— —], *Cat. Mad. Col.* 169 (1857).

— *balticus*, Kraatz, in *Berl. Ent. Zeit.* 52 (1859).

— —, Fauvel, *Ann. de la Soc. Ent. de France*, 86 (1862).

Habitat Maderenses (*P^{to} Sto*), in arenosis maritimis juxta radices *Arundinis donacis* fodiens parcissime lectus.

I captured two examples of this minute and widely spread European *Phytosus*, during the spring of 1855, in Porto Santo of the Madeiran Group—burrowing into the loose sand, near the roots of *Arundo donax*, immediately behind the southern beach; but they are all that I have yet seen from these Atlantic Groups. In my Madeiran Catalogue I referred them to the *P. nigriventris*; but they are certainly more correctly identified with the *balticus*, an insect which (like most of the strictly maritime species) seems to have a rather wide geographical range—occurring in northern Europe, and being (according to Fauvel) very abundant on the coasts of France. It may be known from its ally by being smaller and narrower and altogether less pallid (or of a more infuscated, reddish-brown hue), by having its elytra more parallel (or not at all widened posteriorly), its abdomen less opaque, more sparingly punctured, and nearly concolorous with the rest of the surface (the postmedial segments being only a trifle more clouded than the remainder), and its limbs perceptibly shorter, or less developed.

Genus 380. **PHLÆOPORA.**

Erichson, *Käf. der Mark Brand.* i. 311 (1837).

1250. *Phlæopora corticina*.

Phlæopora corticina, *Woll.*, *Cat. Can. Col.* 533 (1864).

Habitat Canarienses (*Ten.*, *Gom.*, *Palma*, *Hierro*), sub cortice arborum in sylvaticis intermediis latens.

Found usually at rather lofty altitudes in the Canarian Group, occurring beneath the bark of trees. I have taken it in Teneriffe and Palma; and two specimens are now before me which were captured by the Messrs. Crotch, respectively, in Gomera and Hierro. It is somewhat intermediate between the European *P. reptans* and *corticalis*, and might perhaps be a geographical modification of either of them.

Genus 381. **TACHYUSA.**Erichson, *Käf. der Mark Brand.* i. 307 (1837).1251. **Tachyusa maritima.***Tachyusa maritima*, Woll., *Ann. Nat. Hist.* vi. 51 (1860).— —, *Id.*, *Append. huj. op.* 67.*Habitat* Maderenses (*Mad.*), rarissima. Sub lapidibus in salinis maritimis juxta mare exemplaria duo collegi.

The only two examples of this insect which have yet come beneath my notice were captured by myself, in a saline spot, in the north of Madeira proper—from under stones, below high-water mark, at the exact point where the São Vicente river empties itself into the sea.

1252. **Tachyusa simillima.***Tachyusa simillima*, Woll., *Cat. Can. Col.* 534 (1864).*Habitat* Canarienses (*Lanz., Fuert.*), per oras arenosas maritimas sub rejectamentis parce degens.

Occurs beneath marine *rejectamenta* along the sandy shores of Lanzarote and Fuerteventura, in the east of the Canarian Group—a single example of it having been captured by myself in each of those islands.

1253. **Tachyusa raptoria.***Tachyusa raptoria*, Woll., *Ins. Mad.* 542 (1854).— —, *Id.*, *Cat. Mad. Col.* 170 (1857).— —, *Id.*, *Cat. Can. Col.* 533 (1864).*Habitat* Maderenses (*Mad.*) et Canarienses (*Palma*), per margines rivulorum rarissima.

A small and slender *Tachyusa* which occurs, though very rarely, both in the Madeiras and Canaries—where it resides, at low and intermediate altitudes, amongst wet shingle at the edges of the streams and pools. I have taken it both in the north and south of Madeira proper; and I likewise met with a single example in Palma, of the Canarian Group.

Genus 382. **ISCHNOPODA.**Stephens, *Man. Brit. Beetl.* 355 (1839).1254. **Ischnopoda longitarsis.***Aleochara longitarsis* (*Kby*), *Steph., Ill. Brit. Ent.* v. 110 (1832).*Ischnopoda longitarsis*, *Id.*, *loc. cit.* 355 (1839).

Chilopora longitarsis, Kraatz, *Nat. der Ins. Deutsch.* ii. 147 (1856).
 ———, *Woll., Cat. Mad. Col.* 171 (1857).

Habitat Maderenses (Mad.), ad margines rivulorum inter lapillos humidos sese occultans.

The common European *I. longitarsis* occurs sparingly by the edges of the streams in Madeira proper, particularly at intermediate altitudes; but it has not yet been observed in any of the other islands.

Genus 383. **XENOMMA.**

Wollaston, *Ins. Mad.* 543 (1854).

1255. **Xenommma planifrons.**

Xenommma planifrons, *Woll., Ins. Mad.* 544, tab. xiii. f. 4 (1854).
 ———, *Id., Cat. Mad. Col.* 172 (1857).

Habitat Maderenses (Mad.), sub lapidibus aquosis foliisque marcidis in locis editioribus rarissimum.

Found at a lofty elevation in Madeira proper, where it occurs (though very rarely) under wet stones and damp sodden leaves—for the most part near the edges of the small trickling streams, towards the upper limits of the sylvan districts.

1256. **Xenommma formicarum.**

Xenommma formicarum, *Woll., Ins. Mad.* 545 (1854).
 ———, *Id., Cat. Mad. Col.* 172 (1857).

Habitat Maderenses (Mad.), rarissimum; fere in locis similibus ac præcedens.

Likewise peculiar (so far as has been observed hitherto) to Madeira proper, where it is found in much the same kind of places as the last species—though descending rather more into the intermediate districts, and occurring for the most part in somewhat drier (or less watery) spots.

1257. **Xenommma filiforme.**

Xenommma filiforme, *Woll., Ins. Mad.* 545 (1854).
 ———, *Id., Cat. Mad. Col.* 172 (1857).

Habitat Maderenses (Mad., Pto Sto), hinc inde sub lapidibus in intermediis.

A minute and narrow little insect, which occurs sparingly at intermediate altitudes in the Madeiran Group. I have taken it

both in Madeira proper and Porto Santo, for the most part beneath stones on the grassy mountain-slopes.

1258. **Xenomma muscicola.**

Xenomma muscicola, *Woll., Cat. Can. Col. 535* (1864).

Habitat Canarienses (*Can.*), in intermediis parce captum.

The few examples which I have yet seen of this insignificant species were captured by myself, in the region of El Monte, in Grand Canary. Whether it be a true *Xenomma*, or merely a small *Homalota* in which the eyes and elytra are considerably reduced, I will not undertake to decide until further material has been obtained; for the feet of these minute Staphylinids are often so difficult of observation that it is sometimes next to impossible to be quite sure as to the exact number of their joints; and I do not feel altogether certain in the present instance whether the anterior tarsi are 4- or 5-articulate. In any case however the *species* is totally distinct from the Madeiran *X. filiforme*, to which in some respects it bears a slight *primâ facie* resemblance.

Genus 384. **HOMALOTA.**

Mannerheim, *Brachél.* 73 (1831).

1259. **Homalota rufofusca.**

Homalota rufofusca, *Woll., Cat. Can. Col. 535* (1864).

Habitat Canarienses (*Ten.*), in lauretis humidis editioribus parce lecta.

A Canarian *Homalota* which I have observed hitherto only in the sylvân regions of Teneriffe, my few specimens having been captured at a high altitude on the damp laurel-clad mountains above Taganana.

1260. **Homalota rufobadia.**

Homalota rufobadia, *Woll., Cat. Can. Col. 535* (1864).

Habitat Canarienses (*Palma*), in locis similibus ac præcedens.

Found apparently in much the same kind of places as the last species, but in Palma instead of Teneriffe—the few examples which I have seen having been taken by myself in the wooded districts of that island.

1261. *Homalota sanguinolenta*.

Homalota sanguinolenta, *Woll., Ins. Mad.* 547 (1854).

— —, *Id., Cat. Mad. Col.* 173 (1857).

Habitat Maderenses (*Mad.*), in intermediis editioribusque sylvaticis vulgatissima.

Abundant throughout the sylvan districts of Madeira proper, at intermediate and lofty elevations; but it has not yet been observed in any of the other islands. It presents two slightly different forms—in one of which (regarded by me as typical) the head is more or less darkened, whilst in the other (the “var. β ” of my diagnosis) the entire colour is paler, and the head is (like the prothorax and elytra) of a clear rufo-testaceous hue. I have never succeeded however in detecting any character to warrant the suspicion that they are more than states of a single species.

1262. *Homalota haligena*.

Homalota haligena, *Woll., Cat. Mad. Col.* 173 (1857).

Habitat Maderenses (*P^{to} Sto, Ilheo Chão, Bugio*), sub lapidibus necnon ad radices graminis in intermediis præcipue latens.

Peculiar likewise to the Madeiran archipelago, though it has not yet been detected in Madeira proper. Indeed it may perhaps be regarded as representing the *H. sanguinolenta*, with which it has an evident affinity, on the *other* islands of the Group—in all of which I have captured it except the Deserta Grande, where however we may be pretty sure that it exists. I first met with it in Porto Santo—beneath stones, and at the roots of grass, in an exposed place on the ascent of the Pico Branco; and I subsequently found it on the Ilheo Chão and the Bugio.

1263. *Homalota clientula*.

Homalota clientula, *Erich., Gen. et Spec. Staph.* 133 (1839).

— plebeia, *Woll., Ins. Mad.* 553 (1854).

— —, *Id., Cat. Mad. Col.* 176 (1857).

— clientula, *Id., Cat. Can. Col.* 545 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (ins. *omnes*), sub quicquillis, passim.

This common European (and extremely inconstant) *Homalota* is widely spread over these Atlantic Groups, where most likely it will be found to be universal. It has been taken sparingly in Madeira proper, and in the whole seven islands of the Canarian archipelago.

Its detection in Gomera is due to the late researches of the Messrs. Crotch. It varies from almost black to a testaceous brown, and occasionally the head and prothorax are slightly rufescent.

1264. *Homalota montivagans*.

Homalota montivagans, *Woll., Cat. Mad. Col.* 176 (1857).

Habitat Maderenses (*Mad.*), in intermediis et præcipue editioribus minus frequens.

Detected in Madeira proper by the late Mr. Bewicke, on the summit of the Pico do Areiro, nearly 6000 feet above the sea; and he subsequently met with it at a lower altitude, on the mountains to the east of Funchal. It has a good deal in common with the *H. clientula*; but, apart from colour (which is extremely variable in both species), it is larger, more shining, and much less densely punctured; its antennæ are thicker and darker; and its prothorax and elytra (the former of which is generally a little channelled behind) are more developed.

1265. *Homalota vagepunctata*.

Homalota vagepunctata, *Woll., Trans. Ent. Soc. Lond.* 187 (1862).

— — —, *Id., Cat. Can. Col.* 544 (1864).

Habitat Canarienses (*Lanz., Fuert., Ten., Hierro*), inter *Euphorbias* in intermediis late diffusa.

Hitherto I have captured this brightly polished and peculiarly sculptured *Homalota* only in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group—where I met with it amongst the various *Euphorbias*, on the *flowers* of which it was tolerably abundant (in one or two spots of intermediate elevations); but it has subsequently been taken, though sparingly, by the Messrs. Crotch both in Teneriffe and Hierro.

1266. *Homalota plumbea*.

Homalota plumbea, *Waterh., Proc. Ent. Soc. Lond.* 15 (1858).

— trogophlœoides, *Woll., Cat. Can. Col.* 536 (1864).

Habitat Canarienses (*Fuert., Can.*), sub fucis degens, in arenosis maritimis.

A European *Homalota* which occurs in the Canarian Group, under exactly the same circumstances as it does in higher latitudes—namely, beneath marine *rejectamenta* along the sandy sea-shores. It was taken by Mr. Gray and myself in Fuerteventura; and an

extensive series is now before me, captured by the Messrs. Crotch near Las Palmas in Grand Canary. The Canarian specimens seem to be a trifle smaller than an English type which has been communicated by Mr. Rye, and the Fuerteventuran ones have their legs more pallid; but such differences, even if constant (which is extremely doubtful), would scarcely suffice to indicate even a geographical *variety*; and I have therefore no hesitation in referring the species to the *H. plumbea*.

1267. *Homalota granulosa*.

Homalota granulosa, *Woll., Ins. Mad.* 548 (1854).

— —, *Id., Cat. Mad. Col.* 174 (1857).

Habitat Maderenses (*Mad.*), in aquis sylvaticis editoribus rarissima.

Observed hitherto only in Madeira proper, where it would appear to be extremely rare,—occurring in wet places, at a lofty altitude, within the sylvan districts.

1268. *Homalota obliquepunctata*.

Homalota obliquepunctata, *Woll., Ins. Mad.* 549 (1854).

— —, *Id., Cat. Mad. Col.* 174 (1857).

Habitat Maderenses (*Mad.*), inter lapillos per margines rivulorum in intermediis vulgaris.

Rather a common species at intermediate elevations in Madeira proper, where it resides under wet stones and shingle at the edges of the streams; but it has not yet been observed in any of the other islands.

1269. *Homalota amnicola*.

Homalota amnicola, *Woll., Cat. Can. Col.* 536 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma, Hierro*), in aquis intermediis et præcipue inter lapillos per margines rivulorum sese occultare delectans.

Found in exactly the same sort of places as the *H. obliquepunctata*, but at the Canaries instead of Madeira. Indeed, although certainly distinct from it, it may be regarded as the Canarian representative of that species—to which, both in general aspect and its subaquatic habits, it is closely allied. It has been taken in Grand Canary, Teneriffe, Gomera, Palma, and Hierro; and it is more abundant by the streams of intermediate altitudes, within the sylvan districts,

than elsewhere. Its detection in Hierro is due to the researches of the Messrs. Crotch.

1270. *Homalota luridipennis*.

Bolitochara luridipennis, *Mann., Brachél.* 77 (1831).

Homalota elongatula, *Erich., Gen. et Spec. Staph.* 90. var. *C. a* (1839).

— *luticola*, *Woll., Ins. Mad.* 549 (1854).

— *luridipennis*, *Kraatz, Nat. der Ins. Deutsch.* ii. 221 (1856).

— —, *Woll., Cat. Mad. Col.* 174 (1857).

Habitat Maderenses (*Mad.*), rarior; in lutosus necnon ad rupes aquosas.

A European *Homalota* which is found sparingly in Madeira proper, where it occurs in the muddy deposits about wet rocks and in the damp soil at the edges of waterfalls—for the most part at rather low elevations, and principally in the north of the island.

1271. *Homalota gregaria*.

Homalota gregaria, *Erich., Gen. et Spec. Staph.* 87 (1839).

Tachyusa immunita, *Id., ibid.* 916 (1839).

Homalota gregaria, *Woll., Ins. Mad.* 550 (1854).

— —, *Id., Cat. Mad. Col.* 174 (1857).

— —, *Id., Cat. Can. Col.* 537 (1864).

Habitat Maderenses (*Pto Sto*) et Canarienses (*Lanz., Fuert., Can., Ten., Gom.*), inter lapillos ad margines rivulorum, præcipue in inferioribus abundans.

This widely spread European insect will most likely be found to be almost universal throughout these Atlantic islands, where it is locally very abundant amongst stones and shingle along the edges of the streams (particularly when at all *brackish*), and for the most part at rather low elevations. It abounds in Porto Santo, of the Madeiran Group; and it has already been captured in Lanzarote, Fuerteventura, Grand Canary, Teneriffe, and Gomera, of the Canaries.

1272. *Homalota philonthoides*.

Homalota Philonthoides, *Woll., Ins. Mad.* 551 (1854).

— —, *Id., Cat. Mad. Col.* 175 (1857).

Habitat Maderenses (*Mad.*), in editoribus præsertim sylvaticis occurrens.

Found at a lofty elevation in Madeira proper, towards the upper limits of the sylvan districts, where it occurs in damp spots and under vegetable refuse; and I have taken it even in the dung of cattle.

1273. *Homalota amnigena*.

Homalota amnigena, Woll., *Cat. Can. Col.* 537 (1864).

Habitat Maderenses* (*Mad.*) et Canarienses (*Ten.*, *Gom.*, *Palma*, *Hierro*), in humidis præsertim ad margines rivulorum in intermediis degens.

Not uncommon in at any rate the central and western islands of the Canarian Group—where it occurs under stones at the edges of the streams, and in damp places generally, for the most part at intermediate altitudes. I have taken it in Teneriffe, Palma, and Hierro; and it was found abundantly by the Messrs. Crotch in Gomera.

The *H. amnigena* is very close to the *gregaria*, but differs in being a little smaller and narrower, as well as somewhat more densely clothed with a minute pubescence; in its head being just perceptibly more oval (or less rounded); in its prothorax being less transverse and with a more evident central foveole behind; in its elytra being less developed, of a more *uniformi* brownish black (instead of being conspicuously diluted posteriorly), and with *very obsolete* indications of being obliquely impressed across their disk; in its antennæ being shorter, with the apical joint more abbreviated; and in its legs being always *totally* pale.

1274. *Homalota persimilis*.

Homalota persimilis, Woll., *Cat. Can. Col.* 538 (1864).

Habitat Canarienses (*Ten.*), in inferioribus juxta Portum Orotavæ semel deprehensa.

The only example of this insignificant little *Homalota* which I have yet seen was captured by myself, at a low elevation (immediately outside the Puerto Orotava), in Teneriffe. Although unquestionably distinct from *H. amnigena*, it is a good deal allied to that species.

* A single example was communicated from Madeira proper by the late Mr. Bewicke, which I feel almost satisfied is the representative of a mere local state of the Canarian *H. amnigena*—with which in nearly everything essential it agrees precisely. It differs only in having its head and prothorax (when viewed beneath the microscope) much less coarsely alutaceous, and therefore more shining and with the minute additional punctules (which are sparingly scattered over the surface) more *apparent*. Its head is, if anything, a trifle squarer and more developed, and more evidently channelled behind; and its elytra are perhaps just appreciably longer. I subjoin the following short diagnosis of it, in the event of further material proving it to be specifically distinct:—Var. *β. maderensis* [an species?]. Capite prothoraceque (oculo fortissime armato) multo minus grosse granuloso-alutaceis, ergo nitidioribus et punctulis superadditis magis conspicuis, illo vix majore quadratiore et postice evidentius canaliculato; elytris vix longioribus.

1275. *Homalota longula*.

- Homalota longula* (*Chevrier*), *Heer, Fna Col. Helv.* 334 (1841).
 — *thinobioides*, *Kraatz, in Stett. Ent. Zeit.* xv. 125 (1854).
 — —, *Id., Nat. der Ins. Deutsch.* ii. 228 (1856).
 — —, *Woll., Cat. Mad. Col.* 175 (1857).
 — *longula*, *Id., Cat. Can. Col.* 539 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Ten., Gom.*), inter lapillos ad margines aquarum velocissime cursitans.

This extremely narrow European *Homalota* is widely diffused over these Atlantic islands, where in all probability it will be found to be nearly universal. It occurs amongst wet stones and shingle at the edges of the streams and pools, principally at low and intermediate altitudes. I have taken it in Madeira proper, as also in Lanzarote and Teneriffe of the Canarian Group; and it was captured by the Messrs. Crotch in Gomera.

1276. *Homalota fragilis*.

- Homalota fragilis*?, *Kraatz, in Stett. Ent. Zeit.* xv. 125 (1854).
 — —, *Woll., Cat. Can. Col.* 539 (1864).

Habitat Canarienses (*Ten., Gom., Palma*), in locis similibus ac præcedens.

I cannot but feel doubtful whether the Canarian *Homalota* which I have referred (perhaps incorrectly) to the European *H. fragilis* is more, in reality, than one of the sexes of the preceding species. Indeed the only distinguishing feature that I can detect to separate it from the *longula* is its very much more sparingly punctured, and rather more shining abdomen. Nevertheless, when viewed beneath the microscope, this particular character is so exceedingly conspicuous that, until evidence has been obtained that it is merely a sexual one, I have no option but to treat the present insect as specifically distinct. And that it cannot be any *local* state of the *longula* is evident from the fact that it usually occurs in company with that species.

I have taken this *Homalota*, amongst wet shingle at the edges of the streams, in Teneriffe, Gomera, and Palma—in the second of which islands it was found likewise by the Messrs. Crotch.

1277. *Homalota palustris*.

- Homalota palustris*, *Kiesw., in Stett. Ent. Zeit.* v. 318 (1844).
 — *currens*, *Woll., Ins. Mad.* 552 (1854).
 — *palustris*, *Kraatz, Nat. der Ins. Deutsch.* ii. 309 (1856).
 — —, *Woll., Cat. Mad. Col.* 175 (1857).

Habitat Maderenses (*Mad.*), in humidis intermediis vulgaris.

The European *H. palustris* is common in Madeira proper, where it abounds at the edges of the streams (and in damp spots generally) at intermediate elevations; but it has not yet been observed in any of the other islands.

1278. *Homalota cursitans*.

Homalota cursitans, *Woll., Cat. Can. Col.* 540 (1864).

Habitat Canarienses (*Lanz., Gom.*), sub recremento juxta *Euphorbias antiquas* capta.

Taken sparingly in the Canarian Group, where I believe that it will be found to be attached to the *Euphorbias* and pretty generally distributed. Hitherto however I have taken it only in the north of Lanzarote, beneath the refuse around the roots of the old *Euphorbias* on the rocky declivities of the Risco; but a single example is now before me which was captured by the Messrs. Crotch in Gomera.

1279. *Homalota subsericea*.

Homalota subsericea, *Woll., Cat. Can. Col.* 540 (1864).

Habitat Canarienses (*Lanz.*), in locis similibus ac præcedens, sed rarior.

I took a few examples of this small *Homalota* (which is a good deal allied to the preceding one) in the north of Lanzarote; but they are all that I have yet seen. It has much the *primâ facie* aspect of the European *H. sericea*; nevertheless I doubt whether its true affinities are with that species.

1280. *Homalota angustissima*.

Homalota angustissima, *Woll., Cat. Can. Col.* 541 (1864).

Habitat Canarienses (*Lanz.*), semel tantum deprehensa.

A very minute and narrow Canarian species, of which I have seen hitherto but a single example. It was taken by myself in the north of Lanzarote.

1281. *Homalota misella*.

Homalota misella, *Woll., Cat. Can. Col.* 541 (1864).

Habitat Canarienses (*Hierro*), sub cortice *Euphorbice* cujusdam laxo putrido in inferioribus semel reperta.

Likewise Canarian, and unique—a single example, having been captured by myself, from beneath the loosened bark of an old *Eu-*

phorbia, on the western side of Hierro. Its extremely narrow outline, greatly abbreviated elytra, and minute eyes incline me to suspect that it may possibly prove to be a *Xenomma*, rather than a true *Homalota*; but until further material has been obtained, for dissection, I cannot venture to pronounce definitely on this point.

1282. *Homalota truncorum*.

Homalota truncorum, *Woll., Cat. Mad. Col.* 172 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis editioribus rarissima.

A most remarkable little species which I detected, during July 1855, at a lofty elevation in Madeira proper—amongst the earth and vegetable refuse which had accumulated within the hollows of old trees, in the upland region of the Fanal; and it was met with subsequently by the late Mr. Bewicke in the same district, as well as at S. Antonio da Serra.

1283. *Homalota analis*.

Aleochara analis, *Grav., Col. Micropt.* 76 (1802).

Homalota analis, *Erich., Gen. et Spec. Staph.* 114 (1839).

— *tantilla*, *Woll., Ins. Mad.* 553 (1854).

— *analis*, *Kraatz, Nat. der Ins. Deutsch.* ii. 256 (1856).

— —, *Woll., Cat. Can. Col.* 176 (1857).

Habitat Maderenses (*Mad.*), sub quisquiliis in intermediis editioribusque sat vulgaris.

The European *H. analis* is tolerably common at intermediate and lofty altitudes in Madeira proper, where it occurs beneath fallen leaves and vegetable refuse; but it has not yet been detected in any of the other islands.

1284. *Homalota nigra*.

Homalota nigra, *Kraatz, Nat. der Ins. Deutsch.* ii. 287 (1856).

— —, *Woll., Cat. Can. Col.* 541 (1864).

Habitat Canarienses (in *Fuert.* solâ haud detecta), sub quisquiliis, atque etiam in stercore, præcipue in intermediis vulgaris.

This small European *Homalota* is abundant in the Canarian Group, where it occurs beneath vegetable refuse and in dung, principally within the sylvan districts of intermediate altitudes. There can be little doubt that it is universal throughout the archipelago, Fuerteventura (where, nevertheless, we may be pretty sure that it exists) being the only island of the seven in which it does not happen to have been captured.

1285. *Homalota æthiops*.

Oxyopoda æthiops, *Woll., Cat. Can. Col.* 551 (1864).

Habitat Canarienses (*Palma*), in intermediis semel reperta.

A single example of this intensely black little species, which was taken by myself in Palma of the Canarian Group, is all that I have yet seen. Its posteriorly subattenuated outline gives it much the appearance at first sight of an *Oxyopoda*, and consequently in my late Catalogue I did not hesitate to refer it to that genus. Nevertheless a recent examination of its hind feet, in which the basal joint is not at all longer than the second one, proves it to be in reality a *Homalota*; and I have therefore treated it as such.

The *H. æthiops* is about the size of (or perhaps a trifle larger than) the *H. nigra*; but it is of a still deeper black, more shining and convex, less pubescent, much more coarsely and less closely punctured, with its antennæ and elytra somewhat shorter, its prothorax perceptibly broader, and its abdomen more attenuated towards the apex.

1286. *Homalota aleocharoides*.

Homalota aleocharoides, *Woll., Cat. Can. Col.* 542 (1864).

Habitat Canarienses (*Ten.*), à W. D. Crotch sat copiose lecta.

A small and distinct, but somewhat insignificant, *Homalota* which was taken rather abundantly in Teneriffe by Dr. Crotch, during his first expedition to the Canaries (in 1862); but his specimens are the only ones which I have yet seen.

1287. *Homalota atramentaria*.

Aleochara atramentaria (*Kby*), *Gyll., Ins. Suec.* ii. 408 (1810).

Homalota atramentaria, *Erich., Gen. et Spec. Staph.* 111 (1839).

— —, *Woll., Ins. Mad.* 555 (1854).

— —, *Id., Cat. Mad. Col.* 178 (1857).

— —, *Id., Cat. Can. Col.* 543 (1864).

Habitat Maderenses (*Mad., Pto S^{to}*) et Canarienses (*ins. omnes*), in stercore bovino et equino vulgaris.

The European *H. atramentaria* is very widely spread over these Atlantic Groups, where we may be pretty sure that it is nearly universal. It occurs in the dung of cattle at most elevations, though principally at intermediate ones. It is common in Madeira proper and Porto Santo, and it has been captured in the whole seven islands of the Canarian archipelago.

1288. *Homalota depauperata*.

Homalota depauperata, *Woll., Append. huj. op.* 68.

Habitat Canarienses (*Gom.*), à DD. Crotch semel deprehensa.

A single specimen of this narrow *Homalota*—in which the head, eyes, prothorax, and elytra are each of them small, or as it were considerably *depauperated*—was captured by the Messrs. Crotch in Gomera, during their late expedition to the Canaries; but whether it was taken (as I am inclined to suspect) within the rotten stems of the *Euphorbias*, there is no evidence to enable me to decide.

1289. *Homalota canariensis*.

Homalota canariensis, *Woll., Trans. Ent. Soc. Lond.* 184, pl. 7. f. 8 (1862).

— —, *Id., Cat. Can. Col.* 544 (1864).

Habitat Canarienses (*Ten., Gom.*), in caulibus *Euphorbie canariensis* putridis hinc inde vulgaris.

A remarkable Canarian species, which seems to be confined (so far as has yet been observed) to the rotten stalks of the *Euphorbia canariensis*. It will probably therefore be found in all the islands of the Group except the two eastern ones, in which I believe that that plant does not now exist; nevertheless hitherto it has been captured merely in Teneriffe and Gomera.

1290. *Homalota insignis*.

Homalota insignis, *Woll., Ins. Mad.* 555 (1854).

— —, *Id., Cat. Mad. Col.* 178 (1857).

Habitat Maderenses (*Mad.*), sub cortice laxo putrido, sed præsertim fungos in lauretis humidis intermediis colens.

A rather large and prettily coloured *Homalota* which would seem to be peculiar to the sylvan districts of Madeira proper. It is normally of fungivorous habits, but occurs likewise under the putrid bark of trees.

1291. *Homalota læta*.

Homalota læta, *Woll., Cat. Can. Col.* 543 (1864).

Habitat Canarienses (*Gom.*), à DD. Crotch parce deprehensa.

Observed hitherto only in Gomera, of the Canarian Group—where it would appear to be extremely rare, and where it was first detected by Dr. Crotch during 1862. It is very closely allied, in colouring and general aspect, to the Madeiran *H. insignis*,—from which it

mainly differs in its head being rather more oval (or less transverse), with the eyes considerably smaller; in its prothorax, when viewed beneath the microscope, appearing more coarsely punctured; and in the rufescent parts of its surface being altogether a little obscurer.

1292. *Homalota umbratilis*.

Homalota umbratilis, *Woll., Ins. Mad.* 554 (1854).

— —, *Id., Cat. Mad. Col.* 177 (1857).

Habitat Maderenses (*Mad.*), in intermediis sylvaticis semel reperta.

A single specimen of this small *Homalota*, which was taken by myself in the sylvan region at the Montado dos Peegueiros in the north of Madeira proper, is all that I have yet seen; and therefore, until further material has been obtained, I can scarcely regard its diagnosis as quite satisfactory, though it is certain that the species cannot be referred to any of the others here enumerated.

1293. *Homalota alutaria*.

Homalota alutaria, *Woll., Cat. Mad. Col.* 177 (1857).

Habitat Maderenses (*Mad.*), in editoribus à Dom. Mason parce lecta.

Only two examples of this distinct species have as yet come beneath my notice. They were taken by Mr. Mason in Madeira proper—I believe, in the upland region of the Fanal. I think it is far from unlikely that is of *Euphorbia*-infesting habits, and that the specimens were captured under the bark of the *E. mellifera*—which attains a gigantic size in that particular district.

1294. *Homalota coriaria*.

Homalota sodalis, *Woll.* [nec *Erich.*, 1837], *Ins. Mad.* 554 (1854).

— *coriaria* (*Miller*), *Kraatz, Nat. der Ins. Deutsch.* ii. 282 (1856).

— —, *Woll., Cat. Mad. Col.* 177 (1857).

— —, *Id., Cat. Can. Col.* 546 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Can., Ten., Gom., Palma*), sub quisquiliis atque etiam in *Euphorbiis* putridis vulgaris.

The European *H. coriaria* will most likely be found to be universal in these Atlantic Groups, where it occurs beneath vegetable refuse (and occasionally within the putrid stems of the *Euphorbias*) at low and intermediate altitudes. It abounds in Madeira proper; and it has been captured in all the Canarian islands except Fuerteventura

and Hierro, in both of which, however, we may be quite sure that it exists.

1295. *Homalota subcoriaria*.

Homalota subcoriaria, *Woll., Cat. Can. Col.* 546 (1864).

Habitat Canarienses (*Gom.*), in *Euphorbiâ canariensi* semel capta.

A single example of this *Homalota* was captured by myself in Gomera, of the Canarian Group, from within a putrid *Euphorbia*-stem on the hills above San Sebastian. Although I believe it to be distinct from the *coriaria*, it is closely allied to that species; and further material is greatly required in order to ascertain for certain that its various peculiarities are constant.

1296. *Homalota cacti*.

Homalota cacti, *Woll., Trans. Ent. Soc. Lond.* i. 186 (1862).

— —, *Id., Cat. Can. Col.* 547 (1864).

Habitat Canarienses (*Ten., Palma*), vel in *Cactis* putridis, vel in *Euphorbiis* degens.

Detected hitherto only in the intermediate altitudes of Teneriffe and Palma, of the Canarian Group; but it will probably be met with more generally, if searched for in the proper situations. In the former island I have taken it out of rotten *Euphorbia*-stems on the mountains above S^{ta} Cruz, and in the latter out of putrid leaves of the *Cactus opuntia* at the Banda.

1297. *Homalota putrescens*.

Homalota putrescens, *Woll., Trans. Ent. Soc. Lond.* i. 185 (1862).

— —, *Id., Cat. Can. Col.* 547 (1864).

Habitat Canarienses (*Lanz., Can., Ten., Gom.*), in *Euphorbiis* emortuis putridis hinc inde non infrequens.

Likewise Canarian, and widely (though rather sparingly) diffused over the Group. So far as observed hitherto, it seems to occur in the putrid stems of the dead *Euphorbias*; but it will most likely be met with under decaying vegetable refuse generally. I have taken it in Lanzarote, Grand Canary, and Gomera; and it was captured by the Messrs. Crotch in Teneriffe.

1298. *Homalota terricola*.

Homalota terricola, *Woll., Cat. Can. Col.* 548 (1864).

Habitat Canarienses (*Lanz., Palma*), sub quisquiliis, passim.

A few examples of this Canarian *Homalota*, which appears to be perfectly distinct from the preceding two species, were taken by myself in Lanzarote and Palma. It seems to occur under decaying vegetable refuse, and will probably be found to be pretty generally distributed over the Group.

1299. *Homalota Waterhousii*.

Homalota Waterhousii, *Woll., Cat. Can. Col.* 548 (1864).

Habitat Canarienses (*Ten., Hierro*), rarior. In editioribus præcipue occurrit, usque ad 8000' s. m. ascendens.

Rather a large species which seems to occur sparingly in the higher elevations of the Canarian Group, ascending to an altitude of about 8000 feet. I have captured it in Teneriffe (at Ycod el Alto, as well as at the Agua Mansa and on the lofty Cumbre above it); and it was found by the Messrs. Crotch both in that island and Hierro.

1300. *Homalota longicornis*.

Aleochara longicornis, *Gran., Col. Micropt.* 87 (1802).

Homalota longicornis, *Erich., Gen. et Spec. Staph.* 129 (1839).

— — —, *Woll., Ins. Mad.* 556 (1854).

— — —, *Id., Cat. Mad. Col.* 178 (1857).

Habitat Maderenses (*Mad.*), in stercore et sub quisquiliis vulgaris.

The European *H. longicornis* is common in Madeira proper, where it occurs at most elevations and principally in the dung of cattle; but as it has not yet been detected in any of the other islands, it is far from unlikely that it may have become established accidentally from more northern latitudes.

1301. *Homalota melanaria*.

Aleochara melanaria, *Sahlb., Ins. Fenn.* i. 398 (1834).

Homalota lividipennis, *Erich., Gen. et Spec. Staph.* 129 (1839).

— — —, *Woll., Ins. Mad.* 557 (1854).

— — —, *Id., Cat. Mad. Col.* 179 (1857).

— melanaria, *Id., Cat. Can. Col.* 549 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*ins. omnes*), in stercore et sub quisquiliis, ab orâ maritimâ usque ad summos montes ascendens.

Also a common European insect, and one which is very widely spread over these Atlantic Groups—where most probably it is universal. It occurs usually in the dung of cattle, but likewise under vegetable refuse generally, from the sea-level to the summits of the

mountains. It abounds in Madeira proper and Porto Santo; and it has been taken in the whole seven islands of the Canarian archipelago.

Genus 385. **OXYPODA.**

Mannerheim, *Brachél.* 69 (1831).

1302. **Oxypoda brevipennis.**

Oxypoda brevipennis, *Woll., Cat. Can. Col.* 550 (1864).

Habitat Canarienses (*Ten., Gom.*), sub foliis dejectis neonon inter muscos ad truncos arborum crescentes in sylvaticis editioribus haud infrequens.

A pale, rufo-testaceous *Oxypoda* which seems to be confined to the wooded districts of the Canarian Group—where it is locally far from uncommon at rather lofty altitudes, occurring beneath fallen leaves and amongst moss on the trunks of trees. I have captured it on the summit of the Las Mercedes range, as well as above Taganana, in Teneriffe; and a series is now before me which was taken by the Messrs. Crotch, above Hermigua, in Gomera—where they obtained it, in tolerable abundance, by sifting dead leaves and rubbish.

1303. **Oxypoda obscœna.**

Oxypoda obscœna, *Woll., Append. huj. op.* 68.

Habitat Canarienses (*Ten.*), à DD. Crotch semel tantum capta.

The single example of this species from which my diagnosis has been compiled was taken by the Messrs. Crotch in Teneriffe, during their late sojourn at the Canaries. It is closely allied to the *O. brevipennis*; but the many characters which distinguish it therefrom have been fully pointed out in the Appendix.

1304. **Oxypoda exoleta.**

Oxypoda exoleta, *Erich., Gen. et Spec. Staph.* 149 (1839).

— — —, *Kraatz, Nat. der Ins. Deutsch.* ii. 179 (1856).

— *lurida*, *Woll., Cat. Mad. Col.* 179 (1857).

— *exoleta*, *Id., Cat. Can. Col.* 549 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Can., Ten., Palma, Hierro*), late sed parce diffusa.

A European *Oxypoda* which is widely spread over these Atlantic Groups, where we may expect that it will be found to be nearly universal. It occurs at rather low and intermediate elevations; and

it has been taken in Madeira proper, as well as in all the Canarian islands except Fuerteventura and Gomera.

1305. *Oxygoda rugifrons*.

Oxygoda litigiosa, Woll. [nec Heer, 1841], *Ins. Mad.* 558 (1854).

— *rugifrons*, *Id.*, *Cat. Mad. Col.* 180 (1857).

Habitat Maderenses (*Mad.*), in stercore bovino, nisi fallor, parce lecta.

This insignificant little *Oxygoda* occurs sparingly in Madeira proper, for the most part (I believe) in the dung of cattle; but whether it be truly distinct from the whole of the European species of the *cuniculina*-type, I will not undertake to decide until further (and more satisfactory) material has been obtained.

Genus 386. ALEOCHARA.

Gravenhorst, *Col. Micropt.* 67 (1802).

1306. *Aleochara puberula*.

Aleochara puberula, Klug, *Col. Madagasc.* 51 (1833).

— —, *Erich.*, *Gen. et Spec. Staph.* 165 (1839).

— Armitagei, Woll., *Ins. Mad.* 559 (1854).

— *puberula*, *Id.*, *Cat. Mad. Col.* 180 (1857).

— —, *Id.*, *Cat. Can. Col.* 551 (1864).

Habitat Maderenses (*Mad.*, *Pto Sto*) et Canarienses (*Lanz.*, *Fuert.*, *Can.*, *Ten.*, *Gom.*), sub quisquiliis necnon in stercore, late sed vix copiose diffusa.

An *Aleochara* of Mediterranean latitudes which is widely spread over these Atlantic Groups, where most probably it is universal. It is found at low and intermediate elevations, and principally under decaying vegetable refuse—though likewise in the dung of cattle. It has been captured in Madeira proper and Porto Santo, of the Madeiran Group, and in all the Canarian islands except Palma and Hierro.

1307. *Aleochara crassiuscula*.

Aleochara crassiuscula, Sahlb., *Ins. Fenn.* i. 396 (1834).

— *fuscipes*?, Brullé [nec Grav.], in *Webb et Berth.* (*Col.*) 60 (1838).

— *tristis*, *Erich.*, *Gen. et Spec. Staph.* 162 (1839).

— —, Woll., *Ins. Mad.* 560 (1854).

— —, *Id.*, *Cat. Mad. Col.* 181 (1857).

— *crassiuscula*, *Id.*, *Cat. Can. Col.* 551 (1864).

Habitat Maderenses (*Mad.*, *Pto Sto*) et Canarienses (*ins. omnes*), in stercore vulgaris.

This common European *Aleochara* is all but universal throughout

these Atlantic Groups, where it occurs in the dung of cattle and at most elevations. It abounds in Madeira proper and Porto Santo; and I have myself taken it in the whole seven islands of the Canarian archipelago. I met with it also at Mogadore, on the opposite coast of Africa.

1308. *Aleochara littoralis*.

Aleochara littoralis, *Woll., Cat. Can. Col.* 552 (1864).

Habitat Canarienses (*Lanz.*), in arenosis maritimis, sub putridis.

Found along the sandy sea-shores in Lanzarote, of the Canarian Group, where it occurs sparingly beneath putrid substances. It was taken by Mr. Gray and myself near Arrecife, and subsequently by myself at Berrugo (in the extreme south of that island). It is closely allied to the European *A. grisea*, of which indeed it is just possible that it may be but a geographical state.

1309. *Aleochara funebris*.

Aleochara funebris, *Woll., Cat. Can. Col.* 553 (1864).

Habitat Canarienses (*Ten., Gom., Palma, Hierro*), sub quisquilliis, passim.

Widely diffused over the Canarian Group, though nowhere common, occurring for the most part beneath decaying vegetable refuse. I have taken it in Teneriffe and Palma; and it was found by the Messrs. Crotch in Gomera and Hierro.

In the elongate suberect pubescence with which it is thickly clothed, as well as in the slightly ænescent tinge of its head, prothorax, and (very densely sculptured) elytra, the present *Aleochara* has much in common with the European *A. lanuginosa*; but in its sparingly punctured abdomen, and the more diluted hue of its legs and the base of its antennæ, it better accords with the *mæsta*; so that whilst agreeing with neither of those species, it would appear in *some* respects to combine the characters of them both. Of the two, however, I think perhaps that it is more allied to the latter than to the former.

1310. *Aleochara mæsta*.

Aleochara mæsta, *Grav., Col. Micropt.* 96 (1802).

— — —, *Erich., Gen. et Spec. Staph.* 170 (1839).

— — —, *Kraatz, Nat. der Ins. Deutsch.* ii. 99 (1856).

— — —, *Woll., Cat. Mad. Col.* 181 (1857).

Habitat Maderenses (*Mad.*), hactenus semel deprehensa.

A single Atlantic example only of this species, which was identified by Dr. Kraatz with the common European *A. mœsta*, has yet come beneath my notice. It was taken by myself (during 1855), in the Ribeira de S^{ta} Luzia of Madeira proper. It differs from the Canarian *A. funebris* in its head, prothorax, and (more depressed) elytra being of an *intense* black (and therefore totally free from the subænescent tinge which is more or less conspicuous in that insect), as also a little less closely and less coarsely punctured, and not quite so thickly pubescent, and in its antennæ being just appreciably longer.

1311. *Aleochara nitida*.

- Aleochara nitida*, Grav., *Col. Micropt.* 97 (1802).
 ———, *Erich., Gen. et Spec. Staph.* 168 (1839).
 ———, *Woll., Ins. Mad.* 560 (1854).
 ———, *Id., Cat. Mad. Col.* 182 (1857).
 ———, *Id., Cat. Can. Col.* 553 (1864).

Habitat Maderenses (*Mad., P^{to} S^{to}, Des.*) et Canarienses (ins. *omnes*), in stereore, sub quisquiliis necnon etiam in aquosis, ab orâ maritimâ usque ad summos montes ascendens.

There is scarcely any Coleopterous insect more generally diffused over these Atlantic Groups than the common European *A. nitida*, which we may feel pretty sure is absolutely universal. I have myself taken it in all the Madeiran islands except the northern and southern Desertas, as well as in the whole seven of the Canarian archipelago; and it is probably due to the fact of its being so easily transported by human agencies that it has acquired so wide a range. It occurs in the dung of cattle, under decaying vegetable refuse, and even beneath stones in damp spots; and it would appear, moreover, to be independent of elevation. It is abundant at Mogadore, on the opposite coast of Africa.

1312. *Aleochara binotata*.

- Aleochara binotata*, *Kraatz, Nat. der Ins. Deutsch.* ii. 106 (1856).
 ———, *Woll., Cat. Mad. Col.* 182 (1857).
 ———, *Id., Cat. Can. Col.* 554 (1864).

Habitat Maderenses (*P^{to} S^{to}*) et Canarienses (*Lanz., Fuert., Can., Gom.*), in locis similibus ac præcedens, et forsan ejus mera varietas depauperata.

Examples which agree with the European *A. binotata* of Kraatz were taken by myself in Porto Santo, of the Madeiran Group, in company with the *A. nitida*—from which they are barely separable; and I have captured others in Lanzarote, Fuerteventura, Grand

Canary, and Gomera, of the Canarian archipelago. Had not my Porto-Santan individuals been actually determined by Dr. Kraatz, I should not have ventured to regard them as the exponents of more than a small and rather strongly punctured state of *nitida*—consequent perhaps on the dry and calcareous nature of the region in which they had been matured,—a conclusion which would have been quite in accordance with the additional fact that the *most typical* of the Canarian examples are from the eastern islands of the Group, which are even more arid than Porto Santo. Still, since the two are kept apart in the European Catalogues, I will not amalgamate them; though I must confess myself far from satisfied that they are specifically distinct.

1313. *Aleochara morion*.

- Aleochara morion*, Grav., Col. *Micropt.* 97 (1802).
 ———, Erich., Gen. et Spec. *Staph.* 175 (1839).
 ———, Woll., Ins. *Mad.* 561 (1854).
 ———, Id., Cat. *Mad. Col.* 183 (1857).
 ———, Id., Cat. *Can. Col.* 554 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*, *Gom.*, *Palma*), in stercore minus frequens.

Likewise a European *Aleochara*, and one which is found sparingly in these Atlantic islands—occurring in the dung of cattle, for the most part at intermediate elevations. It has been taken in Madeira proper; as also in Teneriffe, Gomera, and Palma, of the Canarian Group.

Genus 387. OLIGOTA.

Mannerheim, *Brachél.* 72 (1831).

1314. *Oligota castanea*.

Oligota castanea, Woll., Cat. *Can. Col.* 555 (1864).

Habitat Canarienses (*Ten.*, *Gom.*, *Palma*), sub foliis dejectis in intermediis.

Found in the sylvan districts of the Canarian Group, where it occurs beneath fallen leaves and other vegetable refuse at intermediate altitudes. It has been captured in Teneriffe, Gomera, and Palma.

1315. *Oligota inflata*.

- Microcera inflata*, Mann., *Brachél.* 72 (1831).
Oligota subtilis, Erich., Gen. et Spec. *Staph.* 180 (1839).

Oligota inflata, *Woll., Ins. Mad.* 562 (1854).

— —, *Id., Cat. Mad. Col.* 184 (1857).

— —, *Id., Cat. Can. Col.* 555 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Ten., Gom.*), sub quisquiliis, necnon sub recremento ad basin acervorum fœni et tritici sparso.

The European *O. inflata* seems to be widely spread over these islands, where it occurs beneath vegetable refuse and under rubbish around the base of hay- and corn-stacks. It has been taken in Madeira proper; as well as in Lanzarote, Teneriffe, and Gomera, of the Canarian Group. Some of the Madeiran examples now before me, from the collection of the late Mr. Bewicke, might almost be referred to the preceding species; nevertheless I suspect that they are but highly-coloured ones (in which the elytra are rufescent, and the apex of the abdomen brightly testaceous) of the *O. inflata*.

1316. *Oligota pusillima*.

Aleochara pusillima, *Grav., Col. Micropt.* 175 (1802).

Oligota pusillima, *Mann., Brachél.* 72 (1831).

— —, *Erich., Gen. et Spec. Staph.* 179 (1839).

— —, *Woll., Cat. Mad. Col.* 183 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus in graminosis subinferioribus, passim.

Not uncommon at rather low and intermediate elevations in Madeira proper, where it occurs for the most part beneath stones and scoræ in open grassy spots. It is the smallest of the three *Oligotas* here enumerated, and I believe that it is correctly referred to the European *O. pusillima*.

(Subfam. II. TACHYPORIDES.)

Genus 388. **SOMATIUM.**

Wollaston, *Ins. Mad.* 563 (1854).

1317. *Somatium anale*.

Somatium anale, *Woll., Ins. Mad.* 563, tab. xiii. f. 5 (1854).

— —, *Id., Cat. Mad. Col.* 184 (1857).

Habitat Maderenses (*Mad.*), rarissimum; plerumque fungos in humidis lauretis editioribus parce colens.

Confined apparently to the damp sylvan regions of Madeira proper, where it is extremely rare and occurs normally in *fungi*. It is

occasionally to be met with however beneath the putrid bark of trees, where doubtless minute Cryptogams are more or less present.

Genus 389. **HYPOCYPTUS.**

Mannerheim, *Brachél.* 58 [script. *Hypocyptus*] (1831).

1318. **Hypocyptus reductus.**

Hypocyptus reductus, *Woll., Ann. Nat. Hist.* vi. 52 (1860).

— —, *Id., Append. huj. op.* 69.

Habitat Maderenses (*Mad.*), in urbe ipsâ Funchalensi semel repertus.

The only example which I have seen of this *Hypocyptus* was taken by myself in Madeira proper—in the garden of the American Consulate, in the very centre of Funchal. It is remarkable for the concolorous apex of its abdomen, and for having its antennæ somewhat slenderer and less clubbed than is the case in the ordinary *Hypocypti*—the terminal joint being a little shorter and more obtuse.

Genus 390. **CONOSOMA.**

Kraatz, *Nat. der Ins. Deutsch.* ii. 431 (1856).

1319. **Conosoma pubescens.**

Staphylinus pubescens, *Payk., Mon. Carab. App.* 138 (1790).

Conurus pubescens, *Woll., Ins. Mad.* 565 (1854).

Conosoma pubescens, *Kraatz, Nat. der Ins. Deutsch.* ii. 435 (1856).

Conurus pubescens, *Woll., Cat. Mad. Col.* 184 (1857).

Conosoma pubescens, *Id., Cat. Can. Col.* 556 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom., Palma, Hierro*), sub ligno putrido foliisque dejectis, præsertim in pinetis subeditioribus, occurrens.

This common European insect is widely spread over these Atlantic islands, where it occurs (beneath damp rotting wood, stones, and fallen leaves) within the sylvan districts—especially in the pine-forests—at intermediate and rather lofty elevations. In Madeira proper, although extremely local, it is far from scarce. At the Canaries I myself met with it only in Palma; but the Messrs. Crotch took it (in the Pinal above Ycod el Alto) in Teneriffe, Gomera, and Hierro.

1320. **Conosoma pedicularium.**

Tachyporus pedicularius, *Grav., Col. Micropt.* 133 (1802).

Conurus pedicularius, *Erich., Gen. et Spec. Staph.* 230 (1839).

— —, *Woll., Ins. Mad.* 565 (1854).

Conurus pedicularius, *Woll., Cat. Mad. Col.* 184 (1857).

Conosoma lividum, *Id.* [an *Kraatz?* an *Erich.?*], *Cat. Can. Col.* 556 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (in *Hierro* solâ haud detectum), in locis subsimilibus ac præcedens sed etiam latius diffusum.

Likewise European, and still more widely spread over these Atlantic Groups than even the *C. pubescens*—occurring at most elevations and under various circumstances, though perhaps more abundant in the pine-woods of intermediate altitudes than elsewhere. I have taken it in Madeira proper and Porto Santo—as well as in Lanzarote, Fuerteventura, Grand Canary, Teneriffe, and Palma, of the Canarian archipelago; and therefore, since the Messrs. Crotch met with it in Gomera, there can be little doubt that it is universal in the Canaries,—Hierro being the only island of the seven in which it does not happen to have been observed.

The *C. pedicularium* is very inconstant in hue—being sometimes of a dark brownish-black, and at others pale-ferruginous or almost rufo-testaceous; and it was examples which fell under the latter category that I had chiefly inspected when compiling my late Canarian Catalogue—a circumstance which induced me to cite the species as the *C. lividum*, of Erichson. Whether these pale individuals are truly referable to the European *lividum* I will not undertake to decide; but since I am quite convinced that they do not differ specifically from the darker ones, it follows that *in any case* the Atlantic insect must be cited as the *pedicularium*—that name being prior in publication*.

1321. *Conosoma monticola*.

Conurus monticola, *Woll., Ins. Mad.* 566 (1854).

— — —, *Id., Cat. Mad. Col.* 185 (1857).

Habitat Maderenses (*Mad.*), rarissimum; sub quisquiliis in sylvaticis humidis editioribus.

Found at a high elevation in Madeira proper, principally towards the upper limits of the sylvan districts, where it would appear to be extremely rare. It is very nearly allied to the *C. pedicularium*, but

* In my Canarian Catalogue I mentioned that a few of the darker examples of the *C. lividum* (as there understood) “might almost pass for the *fuscum* of Erichson.” I should however, rather, have said “for the *pedicularium*,”—the *fuscum* being a totally distinct species, and one which is larger, less shining, and less black than the *pedicularium*, with its elytra and limbs longer, its intermediate antennal joints more or less infuscated, and its feet very considerably more elongate (the posterior ones exceeding the tibiæ in length).

I believe that it is truly distinct; though further material is much required, in order to ascertain this positively. It seems to be more piceous and shining than that insect, and less evidently sculptured (or shagreened) when viewed beneath the microscope; its elytra and antennæ are a little longer; and its head and prothorax are frequently (though not always) brightly rufo-testaceous. From the European *C. fusculum* its totally pallid antennæ and comparatively short feet will, apart from minor differences, at once separate it.

Genus 391. **TACHYPORUS.**

Gravenhorst, *Col. Micropt.* 124 (1802).

1322. **Tachyporus pusillus.**

Tachyporus pusillus, *Grav.*, *Mon.* 9 (1806).

— *celer*, *Woll.*, *Ins. Mad.* 567 (1854).

— —, *Id.*, *Cat. Mad. Col.* 185 (1857).

— *pusillus*, *Id.*, *Cat. Can. Col.* 557 (1864).

— *marginatus*, *Hart.* [nec *Fab.*], *Geolog. Ver. Lanz. und Fuert.* 140.

Habitat Maderenses (*Mad.*) et Canarienses (ins. *omnes*), plerumque in intermediis.

The European *T. pusillus*, though nowhere abundant, is widely spread over these Atlantic Groups—occurring beneath stones and vegetable refuse, at intermediate elevations. It is found sparingly in Madeira proper, for the most part within the sylvan districts; and I have myself captured it in all the Canarian islands, except Palma, where however it was met with by Mr. Gray. Although *unmistakeably* separable from that species, its larger size, broader outline, and darker hue seem nevertheless to be the only characters which distinguish it from the *T. brunneus*.

1323. **Tachyporus brunneus.**

Oxyporus brunneus, *Fab.*, *Ent. Syst.* i. ii. 535 (1792).

Tachyporus brunneus, *Woll.*, *Ins. Mad.* 568 (1854).

— —, *Id.*, *Cat. Mad. Col.* 185 (1857).

— —, *Id.*, *Cat., Can. Col.* 557 (1864).

Habitat Maderenses (in *Ilheo Chão* solâ haud observatus) et Canarienses (in *Fuert.* solâ adhuc non captus), vulgaris.

There is scarcely any insect more widely diffused over these Atlantic Groups than this common European *Tachyporus*. Indeed we may be pretty sure that it is quite universal; for it has already been captured in the whole of the Madeiran islands except the northern Deserta (or Ilheo Chão), and in all the Canarian ones except Fuerteventura; in both of which, however, it must doubtless exist.

Genus 392. **HABROCERUS.**Erichson, *Käf. der Mark Brand.* i. 400 (1839).1324. **Habrocerus capillaricornis.**Tachyporus capillaricornis, *Grav., Mon.* 10 (1806).Habrocerus capillaricornis, *Woll., Ins. Mad.* 570 (1854).— —, *Id., Cat. Mad. Col.* 185 (1857).— —, *Id., Cat. Can. Col.* 557 (1864).*Habitat* Maderenses (*Mad.*) et Canarienses (*Gom., Hierro*), in sylvaticis intermediis sub quisquiliis degens.

A European insect which appears to be widely spread over the sylvan districts of these Atlantic Groups—where it occurs, beneath leaves and other vegetable refuse, principally in damp spots of intermediate altitudes. It abounds in the laurel-regions of Madeira proper; but of the Canaries, Hierro is the only island in which I have myself taken it. The Messrs. Crotch however met with it in Gomera, where they report it to be exceedingly common on the wooded mountains above Hermigua.

Genus 393. **LEUCOPARYPHUS.**Kraatz, *Nat. der Ins. Deutsch.* ii. 393 (1857).1325. **Leucoparyphus silphoides.**Staphylinus Silphoides, *Linn., Syst. Nat.* i. ii. 684 (1767).Tachinus Silphoides, *Erich., Gen. et Spec. Staph.* 245 (1839).— —, *Woll., Ins. Mad.* 570 (1854).— —, *Id., Cat. Mad. Col.* 185 (1857).Leucoparyphus silphoides, *Kraatz, loc. cit.* 395 (1857).*Habitat* Maderenses (*Mad.*), stercore bovino et equino præcipue in cultis inferioribus delectans.

The *L. silphoides*, so abundant throughout Europe, occurs sparingly in Madeira proper—principally in the dung of cattle, and at low elevations; but it has not yet been detected in any of the other islands.

Genus 394. **TRICHOPHYA.**Mannerheim, *Brachél.* 73 (1831).1326. **Trichophya pilicornis.**Aleochara pilicornis, *Gyll., Ins. Suec.* ii. 417 (1810).Trichophya Huttoni, *Woll., Ins. Mad.* 572, tab. xiii. f. 6 (1854).— —, *Id., Cat. Mad. Col.* 186 (1857).— pilicornis, *Id., Cat. Can. Col.* 558 (1864).*Habitat* Maderenses (*Mad.*) et Canarienses (*Ten., Gom., Palma, Hierro*), in intermediis sylvaticis rarissima.

After a more careful inspection of the Madeiran *T. Huttoni*, I believe that it cannot be regarded as otherwise than a rather large geographical state of the *pilicornis*: and I am the more convinced of this, now that I have had Canarian specimens to examine likewise; for *they* also seem to be (on the average) a little larger than the ordinary type, though not so large as the Madeiran ones—being, in point of fact, about intermediate between the two. Hence I have no hesitation in suppressing the *T. Huttoni*, and will merely call attention to the circumstance that the Atlantic individuals are somewhat more developed in stature than is usually the case with those from higher latitudes.

The *T. pilicornis* may consequently be said to be widely distributed, though very sparingly so, throughout these islands—where it occurs in the damp sylvan districts of intermediate altitudes. I have taken it in the north of Madeira proper; as well as in Teneriffe, Palma, and Hierro, of the Canarian Group. In Teneriffe it was met with likewise by the Messrs. Crotch—"amongst refuse, around Ycod el Alto;" who also captured a few examples of it in Gomera.

Genus 395. **MYCETOPORUS.**

Mannerheim, *Brachél.* 62 (1831).

1327. **Mycetoporus monilicornis.**

Mycetoporus monilicornis, *Woll., Cat. Can. Col.* 559 (1864).
— —, *Id., Append. huj. op.* 69.

Habitat Canarienses (*Ten., Gom.*), in intermediis et præcipue editioribus occurrens.

A narrow Canarian *Mycetoporus* which has been captured hitherto in the intermediate and lofty elevations of Teneriffe and Gomera, in both of which it was found by the Messrs. Crotch. Although constant in its numerous other characters, its elytra seem to vary in colour—being in Gomera (if I may judge from the examples now before me) immaculate and nearly concolorous with the rufotestaceous head and prothorax, whilst in Teneriffe they are more or less obscured and are often almost black.

This last-mentioned peculiarity obtains at any rate in a series which was taken by the Messrs. Crotch in the Pinal above Ycod el Alto; but it is to be remarked that the example (which was likewise Teneriffan, and *then* unique) from which I drew up my original diagnosis, and which was found by Dr. Crotch (*I believe*) on the

lofty Cumbre adjoining the Cañadas, had its elytra as pale as the Gomeran ones. And it is possible therefore, unless indeed that particular individual happened to be immature (and, so, unnaturally pale), that the specimens from the *very* elevated regions of Teneriffe may perhaps resemble the Gomeran ones in hue, and that merely those from the Pinal have their elytra more or less darkened.

1328. *Mycetoporus Johnsoni*.

Mycetoporus pronus, var. β , *Woll., Ins. Mad.* 573 (1854).

— — —, *Id., Cat. Mad. Col.* 186 (1857).

— *Johnsoni*, *Id., Ann. Nat. Hist.* vi. 52 (1860).

— — —, *Id., Append. huj. op.* 70.

Habitat Maderenses (*Mad.*), in sylvaticis editioribus, sub truncis arborum prolapsis corticeque laxo putrido, sat rarus.

Occurs sparingly in the sylvan districts of Madeira proper, at intermediate and rather lofty elevations, where it is found beneath logs of wood and under the moist putrid bark of trees. The characters which separate it from the *M. pronus*, of which I formerly regarded it as a mere depauperated state, have been fully alluded to in the Appendix.

1329. *Mycetoporus pronus*.

Mycetoporus pronus, *Erich., Käf. der Mark Brand.* i. 414 (1839).

— — —, *Id., Gen. et Spec. Staph.* 285 (1839).

— — —, *Woll., Ins. Mad.* 573 (1854).

— — —, *Id., Cat. Mad. Col.* 186 (1857).

Habitat Maderenses (*Mad.*), in locis similibus ac præcedens.

The European *M. pronus* (for I cannot detect any real difference between the Madeiran examples and those from more northern countries) is found in exactly the same kind of places as the last species, within the wooded districts of Madeira proper. It appears to be exceedingly rare, and has not yet been observed in any of the other islands.

1330. *Mycetoporus rufus*.

Mycetoporus rufus, *Woll., Cat. Can. Col.* 558 (1864).

Habitat Canarienses (*Ten., Gom.*), in inferioribus intermediisque rarior.

This large and beautiful *Mycetoporus* has been captured hitherto only in Teneriffe and Gomera, of the Canarian Group, where it occurs very sparingly at low and intermediate altitudes.

1331. **Mycetoporus adumbratus.**

Mycetoporus adumbratus, *Woll., Append. huj. op.* 71.

Habitat Canarienses (*Ten.*), à DD. Crotch semel repertus.

Hitherto unique, a single specimen having been found by the Messrs. Crotch in Teneriffe—in the Pinal above Ycod el Alto. As stated in the Appendix, it is closely allied to the *M. solidicornis*—from which it differs however in the greater portion of its prothorax and elytra being black (instead of rufo-testaceous), in its four prothoracic punctures being further removed from the anterior margin, and in its antennæ being a little less abbreviated.

1332. **Mycetoporus solidicornis.**

Mycetoporus solidicornis, *Woll., Cat. Can. Col.* 559 (1864).

Habitat Canarienses (*Can.*), in intermediis parcissime lectus.

The only two examples which I have yet seen of this species were taken by myself, in the region of El Monte, in Grand Canary.

1333. **Mycetoporus discoideus.**

Mycetoporus discoideus, *Woll., Append. huj. op.* 71.

Habitat Canarienses (*Ten.*), à DD. Crotch semel deprehensus.

As stated in the Appendix, a single specimen of this *Mycetoporus* was captured in Teneriffe by the Messrs. Crotch—during their late Canarian campaign—having been found, I believe, near Ycod el Alto. It is far from unlikely that future material may prove it to be conspecific with the *M. solidicornis*,—from which it seems to differ principally in its larger bulk, and in the infuscated portion of its elytra being more expressed, and more concentrated into a darkish patch on the hinder disk of each. And I think it very probable that when further examples have been obtained, these differences of size and colour will be found insufficient for upholding the *discoideus* as distinct from the *solidicornis*.

Genus 396. **BOLITOBIVS.**

(Leach) Steph., *Ill. Brit. Ent.* v. 171 (1832).

1334. **Bolitobius luridus.**

Bolitobius luridus, *Woll., Cat. Can. Col.* 560 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis intermediis rarissimus.

The few specimens which I have yet seen of this Canarian *Bolitobius* were captured by myself in the laurel-districts of Teneriffe—namely, at the Agua Garcia and on the wooded mountains above Taganana.

1335. **Bolitobius filicornis.**

Bolitobius filicornis, *Woll., Cat. Can. Col.* 560 (1854).

Habitat Canarienses (*Can., Ten., Hierro*), in sylvaticis subsylvaticisque intermediis parcissime lectus.

Likewise a Canarian species, and one which (although evidently rare) will probably be found to be widely spread over the sylvan and subsylvan districts of the Group. It has been taken in Grand Canary, Teneriffe, and Hierro.

(Subfam. III. QUEDIIDES.)

Genus 397. **EURYPORUS.**

Erichson, *Käf. der Mark Brand.* i. 496 (1839).

1336. **Euryporus princeps.**

Euryporus princeps, *Woll., Cat. Can. Col.* 561 (1864).

Habitat Canarienses (*Can.*), rarissimus. Sub lapide ad marginem rivuli cujusdam parvi prope oppidum Teror exemplar unicum cepi.

A noble Staphylinid of which I have seen hitherto but a single example. It was taken by myself, during April 1858, in Grand Canary—under a wet stone at the edge of the small river at Teror, in the intermediate elevations of that island.

Genus 398. **HETEROTHOPS.**

(Kirby) Steph., *Ill. Brit. Ent.* v. 256 (1832).

1337. **Heterothops minutus.**

Heterothops minutus, *Woll., Ann. Nat. Hist.* vi. 53 (1860).
— — —, *Id., Cat. Can. Col.* 562 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (ins. *omnes*), sub quicquiliis in inferioribus sed præcipue intermediis parum vulgaris.

Somewhat allied to the European *H. dissimilis*, though certainly distinct from it. It is very widely spread over these Atlantic Groups, where in all probability it is nearly universal—occurring

beneath stones and vegetable refuse, for the most part at intermediate elevations. It is tolerably common around (and above) Funchal, in Madeira proper; and it has been taken in the whole seven islands of the Canarian archipelago. However it is not peculiar to the islands, for I met with it at Mogadore on the opposite coast of Africa.

Genus 399. **QUEDIUS.**

(Leach) Steph., *Ill. Brit. Ent.* v. 215 (1832).

§ I. *Oculi minores. Antennæ pedesque robusta, tarsi anticis latissime dilatatis.*

1338. **Quedius angustifrons.**

Quedius angustifrons, Woll., *Cat. Can. Col.* 563 (1864).

Habitat Canarienses (*Can., Gom.*), in sylvaticis subsylvaticisque intermediis rarissimus.

A Canarian *Quedius* which appears to be extremely rare, occurring in damp spots of intermediate altitudes. Hitherto it has been taken only in Grand Canary and Gomera.

1339. **Quedius fulgidus.**

Staphylinus fulgidus, Fab., *Mant. Ins.* i. 220 (1787).

Quedius fulgidus, Erich., *Gen. et Spec. Staph.* 525 (1839).

— —, Kraatz, *Nat. der Ins. Deutsch.* ii. 492 (1856).

— —, Woll., *Cat. Can. Col.* 563 (1864).

Habitat Canarienses (*Ten., Gom.*), in intermediis rarissimus.

The European *Q. fulgidus* occurs very sparingly at the Canaries, having been taken in the intermediate districts of Teneriffe and Gomera. In the former island, I met with it in the laurel-woods at Las Mercedes; and it was captured by the Messrs. Crotch in the Pinal above Ycod el Alto.

§ II. *Oculi maximi, prominentes. Antennæ pedesque graciliora, tarsi anticis multo minus dilatatis.* (*Raphirus*, Steph.)

1340. **Quedius megalops.**

Quedius megalops, Woll., *Cat. Can. Col.* 564 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma, Hierro*), sub quibuslibet in intermediis præsertim sylvaticis, late sed parce diffusus.

Widely though sparingly diffused over the intermediate altitudes of the Canarian Group, where it occurs beneath vegetable refuse

both in sylvan and subsylvan spots. It has been taken in Grand Canary, Teneriffe, Gomera (by the Messrs. Crotch), Palma, and Hierro.

(Subfam. IV. STAPHYLINIDES).

Genus 400. **CREOPHILUS.**

(Kirby) Steph., *Ill. Brit. Ent.* v. 202 (1832).

1341. **Creophilus maxillosus.**

Staphylinus maxillosus, *Linn., Syst. Nat.* 421 (1758).

— —, *Brullé, in Webb et Berth. (Col.)* 60 (1838).

— —, *Woll., Ins. Mad.* 579 (1854).

— —, *Id., Cat. Mad. Col.* 188 (1857).

Creophilus maxillosus, *Id., Cat. Can. Col.* 564 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*Fuert., Ten., Gom.*), putrida quisquiliisque in inferioribus colens; forsân ex Europâ introductus.

This common European insect is widely spread over these islands—where it occurs chiefly (amongst putrid substances, whether animal or vegetable) in the lower districts near the towns, and where most likely it has been established from more northern latitudes. It has been taken in Madeira proper and Porto Santo, as well as in Fuerteventura, Teneriffe, and Gomera. In the last-mentioned island, the Messrs. Crotch met with it rather abundantly “under dead silk-worms.”

Genus 401. **OCYPUS.**

(Kirby) Steph., *Ill. Brit. Ent.* v. 211 (1832).

1342. **Ocypus olens.**

Staphylinus olens, *Müll., Faun. Fridr.* 23 (1767).

— —, *Brullé, in Webb et Berth. (Col.)* 59 (1838).

Ocypus olens, *Erich., Gen. et Spec. Staph.* 405 (1839).

— —, *Woll., Cat. Can. Col.* 564 (1864).

Habitat Canarienses (ins. omnes), in inferioribus intermediisque sat vulgaris.

It is somewhat singular that this common European insect should be quite universal in the Canaries, and yet absent from the Madeiran Group. I have myself captured it in all the islands of the former except Gomera, where however it was found by Dr. Crotch. It occurs for the most part at rather low, but occasionally at intermediate, altitudes.

1343. *Ocypus brachypterus*.

Staphylinus brachypterus, *Brullé*, in *Webb et Berth.* (*Col.*) 59 (1838).
Ocypus brachypterus, *Woll.*, *Cat. Can. Col.* 565 (1864).

Habitat Canarienses (*Ten.*), hinc inde in sylvaticis editoribus.

A large Canarian *Ocypus* which has been observed hitherto only in Teneriffe, where it occurs in the sylvan districts of intermediate and lofty elevations. It is totally distinct from the European species which has usually been referred to M. Brullé's *brachypterus*.

1344. *Ocypus affinis*.

Ocypus affinis, *Woll.*, *Cat. Can. Col.* 566 (1864).

Habitat Canarienses (*Ten.?*, *Palma*), in locis similibus ac præcedens.

Also Canarian; and found in much the same kind of places as the last species; though I have myself met with it only in the island of Palma. I possess a single example, however, from the collection of M. Hartung, which was labelled "Teneriffe;" and as it differs a little (chiefly in colour) from my Palman types, I am inclined to suspect that its professed *habitat* is probably correct. The *O. affinis* is a little smaller and narrower than the *brachypterus*, and its punctation is stronger and less dense; its head is convexer and rather less developed, its central prothoracic line is less conspicuous, its elytra are not quite so abbreviated, and its limbs are of a clearer hue.

1345. *Ocypus umbricola*.

Ocypus umbricola, *Woll.*, *Cat. Can. Col.* 566 (1864).

Habitat Canarienses (*Ten.*), in sylvaticis editoribus parce occurrens.

Likewise a Canarian species, and observed hitherto only in the sylvan districts of Teneriffe—where it occurs sparingly at intermediate and lofty altitudes. It is found both in the laurel-woods and in the Pinals, but is more partial to the former than to the latter.

1346. *Ocypus curtipennis*.

Ocypus curtipennis, *Woll.*, *Cat. Can. Col.* 567 (1864).

Habitat Canarienses (*Can.*), in sylvaticis subsylvaticisque deprehensus.

Taken by myself in the intermediate elevations of Grand Canary, both in the region of El Monte and in the laurel-district between Osorio and Guia.

1347. *Ocypus sylvaticus*.

Ocypus sylvaticus, *Woll., Append. huj. op.* 72.

Habitat Canarienses (*Gom.*), in montibus sylvaticis supra oppidulum Hermigua à DD. Crotch repertus.

Peculiar apparently to the sylvan districts of Gomera—where it was taken by the Messrs. Crotch, during their late Canarian campaign, on the mountains above Hermigua.

1348. *Ocypus atratus*.

Ocypus atratus, *Woll., Cat. Can. Col.* 567 (1864).

Habitat Canarienses (*Lanz., Fuert.*), hinc inde sub lapidibus.

Detected hitherto only in Lanzarote and Fuerteventura, the two eastern islands of the Canarian Group, where it occurs sparingly beneath stones and refuse. In the former it was taken by Mr. Gray, and in the latter by myself and M. Hartung. It has much the *primâ facie* appearance of the European *O. ater*; but apart from the minor distinctions which have been pointed out in my Canarian Catalogue, its mandibles are *simple* internally.

1349. *Ocypus subænescens*.

Staphylinus fuscatus?, *Br. [nec Grav.], in Webb et Ber. (Col.)* 60 (1838).
Ocypus subænescens, *Woll., Cat. Can. Col.* 567 (1864).

Habitat Canarienses (*Can., Ten., Hierro*), ab orâ maritimâ usque ad 6000' s. m. ascendens.

A Canarian *Ocypus* which most likely will be found to be universal throughout the central and western islands of the Group, where it would appear to take the place of the Lanzarotan and Fuerteventuran *O. punctatissimus*. Nevertheless it has been observed as yet only in Grand Canary, Teneriffe, and Hierro. It is independent of elevation; for in Teneriffe I have met with it from the sea-level to an altitude of about 6000 feet.

1350. *Ocypus punctatissimus*.

Ocypus punctatissimus, *Woll., Cat. Can. Col.* 568 (1864).

Habitat Canarienses (*Lanz., Fuert.*), sub lapidibus, passim.

Universal, but not very abundant, throughout Lanzarote and Fuerteventura, the two eastern islands of the Canarian archipelago—where it occurs, beneath stones and refuse, at most altitudes. It

is extremely near to the European *O. cupreus*, of which I feel very doubtful whether it is more than a geographical modification.

Genus 402. **PHILONTHUS.**

(Leach) Steph., *Ill. Brit. Ent.* v. 226 (1832).

§ I. *Prothoracis seriebus dorsalibus e punctis 4 compositis.*

1351. **Philonthus æneus.**

Staphylinus æneus, Rossi, *Fna Etrusc.* i. 249 (1790).

Philonthus æneus, Erich., *Gen. et Spec. Staph.* 437 (1839).

— —, Woll., *Ins. Mad.* 580 (1854).

— —, *Id.*, *Cat. Mad. Col.* 188 (1857).

Habitat Maderenses (*Mad.*) et Salvages (*ins. majorem, borealem*), sat rarus.

This common European (indeed almost cosmopolitan) *Philonthus* occurs sparingly in Madeira proper, at most elevations; and a single example has been communicated by the Barão do Castello de Paiva, which he received from the Great Salvage. Like many of the *Philonthi*, it is an insect easy of transportation (in various ways) by human agency; and I have little doubt, therefore, that it has become established in these islands from more northern latitudes.

1352. **Philonthus umbratilis.**

Staphylinus umbratilis, Grav., *Col. Micropt.* 170 (1802).

Philonthus umbratilis, Woll., *Ins. Mad.* 581 (1854).

— —, *Id.*, *Cat. Mad. Col.* 189 (1857).

— —, *Id.*, *Cat. Can. Col.* 569 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), in humidis rarissimus.

Likewise a European *Philonthus*, and one which is found very sparingly both in the Madeiran and Canarian Groups. I have taken it in damp places, at low and intermediate elevations, in Madeira proper; and I also met with a single example of it, near S^{ta} Cruz, in Teneriffe.

1353. **Philonthus varius.**

Staphylinus varius, Gyll., *Ins. Succ.* ii. 321 (1810).

— —, Mann., *Brachél.* 28 (1831).

Philonthus varius, Erich., *Gen. et Spec. Staph.* 447 (1839).

— —, Kraatz, *Nat. der Ins. Deutsch.* ii. 583 (1856).

Habitat Canarienses (*Ten.*), à DD. Crotch semel deprehensus.

A single example of the European *P. varius* was taken by the

Messrs. Crotch in Teneriffe, during their late Canarian campaign; but it is the only one that I have yet seen from these Atlantic islands.

1354. *Philonthus sordidus*.

Staphylinus sordidus, Grav., Col. *Micropt.* 176 (1802).

Philonthus sordidus, Woll., *Ins. Mad.* 582 (1854).

— —, *Id.*, *Cat. Mad. Col.* 189 (1857).

— —, *Id.*, *Cat. Can. Col.* 569 (1864).

Habitat Maderenses (*Mad.*, *Des.*) et Canarienses (*Lanz.*, *Fuert.*, *Ten.*, *Palma*, *Hierro*), hinc inde sub quisquiliis.

Also a European species, and one which is sparingly (though very widely) distributed over these islands. I have taken it in Madeira proper and the Deserta Grande, of the Madeiran Group; as well as in Lanzarote, Fuerteventura, Teneriffe, and Palma, of the Canarian; and it was found in Hierro by the Messrs. Crotch.

1355. *Philonthus xantholoma*.

Staphylinus xantholoma, Grav., *Mon.* 41 (1806).

Cafius xantholoma, Steph., *Ill. Brit. Ent.* v. 246 (1832).

Philonthus xantholoma, Erich., *Gen. et Spec. Staph.* 452 (1839).

— —, *Woll.*, *Cat. Can. Col.* 570 (1864).

Habitat Canarienses (*Lanz.*, *Fuert.*, *Can.*), per oras arenosas maritimas sub fucis et rejectamentis parum vulgaris.

Rather abundant along the sandy sea-shores in the eastern parts of the Canarian archipelago, where (as in more northern latitudes) it occurs beneath *fuci* and other marine *rejectamenta*; but it has not yet been observed in the Madeiran Group, though I met with it commonly at Mogadore on the opposite coast of Morocco. It has been taken in Lanzarote, Fuerteventura, and Grand Canary.

1356. *Philonthus thermarum*.

Philonthus thermarum, Aubé, *Ann. de la Soc. Ent. de Fr.* 316 (1850).

— *exilis*, Kraatz, in *Stett. Ent. Zeit.* xii. 292 (1851).

— *thermarum*, *Id.*, *Nat. der Ins. Deutsch.* ii. 608 (1856).

— —, *Woll.*, *Ann. Nat. Hist.* vi. 102 (1860).

Habitat Maderenses (*Mad.*), sub quisquiliis in inferioribus parce lectus.

I have taken this little European *Philonthus*, though very sparingly, around Funchal in Madeira proper; and two or three examples of it were met with likewise by the late Mr. Bewicke.

§ II. *Prothoracis seriebus dorsalibus e punctis 5 compositis.*1357. *Philonthus bipustulatus.*

Staphylinus bipustulatus, *Pnz., Fna Ins. Germ.* 27. 10 (1795).

Philonthus bipustulatus, *Woll., Ins. Mad.* 583 (1854).

— —, *Id., Cat. Mad. Col.* 189 (1857).

— —, *Id., Cat. Can. Col.* 570 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (ins. omnes), in stercore vulgaris.

This common European species is doubtless universal throughout these Atlantic Groups, where it occurs in the dung of cattle at most elevations. It has been taken in Madeira proper and Porto Santo, as well as in the whole seven islands of the Canarian archipelago.

1358. *Philonthus scybalarius.*

Philonthus scybalarius, *Nordm., Symbol.* 94 (1838).

— varians, *Woll., Ins. Mad.* 583 (1854).

— scybalarius, *Id., Cat. Mad. Col.* 189 (1857).

— —, *Id., Cat. Can. Col.* 571 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*Lanz., Ten., Gom., Palma, Hierro*), in locis fere similibus ac præcedens.

Found in much the same places as the last species, to which indeed it is most nearly allied. Like it, it has been taken in Madeira proper and Porto Santo; but in the Canaries, where we may be equally sure that it is universal, it does not happen to have been observed in either Fuerteventura or Grand Canary—although it has been captured, more or less abundantly, in the remaining five islands of the Group. It was met with by the late Mr. Bewicke even at Ascension, where however it must doubtless have been naturalized from higher latitudes.

1359. *Philonthus marcidus.*

Staphylinus politus?, *Brullé [nec Grav.], in W. et B. (Col.)* 60 (1838).

Philonthus marcidus, *Woll., Cat. Can. Col.* 571 (1864).

Habitat Canarienses (ins. omnes), ab orâ maritimâ usque ad 9000' s. m. ascendens. Inter quisquillas, præsertim sub foliis putridis *Opuntia Tunæ*, sese occultare delectat.

A universal *Philonthus* throughout the Canarian archipelago, in the whole seven islands of which I have myself captured it; but it has not yet been observed elsewhere. It occurs beneath decaying vegetable refuse at nearly all elevations, and is particularly partial

to the sodden leaves of the *Opuntia Tuna* (or Prickly Pear)—in spots where they have been thrown away in masses, and allowed to rot.

1360. *Philonthus proximus*.

Philonthus proximus, *Woll., Cat. Mad. Col.* 189 (1857).

— —, *Id., Cat. Can. Col.* 573 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*Ten., Gom.*), in stereore et sub quisquilliis minus frequens.

Scattered sparingly over the Madeiran and Canarian Groups, where it occurs for the most part in the dung of cattle and at rather low elevations. It has been taken in Madeira proper and Porto Santo, as well as in Teneriffe and Gomera.

A Teneriffan specimen is now before me which, if its differences are not mere sexual ones, might almost be the exponent of a separate species. It recedes from Gomeran and Madeiran individuals with which I have compared it in being a little smaller, with its head just perceptibly less rotundate, its eyes less developed, its elytra and limbs rather darker, its front feet more dilated, and its entire sculpture (including the large punctures on the prothorax, and the smaller asperated ones on the scutellum and elytra) somewhat less coarse*.

1361. *Philonthus discoideus*.

Staphylinus discoideus, *Grav., Col. Micropt.* 38 (1802).

Philonthus discoideus, *Erich., Gen. et Spec. Staph.* 474 (1839).

— —, *Woll., Cat. Mad. Col.* 190 (1857).

— —, *Id., Cat. Can. Col.* 573 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Fuert., Ten., Gom.*), sub quisquilliis, passim.

Although far from common, the European *P. discoideus* will probably be found to be well nigh universal throughout these Atlantic islands; where it occurs, beneath dung and vegetable refuse, at low and intermediate altitudes. Hitherto however it has been taken

* This particular state is what I alluded to in the diagnosis given in my Canarian Catalogue, as follows: "*Variat* (rarius) *antennis pedibusque paulo obscurioribus*." But since it is not impossible that it may prove ultimately to be a distinct, though closely-allied species, I will further record it in this short formula:—

Var. *β. fortunatus* [an species?]. *Paulo minor et sensim levius sculpturatus, capite vix minus rotundato, oculis minoribus, elytris, antennis pedibusque subobscurioribus, tarsis anticis (an in utroque sexu?) latioribus. Long. corp. lin. 2½.*

I need scarcely repeat that the whole of these small characters *may* be sexual ones; nevertheless the specimen from which they have been compiled is hardly *likely* to be the *only male* one, out of the many which I have examined.

only in Madeira proper—and in Lanzarote, Fuerteventura, Teneriffe, and Gomera, of the Canarian Group. Its detection in Gomera is due to the researches of the Messrs. Crotch.

§ III. *Prothoracis seriebus dorsalibus e punctis 6 compositis.*

1362. *Philonthus simulans.*

Philonthus simulans, *Woll., Cat. Mad. Col.* 190 (1857).

— —, *Id., Cat. Can. Col.* 574 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can., Ten., Gom., Palma, Hierro*), in intermediis humidis sylvaticis, præsertim lauretis, late diffusus.

Widely spread over the sylvan districts both of the Madeiran and Canarian Groups, being more particularly common in the damp laurel-woods of intermediate and rather lofty elevations. It occurs beneath stones, fallen leaves, and decaying vegetable refuse,—but *not* (so far as I have yet observed) in watery places by the edges of the streams, as is so frequently the case with its near ally the *P. nigrutilus*. It has been taken in Madeira proper, and in all the Canarian islands except the two eastern ones (Lanzarote and Fuerteventura). In Gomera its discovery is due to the Messrs. Crotch, who found it abundantly in the laurel-region above Hermigua. I have remarked that it has a somewhat curious habit, when captured, of counterfeiting death by bending its head against its prosternum, and partially curving its abdomen downwards (like a *Xantholinus*)—a peculiarity which I have never yet detected in the *P. nigrutilus*.

1363. *Philonthus nigrutilus.*

Staphylinus nigrutilus et aterrimus, *Grav., Col. Micropt.* 41 (1802).

Philonthus aterrimus, *Woll., Ins. Mad.* 584 (1854).

— *nigrutilus*, *Id., Cat. Mad. Col.* 191 (1857).

— —, *Id., Cat. Can. Col.* 574 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*Lanz., Can., Ten., Gom., Palma*), sub quisquiliis necnon inter lapillos ad margines aquarum vulgaris.

The *P. nigrutilus*, so common throughout Europe, is doubtless universal (or nearly so) in these Atlantic Groups—where it abounds beneath vegetable refuse, as well as under stones at the edges of the streams and pools. It has been taken in Madeira proper and Porto Santo, as well as in all the Canarian islands except Fuerteventura and Hierro—occurring at most elevations, and not (like the *P. simulans*) only at intermediate and lofty ones.

§ IV. *Prothoracis seriebus dorsalibus e punctis 7 vel 8 compositis.*1364. *Philonthus punctipennis.*

Philonthus punctipennis, *Woll., Cat. Mad. Col.* 192 (1857).

— —, *Id., Cat. Can. Col.* 575 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can., Gom.*), sub lapidibus in humidis rarior.

A noble *Philonthus* which occurs sparingly, at low and intermediate altitudes, both in the Madeiran and Canarian Groups. In the former it was taken by the late Mr. Bewicke (from beneath stones), in the partially dried river-bed at S^{ta} Cruz, as well as by Mr. F. A. Anderson near Funchal; whilst in the latter it has been captured—by myself (at a rather high elevation) in Grand Canary, and by the Messrs. Crotch (about “Yam-grounds and streams”) in Gomera.

§ V. *Prothorax (et caput) plus minus crebre punctatus (lineâ mediâ longitudinali lævi).*1365. *Philonthus sericeus.*

Remus sericeus, *Holme, Trans. Ent. Soc. Lond.* ii. 64 (1837).

— —, *Steph., Man.* 401 (1839).

Philonthus sericeus, *Erich., Gen. et Spec. Staph.* 509 (1839).

— —, *Woll., Cat. Can. Col.* 576 (1864).

Habitat Canarienses (*Lanz., Fuert., Can.*), per oras arenosas maritimas, hinc inde sub rejectamentis.

As in more northern latitudes, the *P. sericeus* occurs beneath marine *rejectamenta* along the sandy shores of the Canarian Group; but it has not yet been observed in the Madeiras. It was taken by Mr. Gray and myself in Lanzarote and Fuerteventura, and by the Messrs. Crotch near Las Palmas in Grand Canary. Like most of the maritime Coleoptera, it appears to have a rather wide geographical range.

1366. *Philonthus tenellus.*

Philonthus tenellus, *Woll., Cat. Can. Col.* 576 (1864).

Habitat Canarienses (*Ten., Gom.*), inter lapillos per margines aquarum in inferioribus intermediisque sese occultans.

A small and filiform *Philonthus* which has been detected hitherto only in the Canarian Group, where it occurs amongst wet shingle along the edges of the streams at low and intermediate altitudes. I have taken it near S^{ta} Cruz in Teneriffe, and it was found by the Messrs. Crotch in Gomera.

1367. *Philonthus filiformis*.

Philonthus filiformis, *Woll., Ins. Mad.* 585 (1854).

— —, *Id., Cat. Mad. Col.* 192 (1857).

Habitat Maderenses (*Mad.*), in humidis intermediis rarissimus.

Apparently the Madeiran representative of the last species, to which it is very closely allied—though the several constant characters which separate it therefrom have been pointed out in my Canarian Catalogue. In reality it is perhaps still more akin to the European *P. procerulus*, of which indeed it is possible that it may be but a geographical state. Hitherto I have observed it only in damp spots of intermediate altitudes in Madeira proper, where moreover it would seem to be extremely rare.

1368. *Philonthus xantholinoides*.

Philonthus xantholinoides, *Woll., Cat. Can. Col.* 577 (1864).

Habitat Canarienses (*Ten.*), inter lapillos ad marginem paludis cujusdam juxta urbem Sanctæ Crucis semel lectus.

A single example of this distinct little Canarian *Philonthus* was taken by myself amongst wet shingle, in the Barranco Santo, near S^{ta} Cruz, in Teneriffe; but it is all that I have yet seen.

(Subfam. V. XANTHOLINIDES.)

Genus 403. XANTHOLINUS.

Dahl, in *Encyclop. Méthod.* x. 475 (1825).

1369. *Xantholinus marginalis*.

Xantholinus marginalis, *Woll., Trans. Ent. Soc. Lond.* i. 187 (1862).

— —, *Id., Cat. Can. Col.* 578 (1864).

Habitat Canarienses (*Lanz., Fuert., Gom.*), rarissimus; in *Euphorbiis* emortuis putridis degens.

Attached to the rotting *Euphorbia*-stems in the Canarian Group, where it would appear to be rare. It was captured by Mr. Gray and myself in the north of Lanzarote, by myself in the little islet of Lobos (off the north of Fuerteventura), and a single specimen was taken by Dr. Crotch (out of a *Euphorbia canariensis*) in Gomera. Although smaller than that insect, with its head and prothoracic series much more densely punctured, and with the margin of its pronotum diluted in hue (particularly behind), this fine *Xantholinus* (in its brightly rufo-testaceous elytra) has much the general colouring of the European *X. glabratus*.

1370. *Xantholinus hesperius*.

Xantholinus Hesperius, *Erich., Gen. et Spec. Staph.* 329 (1839).

— *limbatus*, *Waltl* [nec *Klug*, 1833], *Reise*, 57 (1835).

— *hesperius*, *Woll., Ann. Nat. Hist.* vi. 100 (1860).

— —, *Id., Cat. Can. Col.* 578 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can., Ten., Palma*), passim.

A *Xantholinus* of south-western Europe which is widely, though sparingly, distributed over these Atlantic islands—where in all probability it is nearly universal. It occurs around Funchal, in Madeira proper; and I have taken it in Grand Canary, Teneriffe, and Palma, of the Canarian Group.

1371. *Xantholinus linearis*.

Staphylinus linearis, *Oliv., Ent.* iii. 42. 19 (1795).

Xantholinus linearis, *Erich., Gen. et Spec. Staph.* 332 (1839).

— —, *Woll., Ins. Mad.* 577 (1854).

— —, *Id., Cat. Mad. Col.* 188 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus quisquiliisque, plerumque in intermediis graminosis.

The common European *X. linearis* occurs at intermediate altitudes in Madeira proper, principally beneath stones in grassy spots; but it has not yet been observed in any of the other islands.

1372. *Xantholinus punctulatus*.

Staphylinus punctulatus, *Payk., Mon. Staph. Suec.* 30 (1789).

Xantholinus punctulatus, *Woll., Ins. Mad.* 577 (1854).

— —, *Id., Cat. Mad. Col.* 188 (1857).

— —, *Id., Cat. Can. Col.* 579 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Ten., Gom.*), sub quisquiliis atque etiam in stercore bovino, plerumque in intermediis.

Likewise a common European insect, and one which is more widely diffused over these islands than the *X. linearis*,—occurring both in the Madeiran and Canarian Groups. It is found beneath vegetable refuse, and even in the dung of cattle, principally at intermediate elevations; under which circumstances it is rather abundant in Madeira proper. In the Canaries, however, it would appear to be more scarce; nevertheless it has been taken in Lanzarote, Teneriffe, and Gomera.

Genus 404. LEPTACINUS.

Erichson, Käf. der Mark. Brand. i. 429 (1837).

1373. *Leptacinus parumpunctatus*.

Staphylinus parumpunctatus, *Gyll., Ins. Suec.* iv. 481 (1827).

Leptacinus parumpunctatus, *Erich., Gen. et Spec. Staph.* 353 (1839).

— —, *Woll., Ann. Nat. Hist.* viii. 107 (1861).

— —, *Id., Cat. Can. Col.* 579 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (ins. *omnes*), sub quisquiliis et præcipue sub recremento ad basin acervorum fœni sparso passim.

A European *Leptacinus* which is widely diffused over these Atlantic Groups, though apparently nowhere common. It was found by the late Mr. Bewicke, beneath hay-stack refuse, at the Palheiro, in Madeira proper; and it has been taken in the whole seven islands of the Canarian archipelago. Its detection in Hierro is due to the late researches of the Messrs. Crotch.

1374. *Leptacinus linearis*.

Staphylinus linearis, *Grav., Col. Micropt.* 43 (1802).

Leptacinus linearis, *Kratz., Nat. der Ins. Deutsch.* ii. 649 (1857).

— —, *Woll., Ann. Nat. Hist.* vi. 101 (1860).

— —, *Id., Cat. Can. Col.* 580 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Ten.*), in locis similibus ac præcedens.

Also European, and found in much the same kind of places in these islands as the last species; though hitherto it does not happen to have been observed quite so generally. It was taken by the late Mr. Bewicke, from beneath the refuse of a hay-stack at S. Antonio da Serra, in Madeira proper; and it has been found in Lanzarote and Teneriffe, of the Canarian Group.

Genus 405. **OTHIUS.**

(Leach) *Steph., Ill. Brit. Ent.* v. 253 (1832).

1375. *Othius strigulosus*.

Othius strigulosus, *Woll., Ins. Mad.* 575 (1854).

— —, *Id., Cat. Mad. Col.* 186 (1857).

Habitat Maderenses (*Mad.*), sub lapidibus lignoque putrido per regiones sylvaticas diffusus.

A large and remarkable *Othius* which seems to be peculiar to the moist sylvan districts of Madeira proper, where it secretes itself beneath stones and logs of rotting wood at intermediate and lofty altitudes—occurring, usually, in the dampest spots.

1376. *Othius Jansoni*.

Othius Jansoni, *Woll., Ins. Mad.* 576 (1854).

— — — *et vestitus*, *Id., Cat. Mad. Col.* 186, 187 (1857).

Habitat Maderenses (*Mad.*), in intermediis editoribusque sylvaticis degens.

Found in the wooded regions of Madeira proper, under much the same circumstances as the *O. strigulosus*, and being somewhat the rarer of the two. It differs slightly at the upper and lower limits of its range, being on the average a little larger and more pubescent in the lofty districts than in the less elevated ones; and it was the state from the former that I described, in my Madeiran Catalogue, under the name of *vestitus*. Subsequent material, however, has inclined me to think that these extreme phases merge into each other too completely to be regarded as specifically distinct; and I have consequently suppressed the more recent title, retaining the prior one.

1377. *Othius brevicornis*.

Othius brevicornis, *Woll., Cat. Mad. Col.* 187 (1857).

Habitat Maderenses (*Des.*), in summo insulæ semel deprehensus.

A single example of this *Othius* was captured by myself (during June 1855) on the summit of the Deserta Grande, in the Madeiran Group. It is much allied to the *O. Jansoni*, but its narrower outline and shorter elytra and antennæ, in conjunction with its slightly less developed head, would seem to indicate that it is truly distinct from that species.

1378. *Othius brachypterus*.

Othius brachypterus, *Woll., Cat. Can. Col.* 580 (1864).

Habitat Canarienses (*Gom.*), à DD. Crotch sub foliis dejectis in lauretis captus.

Found hitherto only in Gomera, of the Canarian Group, where a single example was first detected by Dr. Crotch during the spring of 1862; and where three more were obtained by himself and his brother, in the summer of 1864. They were taken beneath fallen leaves in the laurel-districts above Hermigua.

1379. *Othius philonthoides*.

Othius philonthoides, *Woll., Cat. Can. Col.* 581 (1864).

Habitat Canarienses (*Can., Ten.*), in sylvaticis subsylvaticisque, vel lauretis vel pinetis, rarissimus.

Likewise a Canarian *Othius*, and equally rare with the preceding one, occurring in sylvan and subsylvan spots of intermediate and lofty elevations. I have taken it in the district of El Monte in Grand Canary, and it was found by the Messrs. Crotch in the Pinal above Ycod el Alto in Teneriffe.

(Subfam. VI. PÆDERIDES.)

Genus 406. **ACHENIUM.**

(Leach) Curtis, *Brit. Ent.* iii. 115 (1826).

1380. **Achenium Hartungii.**

Achenium Hartungii (Heer), *Woll., Ins. Mad.* 587 (1854).

— — —, *Id., Cat. Mad. Col.* 193 (1857).

Habitat Maderenses (*Mad., Pto Sto*), rarissimum; in locis subinferioribus, sive paululum elevatis, parcissime occurrens.

Found at a rather low elevation in Madeira proper and Porto Santo, but exceedingly rare. Indeed the only locality in the former of those islands in which it has hitherto been observed is the neighbourhood of the Cabo Garajão, or Brazen Head, about two miles to the eastward of Funchal. I am very doubtful whether it is more than a geographical phasis of the European *A. depressum*,—from which it seems to differ merely in its head, eyes, and antennæ being just appreciably more developed; in the punctures of its head and prothorax being perceptibly coarser; and in its elytra being less shining, of a more uniform rufo-piceous hue (being less dark in front, and less pale posteriorly), and with their subasperated punctures perhaps a little larger, but at the same time somewhat more confused (or less sharply defined).

1381. **Achenium subcæcum.**

Achenium subcæcum, *Woll., Cat. Can. Col.* 581 (1864).

Habitat Canarienses (*Lanz.*), rarissimum; sub lapide quodam in montibus semel captum.

The only example of this remarkable, and very pale, Canarian *Achenium* which has yet come beneath my notice was taken by myself (from under a stone) on the mountains in the north of Lanzarote. Its completely apterous body, much abbreviated elytra, and almost obsolete eyes (which are so diminutive and punctiform as to be quite imperceptible from above) give it a character peculiarly its own.

1382. *Achenium salinum*.

Achenium salinum, *Woll., Cat. Can. Col.* 582 (1864).

Habitat Canarienses (*Lanz.*), ad marginem lacus ejus salini "Januvio" dicti semel deprehensum.

Likewise Lanzarotan, and unique, but of totally different habits to the last species—a single example having been captured by myself at the edge of the salt lake of Januvio (which adjoins the southwestern coast), running rapidly over the mud in the hot sunshine.

Genus 407. **LATHROBIUM.**

Gravenhorst, *Col. Micropt.* 179 (1802).

1383. *Lathrobium labile*.

Lathrobium labile, *Erich., Gen. et Spec. Staph.* 594 (1839).

— —, *Woll., Cat. Can. Col.* 583 (1864).

Habitat Canarienses (*Ten.*), inter lapillos humidos ad margines aquarum in inferioribus sese occultare delectans.

A small and narrow *Lathrobium* of Mediterranean latitudes which occurs sparingly, at a low elevation, in the Canarian Group. Teneriffe, however, is the only island in which it has hitherto been captured—where I met with several examples of it, amongst wet shingle, at the edges of a little pool in the Barranco Santo, near S^{ta} Cruz.

1384. *Lathrobium multipunctatum*.

Lathrobium multipunctatum, *Grav., Col. Micropt.* 52 (1802).

— —, *Woll., Ins. Mad.* 588 (1854).

— —, *Id., Cat. Mad. Col.* 193 (1857).

— —, *Id., Cat. Can. Col.* 583 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom., Palma*), hinc inde in humidis, præsertim intermediis.

This European *Lathrobium* is rather common in Madeira proper, where it occurs in damp places at most elevations; but in the Canaries, where it differs a little from the more northern type, it is decidedly scarce. I have captured it in Teneriffe and Palma, and it was found by the Messrs. Crotch in Gomera.

The Canarian examples, which I hardly think can represent more than a slight geographical variety of the species, seem to have their head and elytra *just perceptibly* more developed, the latter being almost (perhaps indeed quite) concolorous throughout (instead of

gradually rufescent behind), as well as rather more thickly punctured—with the punctures not only a trifle more closely packed together (and therefore less evidently arranged in longitudinal rows), but likewise *nearly* as deep on the *posterior* part as in front*.

Genus 408. **DOLICAON.**

Laporte, *Etud. Ent.* i. 119 (1834).

1385. **Dolicaon nigricollis.**

Dolicaon nigricollis, *Woll., Trans. Ent. Soc. Lond.* i. 188 (1862).

— — —, *Id., Cat. Can. Col.* 584 (1864).

Habitat Canarienses (*Lanz., Can.*), vel sub lapidibus vel in *Euphorbiis* emortuis occurrens.

Found in Lanzarote and Grand Canary, where it occurs sparingly (at intermediate altitudes) both under stones and within the rotten *Euphorbias*. Judging from the published diagnosis, it seems closely allied to the European *D. illyricus*—of which perhaps it may prove to be but a geographical state. Even if distinct, however, it does not appear to be peculiar to the islands; for I have inspected examples taken by the Rev. Hamlet Clark, at Medeah, in Algeria, which differ so very slightly from the Canarian ones (being merely a trifle more pubescent and strongly punctured) that I cannot regard them as representing more than an unimportant geographical phasis of the same species.

1386. **Dolicaon ruficollis.**

Dolicaon ruficollis, *Woll., Trans. Ent. Soc. Lond.* i. 189 (1862).

— — —, *Id., Cat. Can. Col.* 584 (1864).

Habitat Canarienses (*Fuert.*), in locis similibus ac præcedens.

Whether this be more than a permanent insular modification of the last species I will not venture to decide; but it unquestionably has much in common with it—occurring however (so far at least as observed hitherto) in Fuerteventura, and on the adjacent rock of Lobos, instead of in Lanzarote and Grand Canary. It appears to differ from the *nigricollis* merely in colour; nevertheless as I have seen nothing like an intermediate link between the two, I imagine

* I will just however indicate this Canarian *Lathrobium* as follows, in the event of its proving ultimately to be specifically distinct:—

Var. β . *canariensis* [an species?]. Capite elytrisqve vix submajoribus, his sæpius concoloribus subdensius punctatis, punctis paulo minus evidenter seriatim dispositis et inter se subæqualibus (nec postice conspicue levioribus).

that it would not be safe to treat it absolutely as a variety of the latter.

1387. *Dolicaon debilipennis*.

Dolicaon debilipennis, *Woll., Append. huj. op.* 73.

Habitat Canarienses (*Gom.*), in lauretis humidis editioribus à DD.
Crotch sub foliis dejectis repertus.

This beautiful Canarian *Dolicaon*—so remarkable for its clear rufo-testaceous hue (the four basal segments of the abdomen being alone black), minute eyes, and greatly abbreviated elytra—was detected in Gomera by the Messrs. Crotch, who obtained several specimens of it beneath fallen leaves at a high altitude in the laurel-region above Hermigua.

1388. *Dolicaon Paivæ*.

Dolicaon Paivæ, *Woll., Append. huj. op.* 73.

Habitat Salvages (ins. *majorem, borealem*), à cl. Barone “Castello de Paiva” benigne communicatus, cujus in honorem nomen triviale in Appendice hujus operis proposui.

A well-defined *Dolicaon* (remarkable for its dark concolorous body and clear rufo-ferruginous limbs) which has been communicated from the Great Salvage by my worthy friend the Barão do Castello de Paiva, to whose unwearied diligence in the cause of science I have been indebted on several occasions for many interesting additions to the Coleopterous fauna of these Atlantic islands. It would appear to be scarce, for out of large numbers of the ordinary insects which have been obtained by the Baron Paiva from those remote rocks I have secured hitherto but eight examples; and I think therefore that it is a worthy species to bear the name of its illustrious discoverer.

Genus 409. *STILICUS*.

Latreille, *Règn. Anim.* iv. 436 (1829).

1389. *Stilicus affinis*.

Stilicus affinis, *Erich., Käf. der Mark Brand.* i. 522 (1837).

Rugilus affinis, *Woll., Ins. Mad.* 592 (1854).

— — —, *Id., Cat. Mad. Col.* 195 (1857).

Stilicus affinis, *Id., Cat. Can. Col.* 585 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), sub lapidibus quiescunt in intermediis degens.

This European *Stilicus* is rather common in the intermediate elevations of Madeira proper, where it occurs beneath stones and fallen leaves; but in the Canaries it would appear to be scarce, the only specimens which I have seen being a few which were captured by Dr. Crotch in Teneriffe, during the spring of 1862.

Genus 410. **SCOPÆUS.**

Erichson, *Gen. et Spec. Staph.* 604 (1839).

1390. **Scopæus trossulus.**

Scopæus trossulus, *Woll., Cat. Can. Col.* 585 (1864).

Habitat Canarienses (*Fuert., Can., Ten.*), inter lapillos ad margines aquarum in inferioribus ac paululum elevatis latitans.

A Canarian *Scopæus* which may possibly be but a geographical modification of the *S. lævigatus* of more northern latitudes, though with several minute distinctions of its own. It seems to be very scarce, occurring amongst wet shingle at the edges of the streams at low and intermediate altitudes. I have taken it in Fuerteventura, Grand Canary, and Teneriffe.

1391. **Scopæus subopacus.**

Scopæus subopacus, *Woll., Ann. Nat. Hist.* vi. 103 (1860).

— — —, *Id., Append. huj. op.* 74.

Habitat Maderenses (*Mad.*), sub recremento ad basin acervorum fœni sparso à Dom. Bewicke in intermediis semel captus.

The only specimen which I have yet seen of this *Scopæus* was captured in the intermediate elevations of Madeira proper by the late Mr. Bewicke—namely, from under haystack-refuse at S. Antonio da Serra. Judging from the description of the Egyptian *S. infirmus*, it seems to be allied to that insect.

The *S. subopacus* is of about the same size as the *trossulus*, but it is *much* darker and more opaque, and a little more pubescent; its head is rather less straightly truncated at the base; its eyes are smaller; its prothorax is not bi-impressed behind; and its antennæ are considerably more abbreviated.

1392. **Scopæus nigellus.**

Scopæus nigellus, *Woll., Cat. Can. Col.* 585 (1864).

Habitat Canarienses (*Gom.*), à W. D. Crotch semel deprehensus.

Likewise unique, a single example having been taken in Gomera by Dr. Crotch, during his first sojourn in the Canaries (in 1862).

Genus 411. **LITHOCHARIS.**

(Dejean) Boisd. et Lac., *Faun. des Env. de Paris*, i. 431 (1835).

1393. **Lithocharis quadriceps.**

Lithocharis quadriceps, Woll., *Cat. Can. Col.* 586 (1864).

Habitat Canarienses (Lanz., *Fuert.*), sub quisquiliis in intermediis rarior.

Observed hitherto only in the eastern islands of the Canarian Group, Lanzarote and Fuerteventura, where it occurs sparingly at intermediate altitudes. It has somewhat the *primâ facie* aspect of the European *L. castanea*; but the many characters which distinguish it therefrom have been pointed out in my diagnosis.

1394. **Lithocharis indigena.**

Lithocharis indigena, Woll., *Cat. Mad. Col.* 193 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis humidis editioribus semel lecta.

A single example of this *Lithocharis* was captured by myself at a high elevation in the sylvan districts of Madeira proper—namely, at the Cruzinha (nearly 5000 feet above the sea). In all probability, therefore, the species is truly indigenous; and it would certainly appear to be very rare.

1395. **Lithocharis fuscula.**

Lithocharis fuscula (Zeigl.), Bois. et Lac., *Faun. Ent.* i. 431 (1835).

— —, Erich., *Gen. et Spec. Staph.* 611 (1839).

— —, Woll., *Ins. Mad.* 589 (1854).

— —, *Id.*, *Cat. Mad. Col.* 193 (1857).

Habitat Maderenses (*Mad.*), hinc inde in humidis ac sub quisquiliis.

The European *L. fuscula* is found sparingly at low and intermediate altitudes in Madeira proper, for the most part in damp places and under decaying vegetable refuse; but it has not yet been observed in any of the other islands.

1396. **Lithocharis subcoriacea.**

Lithocharis subcoriacea, Woll., *Cat. Can. Col.* 586 (1864).

Habitat Canarienses (*Can.*, *Ten.*, *Gom.*, *Palma*, *Hierro*), inter quisquillas vulgaris.

Widely distributed over the Canarian archipelago, in all the islands of which it has been captured except Lanzarote and Fuerteventura. It occurs at most elevations, though particularly at intermediate and lofty ones, and is locally abundant beneath vegetable refuse.

1397. *Lithocharis ochracea*.

Pæderus ochraceus, *Grav., Col. Micropt.* 59 (1802).

— —, *Woll., Ins. Mad.* 590 (1854).

— —, *Id., Cat. Mad. Col.* 193 (1857).

— —, *Id., Cat. Can. Col.* 587 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Fuert., Ten., Gom.*), sub quisquiliis hinc inde abundans.

This common European *Lithocharis* we may expect will be found universally (or nearly so) throughout these Atlantic Groups, where it is occasionally very abundant beneath vegetable refuse. Hitherto however it has been observed only in Madeira proper, and in the Canarian islands of Lanzarote, Fuerteventura, Teneriffe, and Gomera.

1398. *Lithocharis obsoleta*.

Lathrobium obsoletum, *Nordm., Symbol.* 146 (1838).

Lithocharis obsoleta, *Erich., Gen. et Spec. Staph.* 623 (1839).

— —, *Kraatz, Nat. der Ins. Deutsch.* ii. 719 (1857).

— *brevipes*, *Woll., Ann. Nat. Hist.* vi. 104 (1860).

Habitat Maderenses (*Mad.*), rarior; in subinferioribus inter quisquiliis.

Likewise a European species, and one which has been captured sparingly by myself and the late Mr. Bewicke in the south of Madeira proper—beneath vegetable refuse, around Funchal; but it has not been observed in any of the other islands. In a paper “on Additions to the Madeiran Coleoptera” (published in the ‘*Ann. of Nat. Hist.*,’ in 1860) I described it inadvertently as new, under the name of *L. brevipes*,—a mistake which arose partly from my few examples being scarcely mature, as well as from the fact (which I had not seen noticed elsewhere) of the elytra of the males being a little more developed than those of the opposite sex.

1399. *Lithocharis nigrifula*.

Lithocharis nigrifula?, *Erich., Gen. et Spec. Staph.* 625 (1839).

— —, *Woll., Cat. Can. Col.* 588 (1864).

Habitat Canarienses (*Ten.*), inter lapillos ad margines aquarum in inferioribus capta.

Two examples only of this very distinct *Lithocharis*, which (judging from the published description) I have little doubt is conspecific with Erichson's *L. nigritula* from Sicily, have as yet come beneath my notice. They were taken by myself, at a low elevation, in Teneriffe—amongst wet shingle (in company with the *Scopæus trossulus*) at the edge of a small pool in the Barranco Santo, near S^{ta} Cruz.

1400. *Lithocharis tricolor*.

Staphylinus tricolor, *Mshn, Ent. Brit.* 516 (1802).

Lithocharis melanocephala, *Woll. [nec Fab.], Ins. Mad.* 591 (1854).

— —, *Id., Cat. Mad. Col.* 194 (1857).

— —, *Id., Cat. Can. Col.* 588 (1864).

Habitat Maderenses (in *Ilheo Chão solâ* haud observata) et Canarienses (ins. *omnes*), vulgaris.

One of the most universal of the *Staphylinidæ* throughout these Atlantic Groups, where it occurs independent of elevation—though principally in the intermediate districts. I have myself captured it in all the Madeiran islands except the northern Deserta, as well as in the whole seven of the Canarian archipelago. Hitherto I have identified it with the common European *L. melanocephala*; but a recent comparison of it with types of that insect and of the closely allied *tricolor*, which have been communicated by Mr. Rye, has convinced me that it is better referred to the latter,—its longer elytra, in conjunction with its less coarse and rather dense punctation, being more in accordance with what obtains in that species than with the true *melanocephala*. It is a variable insect, not only in colour but even in the greater or less development of its elytra; and therefore I do not lay much stress upon the fact that the latter are, on the average, just perceptibly larger in the Atlantic examples than is the case in the ordinary ones of more northern latitudes.

1401. *Lithocharis brevipennis*.

Lithocharis brevipennis, *Woll., Cat. Can. Col.* 589 (1864).

Habitat Canarienses (*Ten., Gom.*), plerumque in montibus valde excelsis occurrens.

Found sparingly in the higher altitudes of the Canarian Group, where it ascends to more than 9000 feet above the sea. I have taken it in Teneriffe (on the Cumbre overlooking the Cañadas), and it was met with by the Messrs. Crotch both in that island and Gomera. Although I do not believe that it is any extreme modifi-

cation of the *tricolor*, yet occasional examples do unquestionably appear at first sight to be so far intermediate that I cannot feel absolutely certain that such may not be the case; and though its reduced elytra might seem perhaps to place it in somewhat the *same relation as the true melanocephala* to that species, yet it could not possibly be confounded with the latter. Thus, it is narrower, as well as more closely and finely punctured, than the *melanocephala*; its elytra and antennæ are even shorter still; its eyes are a little smaller; and its head is of the same colour as the prothorax (and almost the same as that of the elytra)—namely, rufo-testaceous.

1402. *Lithocharis debilicornis*.

Lithocharis debilicornis, *Woll., Cat. Mad. Col.* 194 (July, 1857).

— *brevicornis*, *Allard, Ann. de la Soc. Ent. de France*, 747 (1857).

— *ægyptiaca*, *Mots., Bull. de Mosc.* 664 (1858).

— *debilicornis*, *Woll., Cat. Can. Col.* 589 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Palma*), hinc inde sub quisquiliis, plerumque in inferioribus.

This remarkable *Lithocharis*, which occurs also in Mediterranean latitudes, is tolerably common around Funchal in Madeira proper—where it is found amongst garden-refuse, in cultivated spots. But in the Canaries it has been met with hitherto very sparingly, the only examples which I have seen having been taken by Mr. Gray in Palma and by Dr. Crotch in Teneriffe.

Genus 412. **SUNIUS.**

(Leach) *Steph., Ill. Brit. Ent.* v. 274 (1832).

1403. *Sunius myrmecophilus*.

Sunius myrmecophilus, *Woll., Cat. Can. Col.* 590 (1864).

Habitat Canarienses (*Can., Ten.*), nidos *Myrmicarum* parce colens.

A somewhat thick and compact Canarian *Sunius* which I have taken hitherto only at rather low and intermediate altitudes in Grand Canary and Teneriffe, where it occurs sparingly within the nests of a species of *Myrmica*. At the Agua Mansa, in the latter of these islands, I once met with it in comparative abundance—beneath stones, in company with the ants.

1404. *Sunius æquivocus*.

Sunius æquivocus, *Woll., Ann. Nat. Hist.* vi. 104 (1860).

Habitat Maderenses (*Mad.*), à Dom. M. Park semel deprehensus.

A single example of this *Sunius*, which was captured by Mr. M. Park in the south of Madeira proper, is all that I have yet seen of the species. In outline and sculpture it is very closely allied to the *angustatus*; but (so far as I can judge from the evidence afforded by a solitary individual) it appears to be a little larger and less pubescent; its head and antennæ are a trifle longer, with the eyes just appreciably more oval and less prominent; and its colour is altogether paler,—the elytra (which are likewise a little more developed) being apparently *almost concolorous*, and of a lurid brownish-testaceous hue. Still, since the type from which my diagnosis was compiled may perhaps be scarcely mature, it is evident that further material must be obtained before at any rate its peculiarities of *coloration* can be regarded as sufficiently determined.

1405. *Sunius angustatus*.

Staphylinus angustatus, *Payk., Mon. Staph. Succ.* 36 (1789).

Sunius angustatus, *Erich., Gen. et Spec. Staph.* 640 (1839).

— —, *Woll., Ins. Mad.* 593 (1854).

— —, *Id., Cat. Mad. Col.* 195 (1857).

Habitat Maderenses (*Mad., Pto S^{to}, Bugio*), sub lapidibus præcipue in intermediis latens.

The European *S. angustatus* is rather common in the Madeiran archipelago, where it occurs beneath stones and rubbish—principally at intermediate elevations. I have captured it in Madeira proper, Porto Santo, and on the southern Deserta; so that we may be almost sure that it is universal throughout the Group. But it has not yet been observed in the Canaries.

1406. *Sunius bimaculatus*.

Sunius bimaculatus, *Erich., Gen. et Spec. Staph.* 641 (1839).

— —, *Woll., Ins. Mad.* 594 (1854).

— —, *Id., Cat. Mad. Col.* 195 (1857).

Habitat Maderenses (*Mad.*), in salinis inferioribus rarissimus.

Found sparingly at the lowest elevations in Madeira proper, behind the sea-beach,—having been detected hitherto only in saline spots at the Praia Formosa, near Funchal. It appears to be conspecific with Erichson's *S. bimaculatus* from Sardinia (and probably also from other parts of the Mediterranean district); and although the black patch on the disk of each of its elytra is usually well defined, examples sometimes occur (especially when immature) which are altogether pale.

1407. *Sunius pallidulus*.

Sunius pallidulus, *Woll., Cat. Can. Col.* 591 (1864).

Habitat Canarienses (*Ten., Gom.*), à W. D. Crotch parce captus.

Hitherto I have seen but three specimens of this Canarian *Sunius*. They were captured by Dr. Crotch, during the spring of 1862, in Teneriffe and Gomera.

1408. *Sunius dimidiatus*.

Sunius dimidiatus, *Woll., Cat. Can. Col.* 591 (1864).

Habitat Canarienses (*Can., Ten., Gom., Hierro*), in inferioribus intermediisque sæpius degens.

Widely spread over the Canarian archipelago, but with a lower range (on the average) than the following species; for whilst it occurs equally with the *megacephalus* in the intermediate districts, it descends likewise to the sea-level. I have taken it in Grand Canary, Teneriffe, Gomera, and Hierro, in the last three of which islands it was found also by the Messrs. Crotch.

1409. *Sunius megacephalus*.

Sunius megacephalus, *Woll., Cat. Can. Col.* 590 (1864).

Habitat Canarienses (*Ten., Gom., Palma, Hierro*), in intermediis editoribusque usque ad 9000' s. m. ascendens.

Found at intermediate and lofty elevations in the Canarian Group, where it ascends to about 9000 feet above the sea. I have taken it in Teneriffe and Palma, and it was found by the Messrs. Crotch in Gomera and Hierro. The Gomeran specimens have their elytra a trifle longer than those from the other islands, and perhaps not quite so coarsely punctured; but there is nothing about them to warrant the suspicion that they represent more than a slight insular phasis of the *megacephalus**.

The *S. megacephalus* belongs to the same type of form as a Swiss species in my collection which I believe to be the *pulchellus* of Heer. In colouring and general *facies*, indeed, it resembles that insect very closely; but its sculpture is coarser and less dense; its surface is not quite so opaque, or so *minutely* pubescent; its head is rather more oblong (or less quadrate), and less straightly truncated at the base;

* I will, however, just record this state of the *megacephalus* in the following short formula:—

Var. *β. gomerensis*.—Elytris paululum longioribus et vix subtilius punctatis.

its prothorax is altogether smaller, and less expanded anteriorly; and its elytra are less straightened at the sides, and less depressed.

Genus 413. **MECOGNATHUS.**

Wollaston, *Ins. Mad.* 595 (1854).

1410. **Mecognathus chimæra.**

Mecognathus Chimæra, *Woll., Ins. Mad.* 595, tab. xiii. f. 8 (1854).

— —, *Id., Cat. Mad. Col.* 196 (1857).

Habitat Maderenses (*Mad.*), in sylvaticis humidis editioribus, præsertim lauretis, sub lapidibus lignoque putrido sese occultans.

Peculiar apparently to the sylvan districts of Madeira proper, where it occurs beneath stones and pieces of rotting wood at intermediate and lofty elevations. Like the allied *Sunii* it runs with amazing velocity, and is more particularly attached to moist spots in the thickest parts of the forest.

(Subfam. VII. STENIDES.)

Genus 414. **STENUS.**

Latreille, *Précis des Caract.* 77 (1796).

§ I. *Abdomen marginatum.*

a. *Tarsi articulo quarto simplici.*

1411. **Stenus guttula.**

Stenus guttula, *Müll., in Germ. Mag.* iv. 225 (1821).

— —, *Woll., Ins. Mad.* 597 (1854).

— —, *Id., Cat. Mad. Col.* 196 (1857).

— —, *Id., Cat. Can. Col.* 592 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*Can., Ten., Palma*), ad margines aquarum plerumque in intermediis.

The European *S. guttula* is common in the Madeiran Group, where it occurs along the edges of the streams (and in wet places generally) at rather low and intermediate altitudes. It has been taken in Madeira proper and Porto Santo, but is much more abundant in the former than in the latter. In the Canaries, on the other hand, it seems decidedly to be scarce—the few specimens which I have yet seen having been captured by myself in the intermediate districts of Grand Canary, Teneriffe (where I believe that it was found likewise by the Messrs. Crotch), and Palma. I met with it also at Mogadore, on the opposite coast of Africa.

1412. *Stenus Rogeri*.

Stenus providus, Woll. [nec? *Erich.*, 1837], *Ins. Mad.* 598 (1854).

— —, *Id.*, *Cat. Mad. Col.* 196 (1857).

— — *Rogeri*, *Kraatz*, *Nat. der Ins. Deutsch.* ii. 764 (1857).

Habitat Maderenses (*Mad.*), in locis similibus ac præcedens, sed rarior.

Found rather sparingly in Madeira proper, in damp places generally, and for the most part at intermediate altitudes. I have hitherto regarded it as identical with the European *S. providus*, but I am informed by Mr. Rye that it accords better with the *Rogeri* of Kraatz. The question however is merely one of names, for it is the latter species to which I had myself referred it; only (like most other Coleopterists) I had assumed that "species" to be Erichson's *providus*—instead of the subsequently described *S. Rogeri**.

1413. *Stenus undulatus*.

Stenus undulatus, Woll., *Ins. Mad.* 599 (1854).

— —, *Id.*, *Cat. Mad. Col.* 197 (1857).

Habitat Maderenses (*Mad.*), ad rupes aquosas, præsertim in lutosis juxta radices *Marchantiæ polymorphæ* ibidem crescentes, sat rarus.

A very remarkable *Stenus* which seems to be peculiar to Madeira proper, where it is found about wet rocks and in the muddy deposits at the edges of the trickling streams and waterfalls (especially amongst the dripping masses of *Marchantia polymorpha*) at intermediate and lofty altitudes. In the north of the island however, where it principally occurs, it descends likewise to a low elevation.

b. *Tarsi articulo quarto bilobo (sed tamen angusto)*.

1414. *Stenus æneotinctus*.

Stenus æneotinctus, Woll., *Cat. Can. Col.* 592 (1864).

Habitat Canarienses (*Can.*, *Ten.*, *Gom.*, *Palma*, *Hierro*), in intermediis humidis sylvaticis late diffusus.

* There would indeed seem to be some little doubt whether the true *providus* (whatsoever it may be) is unquestionably distinct from the *Rogeri*; but as the former is probably identical with the *lustrator* from the Pyrenees, I should be rather inclined to suspect that the two are not absolutely conspecific. Nevertheless if it should ultimately be demonstrated that they do not differ, the title of *providus* (as being the older one) would of course have to be adopted. On the other hand, if further investigation proves them to be really distinct, it is still possible that the Madeiran insect (which recedes from the typical *Rogeri* in being a trifle larger) may be the true *providus*, after all, and identical with the Pyrenean species.

Widely spread over the intermediate and rather lofty elevations of the Canarian archipelago, where it is locally common in moist spots within the sylvan and subsylvan districts. It has been taken in all the islands of the Group except Lanzarote and Fuerteventura*.

§ II. *Abdomen immarginatum: tarsi articulo quarto bilobo.*

1415. **Stenus fulvescens.**

Stenus Heeri, var. β ., *Woll., Ins. Mad.* 600 (1854).

— *fulvescens*, *Id., Cat. Mad. Col.* 198 (1857).

Habitat Maderenses (*Mad.*), hinc inde sub quisquiliis foliisque dejectis in sylvaticis humidis editioribus.

Occurs in the damp sylvan districts of Madeira proper, principally at a high elevation, where however it is somewhat scarce. It is found beneath stones, logs of wood, fallen leaves, and other decaying vegetable refuse.

1416. **Stenus Heeri.**

Stenus Heeri, *Woll., Ins. Mad.* 600 (1854).

— —, *Id., Cat. Mad. Col.* 198 (1857).

Habitat Maderenses (*Mad.*), in locis similibus ac præcedens.

Found in much the same places as the last species, and often in company with it, being pretty general throughout the sylvan districts of Madeira proper.

1417. **Stenus cicindeloides.**

Stenus cicindeloides, *Grav., Col. Micropt.* 155.

— —, *Erich., Gen. et Spec. Staph.* 734 (1839).

— —, *Kraatz, Nat. der Ins. Deutsch.* ii. 795 (1857).

— *hydropathicus*, *Woll., Cat. Mad. Col.* 197 (1857).

Habitat Maderenses (*Mad.*), in humidis necnon ad rupes aquosas in inferioribus locisque paululum elevatis rarissimus.

The common European *S. cicindeloides* occurs very rarely in Madeira proper, though hitherto it has been observed only in the north of the island. I have captured it at the edges of the waterfalls, and about wet rocks, near São Vicente and Porto Moniz; and it was found by the late Mr. Bewicke at S^{ta} Anna.

* The *S. æneotinctus* is extremely variable in stature, though its other characters seem tolerably constant. Some of the specimens which have been taken by the Messrs. Crotch in Gomera are larger than any that I had previously inspected; so that its length may be cited as from $1\frac{1}{2}$ to $2\frac{1}{2}$ lines (instead of " $1\frac{1}{2}$ to 2," as indicated in my Canarian Catalogue).

(Subfam. VIII. OXYTELIDES.)

Genus 415. **BLEDIUS.**(Leach) Steph., *Ill. Brit. Ent.* v. 307 (1832).1418. **Bledius januvianus.***Bledius januvianus*, Woll., *Cat. Can. Col.* 593 (1864).*Habitat* Canarienses (*Lanz.*), rarissimus; ad marginem lacus ejus salini "Januvio" dicti parce deprehensus.

The few specimens which I have yet seen of this large Canarian *Bledius*, which perhaps may be but a greatly developed state of the European *B. bicornis*, were captured by myself in Lanzarote—at the edges of the salt lake of Januvio, adjoining the south-western shore of that island. A species very nearly allied to it, but of a much darker hue, was met with by the Messrs. Crotch on the opposite coast of Morocco.

1419. **Bledius cornutissimus.***Bledius cornutissimus*, Woll., *Cat. Can. Col.* 594 (1864).*Habitat* Canarienses (*Lanz., Fuert.*), in Salinis necnon per oras arenosas maritimas sub rejectamentis parcissime fodiens.

Likewise Canarian, and found in the eastern portion of the Group—where however it is of excessive rarity. I have taken it in Lanzarote and Fuerteventura, both under marine *rejectamenta* along the sandy shores and at the Salinas (or salt-works).

1420. **Bledius galeatus.***Bledius galeatus*, Woll., *Cat. Can. Col.* 594 (1864).*Habitat* Canarienses (*Lanz.*), ad Salinas parce lectus.

Also a Canarian *Bledius*, and with similar habits to the last species—the only three examples which I have seen having been captured by myself at the Salinas, in the north of Lanzarote.

Genus 416. **PLATYSTETHUS.**Mannerheim, *Brachél.* 46 [script. *Platysthetus*] (1831).1421. **Platystethus cornutus.***Oxytelus cornutus*, Grav., *Col. Micropt.* 109 (1802).*Platysthetus cornutus*, *Erich., Gen. et Spec. Staph.* 782 (1839).

Platystethus cornutus, *Woll., Ann. Nat. Hist.* x. 340 (1862).

Platystethus cornutus, *Id., Cat. Can. Col.* 595 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Lanz., Fuert., Ten., Gom.*), hinc inde in lutosis.

This common European *Platystethus* occurs, at low and intermediate elevations, both in the Madeiran and Canarian Groups. From the former, however, I have seen as yet but a single example, which was taken by the late Mr. F. A. Anderson near Funchal. At the latter it is more widely distributed, and may perhaps be found ultimately to be universal; nevertheless hitherto it has been observed only in Lanzarote, Fuerteventura, Teneriffe, and Gomera.

1422. *Platystethus spinosus*.

Platystethus spinosus, *Erich., Gen. et Spec. Staph.* 784 (1839).

— — — *et fossor*, *Woll., Ins. Mad.* 602, 603 (1854).

— — — — —, *Id., Cat. Mad. Col.* 198, 199 (1857).

— *fossor*, *Id., Cat. Can. Col.* 595 (1864).

Habitat Maderenses (*Mad., Pto Sto*) et Canarienses (*Lanz., Ten.*), in inferioribus intermediisque lutosis minus frequens.

A more critical examination of my *P. fossor* inclines me to suspect that it should not be treated as more than a rather small, and perhaps somewhat depauperated, state (peculiar to Madeira proper) of the *spinosus* of southern Europe; though if it should prove, on a still further comparison, to be really distinct, the name that I imposed upon it will remain as heretofore—seeing that it is but provisionally that I would now cite it as a mere local variety. Unless indeed any characters have escaped my observation, it would seem to differ from the Canarian phasis of the insect (which I believe to be in accordance with the Mediterranean type) in being on the average a little smaller, with its elytra, head, frontal spinules, and antennæ just perceptibly less developed. On the other hand, however, the only individual which I have yet seen from Porto Santo (likewise of the Madeiran Group) is considerably *larger* than even the *Canarian* ones; but as the *Platystethi* generally are very variable in stature, I do not lay much stress upon this fact.

Assuming therefore this comparatively gigantic example from Porto Santo, and the minute ones from Madeira proper, to be conspecific with the *somewhat intermediate* specimens from the Canaries, the *P. spinosus* may be said to be widely diffused over these Atlantic islands—having been captured in Madeira proper and Porto Santo

(of the Madeiras), and in Lanzarote and Teneriffe of the Canarian archipelago.

Genus 417. **OXYTELUS.**

Gravenhorst, *Col. Micropt.* 101 (1802).

1423. **Oxytelus piceus.**

Oxytelus piceus, *Grav.*, *Col. Micropt.* 105 (1802).

— —, *Woll.*, *Ins. Mad.* 606 (1854).

— —, *Id.*, *Cat. Mad. Col.* 199 (1857).

— —, *Id.*, *Cat. Can. Col.* 596 (1864).

Habitat Maderenses (*Mad.*, *Pto Sto*) et Canarienses (*Can.*, *Ten.*, *Gom.*, *Palma*), in stercore vulgaris.

A European *Oxytelus* which is nearly universal in these Atlantic islands, where it occurs in the dung of cattle at most elevations. It abounds in Madeira proper and Porto Santo; and it has been taken in Grand Canary, Teneriffe, Gomera, and Palma, of the Canarian Group.

1424. **Oxytelus sculptus.**

Oxytelus sculptus, *Grav.*, *Mon.* 191 (1806).

— —, *Woll.*, *Ins. Mad.* 607 (1854).

— —, *Id.*, *Cat. Mad. Col.* 199 (1857).

— —, *Id.*, *Cat. Can. Col.* 597 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can.*, *Ten.*, *Gom.*, *Palma*), hinc inde in humidis et sub quisquiliis.

Also European, and widely spread over these islands—where it occurs more under vegetable refuse, and in damp places generally, than in the dung of cattle. It has been taken in Madeira proper—as well as in Grand Canary, Teneriffe, Gomera, and Palma, of the Canarian archipelago.

1425. **Oxytelus insignitus.**

Oxytelus insignitus, *Grav.*, *Mon.* 188. 5.d (1806).

— americanus, *Mann.*, *Brachél.* 48 (1831).

— insignitus, *Erich.*, *Gen. et Spec. Staph.* 793 (1839).

— —, *Woll.*, *Cat. Mad. Col.* 199 (1857).

Habitat Maderenses (*Mad.*), sterco quisquiliisque in inferioribus colens, præcipue in cultis.

Found in the lower elevations of Madeira proper, where it is not uncommon (in the dung of cattle) around Funchal. It is recorded by Erichson and Mannerheim as a native of South America; and as

it occurs also in the island of S^t Thomas, we may be pretty sure that it has been naturalized accidentally at Madeira.

1426. *Oxytelus complanatus*.

- Oxytelus depressus*, Gyll. [nec Grav., 1802], *Ins. Suec.* ii. 457 (1810).
 ——— *complanatus*, Erich., *Käf. der Mark Brand.* i. 595 (1837).
 ——— ———, Woll., *Ins. Mad.* 608 (1854).
 ——— ———, *Id.*, *Cat. Mad. Col.* 200 (1857).
 ——— ———, *Id.*, *Cat. Can. Col.* 597 (1864).

Habitat Maderenses (*Mad.*, *P^{to} S^{to}*) et Canarienses (*ins. omnes*), vulgaris.

The European *O. complanatus* is most likely universal throughout these Atlantic Groups, where it has perhaps become established from higher latitudes. It abounds in Madeira proper and Porto Santo; and it has been captured, though somewhat sparingly, in the whole seven of the Canarian islands.

1427. *Oxytelus nitidulus*.

- Oxytelus nitidulus*, Grav., *Col. Micropt.* 107 (1802).
 ——— ———, Woll., *Ins. Mad.* 609 (1854).
 ——— ———, *Id.*, *Cat. Mad. Col.* 201 (1857).
 ——— ———, *Id.*, *Cat. Can. Col.* 598 (1864).

Habitat Maderenses (*Mad.*, *P^{to} S^{to}*) et Canarienses (*ins. omnes*), in stercore bovino, equino, camelino, humano, necnon sub quisquiliis, vulgatissimus.

There is scarcely any Staphylinid more universal throughout these Atlantic Groups than the common European *O. nitidulus*, which abounds in dung and under decaying vegetable refuse at most elevations. It has been found in Madeira proper and Porto Santo, as well as in the whole seven islands of the Canarian archipelago.

1428. *Oxytelus glareosus*.

- Oxytelus glareosus*, Woll., *Ins. Mad.* 610 (1854).
 ——— ———, *Id.*, *Cat. Mad. Col.* 201 (1857).
 ——— ———, *Id.*, *Cat. Can. Col.* 598 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), sub quisquiliis in inferioribus occurrens.

A small *Oxytelus* which is tolerably common (at low elevations) around Funchal, in Madeira proper—where it occurs beneath vegetable refuse, for the most part in cultivated spots. From the Canaries however I have seen hitherto but a single example, which was captured by myself near the Puerto Orotava in Teneriffe.

Genus 418. **TROGOPHLÆUS.**Mannerheim, *Brachél.* 49 (1831).1429. **Trogophlæus transversalis.**Trogophlæus transversalis, *Woll., Cat. Mad. Col.* 202 (1857).— —, *Id., Cat. Can. Col.* 598 (1864).*Habitat* Maderenses (*Bugio*) et Canarienses (*Lanz., Fuert., Ten.*), in humidis ac sub quisquiliis rarissimus.

An insect which occurs, though very rarely, both in the Madeiran and Canarian Groups. I have taken it on the southern Deserta (or Bugio) of the former, and in Lanzarote, Fuerteventura, and Teneriffe of the latter. Although perfectly distinct from the European *T. scrobiculatus*, it is a good deal allied to that species.

1430. **Trogophlæus riparius.**Trogophlæus riparius, *Boisd. et Lac., Faun. Ent. Paris*, i. 467 (1835).— —, *Erich., Gen. et Spec. Staph.* 807 (1839).— —, *Kraatz, Nat. der Ins. Deutsch.* ii. 871 (1857).— bilineatus, *Woll. [nec Erich.], Cat. Mad. Col.* 201 (1857).— riparius, *Id., Cat. Can. Col.* 599 (1864).*Habitat* Maderenses (*Mad.*) et Canarienses (*Can., Ten., Palma*), hinc inde in humidis.

The common European *T. riparius* occurs, in damp places of low and intermediate altitudes, both in the Madeiras and Canaries. In Madeira proper I have met with it sparingly around Funchal; and in my Madeiran Catalogue I cited it, though as it would now appear erroneously, as the *bilineatus**. Throughout the Canaries it is more widely distributed—having been taken by myself in Grand Canary, Teneriffe, and Palma, and by the Messrs. Crotch in Teneriffe.

1431. **Trogophlæus oculatus.**Trogophlæus bilineatus, *Woll. [nec Erich.], Cat. Can. Col.* 599 (1864).— oculatus, *Id., Append. huj. op.* 74.*Habitat* Canarienses (*Can., Ten.*), in humidis rarissimus.

* Although there is not the slightest doubt that the Madeiran *Trogophlæus* is identical with the Canarian one, and that the latter is positively the *riparius* (as understood by that name in England), I nevertheless must add that a specimen from Madeira was identified by Dr. Kraatz with the "*bilineatus*," and not with the *riparius*. I feel pretty sure however that Kraatz must have given me his opinion hastily, and without any very accurate examination; for the diagnoses of the two species in question leave no doubt on my mind that the Madeiran and Canarian one is truly referable to the *riparius*; and such, I may add, is the opinion both of Mr. Rye and Mr. Waterhouse—who have taken great pains in comparing these *Trogophlæi* for me with British types.

Two specimens only of this *Trogophlœus*—which (as stated in the Appendix) is at once remarkable, *inter alia*, for the largeness of its eyes—have as yet come beneath my notice. One of them was captured by myself in the region of El Monte in Grand Canary, and the other by the Messrs. Crotch (more recently) in Teneriffe.

1432. *Trogophlœus nigrita*.

Trogophlœus nigrita, *Woll., Cat. Mad. Col.* 202 (1857).

Habitat Maderenses (*P^{to} S^{to}*), in inferioribus semel captus.

A single example only of this deep-black *Trogophlœus* has hitherto come beneath my notice. It was taken by myself, during the spring of 1855, in Porto Santo, of the Madeiran Group—on a moist bank, scarcely above the sea-level, at the edge of the little stream at the Zimbral d'Arcia.

1433. *Trogophlœus corticinus*.

Oxytelus corticinus, *Grav., Mon.* 192 (1806).

Trogophlœus corticinus, *Erich., Gen. et Spec. Staph.* 809 (1839).

— *nanus*, *Woll., Ins. Mad.* 611 (1854).

— *corticinus*, *Id., Cat. Mad. Col.* 203 (1857).

— *exiguus*, *Id. [nec Erich.], Cat. Can. Col.* 600 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Can.*), hinc inde in humidis.

A small European *Trogophlœus* which is found sparingly both in the Madeiran and Canarian Groups, where it occurs in damp places and for the most part at intermediate altitudes. I have taken it however in comparative abundance at S^{ta} Anna, in the north of Madeira proper, on the muddy deposit at the edge of a trickling stream; and I met with a single example of it in the region of El Monte in Grand Canary, which in my late Canarian Catalogue I inadvertently referred (though in doubt) to the *exiguus* of Erichson.

1434. *Trogophlœus exilis*.

Trogophlœus exilis, *Woll., Ann. Nat. Hist.* vi. 105 (1860).

— —, *Id., Append. huj. op.* 75.

Habitat Maderenses (*Mad.*) et Canarienses (*Ten., Gom.*), in locis similibus ac præcedens.

Found in much the same kind of localities as the last species, having been captured sparingly (by Mr. M. Park, the late Mr. Bewicke, and myself) in Madeira proper, as well as (by myself) in Teneriffe

and (by the Messrs. Crotch) in Gomera, of the Canarian Group. It is intimately allied to the *T. corticinus*, but is on the average a trifle smaller, more densely sericeous (or clothed with a minute cinereous pubescence), with its elytra somewhat longer, and with its entire punctation (when viewed beneath the microscope) *very* much closer and finer—being *so* close indeed on the prothorax (which is relatively a *little* more narrowed behind) as to give the surface almost the appearance at first sight of being roughly alutaceous, rather than punctured. Its eyes also are appreciably larger, and project more decidedly beyond the hinder portion of the head,—a fact however which is more the result of the latter being less thickened, than of the eyes themselves being more prominent.

1435. *Trogophlœus ruficollis*.

Trogophlœus ruficollis, *Woll., Cat. Can. Col.* 601 (1864).

Habitat Canarienses (*Fuert., Ten.*), in inferioribus et locis paululum elevatis rarissimus.

Taken sparingly (by myself) in Fuerteventura and Teneriffe, of the Canarian Group—namely at La Antigua of the former, and near the Puerto Orotava of the latter. It is not, however, purely Canarian; for I have inspected some examples which were captured by the Messrs. Crotch at Mogadore, on the opposite coast of Morocco, and which appear to me (although their elytra are somewhat less rufescent) not to differ specifically from the Fuerteventuran and Teneriffan ones.

1436. *Trogophlœus bledioides*.

Trogophlœus bledioides, *Woll., Cat. Can. Col.* 601 (1864).

Habitat Canarienses (*Ten., Gom.*), plerumque in humidis inferioribus, rarior.

Observed hitherto only in Teneriffe and Gomera, of the Canarian archipelago, and principally in damp spots of a low elevation. In my late Catalogue I remarked that it is a good deal allied to the *T. simplicicollis* of the Madeiran Group; but as I happened to have no type of the latter for examination, I wrote from recollection only. Having subsequently however compared the two species with each other, I perceive that they have really almost nothing in common except the fact of their prothorax being free from foveæ, and being, together with the head, most densely, minutely and evenly punctulated. The *T. bledioides* is a most remarkable form for a *Trogo-*

phlœus,—its greatly enlarged, oval head, and elongated, subcordate-cylindrical prothorax, in conjunction with its much developed mandibles and rather clavated antennæ, giving it a character essentially its own. Its elytra, also, are not nearly so abbreviated as those of the *simplicicollis*.

1437. *Trogophlœus simplicicollis*.

Trogophlœus simplicicollis, *Woll., Cat. Mad. Col.* 203 (1857).

Habitat Maderenses (*Pto S^{to}*), in inferioribus sat copiose deprehensus.

Captured by myself (rather abundantly) in Porto Santo, of the Madeiran Group—in company with the *T. nigrita*, at the Zimbral d'Areia. It is a minute and narrow species, remarkable for its (somewhat short and almost semicircular) prothorax being totally free from even the rudiments of foveæ, and for being also, together with the head, most closely, delicately, and evenly punctulated.

(Subfam. IX. HOMALIADES.)

Genus 419. **PHILORINUM.**

Kraatz, Nat. der Ins. Deutsch. ii. 966 (1857).

1438. *Philorinum humile*.

Arpedium humile, *Erich., Gen. et Spec. Staph.* 860 (1839).

— —, *Redt., Fna Austr.* 246 (1857).

Philorinum humile, *Kraatz, Nat. der Ins. Deutsch.* ii. 966 (1857).

— —, *Woll., Ann. Nat. Hist.* vi. 106 (1860).

Habitat Maderenses (*Mad.*), à Dom. Bewicke in intermediis semel captum.

A single example of this common European insect was taken at S. Antonio da Serra, in Madeira proper, by the late Mr. Bewicke; but it is the only one I have yet seen from these Atlantic islands.

1439. *Philorinum floricola*.

Philorinum floricola, *Woll., Cat. Can. Col.* 602 (1864).

Habitat Canarienses (*Can., Ten., Gom., Palma, Hierro*), ad flores præsertim *Cytisi* et *Spartii* à 2000' usque ad 9000' s. m. hinc inde copiose ascendens.

Found in all the islands of the Canarian Group except (apparently) the two eastern ones, Lanzarote and Fuerteventura, being locally abundant at lofty elevations. It occurs on flowers, parti-

cularly those of the genera *Cytisus* and *Spartium*; and although it descends sometimes into the intermediate districts, it is in the higher ones that it attains its maximum. Indeed on the upland Cumbres of Teneriffe, ranging from about 6000 to 9000 feet above the sea, I have beaten it in absolute profusion off the blossoms of the Retama; and I have taken it likewise in Grand Canary, Palma, and Hierro. Its detection in Gomera is due to the researches of the Messrs. Crotch.

Genus 420. **HOMALIUM.**

Gravenhorst, *Col. Micropt.* 116 [script. *Omalium*] (1802).

1440. **Homalium sculpticolle.**

Homalium sculpticolle, *Woll., Cat. Can. Col.* 602 (1864).

Habitat Canarienses (*Ten., Palma*), hinc inde sub lapidibus et stercore, in intermediis editioribusque, rarissimum.

Detected in the Canarian Group, at a rather high elevation. I have captured it above the Agua Mansa in Teneriffe (beneath small stones, in an open basaltic cavern, at the foot of the Organo Rocks), as well as in the district of the Banda in Palma. In Teneriffe it was likewise met with, though sparingly, by the Messrs. Crotch—under dung, above Yeod el Alto.

The *H. sculpticolle* is very closely allied to the common European *H. riparium*, of which indeed I feel far from certain that it is more than a geographical state. It appears to differ from it merely in being a little smaller, with its punctation a trifle denser, finer, and (at any rate on the elytra) more asperate, in its prothorax being relatively somewhat narrower or less decidedly transverse, and in its antennæ being rather shorter and slenderer, and a little blacker towards their apex, but more refuscent at their base.

1441. **Homalium ocellatum.**

Omalium ocellatum, *Woll., Ins. Mad.* 613 (1854).

— — —, *Id., Cat. Mad. Col.* 204 (1857).

Habitat Maderenses (*Chão*) et Canarienses (*Ten., Gom.*), rarissimum.

Likewise extremely rare, but found both at the Madeiras and Canaries. From the former Group the only specimen which I have yet seen was captured by myself (during June 1850) on the northern Deserta, or Ilheo Chão; whilst in the latter a few examples were

taken by the Messrs. Crotch, both in Teneriffe and Gomera, during their late Canarian campaign.

The *H. ocellatum* differs from the *sculpticolle* in being a little larger, duller, and paler—its prothorax and elytra being more or less evidently of a lurid, testaceo-piceous hue,—in its head being a little broader, with the eyes somewhat larger,—in its prothorax being also wider (or more transverse), more rounded at the sides, and more obtuse at the posterior angles, with the two discal foveæ shallower, longer (or more produced in front), and more eurved, and with the lateral ones more punctured,—in its elytra being a little more developed, as well as somewhat straighter (and *much* less broadly margined) at the sides,—in its abdomen being *considerably* less shining (the surface being both coarsely alutaceous and with the minute punctules more evident),—and in its antennæ being relatively a little shorter*.

1442. *Homalium tricolor*.

Homalium tricolor, *Woll., Append. huj. op.* 75.

Habitat Maderenses (*Mad.*), rarissimum; in *Euphorbiâ* quadam emortuâ à Dom. Bewicke semel repertum.

A single example of this elegant *Homalium* (from which my diagnosis, given in the Appendix, has been compiled) was captured by the late Mr. Bewicke in the north of Madeira proper—under the bark of a rotten *Euphorbia* in the Ribeira de São Jorge.

1443. *Homalium clavicorne*.

Omalius clavicorne, *Woll., Cat. Mad. Col.* 204 (1857).

Habitat Maderenses (*Mad.*), sub cortice *Euphorbiæ melliferæ* emortuo in locis editioribus degens.

A beautiful *Homalium* which has been detected hitherto only in the intermediate and lofty districts of Madeira proper, where it appears to be attached to the putrid wood of the rotten *Euphorbias*. In the upland region of the Fanal I met with it abundantly, in company with the *Aphanarthrum* and *Mesites euphorbiæ*, under the dead bark of the gigantic *E. mellifera*; and it was subsequently observed by Mr. Mason in the same locality.

* The *H. ocellatum* has been examined carefully by Mr. Rye, who remarks that it has much the *facies* and size of the *nigriceps*, Kiesw., as also a good deal in common with the *Allardi*, Fairm., though with many distinctions of its own to separate it from both of those species.

1444. *Homalium pusillum*.

Omalius pusillum, *Grav., Mon.* 205 (1806).

— *granulatum*, *Woll., Ins. Mad.* 613 (1854).

— —, *Id., Cat. Mad. Col.* 206 (1857).

Homalium pusillum, *Id., Cat. Can. Col.* 603 (1864).

Habitat Maderenses (*Mad.*) et Canarienses (*Ten.*), in sylvaticis intermediis, vel pinetis vel castanetis, sub cortice rarissimum.

Occurs sparingly in the intermediate sylvan districts both of Madeira proper and of the Canaries. The only example however which I have yet seen from the latter Group was captured by myself in Teneriffe, beneath the bark of a felled pine tree at the Agua Mansa. The Atlantic specimens have their foveæ altogether a trifle deeper, and their elytra a little more evidently besprinkled with shallow punctures, than is the case in the ordinary European type, and their antennæ are not in the least obscured towards the apex; but such differences are so slight and unimportant that I can scarcely regard them as indicating even a decided geographical variety; though I may add that if it should be considered eventually that they ought to be separated from the more northern species, the name of *granulatum*, under which I described them in 1854, will have to be retained.

Genus 421. **ANTHOBIUM.**

(Leach) *Steph., Ill. Brit. Ent.* v. 335 (1832).

1445. *Anthobium torquatum*.

Silpha torquata, *Msh., Ent. Brit.* 127 (1832).

Anthobium torquatum et mucronatum, *Steph., loc. cit.* 339 (1832).

— *scutellare*, *Erich., Gen. et Spec. Staph.* 895 (1839).

— *torquatum*, *Woll., Ann. Nat. Hist.* vi. 107 (1860).

Habitat Maderenses (*Mad.*), in horto quodam prope urbem Funchalensem à Dom. Bewicke semel captum.

† Of this common European *Anthobium* a single example was taken by the late Mr. Bewicke in Madeira proper—in his garden at the Palmeira, above Funchal; but it is the only one that I have yet seen from these Atlantic islands.

(Subfam. X. PROTINIDES.)

Genus 422. **MEGARTHURUS.**

(Kirby) *Steph., Ill. Brit. Ent.* v. 330 (1832).

1446. *Megarthus longicornis*.

Megarthus longicornis, *Woll., Ins. Mad.* 615, tab. xiii. f. 9 (1854).

— —, *Id., Cat. Mad. Col.* 206 (1857).

— —, *Id., Cat. Can. Col.* 604 (1864).

Habitat Maderensēs (*Mad.*) et Canariensēs (*Lanz., Can., Ten., Gom., Hierro*), sub quisquiliis in inferioribus intermediisque late diffusus.

A *Megarthus* (somewhat allied to the European *M. sinuaticollis*) which is widely spread over these Atlantic islands, where I have little doubt that it is nearly universal. In the Madeiras however it has been observed hitherto only throughout the intermediate elevations of Madeira proper, where moreover it appears to be scarce. But at the Canaries, where it occurs in the lower districts as well as the higher ones, it is much more common—frequently abounding beneath vegetable refuse. I have taken it in Lanzarote, Grand Canary, Teneriffe, and Hierro,—in the last two of which it was met with likewise by Mr. Gray; and it was found in Teneriffe and Gomera by the Messrs. Crotch.

1447. *Megarthus serrula*.

Megarthus serrula, *Woll., Append. huj. op.* 76.

Habitat Canariensēs (*Gom.*), sub quisquiliis à DD. Crotch nuper detectus.

Captured in Gomera by the Messrs. Crotch, during their late expedition to the Canaries—by sifting fallen leaves and other vegetable refuse, above Hermigua.

Genus 423. **METOPSIA.**

Wollaston, *Ins. Mad.* 616 (1854).

1448. *Metopsia ampliata*.

Metopsia ampliata, *Woll., Ins. Mad.* 616, tab. xiii. f. 7 (1854).

— —, *Id., Cat. Mad. Col.* 206 (1857).

Habitat Maderensēs (*Mad.*), sub quisquiliis lapidibusque in sylvaticis humidis intermediis, præsertim lauretis, parce occurrens.

This flat and remarkable insect seems to be peculiar to the moist sylvan districts of Madeira proper, where it occurs sparingly (beneath stones, pieces of damp rotting wood, fallen leaves, and other vegetable refuse) at intermediate and rather lofty elevations.

1449. *Metopsia cimicoïdes*.

Metopsia cimicoïdes, *Woll., Cat. Can. Col.* 605 (1864).

Habitat Canarienses (*Ten., Gom.*), in sylvaticis intermediis editioribusque rarissima.

Found in the sylvan districts of the Canarian Group, at intermediate and lofty altitudes, where it would appear to be extremely scarce. I obtained a single example of it, in the laurel-region towards Taganana, in Teneriffe; and it was captured sparingly by the Messrs. Crotch in the same island (in the Pinal above Yeod el Alto), as well as in Gomera.

The *M. cimicoïdes* is much smaller, narrower, more oblong, and paler than the Madeiran *ampliata*; its two frontal incisions are deeper and narrower; its prothorax is much more lightly and less conspicuously channelled, with the anterior angles less obtusely rounded; its elytra are more straightly truncated behind; and the third joint of its antennæ is less elongate.

APPENDIX.

Fam. CARABIDÆ.

Genus APOTOMUS.

(Hoffmansegg) Illiger, *Mag. für Ins.* vi. 348 (1807).

Apotomus testaceus.

A. rufo-ferrugineus, subnitidus, pube minutâ omnino adpressâ paulo pallidiore vestitus et punctulis minutissimis (oculo fortissime armato) sat crebre ubique obsitus; elytris punctato-striatis; antennis pedibusque gracilibus, illis concoloribus, his rufo-testaceis. —Long. corp. lin. $1\frac{2}{3}$.

Apotomus testaceus, *Dej., Spec. Gén. des Col.* i. 451 (1825).

Habitat Salvages, ab ins. *majore* (boreali) a Barone de Paiva missus.

Obs.—Species ab *A. rufo* et *Chaudoirii* valde distincta; differt corpore paulo minore, ubique minutissime et sat crebre punctulato (primo visu quasi subalutaceo) necnon pube minutâ brevi subtili omnino demissâ vestito (nec pilis elongatis erectis obsito), elytris minus grosse punctato-striatis, antennis pedibusque gracilioribus, illis rufo-ferrugineis concoloribus (*i. e.* articulis intermediis vix reliquis obscurioribus).

A single example of this *Apotomus* has lately been communicated by the Barão do Castello de Paiva, by whom it was obtained from the Great Salvage. It is an interesting addition to our fauna, as being identical with an Egyptian species captured by Schaum at Cairo, and which (judging from the diagnosis) I cannot separate from the *A. testaceus* of Dejean, from the south of Russia. It is a little smaller than the *A. rufus* and *Chaudoirii*, and is entirely destitute of the long erect hairs which stud those insects (being merely clothed with a short, delicate, and entirely *decumbent* pubescence); its surface also when viewed beneath the microscope will be seen to be rather thickly and uniformly covered with excessively minute punctules (which at first sight give it almost the appearance of being alutaceous); and its limbs are perceptibly slenderer,—the antennæ,

moreover, being dark rufo-ferruginous throughout (for the intermediate joints are hardly more obscured than the remaining ones).

Genus **TARUS.**

Clairville, *Ent. Helv.* ii. 94 (1806).

Tarus velatus, n. sp.

T. subnitidus, nigro- vel fusco-piceus sed in limbo plus minus evidenter dilutior, pilis mollibus erectis fulvis vestitus, ubique dense (in elytris vix levius) punctatus; prothorace latiusculo, angulis ipsis posticis vix subrecurvo-exstantibus; elytris ovalibus, subconvexis, sat profunde subrenato-striatis; antennis, palpis pedibusque (sensim pallidioribus) testaceis.—Long. corp. lin. $4\frac{1}{3}$ –5.

Habitat Gomeram, in montibus humidis sylvaticis à DD. Crotch deprehensus.

Several specimens of this fine *Tarus* (so remarkable for its deeply and densely punctured surface, which is beset with a fine, soft, erect, though not particularly elongate, fulvous pile) were taken by the Messrs. Crotch at a high elevation in the laurel-forests (above Hermigua) of Gomera, during the summer of 1864. In colour, clothing, and sculpture it is almost identical with the *T. amictus*, of which I add below an *amended* diagnosis; nevertheless it is very much larger, and has (*inter alia*) its head and prothorax relatively wider and more transverse.

Tarus amictus.

T. præcedenti similis, sed minor, vix levius punctatus; capite prothoraceque angustioribus, hâc magis cordato, angulis ipsis posticis paulo evidentius subrecurvo-exstantibus; elytris vix magis depressis, striis fere simplicibus.—Long. corp. lin. $3\frac{1}{3}$ – $3\frac{1}{2}$ (var. β . 3 – $3\frac{1}{4}$).
Var. β . simillima [an species?]. Paulo minor, subnitidior et vix profundius punctata; elytrorum striis subprofundius impressis; antennis vix brevioribus, clarioribus.

Tarus amictus, *Woll., Cat. Can. Col.* 21 (1864).

Habitat sylvatica excelsa Canariæ et Gomeræ, in illâ à meipso sed in hac à DD. Crotch repertus.

This *Tarus* seems to differ from the preceding one simply in being *considerably* smaller, with its head and prothorax (the latter of which has the posterior angles rather more evidently prominent, or upwardly subrecurved) relatively narrower, and with its elytra just perceptibly less convex. The specimens however from which the above diagnosis has been compiled present two *slightly* different forms even amongst themselves,—one of which (regarded as normal) is a trifle larger, as

also just perceptibly less shining and more finely sculptured, than the other, and has its antennæ (if anything) a little shorter and paler; but the differences are so unimportant, compared with those which separate *both* forms from the *T. velatus*, that I do not think it would be safe to treat them as more than phases (possibly indeed mere sexual ones) of a single species. Both of these forms were taken, at a high altitude, by the Messrs. Crotch, in the sylvan districts of Gomera; and I myself captured two examples of the "typical" state, at Osorio, on the mountains of Grand Canary.

Genus **DROMIUS.**

Bonelli, *Observ. Ent.* ii. (1813).

Dromius plagipennis, n. sp.

D. elongatus; capite prothoraceque nitidis, illo rufo-ferrugineo, hôte rufo-testaceo parvo subquadrato; elytris alutaceis, leviter striatis, fusco-nigris, plagâ suffusâ testaceâ in disco antico interno positâ (necnon interdum alterâ minore indistinctâ versus apicem internum) utrinque ornatis; antennis pedibusque testaceis.—Long. corp. lin. 3.

Habitat in Teneriffâ et Hierro, in intermediis à DD. Crotch captus.

Obs.—Species *D. meridionali*, Dej., valde affinis et forsan ejus varietas geographica lætius maculata; sed prothorax est paulo minor antice sensim angustior, angulis ipsis posticis (oculo fortiter armato) minus rotundatis.

Eight specimens of the large and beautiful *Dromius* from which the above diagnosis has been compiled were taken by the Messrs. Crotch, during their late Canarian campaign,—one of them at Yeod el Alto in Teneriffe, and the remaining seven (beneath the dead bark of some old props of a fig-tree, in a garden just above Valverde) in Hierro. I feel far from satisfied that they may not be in reality the exponents of some prettily spotted geographical state of the *D. meridionalis* of southern Europe; nevertheless, apart from the bright testaceous blotch on the inner fore disk of each elytron (which is usually supplemented behind by obscure traces of a smaller and very suffused one towards either sutural angle), its prothorax is a trifle smaller (and less widened anteriorly) than is the case in that species, and the extreme basal angles are less rounded.

Dromius oceanicus, n. sp.

D. subparallelo-elongatus, subopacus; capite prothoraceque rufo-ferrugineis, illo magno subrotundato in fronte grosse longitudi-

naliter strigoso, hôte subcordato; elytris subparallelis, ad humeros sensim subangulato-porrectis, subdepressis, striatis (striis vix punctatis), fusco-testaceis, per suturam anguste necnon in fasciâ parvâ hastatâ postmediâ nigrescentibus.—Long. corp. lin. $2\frac{2}{3}$.

Dromius insularis (p.), *Woll., Ins. Mad.* 4 (1854).

— — (—), *Id., Cat. Mad. Col.* 2 (1857).

Habitat in ins. Desertis (sc. boreali et majore) Maderensibus, sub lapidibus rarissimus.

Hitherto I have regarded this *Dromius* as a state, peculiar to the Desertas, of the *D. insularis* (found in the sylvan regions of Madeira proper); but a more careful inspection of it has induced me to believe that it cannot be referred absolutely to that species. It is altogether a little larger, broader, and more parallel; both its head and prothorax are sensibly more developed; and its elytra are straighter at the sides, with their shoulders *less rounded-off* (or more porrect), with their striæ almost unpunctured, and with their postmedial fascia somewhat smaller and more hastate. I have taken it beneath stones, in open spots, both on the northern and central Desertas; where, however, it would appear to be extremely rare.

Dromius insularis.

D. elongatus, subopacus; capite prothoraceque rufo-ferrugineis, illo sat magno elongato-rotundato in fronte grosse longitudinaliter strigoso, hôte anguste subcordato; elytris elongato-ovatis, ad humeros rotundatis declivibus, depressis, profunde suberenato-striatis, fusco-testaceis, per suturam anguste necnon in fasciâ dentatâ postmediâ nigrescentibus.—Long. corp. lin. $2\frac{1}{2}$.

Dromius insularis, *Woll., Ins. Mad.* 4 (1854).

— —, *Id., Cat. Mad. Col.* 2 (1857).

Habitat Maderam, in sylvaticis humidis editioribus occurrens.

I have given a corrected diagnosis of this *Dromius*, in order to show the exact points in which it differs from the preceding species (which is peculiar to the Desertas, and which I had formerly regarded as a local state of the *insularis*). The *D. insularis*, however, as now defined, is essentially a sylvan insect,—occurring in the damp wooded districts of Madeira proper, and ascending to a high elevation; and it may perhaps be looked upon as the representative of *D. strigifrons* of the Canarian Group. It is appreciably smaller and less parallel than the *D. oceanicus*, its head and prothorax are narrower, and its elytra are more expanded behind the middle, more rounded-off (or less angular) at the shoulders, with their striæ rather

coarser and more decidedly crenate, and with their postmedial fascia a trifle more dentate and developed.

Dromius strigifrons, n. sp.

D. elongatus, parum nitidus; capite prothoraceque rufo-ferrugineis, illo sat magno subrotundato in fronte grosse longitudinaliter strigoso, hęc anguste subcordato; elytris elongato-ovatis, ad humeros rotundatis declivibus, depressis, profunde striato-punctatis, fusco-testaceis, per suturam anguste necnon in maculâ minutâ communi ante apicem sitâ nigrescentibus.—Long. corp. lin. vix $2\frac{1}{2}$.

Habitat in lauretis editioribus Gomeræ, à DD. Crotch parce lectus.

Detected by the Messrs. Crotch, under the bark of laurels, at a high elevation in Gomera; and I believe that they found it likewise in Teneriffe (near Ycod el Alto), but, as the specimens from the latter were unfortunately lost on their homeward route, I have not sufficient evidence to permit me to cite it for that island.

The *D. strigifrons* differs from the *amœnus* (to which it is closely allied) in its rather broader and *longitudinally rugose* forehead, in its prothorax being a little more narrowed behind (and therefore somewhat less straightened at the sides), and in its elytra being more depressed, with their striæ much more coarsely punctured, and with the postmedial fascia of that species reduced to a minute central, or sutural, spot (common to both), placed further towards the apex. It is perhaps still more nearly related to the *D. insularis* (from the sylvan districts of Madeira), with which in its strigulose forehead and general contour it almost agrees. But it is more shining (or less alutaceous), and its elytra have their striæ more distinctly punctured, with the postmedial dentate fascia which is more or less conspicuous in that insect reduced to a small subapical speck.

Dromius amœnus.

D. præcedenti similis, sed capite vix angustiore (sive minus rotundato), in fronte fere simplici (nec longitudinaliter strigoso); prothorace vix magis quadrato (ad latera subrectiore); elytris sensim magis convexis leviusque striatis (striis fere simplicibus, nec distincte punctatis) necnon lætius nigro-pictis (sc. per suturam minus anguste et in fasciâ postmediâ multo majore latiore dentatâ nigrescentibus).—Long. corp. lin. $2\frac{1}{3}$ —vix $2\frac{1}{2}$.

Dromius amœnus, *Woll., Cat. Can. Col.* 12 (1864).

Habitat Teneriffam, in lauretis humidis editioribus sub cortice laxo sese occultare delectans.

I have thought it better to give the above corrected diagnosis of

the *D. amœnus*, seeing that the detection of the *strigifrons* at the Canaries and the acknowledgment (now for the first time) of the *oceanicus* at the Madeiras would render it desirable that all these closely allied (but, I believe, truly distinct) species should be accurately defined *inter se*. The *D. amœnus* has been observed hitherto only in the sylvan districts of Teneriffe, where it occurs under loosened bark at a rather high elevation.

Dromius umbratus, n. sp.

D. sigmati affinis, sed major et in partibus pallidioribus quoque paulo minus testaceus, capite prothoraceque submajoribus latioribus, elytrorum fasciâ multo majore, crassiore (sc. maximâ), rectius transversâ, sive minus dentatâ.—Long. corp. lin. 2.

Habitat in Maderâ, à Dom. Bewicke parce deprehensus.

Two examples of this *Dromius* are in the collection of the late Mr. Bewicke, by whom they were captured in Madeira proper; but I have no means now of ascertaining their precise locality. They differ from the *D. sigma* in being considerably larger, and in all the pale portions of their surface being of a rather more rufescent (or less pallid) hue, in their head and prothorax being wider and more developed, and in their elytral fascia being very much thicker and straighter (or less dentate).

Genus **BROSCUS**.

Panzer, *Index Ent.* i. 62 (1813).

Brosicus crassimargo, n. sp.

B. ater; capite prothoraceque nitidis, hœc cordato, ad basin leviter subpunctato, ad latera ipsissima grosse marginato subcyanescente (margine usque ad angulos ipsos posticos conspicue ducto); elytris opacis, levissime (tamen distincte) striato-punctatis, ad latera ipsissima angustissime marginatis subconcoloribus (margine etiam usque ad humeros parum crasso et ibidem in angulum sat acutum humeralem abrupte terminato); antennis fusco-piceis, concoloribus (art^o 1^{mo} reliquis vix dilutiore); pedibus elongatis, nigropiceis.—Long. corp. lin. 10–11.

Habitat Gomeram, à DD. Crotch in lauretis humidis editioribus detectus.

This fine *Brosicus* appears to be a little larger than even the *B. glaber*, from Grand Canary; and it may at once be known from both of the Canarian species by its elytra being quite opaque and *distinctly* (though very lightly and minutely) striate-punctulate, by the

basal joint of its antennæ being almost (or entirely) of the same colour as the remaining ones, and (above all) by the peculiarity of its *marginal rim* both in the prothorax and elytra,—it being continued (completely and coarsely) in the former to the actual basal *angles themselves*, and in the latter to the humeral angles (where it abruptly terminates, causing them to be *comparatively* acute and thickened). Its habits would seem to be more in accordance with those of the *B. rutilans* than of the *B. glaber*,—the few specimens from which the present diagnosis has been compiled, and which were detected by the Messrs. Crotch, having been found in the sylvan districts of Gomera “at the foot of the cataract above Hermigua.”

Genus ZARGUS.

Wollaston, *Ins. Mad.* 22 (1854).

Zargus Crotchianus, n. sp.

L. niger vel *picco-niger*, obsoletissime submetallico-tinctus, nitidus; prothorace sat parvo, subrotundato-quadrato, ad latera subpellucido-dilutiore et postice late recurvo, basi utrinque late profundeque impresso; clytris regulariter striatis (striis impunctatis), in limbo interdum subdilutioribus; antennis palpisque elongatis, gracilibus, picco-testaceis, illis in articulis 3 basalibus plus minus picescentioribus; pedibus elongatis, gracilibus, piceis vel testaceopiceis, tarsis clarioribus.—Long. corp. lin. 5–5½.

Habitat Gomeram, rarissimus; in lauretis humidis excelsis supra “Hermigua” à DD. Crotch deprehensus.

This noble *Zargus* constitutes one of the finest and most important discoveries of the Messrs. Crotch,—not merely from its specific distinctness, but as introducing the remarkable genus of which it is a member (and which has hitherto been essentially Madeiran) into the Canarian fauna. Three examples of it were taken by them at a high elevation (above Hermigua) in the laurel-districts of Gomera, during the summer of 1864; and they seem to possess all the structural features of the normal *Zargi*, unless it be that the terminal joint of their palpi is just perceptibly thicker (or less acute). Apart from every other character, the *Z. Crotchianus* may be known from all the (Madeiran) species as yet detected by its large size, obscure sub-metallic tint, and the broadly recurved edges of its prothorax; and it may perhaps be considered, on the whole, *nearer* to the (comparatively small) *Z. Monizii* (found near the Cabo Garajão, in the east of Madeira proper) than to any of the remainder.

Genus **CALATHUS.**Bonelli, *Observ. Ent.* i. (1809).**Calathus obliteratus**, n. sp.

C. ovatus, pone medium convexus, fusco-piceus, nitidus; prothorace conico, subdepresso, ad latera late subrecurve; elytris basi depresso-desilientibus, in medio subinflato-convexis, lineâ basali in utroque fere rectâ sed obsoletâ obliteratedâ, leviter striatis, interstitio tertio punctis circa 6 notato; antennis pedibusque rufo-testaceis, tibiis tarsisque elongatis, gracilibus (horum art^o 1^{mo} præcipue elongato).—Long. corp. lin. $5\frac{1}{2}$.

Mas adhuc latet.

Habitat Gomeram, in lauretis editoribus à DD. Crotch semel captus.

Obs.—Species corpore ovato, pone medium subinflato-convexo, prothorace valde conico, elytrorum lineâ basali obsoletâ obliteratedâ, striis levibus sed haud tenuibus punctisque circa 6 ad striam tertiam annexis, necnon tibiis (rectissimis) tarsisque elongatis gracilibus inter cognatas subanomala distincta.

In compiling the above diagnosis I have had but a single (female) example, which was captured by the Messrs. Crotch in Gomera, to judge from; nevertheless it presents so many points of peculiarity that there can, I think, be no question whatever as to its specific claims. Its affinities, I imagine, are more with the *C. abacoides* and *cognatus* than with any of the other species; and therefore I have little hesitation in placing it accordingly, even though I am unable to pronounce for certain whether the posterior tibiæ of its male sex are simple or internally fringed. It may at once be known from the allied forms by its ovate outline and posteriorly convex upper surface, by its very conical prothorax, by its elytra having their basal line obsolete (or obliterated), their striæ shallow (though rather wide) and with about six punctures adjoining the third one from the suture, and by its tibiæ and tarsi (the former of which are very straight, whilst the latter have their basal joint longer than is usual) being elongated and slender.

Calathus fimbriatus.

C. latiusculus, *C. complanato* plerumque paulo brevior, valde depressus, piceus; prothorace latiusculo; antennis pedibusque ferrugineis.—Long. corp. lin. $5-5\frac{1}{2}$.

Mas nitidus; tibiis posterioribus intus (præsertim versus apicem) pilis longis densissime fimbriatis.

Fœm. opacus; tibiis fere simplicibus.

Calathus complanatus, var. γ , *Woll., Ins. Mad.* 30 (1854).

Calathus complanatus (p.), *Woll., Cat. Mad. Col.* 11 (1857).
 — *fimbriatus*, *Id., Ann. Nat. Hist.* i. 18 (1858).

Habitat in Portu Sancto, sub lapidibus vulgatissimus.

***Calathus laureticola*, n. sp.**

C. fusco-piceus, elongatus, depressus; prothorace subquadrato, ad latera late subrecurvo; elytris lineâ basali in utroque fere rectâ, striatis, interstitio tertio punctis 2 vel 3 (sæpius 2) notato; antennis pedibusque rufo-testaceis.—Long. corp. lin. 6–6½.

Mas omnino (sed præsertim in capite prothoraceque) subnitidus; interstitiis subconvexis; tibiis posterioribus intus dense fimbriatis.

Fœm. capite prothoraceque subopacis, elytris opacis; interstitiis valde depressis; tibiis simplicibus.

Habitat in lauretis Gomeræ editioribus, à DD. Crotch lectus.

A noble *Calathus* which was detected by the Messrs. Crotch, during their late Canarian researches, at a high elevation, in the sylvan regions of Gomera (“above the cataract, under Monte Fuerte”),—where it appears to be tolerably common. The densely fimbriated posterior tibiæ of its male sex immediately assign it to the second of the Sections under which I have distributed the Atlantic species; and I think perhaps that in the generality of its characters it is more in accordance with the *C. appendiculatus*, from Grand Canary, than with any of the remainder; nevertheless the peculiar sexual differences of that insect (the males of which are entirely bright, whilst the females have their *prothorax* and elytra opaque), combined with the rather more numerous punctures on its third elytral interstice, and other minor features (which will be readily gathered from its diagnosis), will at once separate it from its Gomeran ally.

Genus **PTEROSTICHUS**, *Auct.*

(Subgenus **Haptoderus**, *Chaud.*)

***Pterostichus calathiformis*, n. sp.**

P. elongato-oblongus, gracilis, læte rufo-piceus, subnitidus; prothorace paulo rufescentiore, subquadrato (antice et postice subæqualiter vix angustiore), angulis posticis subrectis, per marginem posticum sinuato, basi utrinque leviter impresso; elytris antice subdepressis, (saltem in fœmineo) tenuissime striatis subalutaceis, lineâ basali (inter humeros et scutellum) valde arcuatâ; antennis pedibusque gracilibus, clare rufo-ferrugineis; tibiis in utroque sexu simplicibus.—Long. corp. lin. 4–4½.

Habitat Gomeram, in lauretis humidis excelsis à DD. Crotch captus.

In external *facies*, sculpture, and hue this insect is so like a *Calathus* that, were it not for its simple claws, it might almost be mistaken for one. However, it is clearly a large *Argutor* (or *Haptoderus*, Chaud.), of much the same type (both in general contour and in the fact of its posterior tibiæ being slender and simple in *both sexes*) as the *A. gracilipes* of Madeira, though most abundantly distinct from it specifically. It was discovered by the Messrs. Crotch at a high elevation in the laurel-districts of Gomera, "above the cataract, under Monte Fuerte."

Genus **CRATOGNATHUS.**

Dejean, *Spec. Gén. des Col.* iv. 46 (1829).

Cratognathus empiricus, n. sp.

C. micanti valde affinis sed, nisi fallor, vere distinctus; differt prothorace postice sensim latiore, basi levius bifoveolato, per latera et basin (oculo fortiter armato) angustius marginato, angulis anterioribus paulo magis porrectis, acutioribus: in superficie (præsertim fœminei) minus politâ cum *varietate* β ("Sanctæ-Crucis"), sed in elytris tenuiter striatis cum *statu typico* melius congruit.—Long. corp. lin. $4\frac{1}{2}$ –5.

Habitat in humidis sylvaticis Gomeræ, à DD. Crotch nuper lectus.

Several examples of the *Cratognathus* from which the above diagnosis has been compiled were taken by the Messrs. Crotch in Gomera, near the base of the great waterfall in the sylvan region above Hermigua (at an elevation of about 2000 feet). Although at first sight closely resembling the *C. micans* of that island, it seems to me, when carefully inspected, to differ too much from the latter to be safely treated as a mere local state, or modification, of it. Yet I would not wish to imply positively that such *may* not be the case. In its less shining surface (particularly of the female sex) it accords better with what I have described as the "var. β , Sanctæ Crucis," found in Teneriffe; whilst, on the other hand, the fine and delicate striæ of its elytra are more in harmony with the normal Gomeran type. From *both* forms however (namely, the Gomeran and Teneriffan ones) of the *micans* it recedes appreciably in the construction of its prothorax,—which is a little broader behind, more narrowly margined along its lateral and basal edges, with its posterior foveæ less deeply impressed, and with its front angles rather acuter or more porrect.

Genus **ÆPYS.**

(Leach) Sam., *Usef. Comp.* 149 [script. *Æpus*] (1819).

Aëpys gracilicornis.

A. fusco-testaceus, subopacus, depressus, densissime et rugose alutaceus punctisque remotis leviter impressus necnon pube demissâ pallidiore præsertim in elytris vestitus; prothorace angusto, subcordato; elytris parallelo-subellipticis, haud striatis, singulis punctis duobus leviter signatis necnon ad apicem rotundatis; antennis pedibusque pallidioribus et (illis præcipue) elongatis gracilibus.—Long. corp. lin. 1.

Aëpys gracilicornis, *Woll., Ann. Nat. Hist.* v. 218 (1860).

Habitat Maderam, in maritimis subsalinis rarissimus.

Fam. DYTISCIDÆ.**Genus HYDROPORUS.**

Clairville, *Ent. Helv.* ii. 183 (1806).

Hydroporus compunctus, n. sp.

H. ovalis, nitidulus, alutaceus, profunde sed haud dense punctatus, parce cinereo-pubescent, nigro-piceus; capite omnino sed prothorace elytrisque ad latera indistincte rufescentioribus; prothorace parum inæquali (postice late irregulariter impresso); elytris lineis tribus (unâ sc. juxta suturam vix punctatâ, et duabus exterioribus è punctis sat magnis compositis) notatis; antennis pedibusque rufo-ferrugineis.—Long. corp. lin. $1\frac{1}{2}$.

Habitat Teneriffam, à DD. Crotch semel tantum deprehensus.

A single example of this *Hydroporus* was taken by the Messrs. Crotch in Teneriffe (I believe in the Barranco at Yeod el Alto), during their late Canarian campaign. It is rather smaller, convexer, and more oval than the *H. wanthopus*, and very much more coarsely (and a little more sparingly) punctured; its head and sides (at any rate of the prothorax, which is also more deeply branded transversely behind) are more rufescent; and its elytra are more distinctly impressed with an obscure longitudinal line (or wide, shallow depression) parallel to the suture, and the two usual series of punctures externally.

Genus EUNECTES.

Erichson, *Gen. Dytic.* 23 (1832).

Eunectes subdiaphanus.

E. suboblongus, subdiaphano-coriaceus, pallide diluto-testaceus, clypeo antice subintegro; capite postice nigro et maculâ frontali magnâ antice profunde bipartitâ ornato; prothorace vittâ transversâ fractâ nebuloso, ad latera oblique recto, angulis posticis obtusiusculis,

subinaequali, margine postico infra angulos distincte elevato; scutello subtriangulari; elytris punctis magnis triplici serie et punctulis minoribus nigris notatis, utroque maculis duabus sublateralibus nigris ornato; antennis pedibusque pallido-testaceis.—Long. corp. lin. 7-7½.

Fœm. elytris foveâ longitudinali sublaterali mediâ longiusculâ valde profundâ utrinque impressis.

Eunectes subdiaphanus, *Woll., Ann. Nat. Hist.* viii. 100 (1861).

— —, *Id., Cat. Can. Col.* 84 (1864).

Habitat Canariam Grandem, in aquis quietis ad El Charco captus.

Eunectes subcoriaceus.

E. oblongo-ovatus, subdiaphano-coriaceus, pallide diluto-testaceus, clypeo antice leviter emarginato; capite postice nigro et maculâ frontali magnâ distinctâ antice profunde bipartitâ ornato; prothorace vittâ transversâ parvâ fractâ nebuloso, ad latera oblique subrecto, angulis posticis acutiusculis, subæquali, margine postico infra angulos leviter elevato; scutello subsemicirculari; elytris punctis magnis triplici serie et punctulis minoribus parvis (anterius minutis levioribus ac magis remotis) nigris notatis, utroque maculâ (rarius duabus) parvâ sublaterali nigrâ ornato; antennis pedibusque pallido-testaceis.—Long. corp. lin. 7.

Fœm. elytris foveâ longitudinali sublaterali mediâ breviusculâ sat profundâ utrinque impressis.

Eunectes subcoriaceus, *Woll., Ann. Nat. Hist.* viii. 99 (1861).

Habitat Maderam, in cisternâ quadam supra urbem Funchalensem à Dom. Bewicke parce deprehensus.

Fam. SILPHIDÆ.

Genus CATOPS.

Paykull, *Ins. Suec.* i. 342 (1798).

Catops Murrayi.

C. subellipticus, piceo-niger, minus convexus; prothorace postice sinuato; elytris apice leviter acuminatis, striâ suturali antice evanescente impressis; antennis pedibusque longiusculis, robustis, rufo-ferrugineis.—Long. corp. lin. 1⅔.

Mas tarsorum anteriorum articulo basali magno dilatato.

Catops Murrayi, *Woll., Ann. Nat. Hist.* v. 219 (1860).

Habitat Maderam, in editioribus humidis sylvaticis semel repertus.

Catops pinicola, n. sp.

C. angustulus, ovalis, fusco-ferrugineus, minute ac densissime pubescens; capite nitidiusculo, (insecto maturo) nigrescente; pro-

thorace ad latera leviter rotundato, angulis anticis valde rotundatis obtusis, posticis vix productis; elytris singulis striâ suturali profundâ impressis; antennis gracilibus, ad basin testaceis; pedibus infuscate testaceis.—Long. corp. lin. $1\frac{1}{3}$ – $1\frac{1}{2}$.

Habitat in pinetis Teneriffæ, sub foliis aridis dejectis à DD. Crotch lectus.

Obs.—*C. veloci* Europæo affinis, sed vix ejus varietas geographica; differt corpore minore angustiore, capite nitidiorè plus minus nigro (rarius concolori), et prothoracis angulis anticis magis rotundatis obtusis, posticis minus evidentè productis. *C. putrido* discedit præcipue corpore subangustiore ac magis opaco, capite nigrescentiore, prothorace minus convexo necnon ad latera minus rotundato, elytris nullo modo substriatis, antennis gracilioribus.

Captured by the Messrs. Crotch, rather abundantly, at a high elevation, in Teneriffe,—by sifting dead leaves in the Pinal near Yeod el Alto. Possibly, therefore, it may be peculiar to the pine-regions of that and the neighbouring islands. It is very closely allied to the European (and Madeiran) *C. veloæ*; but it is smaller, narrower, and more regularly elliptic (or less obovate); its head is slightly shining, and more or less black (being only concolorous when the insect is immature); and its prothorax has the anterior angles more obtuse, or rounded-off, and the posterior ones less evidently produced.

From the *C. putridus* the *pinicola* differs principally in its slightly narrower outline and more opaque surface, in its darker head, in its prothorax being less convex and less rounded at the sides, in its elytra being quite free from the obsolete striæ which are distinctly traceable in that species, and in its antennæ being slenderer and less clavate. In all probability too its habits are not the same, the single example yet detected of the *C. putridus* having been found beneath the moist decaying bark of an old *laurel* in Palma.

Fam. CORYLOPHIDÆ.

Genus MICROSTAGETUS.

Wollaston, *Ann. Nat. Hist.* viii. 103 (1861).

Genus corpore minutissimo pallido sericeo, prothorace antice semicirculari (caput totum tegente) alisque amplissimis ciliatis *Sericodero* affinitate proximum et primâ facie illum simulans, sed species est minor, antice minus dilatata obtusa, prothoracis angulis posticis multo minus acutis (vix productis), et præcipue antennis 11- (nec 10-) articulatis, articulis inter se diversis. Cum *Moronillo*, Duval, antennis 11-articulatis (sec. descriptionem) congruit,

sed articuli sunt valde dissimiles, corpus minus est necnon pubescens pallidum alatum (haud glabrum apterum), et caput sub pronoto omnino absconditur. Ab *Orthopero* (cui aliquo modo approximatur) antennarum 11- (nec 9-) articulatarum structurâ, necnon capite toto sub prothorace recondito, præter cætera, differt.

Microstagetus parvulus.

M. ovali-obovatus, rufo-testaceus, sericeo-pubescens; prothorace nitidissimo, impunctato; elytris nitidis, vix obscurioribus et (oculo fortiter armato) minutissime ac levissime punctulatis; antennis pedibusque vix pallidioribus.—Long. corp. lin. vix $\frac{1}{2}$.

Microstagetus parvulus, *Woll., loc. cit.* 106 (1861).

Habitat Maderam, sub quisquiliis in inferioribus intermediisque rarior.

Fam. PTILIADÆ.

Genus ACROTRICHIS.

Motschulsky, *Bull. de Moscou*, xxi. 569 (1848).

Acrotrichis anthracina.

A. subovata, convexa, postice valde attenuata, aterrima, nitidissima, breviter griseo-pubescens; capite magno, prominulo; prothorace basi lato, angulis posticis valde productis, in disco (oculo fortiter armato) pustulis magnis (elegantè sinuate dispositis) instructo, necnon inter pustulas nitidissimo alutaceo; elytris prothorace angustioribus, postice valde attenuatis; antennis piceo-nigris; pedibus clare testaceis.—Long. corp. lin. $\frac{1}{3}$.

Trichopteryx anthracina, *Matth., in Ent. Month. Mag.* ii. 35 (1865).

Habitat Gomeram, rarissima. Exemplaria tria ceperunt DD. Crotch.

Acrotrichis Wollastoni.

A. oblonga, parum convexa, nigra, sat longe fulvo-pubescens; prothorace basi latiusculo, angulis posticis productis, in disco (oculo fortiter armato) granulis, vel pustulis minutissimis, distinctis (flexuose, sed versus basin rectius, subseriatim dispositis) instructo, necnon inter pustulas alutaceo; elytris postice parum attenuatis; antennis (elongatis, gracilibus) pedibusque clare testaceis.—Long. corp. lin. vix $\frac{1}{2}$.

Trichopteryx Wollastoni, *Matth., loc. cit.* i. 248 (1865).

Habitat in Canariâ, Teneriffâ, Gomerâ et Hierro, sub quisquiliis, præcipue per regiones sylvaticas intermedias, vulgatissima.

The *A. Wollastoni* differs from the European *A. fascicularis* (which it much resembles) in its rather smaller size and more parallel out-

line, in its longer and browner pubescence, in its more sharply cut sculpture (in which the prothoracic granules, or minute pustules, are placed rather closer together), in its more elongated and paler antennæ, and in the more straightened apex of its elytra.

Acrotrichis Crotchii.

A. breviscula, *latiuscula*, convexa, castaneo-brunnea, pubescens; prothorace amplo, basi lato, in disco (oculo fortiter armato) pustulis minutissimis (oblique, sed late, subseriatim dispositis) instructo, necnon inter pustulas alutaceo; elytris brevisculis, postice valde attenuatis; antennis pedibusque testaceis; illis apice fortius clavatis.—Long. corp. lin. vix $\frac{1}{2}$.

Trichopteryx Crotchii, *Matth.*, *loc. cit.* 248 (1865).

Habitat in Gomerâ, à DD. Crotch nuper parce deprehensa.

Acrotrichis canariensis.

A. breviter subparallelo-oblonga (sæpe etiam postice sublatur), *aterima*, breviter subnigro-pubescens; prothorace basi vix latiore, angulis posticis vix productis, in disco (oculo fortiter armato) pustulis valde distinctis irregulariter dispositis argute instructo, necnon inter pustulas grosse alutaceo; elytris longiusculis, subparallelis; antennis nigro-piceis; pedibus testaceis.—Long. corp. lin. $\frac{1}{3}$.

Trichopteryx canariensis, *Matth.*, *loc. cit.* 249 (1864).

Habitat Teneriffam et Gomeram, à W. D. Crotch collecta.

Genus PTINELLA.

(Motschulsky) *Matth.*, *in Zool.* xvi. 6106 (1858).

Ptinella Proteus.

P. rufo-testacea, profunde punctata, longe pubescens; capite magno; prothorace capite latiore, antice dilatato, basi contracto, angulis anticis productis rotundatis, posticis acutis; elytris oblongis, prothorace vix latioribus sed multo profundius punctatis, apice singulatim rotundatis; abdomine longo, obtuso, segmentis 5 apertis; antennis pedibusque pallidis, parum robustis.—Long. corp. lin. vix $\frac{1}{3}$.

Variat aptera vel alata, necnon alis oculisque aut nigris aut pallidis.

Ptinella Proteus, *Matth.*, *in Zool.* xx. 8262 (1862).

Habitat Maderam, sub cortice in inferioribus rarissima.

Detected by the late Mr. Bewicke in Madeira proper—under bark, near Funchal.

Fam. NITIDULIDÆ.

Genus BRACHYPTERUS.

Kugelann, in *Schneid. Mag.* 506 (1794).*Brachypterus æneomicans*, n. sp.

B. oblongo-ovatus, convexus, viridi-æneo micans, grosse aureo-pubesceus, profunde, parce et subæqualiter punctatus; prothorace postice paulo angustiore; antennis pedibusque testaceis, illarum clavâ nigrescente.—Long. corp. lin. 1.

Variat (immaturus?) elytris subtestaceo-dilutioribus.

Habitat Gomeram, rarissimus. Specimina duo collegerunt DD. Crotch.

Obs.—A *B. velato* differt colore æneo, multo magis metallico, pube robustiore ac magis aureâ, profundius et præsertim in capite minus dense punctatus, prothorace sensim longiore (minus transverso), ad latera minus æqualiter rotundato (sc. postice sensim angustato, ergo angulis posticis minus rotundatis).

Two examples of this *Brachypterus* were captured in Gomera by the Messrs. Crotch. They are unquestionably distinct from the *B. velatus*,—being not only more æneous and metallic, with their pubescence even coarser still, and of a much more golden hue, but their entire punctation is deeper and (particularly on the head) less dense, and their prothorax is appreciably longer or less transverse, and less evenly rounded at the sides (being in fact perceptibly narrowed posteriorly, causing the basal angles to be less rounded or more defined).

Genus CARPOPHILUS.

(Leach) Steph., *Ill. Brit. Ent.* iii. 50 (1830).*Carpophilus tersus*, n. sp.

C. latiusculus, depressiusculus, subopacus, minute grisco-pubesceus, densissime et argute punctatus, niger; elytris singulis maculâ magnâ mediâ obliquâ rufo-testaccâ ornatis; prothorace convexiore, latiusculo, ad latera æqualiter rotundato, angulis anticis acutiusculis, posticis subrotundatis; scutello magno abdomineque nitidioribus; antennarum articulis subbasalibus vix dilutioribus; pedibus piceis, tarsis rufo-testaceis.—Long. corp. lin. vix $1\frac{2}{3}$.

Habitat Gomeram, à DD. Crotch intra *Euphorbiam* emortuam semel captus.

A single example of this distinct *Carpophilus* was taken by the Messrs. Crotch in Gomera, from out of a dead *Euphorbia*; and it would appear, consequently, not only to be truly indigenous but

even of *Euphorbia*-infesting habits. It is larger, broader, less shining, more depressed, and rather less coarsely pubescent than the *C. hemipterus*; its punctation is sharper, and perhaps still more dense; its prothorax is wider, and more rounded at the sides; its limbs are rather darker and longer; and each of its elytra has a large *central, oblique* reddish spot in the middle of the disk.

Fam. COLYDIADÆ.

Genus TARPHIUS.

(Germar) Erich., *Nat. der Ins. Deutsch.* iii. 256 (1848).

Tarphius angustulus.

T. angustus, rufo-piceus vel piceo-ferrugineus, fere calvus (oculo fortissime armato minute et parce fulvo-cinereo pubescens); prothorace elongato, postice gradatim ac leviter angustiore, ad latera oblique subrecto, granulis maximis depressis obsito; elytris parallelis, minus sculpturatis, nec nodosis nec carinatis, concoloribus; antennis pedibusque vix clarioribus.—Long. corp. lin. 1.

Tarphius angustulus, *Woll., Ann. Nat. Hist.* x. 289 (1862).

Habitat in montibus Maderæ australis, à Dom. Moniz in castanctis supra urbem Funchalensem repertus.

Tarphius angusticollis.

T. subrotundato-ovatus, subnitidus, niger; prothorace angusto, antice et postice attenuato, angulis anticis valde acutis porrectis, granulis crebris maximis depressis obsito; elytris rotundatis, convexis, concoloribus, profunde seriatim punctatis, interstitiis alternis leviter elevatis interruptis nodos distinctos (plus minus aureo-setosos) efformantibus; femoribus tibiisque nigrescenti-piceis; tarsis antennisque picescenti-ferrugineis, harum capitulo sensim majusculo.—Long. corp. lin. $1\frac{1}{2}$ – $1\frac{2}{3}$.

Tarphius angusticollis, *Woll., Ann. Nat. Hist.* v. 252 (1860).

Habitat Maderam sylvaticam, in regione excelsâ Fanalensî à Dom. Bewicke, æstate A.D. 1859, parce captus.

Tarphius setosus, n. sp.

T. sublate oblongus, granulis squamisque fuscis vestitus et setis longiusculis erectis fuscis pallidioribusque obsitus; prothorace ad latera regulariter et subæqualiter rotundato; elytris subnodosis (nodis vix exstantibus, valde obtusis, sed sæpius late rufescentibus); antennis pedibusque rufo-ferrugineis.—Long. corp. lin. $1\frac{1}{3}$ – $2\frac{1}{2}$.

Habitat Gomeram, in lauretis humidis excelsis à DD. Crotch æstate

A.D. 1864 repertus: necnon etiam in ins. Hierro specimen unicum ceperunt.

Obs.—Species *T. canariensi* aliquo modo affinis, sed major, latior, postice obtusior (*i. e.* magis truncate declivis) setisque longioribus magis erectis fuscis pallidioribusque obsita; prothorace ad latera magis æqualiter rotundato (nec postice subito angustiore); elytrorum nodis multo minus exstantibus sed plerumque multo lætius rufescentibus, interstitiis alternis sensim latioribus.

This fine *Tarphius* would appear to be the representative in Gomera of the *T. canariensis*—which occurs, under slightly altered phases, in Grand Canary, Teneriffe, and Palma. For although I feel compelled in my diagnosis of the latter to recognize for it a rather wide range of variation, I nevertheless cannot myself believe that the present one should be included amongst any of the insular modifications of that species. And yet I would not wish to imply *positively* that such may not be the case, for it certainly does seem strange if the almost universal *T. canariensis* should be absent from the laurel-districts of Gomera; so that I should prefer to leave the question an open one, that it may be solved by others (who may have occasion to consider it) in accordance with their belief in the modifying effects of surrounding circumstances on external insect form. I would however simply remark that the idea of its being any *local* state of the *T. canariensis* appears to be negatived by the fact of its existing likewise in Hierro, from which island a single specimen was brought by the Messrs. Crotch differing in no appreciable particular from the Gomeran ones. And moreover we can scarcely yet pronounce for certain that the *canariensis* proper is *not* to be met with (likewise) in some of the unexplored laurel-woods of Gomera.

Judging from an immense series now before me, collected by Dr. Crotch and his brother in the laurel-districts above Hermigua in Gomera, the *T. setosus* would seem to differ from all the forms of the *canariensis* in being on the average considerably larger and relatively broader (the subanal region being also more truncated, or obtuse), in its setæ being much longer and more erect (a *portion* of them moreover being comparatively pale), in its prothorax being more *equally* rounded at the sides (having scarcely any tendency to be suddenly narrowed behind), and in its elytral nodules being much less developed, though at the same time nearly always conspicuously blotched (or rufescent). Although, like most of the *Tarphii*, very variable in size, it is a remarkably constant species in all other

respects; for out of 171 individuals which I have examined, I can see no tendency to any aberration worth recording.

***Tarphius humerosus*, n. sp.**

T. subquadrato-oblongus, crassus, granulis maximis squamisque fuscis rugose et densissime vestitus necnon setulis brevibus fuscis parcissime irroratus; prothorace brevi, transverso, ad latera ante medium rotundato, postice oblique subrecto; elytris ad humeros ipsos late exstantibus, distincte nodosis (nodis concoloribus, sed subter squamis paulo rufescentibus); antennis pedibusque brevibus, rufo-piceis.—Long. corp. lin. 2.

Habitat Gomeram sylvaticam excelsam, rarissimus.

The thick, squarish-oblong, and very coarsely granuled body of this *Tarphius*, in conjunction with its dull brown, thickly scaly, but almost unsetose surface, and the tolerably developed nodes of its elytra (of which the humeral angles are very prominent, and which therefore exceed far in breadth at their extreme base the posterior region of the prothorax), will sufficiently distinguish it. Its prothorax (which is short) has the sides evenly rounded before the middle, but rather straightened (though obliquely so) behind; and its limbs are somewhat abbreviated. The only three examples of it which I have seen were taken by the Messrs. Crotch in Gomera, in company with the preceding and following species.

***Tarphius affinis*, n. sp.**

T. præcedenti similis, sed vix minor et angustior, granulis minoribus (tamen magnis) vestitus setisque longioribus subdemissis densius (tamen parce) adpersus; prothorace sensim longiore minusque transverso; elytris ad humeros minus exstantibus necnon ubique levius nodosis, in limbo grossius serratis.—Long. corp. lin. $1\frac{1}{2}$ –2.

Habitat Gomeram, haud infrequens, unà cum præcedentibus degens.

Twenty examples of this *Tarphius* were taken by Dr. Crotch and his brother at a high elevation in the laurel-districts of Gomera, in company with the other species here enunciated. It is a good deal allied to the *T. humerosus*, but is a trifle smaller and narrower; and the granules with which it is everywhere densely beset, although large and coarse, are not so large as in that insect. Its setæ, also, though remote, are longer and more conspicuous; its prothorax is a little less abbreviated, and not quite so transverse; and its elytra, which are considerably less nodose, have their humeral angles less prominent (or developed).

Tarphius abbreviatus, n. sp.

T. brevisculus, rotundato-quadratus, granulis squamisque fuscis densissime vestitus necnon setulis brevissimis cinereo-fuscis demissis parce irroratus; prothorace brevi, subsemicirculari, postice paulo angustato; elytris brevibus (postice truncate declivibus), conspicue multinodosis (nodis concoloribus, rarius subrufescentibus); antennis pedibusque brevibus, rufo-piceis.—Long. corp. lin. $1\frac{1}{3}$ —vix 2.

Habitat Gomeram, vulgaris; in locis similibus ac præcedentes.

The rather small size and rounded-quadrate outline of this *Tarphius*, combined with its rough, densely scaly but almost unsetose surface, the numerous and somewhat largely developed nodes of its shortened elytra, its sub-semicircular prothorax, and abbreviated limbs, will readily separate it from the other species here described. It appears to be very abundant in the laurel-districts of Gomera at a high elevation, from whence I have just examined 71 specimens (all exceedingly constant in their characters) which were captured by the Messrs. Crotch.

Tarphius monstrosus, n. sp.

T. magnus, oblongo-quadratus, granulis squamisque fuscis dense vestitus necnon setulis brevissimis minutis fulvis demissis præsertim in nodis irroratus; prothorace amplo, ad latera regulariter rotundato sed ante medium latiore; elytris multinodosis (nodis concoloribus, conspicuis, bene distinctis, altis sed vix magnis); antennis pedibusque rufo-piceis.—Long. corp. lin. 2—2 $\frac{2}{3}$.

Habitat in lauretis Gomeræ, vulgaris.

This is probably the largest of the *Tarphii* hitherto detected, unless indeed the *T. gigas* from Teneriffe (of which I have seen as yet but two examples, one of which is scarcely smaller than the larger ones of the *monstrosus*) be found to equal it in bulk. It is remarkable, *inter alia*, for its numerous and well-defined elytral nodules (which however, although greatly raised, are not particularly large). It appears to be the Gomeran representative of the Teneriffan *T. gigas*, though at the same time most abundantly distinct from that insect. It may be known from it by its differently shaped prothorax (which is much larger and more developed, considerably broader and more rounded in front, more recurved at the edges, and with the anterior angles less acute), by its elytra being very much more convex, with their nodules more numerous, considerably more elevated, and better defined, by its sculpture being less coarse, and its body less thickened and more clothed with a

minute fulvous pile. Like the *T. abbreviatus* and *setosus*, it seems to be common in the laurel-regions of Gomera, where it was discovered by Dr. Croteh and his brother during the summer of 1864. It is also a very constant species, since out of 186 examples which I have inspected carefully I can detect no appreciable deviation from its type.

Tarphius Wolffii, n. sp.

T. parallelo-oblongus, piceus, setulis brevibus tectus; prothorace ante medium latiusculo, ad latera regulariter rotundato, utrinque late explanato; elytris postice truncate declivibus, grosse seriatim punctatis, leviter nodosis (nodis subglabris, paulo rufescentioribus); antennis pedibusque rufo-testaceis.—Long. corp. lin. 2.

Habitat Maderam australem, in castanetis editioribus supra urbem Funchalensem à Dom. C. Wolff, M.D., nuper detectus.

Obs.—Species *T. truncato* affinis, sed differt corpore majore latiore, prothorace præsertim ampliore latiore ante medium multo magis rotundato et utrinque latius explanato, elytris sensim minus lateraliter compressis, in interstitiis alternis minus (sc. vix) elevatis et in nodulis minus setosis.

Two examples of this *Tarphius* have lately been communicated by Dr. C. Wolff, an energetic Prussian coleopterist who has worked carefully in the south of Madeira. They were captured by him in the chestnut-woods at "the Mount," in company with the equally rare *T. rufosus*; and I have much pleasure in dedicating the species to him. It is evidently much allied to the *T. truncatus*, with which indeed in its colour and sculpture, as well as in the rather truncated hinder region of its elytra, it agrees. It is, however, both larger and relatively broader than that insect; its prothorax especially is wider and more developed, being much more rounded before the middle and more broadly flattened towards the edges; and its elytra are less compressed laterally, with their alternate interstices less evidently raised (indeed scarcely raised at all), and their nodules more isolated and somewhat less setose.

Genus **PROSTHECA**.

Wollaston, *Ann. Nat. Hist.* v. 254 (1860).

Prostheca aspera.

P. linearis, fusco-ferruginea, subopaca; capite prothoraceque rugosis, tuberculatis ac setulis paucis valde distantibus obsitis, hoc fere æquali, postice angustiore, ad latera oblique recto, angulis anticis

porrectis paulo explanatis subrecurvis ; elytris obsoletissime subseriatim punctatis, interstitiis subcrenato-costatis et setulis longitudinaliter obsitis ; antennis pedibusque vix pallidioribus.—Long. corp. lin. 1.

Prostheca aspera, *Woll., loc. cit.* 255 (1860).

Habitat Maderam, à Dom. Bewicke in inferioribus semel reperta.

Fam. CRYPTOPHAGIDÆ.

Genus CRYPTOPHAGUS.

Herbst, *Käf.* iv. 172 (1792).

Cryptophagus impressus, n. sp.

C. oblongo-fusiformis, subnitidus, fusco-ferrugineus, pube brevi omnino depressâ parce vestitus ; prothorace transverso-subquadrato, postice paulo angustiore, ad latera oblique subrecto, denticulo medio acuto armato necnon ad angulos anticos in dentem magnum ampliato, in disco convexo, basi in medio late transversim desinenti-impresso ; elytris subfusiformibus, convexis ; antennis breviusculis.—Long. corp. lin. 1.

Habitat Teneriffam, rarissimus. Specimina duo ceperunt DD. Crotch.

Two examples of this *Cryptophagus* were captured in Teneriffe by the Messrs. Crotch ; and it is totally distinct from all the species with which I am acquainted. It may be known by its rather fusiform outline, somewhat shining surface, short and perfectly decumbent pubescence, and by the structure of its prothorax—which is squarish-transverse, but a little narrowed posteriorly, deeply impressed (like many of the *Atomariæ*) along the central portion of the extreme base, and with the sides nearly straight (though oblique) and furnished with a minute denticle in the centre, whilst the front angles are enlarged into a very prominent (though not particularly elongate) backwardly-pointed tooth. Its antennæ appear to be rather short, and its punctation (particularly on the elytra) not very coarse.

Genus ATOMARIA.

(Kirby) Steph., *Ill. Brit. Ent.* iii. 64 (1830).

Atomaria laticollis, n. sp.

A. oblongo-ovalis, pube grossâ fulvo-cinereâ demissâ parce vestita, fusco-picea ; prothorace magno, lato, convexo, per basin ipsissimam constricto, profunde et dense punctato, ad latera valde et æqualiter rotundato ; elytris convexis, levius ac minus dense punctatis, antice (et interdum postice quoque) gradatim ac plus minus clare dilutio-

ribus (sc. rufo-testaceis); antennis (saltem in maribus) elongatis, rufo-ferrugineis; pedibus rufo-testaceis.—Long. corp. lin. $\frac{3}{4}$ –1.
Variat (præsertim immatura) pallidior, interdum etiam omnino rufo-ferruginea.

Habitat in intermediis Teneriffæ, à DD. Crotch ad Ycod el Alto capta.

A remarkable species, which was taken by the Messrs. Crotch (rather abundantly), during their late Canarian campaign, at Ycod el Alto in Teneriffe. It is at once conspicuous for its very large, broad, convex, laterally rounded, and deeply and closely punctured prothorax, and for its elytra being more or less brightly (though gradually) diluted in hue, or rufo-testaceous, towards their base. It varies, however, a good deal in the intensity of its colouring, some examples (particularly immature ones) being altogether reddish-ferruginous. Its antennæ, likewise, at any rate of the males, are longer than is the case in the ordinary *Atomariæ*.

Atomaria venusta, n. sp.

A. ovalis, parce sed distincte punctata, nitidissima et pube minutissimâ brevissimâ albidâ parcissime irrorata; capite prothoraceque rufis, hôte subconico, basi vix constricto sed in mediâ parte profunde transversim impresso; elytris convexis, nigris, ad apicem interdum paulo dilutioribus; antennis crassis, rufo-ferrugineis; pedibus rufo-testaceis.—Long. corp. lin. $\frac{3}{4}$.

Habitat Gomeram, à DD. Crotch in intermediis lecta.

Obs.—*A. rubricolli* staturâ, colore habituque generali affinis, sed nitidior, minus pubescens (fere pube carens) ac minus dense et paulo minus profunde punctata; prothorace subangustior, minus transverso, magis conico, ad latera minus rotundato et minus crasse marginato, per basin minus constricto, sed in mediâ parte evidentius profundiusque transversim impresso.

Taken in Gomera, during the summer of 1864, by the Messrs. Crotch. It is strictly the representative in that island of the Teneriffan *A. rubricollis*, which indeed in general colour and aspect it so nearly resembles that at first sight it might almost be mistaken for it. When closely inspected, however, it will be seen to possess many characteristics of its own, which remain perfectly constant in every specimen I have examined; and I have not the least doubt, therefore, that it is truly distinct from its Teneriffan ally. Thus, it is more highly polished, *much* less pubescent (there being scarcely any appearance of clothing at all except when viewed beneath the microscope), and less densely and rather more finely punctured; and

its prothorax is a little narrower (or less transverse), more conical, less rounded (and more narrowly margined) at the sides, and less constricted along its extreme base—though, at the same time, *more deeply*, and definitely, impressed transversely in the centre.

***Atomaria bulbosa*, n. sp.**

A. ovata, nifidissima, pube cinereâ demissâ parce vestita, nigra vel fusco-nigra; prothorace subconico, minute punctulato; elytris convexis, distinctius punctulatis, aut concoloribus aut antice et per suturam obscure dilutioribus (sc. rufescentioribus); antennis pedibusque inæqualiter ac saturate rufo-testaceis.—Long. corp. lin. $\frac{2}{3}$ —vix $\frac{3}{4}$.

Variat plus minus distincte rufescentior, necnon immatura omnino rufo-ferruginea.

Habitat Gomeram, à DD. Crotch sat copiose deprehensa.

An interesting little *Atomaria* which was discovered in Gomera, during the summer of 1864, by the Messrs. Crotch. There can be no doubt that it is a truly indigenous species, partaking in some measure of the general character and structure which obtain in the *A. insecta* and *alternans* of the Maderan Group. Although by no means minute, it is the smallest of the *Atomarie* hitherto detected at the Canaries; and it is remarkable for its very shining surface, comparatively rounded bulbous form, and its usually dark hue. The colour however is (as in most of the members of this genus) extremely inconstant; for although when mature the insect is generally almost entirely black, it is nevertheless sometimes a little diluted (or rufescent) in various parts (particularly towards the base, and along the suture, of its elytra), and immature examples of it are often wholly ferruginous.

Fam. LATRIDIIDÆ.

Genus **CORTICARIA.**

Marsham, *Ent. Brit.* 106 (1802).

Corticaria inconspicua.

C. elongata, rufo-ferruginea, subdepressa; capite prothoraceque profunde et sat crebre punctatis, hâc ad latera præsertim postice crenulato, foveâ postmediâ profundâ rotundatâ impresso; clytris leviter sed rugulose striato-punctatis; antennis pedibusque paulo pallidioribus.—Long. corp. lin. $\frac{1}{2}$ — $\frac{2}{3}$.

Corticaria inconspicua, Woll., *Ann. Nat. Hist.* v. 260 (1860).

Habitat Maderam, in inferioribus intermediisque sub quisquilliis degens.

Genus **LATRIDIUS**.Herbst, *Natursyst.* v. 8 (1793).**Latridius delectus.**

L. elongatus, angustus, ferrugineus; capite prothoraceque profunde rugoso-punctatis, illo sat magno subquadrato, hęc subquadrato basi leviter angustato; elytris parallelis, profunde seriatim punctatis (punctis magnis), suturâ interstitiisque alternis alte elevatis.—Long. corp. lin. $\frac{3}{4}$.

Lathridius delectus, *Woll., Ann. Nat. Hist.* ii. 409 (1858).

Habitat Maderam australem, in inferioribus rarissimus.

Genus **METOPHTHALMUS**.Wollaston, *Ins. Mad.* 192 (1854).**Metophtalmus asperatus.**

M. oblongus, rufo-ferrugineus elytris nigrescentibus; capite prothoraceque inæqualibus, illo in fronte longitudinaliter binodoso necnon utrinque costato; elytris ad humeros obtuse subrectis, profunde seriatim punctatis, interstitiis alternis costato-elevatis.—Long. corp. lin. $\frac{3}{4}$ – $\frac{7}{8}$.

Metophtalmus asperatus, *Woll., Ins. Mad.* 193, tab. iv. f. 4 (1854).
— —, *Id., Cat. Mad. Col.* 67 (1857).

Habitat Maderam sylvaticam, sub cortice arido necnon inter lignum aridum antiquum hinc inde sat vulgaris.

Three very distinct *Metophtalmi* having now been detected in Madeira, and two at the Canaries, I have thought it desirable to give (in addition to those of the new ones) a short and corrected diagnosis even of the species which have already been described,—in order that the more salient points in which they differ from each other may be better understood. In insects thus minute, however, I have not considered it necessary to advert to the exact proportions of their antennal joints, though a careful comparison of them under the microscope will show that there are nevertheless, in each case, slight but positive distinctions which will further tend (when seen) to characterize the several exponents of the group.

The Madeiran *M. asperatus* is the largest of the genus yet detected, and it is likewise more oblong and parallel than any of the remainder. The colour too of its head and prothorax, in mature specimens, is always of a ferruginous red, whilst the elytra are darker—being, more or less, of a piceous-black.

Metophthalmus ferrugineus, n. sp.

M. præcedenti fere similis, sed oblongo-ovatus, postice paulo convexior, necnon omnino ferrugineus, elytris minus grosse seriatim punctatis.—Long. corp. lin. $\frac{3}{4}$.

Habitat in ins. Hierro, à DD. Crotch nuper lectus.

Captured abundantly by the Messrs. Crotch in Hierro, the most western island of the Canarian Group. It is a little more ovate (and convex posteriorly) than the last species, and entirely of a ferruginous hue; and its elytra are less coarsely seriate-punctate. It seems likewise, on the average, to be a trifle smaller than the *M. asperatus*. I believe that the Messrs. Crotch's examples were obtained by sifting dead leaves, and other rubbish, in the wooded district of El Golfo.

Metophthalmus encaustus, n. sp.

M. minor, brevior, regulariter ovatus, vel omnino rufo-ferrugineus vel in elytris obscurior; elytris ad humeros paulo magis porrectis, acutioribus, et valde profunde seriatim punctatis (punctis maximis).—Long. corp. lin. $\frac{2}{3}$.

Habitat in intermediis sylvaticis Teneriffæ et Gomerae (præsertim hujus), inter lignum aridum antiquum necnon sub foliis aridis dejectis occurrens.

Of this little *Metophthalmus* I took a single example in Teneriffe (in the laurel-wood at Las Mercedes), during June 1858, but as I unfortunately lost it I had no opportunity of drawing out a diagnosis and including it in my Canarian Catalogue. It has however been captured lately by the Messrs. Crotch (sparingly in Teneriffe, but abundantly in Gomera), by *sifting* fallen leaves—a most profitable method of collecting, which I did not adopt.

The *M. encaustus* is an exceedingly well-marked species; for although it may be said to be decidedly variable in hue (being sometimes entirely rufo-ferruginous, and at others with the head and prothorax of that colour whilst the elytra are considerably darker), nevertheless its comparatively ovate outline and the perfectly enormous punctures of its elytra (which have their shoulders more or less porrected, or acute) will easily distinguish it from the others here enumerated. It is smaller than either of the preceding species, but larger than the following ones.

Metophthalmus sculpturatus.

M. præcedenti affinis sed minor, vix minus ovatus, prothorace ad

latera minus explanato-subrecurvo, elytris ad humeros obtuse rectoribus (paulo minus acutis).—Long. corp. lin. vix $\frac{2}{3}$.

Metophthalmus sculpturatus, *Woll., Ann. Nat. Hist.* x. 290 (1862).

Habitat in Maderæ intermediis, sub cortice *Platani* laxo à Dom. Bewicke detectus.

In its rather variable hue, as well as in the enormous punctures of its elytra, this *Metophthalmus* is nearly coincident with the *M. encaustus*; and indeed it may properly be regarded as the Madeiran representative of that species. Although thus far agreeing with it, however, I am satisfied that the two are perfectly distinct. Thus, the *M. sculpturatus* is very conspicuously smaller than its Canarian ally, and also just perceptibly less ovate (or more parallel), its prothorax is considerably less flattened-outwards (or expanded) at the sides, and its shoulders are less acute. It was detected, in abundance, by the late Mr. Bewicke in Madeira proper,—under the dry, loosened bark of plane-trees (at the Palheiro) on the mountains above Funchal.

***Metophthalmus exiguus*.**

M. præcedentibus multo minor, angustulus, ovalis, omnino ferrugineus; elytrorum punctis multo minoribus, interstitiisque minus costato-elevatis.—Long. corp. lin. $\frac{1}{2}$.

Metophthalmus exiguus, *Woll., Ann. Nat. Hist.* v. 261 (1860).

Habitat Maderam, à Dom. Bewicke in inferioribus semel lectus.

This diminutive *Metophthalmus* differs from all the preceding ones in its very small size and comparatively narrow and more or less oval (or elliptic) outline, as well as in its elytral sculpture being comparatively fine, with the alternate interstices less raised. In colour it seems to be entirely ferruginous,—judging at least from the only example which has been brought to light, and which was captured in Madeira proper by the late Mr. Bewicke, amongst *Euphorbia*-refuse which he had brought from Porto Novo in the east of the island. It is probable therefore that the species is of *Euphorbia*-infesting habits; though, at the same time, it is undoubtedly possible that the presence of Mr. Bewicke's specimen in that particular spot may have been merely accidental.

Fam. DERMESTIDÆ.

Genus ANTHRENUS.

Geoffroy, *Hist. des. Ins.* i. 113 (1764).

Anthrenus minor, n. sp.

A. oblongo-ovalis (nec rotundatus), angustulus, niger, supra parce lurido-irroratus; prothorace basi utrinque albido-maculato; elytris fasciis tribus dentatis albidis (plus minus conspicuis) ornatis; infra albidus; antennis (11-articulatis) pedibusque ferrugineis, illarum clavâ (2-articulatâ) picescentiore.—Long. corp. lin. $\frac{3}{4}$ – $1\frac{1}{3}$.

Anthrenus claviger, *Woll.* [nec *Erich.*], *Cat. Can. Col.* 161 (1864).

Habitat in Gomerâ, Palmâ et Hierro, ad flores varios (præsertim *Euphorbiarum*) hinc inde parum vulgaris.

In my Canarian Catalogue I recorded this insect as the *A. claviger* of Erichson, a mistake which arose from my having omitted to examine its antennæ with sufficient care. But although so closely resembling that species in its external aspect that I did not hesitate to refer it to it even without a microscopic observation, I nevertheless now perceive that its 10-jointed antennæ with their biarticulate club remove it in reality into a different *Section*—of which the common *A. museorum* is a member; and it would seem consequently to combine the small size, oblong outline, and general colouring of the *A. claviger* with the structural features of the *museorum*-group. I think it extremely likely that it may be identical with the Mediterranean *A. minutus*, which is cited in the last edition of the 'Cat. Col. Eur.' as *probably* conspecific with the *A. molitor* of Aubé; but as I have not been able to procure a type either of Aubé's insect or of Küster's, I cannot decide whether the details of its antennæ will admit of its being identified with either (or both) of them.

I have taken the *A. minor* rather abundantly in the intermediate elevations of Palma; and it was found by the Messrs. Crotch, during the summer of 1864, both in Gomera and Hierro—principally on the blossoms of the *Euphorbias*.

Fam. BYRRHIDÆ.**Genus SYNCALYPTA.**

(Dillwyn) Steph., *Ill. Brit. Ent.* iii. 133 (1830).

Syncalypta granulosa, n. sp.

S. obovata, convexa, nigra, setis rigidis parce obsita; prothorace punctato; elytris (præsertim antice et postice) granulatis, leviter punctato-striatis (punctis levibus, inter se remotis); antennis pedibusque rufo-ferrugineis.—Long. corp. lin. $1\frac{1}{4}$.

Habitat Gomeram, à DD. Crotch in editoribus parcissime lecta.

Three examples of this *Syncalypta* were taken by the Messrs. Crotch, during the summer of 1864, from under dry leaves in the sylvan districts of Gomera. It may at once be known by its obovate outline; by its elytra (when their scales are removed) being granulated and subopaque, with their striæ fine, and but lightly and remotely punctured; and by the last joint of its antennal club being rounded, and not much developed.

Fam. HISTERIDÆ.

Genus ACRITUS.

Le Conte, *Proc. Acad. Philadel.* iii. 288 (1853).

§ I. *Prothorax lineâ (plus minus punctatâ) ante basin impressus.*

Acritus gemmula, n. sp.

A. ovalis, castaneus, nitidissimus; prothorace (oculo fortissime armato) parce et minute punctulato, per marginem ipsissimum posticum serie punctorum leviter impresso necnon ante basin lineâ subpunctatâ transversâ (utrinque evanescente) distincte instructo; elytris versus humeros obsolete oblique substriatis; sternis parcissime obsolete subpunctulatis, prosterni striis integris, antice et postice gradatim subæqualiter arcuatis, mesosterno subsemicirculari sed antice paulo truncato, ubique tenuiter marginato, suturâ posticâ indistinctâ; pygidio et propygidio parcissime minute subpunctulatis; antennis pedibusque picco-testaceis, tibiis gracilibus (anticis vix latioribus, extus minutissime setuloso-ciliatis).—Long. corp. lin. $\frac{1}{2}$.

Variat elytris (oculo fortissime armato) parce et levissime oblique substrigulosis.

Habitat Gomeram, à DD. Crotch sub truncis laurorum putridis in montibus excelsis captus.

The diminutive size, oval outline, and highly polished surface of this little *Acritus* (which is of a bright castaneous, or chestnut, hue, with the limbs paler) will at once suffice to distinguish it. *Primâ facie* indeed it is so unlike the ordinary members of the genus that it was not until I had dissected it carefully that I perceived it to be an *Acritus* at all; but the details of its mouth and feet (the hinder pair of which have, as usual, the first and second articulations completely confluent *inter se*) are on the ordinary type, unless indeed the terminal joint of its maxillary and *labial* palpi be a trifle longer and more acute. The proportions of its 7-jointed funiculus, and the minute inner lobe of its very short maxillæ, are quite in accordance with what obtains in the normal *Acriti*. Several specimens of it

were captured by the Messrs. Crotch, beneath dead wood, in the laurel-districts of Gomera—"at the foot of the cataract, above Hermigua."

Fam. THROSCIDÆ.

Genus THROSCUS.

Latreille, *Préc. des Caract.* 42 (1796).

§ I. *Oculi integri.*

Throscus latiusculus, n. sp.

T. obovato-elongatus (antice *latiusculus*), niger, subnitidus, ubique crebre et minutissime punctulatus, dense flavescenti-cinereo pubescens; fronte tenuiter bicostatâ (costis postice, longe ante basin evanescentibus); prothorace latiusculo, in disco convexo, postice in medio distincte transversim biimpresso, punctis majoribus sat argute irrorato; elytris leviter subpunctato-striatis, interstitiis punctatis; antennis pedibusque picco-ferrugineis, tarsis testaceis. Long. corp. lin. $1\frac{1}{3}$ – $1\frac{3}{4}$.

Habitat in Hierro, a DD. Crotch deprehensus.

A *Throscus* which would seem to be peculiar to Hierro, the most western of the Canarian islands, where several examples of it were captured by the Messrs. Crotch. It may be known from the other species here enumerated by its comparatively broad outline (particularly in front), dark hue, and rather strongly punctured surface; by its frontal costæ being much abbreviated behind; by its prothorax being relatively wider, and more rounded at the sides; and by its elytra being somewhat less straightened, and elongated posteriorly.

Throscus elongatulus, n. sp.

T. præcedenti similis, sed omnino angustior ac magis elongatus, postice sæpius evidentius subdilutior; costis frontalibus postice minus abbreviatis (sed vix ad marginem pronoti anticum ductis); prothorace magis conico, ad latera minus rotundato (magis oblique recto); elytris longioribus, postice magis attenuato-productis; puncturâ paululum subtiliore.—Long. corp. lin. $1\frac{1}{2}$ – $1\frac{3}{4}$.

Habitat Teneriffam, Gomeram et Palmam, in sylvaticis humidis rarissimus.

Likewise Canarian, having been obtained by the Messrs. Crotch in Gomera (by sifting leaves and rubbish, above Hermigua); and I captured a few specimens, which I believe should be referred to the same species, in Teneriffe and Palma. It is altogether narrower,

and *proportionately* more elongated, than the *T. latiusculus*; its prothorax is more strictly conical, and rather less widened behind the middle,—being more straightened obliquely, or less rounded, at the sides; its elytra are more gradually, and *straightly*, attenuated (or lengthened) posteriorly, where also they are *usually* somewhat more diluted and rufescent, or less black; its entire punctation is a trifle finer; and its frontal costæ are less abbreviated behind, though scarcely continued to the anterior edge of the pronotum.

The above diagnosis is drawn out from Gomeran examples; and I should add that a Palman one now before me is a little smaller, browner, and more oval, and has the ridges of its forehead somewhat more produced posteriorly. Whether those from Teneriffe accord best with the Palman or the Gomeran forms I am not able to say, for I have at present no Teneriffan individual for comparison; but the question is not a very important one, for I do not think that such minute differences can indicate more, at the utmost, than slight insular phases of a single species.

The *T. elongatulus* is very closely allied to the Madeiran *T. integer*, of which I am far from certain that it is more than a geographical modification, and with which indeed in my late Canarian Catalogue I actually identified it. I think however it will be more prudent to keep it separate,—the fact of its frontal keels being less decidedly lengthened behind, in conjunction with its prothorax being a little more sparingly punctured, more convex on the disk, and more impressed at the base, and its elytral striæ being coarser, rendering it probable (when its different *habitat* is taken into account) that it may perhaps be specifically distinct. Nevertheless if it should prove ultimately to be a mere variety of the *T. integer*, of course the latter name will have to be adopted.

Throscus integer.

T. elongato affinis, sed magis brunneus; costis frontibus postice minus evanescentibus (usque ad marginem pronoti anticum ductis); prothorace subdensius punctato, in disco vix minus convexo et basi paulo levius impresso; elytrorum striis sensim levioribus.— Long. corp. lin. 1–1 $\frac{3}{4}$.

Trixagus integer, Woll., Cat. Mad. Col. 82 (1857).

Habitat Maderam sylvaticam, in humidis subeditoribus rarissimus.

Found in the damp laurel-woods of Madeira proper, at a rather high altitude, where it would appear to be extremely rare. As already stated, it is very closely allied to the *T. elongatulus* of the

Canarian Group, of which perhaps it may be but a geographical modification. It seems to differ from that insect, principally, in its frontal costæ being less decidedly evanescent behind, or more sharply produced to the anterior margin of the prothorax; in the latter being a little more thickly punctured, less convex on the disk, and less deeply branded at the base; and in its elytral striæ being rather more lightly impressed.

Fam. PTINIDÆ.

Genus CASOPUS.

Wollaston, *Trans. Ent. Soc. Lond.* i. 194 (1862).

Casopus pedatus, n. sp.

C. dilaticolli similis, sed paulo major; prothorace antice minus evidenter dilatato; elytris magis inflatis, antice et postice obtusioribus, pilis erectis plerumque subdensius obsitis, distinctius substriato-punctatis, costis 4 basalibus magis elevatis; tarsorum posteriorum masculorum articulo basali magis inflato (sc. maximo). Long. corp. lin. $1\frac{1}{2}$ – $2\frac{1}{3}$.

Habitat Gomeram, à DD. Crotch sat copiose repertus.

Two examples of this *Casopus* were taken by Dr. Crotch in Gomera during the spring of 1862; and although I drew attention in my Canarian Catalogue to a few of the points in which they differed from the ordinary Teneriffan ones, nevertheless on account of their being females I had no opportunity of perceiving the much greater development of the basal articulation of the two hinder feet of the male—which indeed is almost as conspicuously enlarged as is the case even in the *C. subcalvus* from Hierro. Hence I thought it sufficient just to mention that the characters which separated the Gomeran insect from the *C. dilaticolli* were so few and unimportant (even though at once appreciable) that I considered it would be unsafe to record it as more than a “var. γ ” of that species. But more extensive material having since been obtained by Dr. Crotch and his brother, during their late sojourn in Gomera, I am now able to perceive—not only that the features which had been already alluded to are more pronounced and constant than I had anticipated, but likewise that the first joint of the posterior tarsi of their male sex is so very much more inflated that I think we must of necessity regard this Gomeran *Casopus* as truly and specifically distinct from its Teneriffan ally.

Apart from the structural difference just mentioned, the *C. pedatus* recedes from the *dilatocollis* in being on the average a little larger, in its prothorax being less evidently expanded in front, and in its elytra being perceptibly rounded (or more globose), with their basal ridges (or inequalities) rather more developed, and their striæ a little deeper and much more conspicuously punctured.

Genus SPHÆRICUS.

Wollaston, *Ins. Mad.* 263 (1854).

Sphæricus ambiguus, n. sp.

S. albopicto affinis, sed major ac grossius sculpturatus, prothorace ad latera paulo magis sed elytris vix minus rotundatis, antennis pedibusque crassioribus ac sæpius clarioribus.—Long. corp. lin. $\frac{7}{8}$ – $1\frac{1}{8}$.

Habitat Maderam, à Dom. Bewicke deprehensus.

Although unwilling to establish an additional species amongst insects so variable as the *Sphærici*, yet a series of examples now before me which were taken by the late Mr. Bewicke in Madeira proper differ so decidedly from all the states of the *albopictus* hitherto detected, whilst at the same time there is no possibility of identifying them with any other member of the genus enumerated in this volume, that I am compelled in the present instance to do so. Judging from some of the specimens, the *S. ambiguus* would appear to ascend to a larger size than the *albopictus*; and its limbs, which are generally of a clearer hue, are thicker and more developed; its sculpture is coarser; and its prothorax is perhaps a little more rounded at the sides, whilst its elytra are (if anything) somewhat less so.

Sphæricus marmoratus, n. sp.

S. fusco-niger vel fusco-piceus; capite prothoraceque dense et rugose scabrosis, squamis flavescenti-cinereis tectis, hóc parvo, in disco postico subgibboso; elytris rotundato-ovalibus (antice et postice subæqualiter acutis), profunde striato-punctatis, transversim irregulariter flavescenti-cinereo squamoso-marmoratis, rarius postice fasciatis; antennis pedibusque clare rufo-ferrugineis, flavescenti-cinereo squamosis.—Long. corp. lin. $\frac{7}{8}$ –vix $1\frac{1}{4}$.

Var. β . *rotundata* [an species?]. Prothorace etiam densius ac minus grosse scabroso et postice evidentius canaliculato; elytris subrotundatioribus (*i. e.* ad humeros vix minus declivis oblique); antennarum articulis sub brevioribus ac paulo minus robustis.

Habitat Gomeram, saltem in statu typico, var. β ad ins. Hierro pertinente.

Taken by the Messrs. Crotch in Gomera and Hierro, during the summer of 1864. The state, however, which I have regarded as the typical one belongs to the former of those islands,—the examples from Hierro (var β . *rotundata*) having their elytra just perceptibly more rounded outwards (or less falling away) at the shoulders, their prothorax still more densely but less coarsely scabrose (which however can only be perceived when the pubescence is removed) and more evidently channelled behind, and their antennal joints a trifle shorter and less developed. But in spite of these differences (which, after all, are very slight), I do not believe that the Hierro insect can be considered more than an insular phasis of the Gomeran one.

Both the Gomeran and Hierro specimens of the *Sphæricus* are abundantly distinct from all the other species of the Canarian group,—their rounded and coarsely *striate-punctate* elytra, which are obscurely *marbled* transversely with cinereous scales (though seldom much fasciated behind) being sufficient, even alone, to separate it from its allies.

Fam. ANOBIADÆ.

Genus XYLETINUS.

Latreille, *Règn. An.* (ed. 2) iv. 483 (1829).

Xyletinus flavicollis, n. sp.

X. rufo-brunneus prothorace flavescentiore, nitidus, minutissime (oculo fortissime armato) punctulatus ac pube demissâ subcinereâ tectus; antennis pallide brunneus, basi dilutioribus; pedibus pallide testaceis.—Long. corp. lin. 1.

Habitat Gomeram, in caulibus *Euphorbiæ canariensis* à DD. Crotch lectus.

The discovery of this very minute and interesting *Xyletinus*, which is remarkable for its prothorax being of a more or less distinct yellowish tint, is due to the researches of the Messrs. Crotch—who met with it rather commonly in Gomera, within the decayed stalks of the *Euphorbia canariensis*. The last joint of its maxillary palpi is only feebly securiform, and without any tendency to be excavated along its inner apical edge; and in this respect, therefore, it is more in accordance with the normal *Xyletini* than any of the following species. Nevertheless, as stated in my observations under the genus *Xyletinus*, the scooping-out of the terminal articulation is a character which varies so much according to the species (and even, as I believe,

according to the *sex*) that I do not think it can be regarded, structurally, as of much importance.

Genus **ANOBIUM.**

Fabricius, *Syst. Ent.* 62 (1775).

Anobium impressum, n. sp.

A. elongato-ovatum, nigrum elytris rufo-brunneis, subnitidum, grosse et parce fulvo-cinereo pilosum; prothorace lævi, leviter granulato, in disco postico obsolete carinato, ad latera subexplanate marginato, postice in medio lineâ transversâ impresso; elytris subasperato-punctulatis (nec striatis), pone basin sensim impressis; antennis pedibusque gracilibus, rufo-ferrugineis, illis præsertim in clavâ paulo obscurioribus.—Long. corp. lin. $1\frac{2}{3}$.

Habitat in Hierro, à DD. Crotch semel tantum deprehensum.

A single example of this very distinct little *Anobium* was taken by the Messrs. Crotch in Hierro, of the Canarian Group. Its elongate-ovate outline, added to its head and prothorax being black whilst its elytra are reddish-brown, in conjunction with its rather shining surface (which is sparingly clothed with a coarse fulvo-cinereous pubescence), the short transverse line with which its prothorax is impressed in the centre behind, its conspicuously punctured but *unstriated* elytra, and its somewhat slender limbs, will at once separate it from every other species hitherto detected in these Atlantic islands.

Anobium lyctoides, n. sp.

A. angustum, cylindricum, rufo-brunneum, opacum ubique minutissime et densissime rugulosum (sed haud punctatum), breviter cinereo-sericeum; capite obscuriore, oculis magnis sed haud prominentibus; prothorace antice valde producto et ibidem gibboso subasperato, utrinque in medio lateraliter compresso, ad latera sinuato et anguste marginato; elytris fere simplicibus (se. obsolete, vix perspicue, substriatis); antennis, articulo basali excepto, tarsisque testaceis.—Long. corp. lin. $1\frac{1}{4}$.

Habitat Gomeram, rarissimum. Exemplar unicum ceperunt DD. Crotch.

The single example from which the above diagnosis has been drawn out was captured by the Messrs. Crotch in Gomera, during their late sojourn at the Canaries; and in its extremely narrow, cylindric form, the greatly produced anterior portion of its pronotum, and its unpunctured surface, it offers so many peculiarities that at first sight it might almost be supposed to be generically distinct

from *Anobium*. Nevertheless its structural characters are essentially those of that genus*, though its *primâ facie* aspect has something in common with the *Lyceti*. Apart from its small size and its very narrow and cylindrical outline, it is further remarkable for its surface being nearly opaque—though sericeous, and most densely and minutely roughened (but *unpunctured*), and for its elytra being nearly simple (only the very faintest possible indications of longitudinal striæ being just traceable when the insect is viewed obliquely). Its eyes are extremely large, but *not* prominent (at least in the sex now before me); and its prothorax is laterally compressed on either side in the middle, with its front portion gibbous and much produced over the forehead.

***Anobium oculatum*, n. sp.**

A. cylindricum, nigrum vel fusco-nigrum, brevissime et densissime (in elytris cinereo-) sericeum; oculis magnis; prothorace dense granulato, in disco postico obsolete gibboso, ad latera marginato; elytris levissime striato-crenatis; antennis pedibusque elongatis, robustis, picescentioribus.—Long. corp. lin. $2\frac{1}{3}$.

Habitat Gomeram, in *Euphorbiâ* emortuâ à DD. Crotch semel captum.

This large, dark, and very cylindrical *Anobium*—which has its eyes greatly developed, its elytra most lightly crenate-striated and densely clothed with a very minute cinereous pubescence, and its limbs rather long and robust—was detected in Gomera by the Messrs. Crotch, during their late Canarian expedition. It appears, from a note now before me, to have been taken out of a “sweet *Euphorbia*.”

Fam. BOSTRICHIDÆ.

Genus XYLOPERTHA.

Guérin, *Ann. de la Soc. Ent. de France, Bull.* 17 (1845).

***Xylopertha ficicola*, n. sp.**

X. in medio glabra, postice flavescenti-pubescentis; capite nigro, in limbo longissime fulvo-barbato; prothorace clare rufo-ferrugineo, antice mucronibus magnis asperato et ibidem pilis tenuibus longissimis erectis obsito, postice nitidissimo, fere quasi impunctato (sed oculo fortiter armato parcissime et minute asperato-punctu-

* In the (sole remaining) antenna of the specimen before me I can count but *five* minute joints (instead of six) between the second one and the elongate tri-articulated club; but as the antenna is broken, I have little doubt that the first of these diminutive articulations (at which point the fracture occurred) has been lost.

lato); elytris antice saturate infuscato-testaceis, postice parum subito obscurioribus, vix subseriatim punctatis (punctis postice magnis, antice paulatim minutioribus), ad apicem subito et argute retusis (parte truncatâ deplanatâ, margine laterali in elytris singulis gradatim elevato sed ante apicem recurvum acuminatum abrupte terminato, per suturam præsertim in medio elevatâ); antennis pedibusque testaceis, illarum clavâ tibiisque (saltem anticis) obscurioribus.—Long. corp. lin. $2\frac{1}{3}$ – $2\frac{2}{3}$.

Habitat Gomeram, in ligno *Fici* vetustæ à DD. Crotch copiose collecta.

This is the largest of the three *Xyloperthæ* here enumerated; it is also more brightly coloured (its dark and pale parts, at any rate on the elytra, being more rigidly defined), and likewise less clothed with a decumbent yellowish pubescence,—its central region, namely the hinder half of the prothorax (which is even still more minutely punctulated) and the anterior half of the elytra, being glabrous. But, apart from these and other distinctions, the *X. ficicola* may readily be known from its Atlantic allies by the retuse apical portion of its elytra, which is *much* more abrupt and obliquely flattened (and therefore better defined), having its lateral rim gradually raised to within a short distance of the apex (which is itself acuminated, divaricate, and recurved), and there suddenly terminated.

The discovery of the *X. ficicola* is due to the researches of the Messrs. Crotch, who detected it in Gomera, during their late expedition to the Canaries,—where I am informed by Mr. G. R. Crotch that a considerable series of it, which are now before me, were bred by them from the decayed wood of an old fig-tree.

Xylopertha barbifrons.

X. præcedenti similis, sed brevior, grossius pubescens (etiam in medio parce sericeo-vestita) et colore omnino obscuriore (etiam partibus pallidioribus magis suffusis infuscatis); vertice densius penicillato; prothorace postice paulo minus polito et ibidem densius ac multo evidentius asperato-punctato (quasi fere granulato); elytrorum parte retusâ multo minus abruptâ minusque deplanatâ, in elytris singulis nodulo parvo obscuro costiformi laterali ante medium terminatâ (sed margine laterali haud elevato), apice vix producto, vix bipartito, vix recurvo; tarsis (saltem intermediis) etiam sublongioribus, sc. longissimis.—Long. corp. lin. vix 2.

Xylopertha barbifrons, *Woll., Cat. Can. Col.* 252 (1864).

Habitat Palmam, rarissima. In intermediis specimen unicum collegi.

Likewise a Canarian *Xylopertha*, but one of which I have seen hitherto only a single specimen—which was captured by myself in

the island of Palma. This example (from which the above corrected diagnosis has been drawn out) cannot possibly be referred to the preceding species; and if it be a normal one of its kind, I feel equally satisfied that it cannot be regarded as any local modification of the Madeiran *X. barbata*—to which, however, it is more akin than to the *ficicola*. From the latter it may at once be known by being smaller, relatively shorter, more thickly and coarsely pubescent (even its central region being sparingly clothed with a decumbent cinereous, or fulvo-cinereous, silken pile), and of an obscurer hue—its dark and paler portions being more suffused, and therefore less defined; by its head being more densely pencillated; by the hinder half of its prothorax being *much* more evidently roughened with asperated punctules; and by the retuse apex of its elytra being much less flattened obliquely and less abrupt, with the lateral rim *unraised* (only a small medial part of it, forming an obscure tubercle, being elevated), and with the apex considerably less produced, less recurved, and less divaricate.

From the Madeiran species it would seem to differ principally in being relatively shorter and a little more densely pubescent, in the hinder half of its prothorax being more distinctly asperate-punctulate, and in its retuse elytral apex having the *central* part less raised and less thickened. Its intermediate tarsi appear to be extremely long.

Xylopertha barbata.

X. ficicolæ similis, sed paulo minor densiusque pubescens (etiam in medio parce vestita); prothorace antice nigrescentiore necnon etiam grossius mucronato, postice paulo evidentius subdensiusque asperato-punctulato; elytrorum parte retusâ multo minus abruptâ minusque deplanatâ, in elytris singulis nodulo parvo laterali ante apicem (necnon interdum altero obscuriore costiformi medio) terminatâ, apice vix producto, vix bipartito, vix recurvo, per suturam in medio etiam magis elevatâ et ibidem conspicue bipartitâ.—Long. corp. lin. 2–3½.

Enneadesmus barbatus, *Woll., Ann. Nat. Hist.* v. 359 (1860).

Habitat Maderam, inter lignum aridum vetustum haud procul ab urbe Funchalensi à Dom. E. Leacock primo reperta.

Obs.—Species *X. barbifronti* affinis, sed longior, paulo minus grosse pubescens ac lætius colorata; vertice minus dense penicillato; prothorace antice etiam grossius mucronato et postice minus asperato-punctulato; elytrorum suturâ in medio partis retusæ magis elevatâ, magis incrassatâ, et magis bipartitâ; tarsis intermediis vix minus elongatis.

A Madeiran species which was first detected by Mr. E. Leacock, at a low elevation, in his garden at the Quinta de São João, near Funchal; and which was subsequently found by the late Mr. Bewicke, amongst some old wood in a shed (or out-house) at the Praia Formosa, as well as at the Quinta da Palmeira. The characters which separate it from its two Canarian allies will readily be gathered both from the diagnosis and from the observations which I have already given. Suffice it therefore to add that the *very* coarsely mucronated anterior region of its prothorax, and the fact of the retuse apex of its elytra having the *central* part of the raised suture *greatly thickened*, elevated, and conspicuously *bipartite*, are amongst the most important of the features which serve to characterize it.

Genus **RHIZOPERTHA.**

Stephens, *Ill. Brit. Ent.* iii. 354 (1830).

Rhizopertha bifoveolata.

R. breviter cylindrica, piceo-ferruginea, subopaca; prothorace magno, subgloboso, valde convexo, scabroso, necnon antice mucronibus fortiter asperato, ad basin foveolis duabus mediis impresso; elytris confertim punctatis (haud striatis), ad apicem integris; antennis longiusculis, robustis.—Long. corp. lin. vix $1\frac{2}{3}$.

Rhizopertha bifoveolata, *Woll., Ann. Nat. Hist.* ii. 409 (1858).

Habitat Maderam, ex alienis certe introducta. Etiam in urbe ipsâ Funchalensi, inter farinam Americanam (?), plurima exemplaria collegit M. Park.

Fam. CIOIDÆ.

Genus **CIS.**

Latreille, *Préc. des Caract.* 50 (1796).

Cis cucullatus, n. sp.

C. subovato-cylindricus, elongatulus, ferrugineus, setulis brevissimis subdemissis pallidioribus sat dense vestitus; prothorace subopaco, alutaceo, dense punctato, antice valde producto; elytris subnitidis, dense subruguloso-punctatis (nec punctis nec setulis seriatim dispositis); antennis pedibusque pallidioribus.—Long. corp. lin. 1.

Mus clypeo tubereulis binis mediis obtusis minus elevatis approximatis incrassato.

Habitat Gomeram, à DD. Crotch parcissime lectus.

The three examples from which the above diagnosis has been compiled were captured by the Messrs. Crotch, during the summer of

1864, in Gomera. The species which they represent is exceedingly distinct from the few other members of the genus which have hitherto been detected in these Atlantic islands. It may be known by its small size and rather narrow elongate outline (which is just perceptibly attenuated in front), by its ferruginous hue and densely punctured surface (neither the punctures nor the minute setæ having any tendency on the elytra to be disposed in longitudinal rows), and by the clypeus of its male sex being thickened in the centre into a pair of *obtuse* (or but slightly raised), *approximated*, *medial* tubercles.

Cis puncticollis.

C. cylindricus, niger, setulis brevibus suberectis pallidioribus obsitus; prothorace convexo, subopaco, alutaceo, argute punctulato, antice minus producto; elytris subnitidis, subseriatim punctatis punctisque minoribus intermediis irroratis; antennis pedibusque pallidioribus.—Long. corp. lin. $\frac{3}{4}$ –1.

Mas clypeo utrinque in processum brevem sublamelliformem vix angulatim producto.

Cis puncticollis, *Woll., Ann. Nat. Hist.* v. 360 (1860).

Habitat Maderam, in castanetis longe supra urbem Funchalensem à Dom. Bewicke olim repertus; neonon etiam in pinetis Teneriffæ parce ceperunt DD. Crotch.

Fam. TOMICIDÆ.

Genus APHANARTHURUM.

Wollaston, *Ins. Mad.* 292 (1854).

Aphanarthrum tuberculatum, n. sp.

A. Jubæ affine, sed minus, angustius, pube brevior ac multo minus densâ vestitum; prothorace subalutaceo (minus nitido), paulo crebrius punctato, punctis (oculo fortissime armato) majoribus (minus argute simplicibus).—Long. corp. lin. $\frac{3}{4}$ –1 $\frac{1}{8}$.

Habitat in ins. Hierro, inter *Euphorbias* emortuas à DD. Crotch repertum.

Captured abundantly by the Messrs. Crotch in the island of Hierro, the most western of the Canarian Group. In the distinct tubercles at the apex of its pronotum, and rather densely clothed surface, it approaches the *A. Jubæ*; nevertheless it is smaller and narrower than that insect (some of the specimens descending to a comparatively diminutive size), its pubescence is a little shorter, and its prothorax

is not only more alutaceous (or less shining) but is somewhat more thickly punctured,—the punctures when viewed beneath the microscope being invariably of a different character, or larger and less *simple*. These features moreover are so constant that, after an accurate examination of an extensive series of specimens, I cannot believe that the present *Aphanarthrum* could possibly be regarded as any state of the *A. Jubæ*, which seems to retain its essential characteristics in Lanzarote, Grand Canary, and Gomera (the only islands in which it has been observed) free from any appreciable change.

***Aphanarthrum canescens*, n. sp.**

A. nigrum, subopacum, pilis brevibus argenteo-cinereis demissis dense vestitum; prothorace subrotundato, grosse alutaceo punctisque obscuris levissimis irrorato, apice concolori; clytris dense sed haud grosse subseriatim punctatis, obscure brunneo-ochreis (rarius brunneo-testaceis), fasciis duabus nigris (sæpius magnis suffusis et interdum fere confluentibus) obscurius ornatis; pedibus picco-testaceis, vel etiam testaceo-picceis.—Long. corp. lin. $\frac{7}{8}$ —vix 1.

a. (status typicus). Paulo major, prothorace ad apicem 2- (vel 4-) undulato-subplicato (vix evidenter tuberculato).

β. simplex. Prothorace apice integro, aut interdum granulis duobus minutissimis ægerrime observandis armato.

Habitat (in statu “*a*”) Gomeram et (in statu “*β*”) Canariam Grandem, inter *Euphorbias* emortuas à DD. Crotch copiosissime deprehensum.

The rather *shortly* cylindric outline and obscure colouring of this *Aphanarthrum*, which is densely clothed with an abbreviated, *decumbent*, whitish-cinereous, or almost *silvery* pile, and in which the elytral fasciæ are *usually* so much enlarged and suffused that they cover the greater portion of the surface (which in some of the darker examples is, consequently, almost black), will sufficiently distinguish it. Its prothorax (which is closely and coarsely alutaceous, with the additional punctules exceedingly light and shallow) is a good deal rounded off behind, and concolorous at the apex, where it is armed (in the state from Gomera, which I have treated as the normal one) with two very minute tubercles; and its legs are generally more or less darkened. The specimens however from Grand Canary have the pair of granuliform tubercles on the front edge of their pronotum obsolete, being only now and then just appreciable even beneath the microscope; but I can see nothing about them to warrant the belief that they are specifically distinct from the Gomeran ones,—and particularly

so, since the development of these small prothoracic excrescences is eminently variable in all the species which possess them*.

Aphanarthrum pygmæum, n. sp.

A. minutissimum, nigrum (vel fusco-nigrum), subopacum, pilis brevibus subdemissis subalbido-cinereis parce vestitum; prothorace basi latiusculo, apice attenuato acutiusculo et ibidem sæpius ferrugineo ac plus minus evidenter subrecurve biplicato-incrassato (vix bituberculato), alutaceo et levissime parceque punctulato necnon antice sat grosse marginato; elytris subseriatim punctatis et grosse transversim rugulosis, sæpius vix dilutioribus (i. e. fasciis obsoletis, omnino suffusis) sed interdum obscure brunneo-ochreis in limbo fasciæque mediâ dentatâ suffuse nigrescentibus.—Long. corp. lin. $\frac{1}{2}$.
Var. β. laticollis. Vix major, prothorace basi paulo latiore, apicem versus vix minus grosse asperato, ad apicem ipsissimum subdistinctius biplicato. [Ins. Palma.]

Habitat Teneriffam et Gomeram, in caulibus *Euphorbiæ canariensis* putridis à DD. Crotch repertum. *Var. β.* à meipso capta, ad ins. Palmam pertinet.

The most minute of all the *Aphanarthra* hitherto detected, and one which was captured during the summer of 1864 by the Messrs. Crotch (within the rotten stalks of the *Euphorbia canariensis*) both in Teneriffe and Gomera. I had however myself previously taken a single example in the island of Palma, which I think does not differ sufficiently from those of the Messrs. Crotch to be regarded as more than a slight insular modification of the same species, though, on account of its being immature, and from want of material for compiling a satisfactory diagnosis, I thought it safer to ignore it altogether in my Canarian Catalogue.

In its general colour and rather short subdecumbent pubescence, as well as in its prothorax being usually ferruginous at the apex (where it has a tendency, more or less expressed in different individuals, to be somewhat subrecurved and minutely incrassated, though scarcely tuberculated, into a sort of bipartite plait), the *A. pygmæum*

* Considering how liable these prothoracic tubercles are to be *more or less* developed in unquestionably the same species, it is barely possible that the two immature examples (from Lanzarote) which in my Canarian Catalogue I described under the name of *A. armatum* may represent some insular state of the *canescens* in which those minute processes are much more apparent than is the case even in the Gomeran individuals; for the great enlargement of their elytral fasciæ, which are so nearly suffused over the entire surface that there is merely a paler region behind the base, is quite in accordance with some of the darker specimens of the *canescens*. Nevertheless, until further material has been obtained from Lanzarote, it certainly would be most unsafe to regard the *armatum* (which has several small characteristics of its own) as anything but truly distinct.

has more in common with the *canariense* than with any of the other species; nevertheless it is scarcely more than a third the size of that insect, its prothorax is relatively a little wider at the base, and its elytra are much obscurer in hue (being often almost black), and even in paler specimens seem to have their hinder fascia obsolete,—being, however, gradually (though indistinctly) darkened, or clouded, towards the lateral margins.

Aphanarthrum bicinctum.

- A. nigrum*, pilis erectis longiusculis cinereis vestitum; prothorace alutaceo et dense punctato, apice fere simplici (plus minus minutissime bituberculato); elytris subseriatim punctatis ac transversim rugulosis, plus minus brunneo-ochreis (rarius testaceo-ochreis), fasciis duabus nigris (unâ sc. magnâ dentatâ et alterâ subposticâ) ornatis; antennis pedibusque picco-testaceis.—Long. corp. lin. $\frac{3}{4}$ –1.
- a. Minus*, subnitidum; prothorace ad apicem ipsissimum sæpius anguste ferrugineo; elytris læte ochreis, fasciis plerumque angustis et argute determinatis. [Ins. *Lanzarota* et *Fuerteventura*.]
- β. obsitum*. Paulo major; prothorace vix longiore, ad apicem sæpius concolori et paulo evidentius tuberculato; elytris plus minus brunneo-ochreis, fasciis plerumque majoribus. [Ins. *Canaria Grandis*.]
- γ. vestitum*. Paulo major quam status *β*, sublatius, subopacius ac sensim densius pubescens; elytris brunneo-ochreis, fasciis plerumque magnis suffusis; et colore omnino obscuriore. [Ins. *Teneriffa*.]

Aphanarthrum bicinctum, *Woll., Ann. Nat. Hist.* v. 165 (1860).

— —, *Id., Cat. Can. Col.* 260 (1864).

Habitat in Lanzarotâ, Fuerteventurâ, Canariâ et Teneriffâ, *Euphorbias* emortuas destrucens.

I have given a corrected diagnosis of this *Aphanarthrum*, inasmuch as the more extensive material (collected principally by the Messrs. Crotch) which I have lately inspected would seem to imply that there are at least three (if not more) tolerably appreciable phases of it, or insular modifications. The state “*a*” (from Lanzarote and Fuerteventura) might well be supposed at first sight to be specifically distinct from (at all events extreme examples of) the state “*γ*” (from Teneriffe); but when the two are carefully inspected with the aid of the “*β*” (from Grand Canary), the case is completely altered, and I am satisfied that they are all mere forms of a single rather plastic species.

Genus **LIPARTHURUM.**

Wollaston, *Ins. Mad.* 294 (1854).

Liparthrum nigrescens, n. sp.

L. cylindricum, nitidiusculum, nigrum elytris (præsertim postice) picescentioribus, pilis subdemissis pallidioribus parce vestitum; prothorace alutaceo et granulis sat grossis parce irrorato, antice tuberculis paulo majoribus (sed minutis) adperso; elytris levissime lateque subseriatim punctatis (punctis inter se valde remotis) ac paulo rugulosis; antennis tarsisque saturate testaceis; femoribus tibiisque piceis.—Long. corp. lin. $\frac{2}{3}$ — $\frac{7}{8}$.

Liparthrum bituberculatum, *Woll., Cat. Can. Col.* [nec *Ins. Mad.* 1854] 265 (1864).

Habitat Teneriffam, in locis editioribus rarissimum.

Obs.—*L. bituberculato* Maderensi certe distinctum, differt corpore subangustiore nitidiorè obscuriorè pilisque longioribus gracilioribus ac minus erectis vestito, prothorace alutaceo granulisque sat magnis parce adperso, elytris postice gradatim picescentioribus ac levius subseriatim punctatis (punctis inter se multo magis remotis).

In my Canarian Catalogue I regarded this *Liparthrum* as conspecific with the *L. bituberculatum* of Madeira, but the inspection of further material obtained subsequently by the Messrs. Crotch has convinced me that it cannot be referred to that species. And this is the more evident through the fact of its being extremely distinct from the *L. curtum*, whereas I am far from satisfied that the *bituberculatum* is in reality more than a rather large and dark state of the latter. The *L. nigrescens* seems to differ from the *bituberculatum* (and therefore à fortiori, from the *curtum*) in being relatively a little narrower, darker, and more shining; in its pubescence being longer, finer (or less setiform), and less erect; in its prothorax being beset with larger granules; and in its elytral striæ being more lightly impressed, and more distantly punctured—the punctures being extremely remote from each other.

Liparthrum bicaudatum, n. sp.

L. breviter subcylindricum, piceo- vel fusco-nigrum et setis brevibus crassis rigidis griseis (in elytris seriatim) obsitum; prothorace leviter vix subruguloso sed antice inarmato; elytris grosse striato-punctatis (punctis magnis), interstitiis alternis leviter sed secundo (à suturâ) multo magis elevatis, hâc se. valde costato et postice gradatim in nodum maximum crassum retrorsus producto; tibiis omnibus (etiam anticis) versus apicem externum circa 4-spinulosis.—Long. corp. lin. $\frac{2}{3}$.

Habitat Gomeram, in ramulis *Euphorbiarum* (nisi fallor *balsamiferae*, sed forsân *regis-Jubæ*) à W. D. Crotch copiose repertum.

The very remarkable elytra of this little wood-borer, the second interstice of which (from the suture) is not only more elevated than the remaining alternate ones but is gradually raised behind into an enormously developed obtuse ridge which terminates (on each elytron) in a thick backwardly-projecting nodule, give it so extraordinary an appearance that (before dissection) I had imagined it would constitute the type of an undoubtedly new genus, closely related to *Liparthrum*. An accurate examination, however, of its structure does not warrant its being separated from that group—the essential features of which, with the sole exception of its subapically *dentate* anterior tibiæ, it entirely possesses. Thus, the exact proportions of its *quadriarticulate* feet and 4-jointed funiculus, as well as the fact of the inner terminal angle of its tibiæ being produced into a long subflexuose spine (or lobe), are in accordance with the normal *Liparthra*—which indeed in its general aspect, apart from the *specific* peculiarity of its elytral prominences, it precisely resembles; so that I should regard the construction of its front tibiæ and elytra as the mere trivial features (important though they be) which characterize it as a *species*.

The *L. bicaudatum* was taken, in abundance, during the summer of 1864, by Dr. Crotch (and subsequently by his brother also), near Hermigua in Gomera,—where it appears to be attached to the “twigs of the sweet *Euphorbia*” (which is probably the *E. balsamifera*, though possibly the *regis-Jubæ*).

Fam. HYLESINIDÆ.

Genus HYLURGUS.

Latreille, *Gen. Crust. et Ins.* ii. 274 (1807).

Hylurgus destruens, n. sp.

H. nitidus, pilis erectis mollibus præsertim in prothorace obsitus, niger vel piceo-niger, elytris ferrugineis vel piceo-ferrugineis; capite prothoraceque parce punctatis, illo lato, crasso, antice in medio argute carinato; elytris valde transversim rugulosis, punctato-striatis, striis versus basin et suturam sat profundis, apice subretusis et parce leviter asperatis; antennis tarsisque rufo-testaceis, femoribus tibiisque nigro-piceis.—Long. corp. lin. $2\frac{1}{3}$ – $2\frac{1}{2}$.

Variat (immaturus) colore omnino ferrugineo.

Hylurgus piniperda, Woll. [*nec Linn.*], *Ins. Mad.* 303 (1854).

— —, *Id.*, *Cat. Mad. Col.* 99 (1857).

Habitat Maderam australem, sub cortice necnon in ligno *Pini* rarior.

Obs.—Species *H. piniperdæ* affinis, sed major, crassior, in elytris semper (interdum in toto corpore) plus minus ferrugineus, elytris grossius transversim rugosis, antennis omnino pallidis, capitulo longiore acutiore, tibiis sensim latioribus extus magis spinulosus, tarsis sublongioribus.

Found sparingly, at rather low elevations, in Madeira proper,—principally, I believe, if not entirely, under the bark of pine-trees. I have not, myself, ever met with it; but it has been taken, in the vicinity of Funchal, by Mr. Leacock and the late Mr. Bewicke.

In the 'Ins. Mad.,' as well as in my Madeiran Catalogue, I referred this *Hylurgus* to the common European *H. piniperda*; but I had not compared the species very rigidly, and there can be no doubt that it is in reality quite distinct from that insect. It differs from the *piniperda* in being on the average a little larger and thicker, and in its elytra (which are more coarsely rugulose) being always, and often indeed its entire body, more or less ferruginous. Its antennæ are totally pale, with their club somewhat longer and more acute; its tibiæ are rather broader and more spinulose; and its feet are a trifle longer.

Fam. CURCULIONIDÆ.

Genus ACALLES.

Schönherr, *Curc. Disp. Meth.* 295 (1826).

Acalles fortunatus.

A. squamis albido- et nigro-brunneis læte variegatus; prothorace ad latera rotundato, ante medium setoso-bituberculato, albido-brunneo, basi utrinque obscuriore; elytris versus apicem valde sed breviter coarctatis, carinis interruptis nodulisque setosis instructis, nigro-brunneis sed basi in medio, ad latera, necnon in fasciâ postmediâ hastatâ plus minus evidententer albido-brunneis, et utrinque ante medium plagulâ niveâ sæpius irroratis; antennis rufo-ferrugineis; pedibus brunneo-albido squamosis, tibiis læte nigro-annulatis.—Long. corp. lin. 2–3½.

Acalles fortunatus, *Woll., Cat. Can. Col.* 286 (1864).

Habitat in Gomerâ et Hierro, à DD. Crotch intra caules *Euphorbiarum* copiose repertus.

I have thought it desirable to give a fresh diagnosis of this *Acalles*, compiled from additional material obtained by the Messrs. Crotch in Gomera and Hierro, that I may be the better able to indicate in what particulars the following (closely allied) species differs from it.

Acalles senilis.

A. præcedenti similis, sed paulo minor, rostro (in utroque sexu) subgraciliore et vix levius punctato, in maribus sensim brevior, prothorace etiam rugosius punctato, elytris postice vix minus breviter coarctatis, antice magis suffuse albido-brunneo squamosis, neonon ante fasciam postmediam parte centrali nigrescentiore, magis determinatâ (sed parvâ), sæpius ornatis, antennis tarsisque paulo clarioribus (læte rufo-ferrugineis), his sensim gracilioribus.—Long. corp. lin. 2–3.

Acalles senilis, Woll., Cat. Can. Col. 288 (1864).

Habitat in Gomerâ et Hierro, à meipso semel tantum sed à DD. Crotch sat copiose in ligno *Fici* vetustæprehensus.

A single (small) example of this *Acalles* was taken by myself, during February 1858, near Valverde, in Hierro; but the species has since been found, rather abundantly, by the Messrs. Crotch, in that island and Gomera,—in the latter of which they bred a considerable series of it from the rotten wood of an old fig-tree. It is very closely allied to the *A. fortunatus*; nevertheless, apart from its difference of habit (that insect being attached to the *Euphorbia piscatoria*), it has, I think, sufficient characters of its own (even though variable in themselves) to remove all doubt as to its specific distinctness. Thus it is *on the average* a little smaller than the *fortunatus*; its rostrum (in both sexes) is just perceptibly slenderer and less deeply punctured, and in the males appreciably shorter; its prothorax when denuded of the scales will be seen to be even still more roughly punctured; its elytra are rather *less shortly* contracted behind, more *uniformly* clothed with whitish-brown scales in front, and with the dark ones which bound (anteriorly) the postmedial hastate fascia both blacker and more concentrated (so as generally to form a small, central, more or less conspicuous postmedial patch); and its antennæ and feet (the latter of which are perhaps somewhat slenderer) are usually of a clearer or more testaceous hue.

Genus TORNEUMA.

Wollaston, *Ann. Nat. Hist.* v. 453 (1860).

Corpus parvum, angustulum, subovato-fusiforme, subtus late longitudinaliter impressum (*i. e.* per metasternum abdominisque segmenta primum et secundum late concavum), ubique (subtus et supra) granulis (aut potius squamis granuliformibus) magnis valde depressis scabrosis tectum, sed haud (nisi oculo fortissime armato) setosum: *capite* in cavo prothoracico usque ad rostri basin immerso; *oculis* nullis; *rostro* fere ut in gen. *Acalles*, sc. ad basin leviter rotundato-subdilatato et superne quasi capite articulado,

in canaliculam pectoralem profundam (inter coxas anticæ terminatam) arcte applicando; *scrobe* profundâ, subrectâ, ad latera rostri positâ, necnon ad basin ejus ipsam ductâ atque ibidem abrupte terminatâ: *prothorace* ovato-subconico: *scutello* vix (vel potius haud) observando; *elytris* subellipticis, connatis: *alib* nullis. *Antennæ* ante medium rostri insertæ; *scapo* subrecto, paulatim clavato; *funiculo* 7-art^{to}, art^o 1^{mo} paulo longiore, vix latiore, reliquis parvis, inter se arcte adpressis, longitudine subæqualibus, latitudine vix crescentibus; *capitulo* 4-annulato. *Pedes* robusti, *antici* ad basin paululum, *intermedii* latius, et *postici* latissime distantes: *femoribus* muticis: *tibiis* subrectis, extus præsertim versus apicem sensim pilosis, ad apicem in uncum deflexum productis: *tarsis* brevibus, angustis, pseudotetrameris, *unguiculis* minutissimis.

As my diagnosis of this extraordinary little genus was published in the 'Ann. of Nat. Hist.,' I have thought it desirable to compile one afresh for the sake of incorporating it into this Catalogue. The two very closely allied species which compose it are certainly most anomalous in structure,—their total freedom from eyes, and the fact of their bodies being impressed beneath with a very wide longitudinal concavity (which extends through the metasternum and the first and second abdominal segments), in conjunction with their short subfiliform feet and exceedingly minute claws, giving them a character essentially their own. Their antennæ are implanted between the middle and apex of the rostrum, the latter of which is received into a deep pectoral groove (terminating between the anterior coxæ); and their surfaces (except under a high power of the microscope) are free from setæ and hairs, but are densely covered with large and exceedingly depressed scale-like granules (or, more properly, perhaps, granuliform scales). Their rostra are formed on nearly the same type as that which obtains in *Acalles*,—the members of which genus will, I believe, be found, on the whole, to be their nearest known allies.

Torneuma orbatum, n. sp.

T. angustulum, rufo-ferrugineum, subnitidum; rostro utrinque (præsertim postice) longitudinaliter sulcato et ibidem profunde punctato; *elytris* tenuissime striatis et (oculo fortiter armato) parce ac brevissime longitudinaliter cinereo-setulosis; *antennis* rufo-testaceis.—Long. corp. lin. $1\frac{1}{3}$.

Habitat Gomeram, rarissimum. Inter lignum putridum in lauretis humidis editioribus exemplaria duo ceperunt DD. Crotch.

Obs.—A *T. cæco* Maderensi differt corpore vix minore, angus-

tiore, depressoire, pallidiore, et minus opaco; rostro vix subgraciliore; prothorace sensim brevior, integro (*i. e.* nullo modo pone apicem subconstricto); elytris paululum minus ovatis, per marginem basalem ne subincrassatis quidem, et setulis paulo longioribus (tamen brevissimis, minutissimis) longitudinaliter obsitis; pedibus subbrevioribus; antennarum capitulo paulo minus abrupto et magis breviter ovato (minus ovali).

Two examples of this interesting little blind Curculionid were taken by the Messrs. Crotch, during their late Canarian expedition, at a high altitude on the mountains of Gomera,—from beneath rotten wood, in the laurel-district above Hermigua. They are so nearly allied to my unique *T. cæcum*, which I captured (in 1858) under the trunk of a felled cherry-tree at the bottom of the Curral das Freiras in Madeira that I cannot feel entirely satisfied that they are more than the exponents of a geographical state of the same species—a point which can only be decided by a critical examination of further material from both Groups. Until, however, additional evidence has been obtained, I think it would be extremely rash to treat the *combination* of minute differences which the two Canarian individuals present (when compared with the Madeiran one) as absolutely indicative of no more than a local, or insular, phasis of the *T. cæcum*.

Regarding therefore the individuals now before me as typical of the two species, the *T. orbatum* appears to be a trifle smaller, narrower, paler, more depressed, and less opaque than the *cæcum*; its rostrum is just perceptibly slenderer; its prothorax is appreciably shorter, and free from even the faintest rudiment of the transverse constriction behind the apex, which seems to be (as in *Acalles*) more or less evident in the *T. cæcum*; its elytra are a trifle less ovate, with their extreme basal margin not in the least degree thickened, and with the diminutive setæ, or abbreviated hairs, with which they are longitudinally studded, (although thus short and minute) decidedly longer than is the case in that insect; its legs are perhaps somewhat less developed; and its antennal club is more obovate (or less oval), and not quite so abrupt.

Genus **MAGDALIS.**

Germer, in *Ann. Wetter.* i. 130 (1819).

Magdalis barbicornis.

M. angustula, subopaca, nigra, antennis clavâ (in maribus longissimâ) nigrescente exceptâ rufo-testaceis; prothorace inæquali, sat

profunde punctato; elytris vix nitidioribus, profunde crenato-striatis, in interstitiis minutissime transversim striguloso-rugatis; femoribus muticis.—Long. corp. lin. $1\frac{3}{4}$.

Rhina barbicornis, *Lat.*, *Hist. Nat.* xi. 103 (1803).

Magdalis barbicornis, *Germ.*, *Ins. Spec.* i. 192 (1824).

Habitat Maderam, ad folia pomorum à C. Wolff, M.D., reperta.

Two examples of this European *Magdalis* have been taken in Madeira proper by Dr. C. Wolff, of Bonn, who informed me that he obtained them by beating the foliage of some pear-trees at about two miles from Funchal. In general contour and aspect, as well as in its totally unarmed femora, the *M. barbicornis* is closely allied to the common *M. pruni*; but, apart from minor distinctions, it may easily be known from that insect by its antennæ having their *funiculus* (as well as the scape) rufo-testaceous, and the *male* clava greatly elongated and more pubescent. Its elytra likewise have their striæ rather less coarsely punctured, or crenated, and their interstices (when viewed under a high magnifying power) densely strigulose transversely*.

Genus **ALOPHUS.**

Schönherr, *Curc. Disp. Meth.* 166 (1826).

(Subgenus **Rhytidoma**, *Woll.*)

Alophus alternans, n. sp.

A. fusco-niger, squamulis flavo-fuscis dense tectus, et setulis brevibus demissis pallidioribus parvissime (in elytris in interstitiis solum, præsertim alternis) irroratus; rostro elongato, supra necnon ad latera longitudinaliter sulcato; prothorace parvo, subcylindrico-conico, profunde sed parce punctato (punctis magnis), canaliculâ centrali valde profundâ (in medio latâ, sed antice et postice attenuatâ) impresso, versus latera subdensius squamoso; elytris oblongis (ad latera in medio subparallelis), prothorace parum latioribus, profunde seriatim punctatis (punctis maximis), interstitiis alternis valde elevato-costatis, ante apicem (subretusum) maculâ magnâ communi transversâ dentatâ paulo pallidiore ornatis; funiculi articulo 2^{do} primo sensim longiore.—Long. corp. lin. $4\frac{2}{3}$.

Habitat in montibus excelsis Gomeræ, à DD. Crotch semel captus.

The single example from which the above diagnosis has been

* I am indebted to Mr. Rye for well-examined types of two of the allied species of *Magdalis*, and also for the suggestion that the Madeiran one was probably identical with the *barbicornis* of Latreille. A careful comparison of it with Schönherr's diagnosis of the latter leaves no doubt whatever that Mr. Rye's supposition is correct.

compiled being slightly rubbed, I cannot tell whether it ought not to have a patch of paler scales (of the same colour as the subapical fascia) on the fore disk of each elytron; for, judging from the analogy of allied forms, I should conclude such to be the case. Whether, also, it be a true *Alophus* may perhaps be doubtful,—its much larger size, very deeply sculptured surface, and longitudinally sulcated rostrum seeming to separate it from, at all events, the European *A. triguttatus*: but, be this as it may, I think that it is at any rate congeneric with the *A. magnificus* of Teneriffe; so that I have given them a subgeneric name, in the event of it being found desirable hereafter to regard them as members of a distinct group.

The *A. alternans* was captured by the Messrs. Crotch at a very high elevation in Gomera, during the summer of 1864, “by beating *Sedum* on Monte Fuerte (above Hermigua).”

Genus LAPAROCERUS.

Schönherr, *Gen. et Spec. Curc.* ii. 530 (1834).

Laparocerus undulatus.

L. subgracilis, niger, pube brevi demissâ viridi-cinereâ parce variegatus sed pilis superadditis fere carens; capite vix sculpturato, oculis ovalibus prominentibus, rostro longiuseculo subgracili apicem versus sensim dilatato; prothorace parce et profunde punctato, obsolete carinato, in disco postico leviter biimpresso; elytris profunde punctato-striatis, obsolete undulato-inæqualibus; antennis ferrugineis, elongatis, gracillimis, articulo 2^{do} tertio sensim longiore.—Long. corp. lin. 3½.

Mas pedibus robustis; tibiis longissime pilosis, anticis ad apicem valde et subito incurvis, posticis apicem versus facile dilatatis, intus pone medium usque ad apicem late emarginatis, angulo interno exstante, externo rotundato valde setuloso; tarsis latis.

Fœm. adhuc latet.

Laparocerus undulatus, *Woll., Ann. Nat. Hist.* x. 332 (1862).

Habitat in sylvaticis Maderæ excelsis, adhuc semel captus.

Laparocerus inflatus, n. sp.

L. piceus, subnitidus, dense et grosse submetallico-squamoso tessellatus pilisque longissimis erectis in elytris ubique obsitus; rostro latiusculo, postice profunde canaliculato, oculis magnis, prominentibus; prothorace ad latera rotundato, profunde et remote punctato punctulisque interjectis minutissimis irrorato; elytris convexis, oblongo-ellipticis basi truncatis, postice acutiusculis, punctato-striatis; antennis pedibusque læte rufo-ferrugineis, femoribus paulo obscurioribus.—Long. corp. lin. 4½.

Habitat in montibus Gomere, à DD. Crotch semel tantum lectus.

The single specimen from which the above diagnosis has been compiled was taken by the Messrs. Crotch on the mountains of Gomera, during their late expedition to the Canaries. Although perfectly distinct from them both, it is in *some* respects intermediate between the *L. ellipticus* and *lepidopterus*; nevertheless I think perhaps it is, in reality, nearer to the latter than to the former. From the *ellipticus* it differs, *inter alia*, in its broader and less concave rostrum, in its prothorax being wider, much more rounded at the sides, and more *deeply* punctured, in its elytra being less elliptic (or wider at the base) and beset all over with very elongate erect hairs, and in its antennæ being slenderer; whilst from the *lepidopterus* it recedes in its less opaque surface, in its rather broader rostrum and more prominent eyes, in its more deeply and sparingly punctured prothorax, in its differently shaped, (posteriorly more acute) elytra, the erect hairs of which are longer but more remote, and in its more elongated and somewhat paler limbs.

Laparocerus subopacus, n. sp.

L. elongatus, angustulus, niger, (præsertim in elytris fœmineis) opacus, parce fulvo-cinereo squamoso-nebulosus sed pilis erectis carens (versus elytrorum apicem setulis subdemissis parce irroratus); rostro minutissime et levissime punctulato, subconcavo, postice profunde canaliculato, oculis rotundatis, prominentibus; prothorace longiusculo, profunde punctato punctulisque minutissimis argutis intermediis dense irrorato; elytris profunde punctato striatis; antennis pedibusque elongatis, illis tarsisque piceoferrugineis; funiculi art^o 2^{do} primo multo longiore.—Long. corp. lin. 4.

Habitat Gomeram, inter plantas *Sedi* in montibus valde excelsis à DD. Crotch parce deprehensus.

This species has much the general character and sculpture of the *L. mendicus*, from Hierro; but it is considerably larger, with its elytra more opaque and deeply sculptured, with its scales more fulvescent (or less cinereous), and with its limbs, and especially the second joint of its funiculus, more elongate. This last feature indeed would tend rather to affiliate it with the *L. obscurus*, from Teneriffe; though its larger bulk, less abbreviated prothorax, more prominent eyes, more opaque and deeply sculptured surface, coarser and more fulvescent scales, and longer limbs will equally separate it from that insect. Nevertheless I believe that the *L. subopacus* (from Gomera), the *obscurus* (from Teneriffe), and the *mendicus* (from Hierro), and *possibly* even the *seniculus* (from Grand Canary),

may at any rate be fairly regarded as the *representatives* of each other in their respective islands.

The *L. subopacus* was detected by the Messrs. Crotch, during their late Canarian campaign, at a very high altitude in Gomera,—by beating plants of *Sedum* on Monte Fuerte.

Laparocerus debilis, n. sp.

L. angustulus, niger, nitidus, parce squamoso-tessellatus pilisque breviusculis suberectis parum robustis versus elytrorum apicem parce obsitus; rostro leviter punctato, concavo, postice foveolato, oculis parvis, rotundatis, prominentibus; prothorace subcylindrico, profunde et parce punctato; elytris oblongis, profunde punctato-striatis; antennis pedibusque piceo-ferrugineis, femoribus piceis; funiculi art^o 2^{do} primo multo longiore.—Long. corp. lin. $2\frac{3}{4}$.

Habitat Teneriffam, à DD. Crotch semel repertus.

A single specimen of this *Laparocerus* was taken by the Messrs. Crotch in Teneriffe; and it is remarkable for its rather narrow oblong outline and shining surface; for its smallish, rounded, and prominent eyes; for its somewhat deeply punctured prothorax; for its elytra being coarsely punctate-striated, slightly acute behind, where they are sparingly beset with shortish, rather robust, suberect hairs; and for the second joint of its funiculus being (as in the case of the *L. obscurus*) *very* much longer than the first.

Laparocerus indutus, n. sp.

L. niger, subnitidus, parce sed grosse submetallico-fulvescente squamoso-tessellatus pilisque elongatis suberectis in elytris sat dense obsitus; rostro prothoraceque minute ruguloso-punctulatis punctisque majoribus vix profundis obsitis, illo distincte canaliculato, hôte subovali, oculis rotundatis prominentibus; elytris oblongis, punctato-striatis; antennis pedibusque rufo-piceis.—Long. corp. lin. $2-2\frac{1}{2}$.

Habitat in Gomerâ, rarissimus. Exemplaria tria ceperunt DD. Crotch.

Of this little *Laparocerus* three examples were taken in Gomera by the Messrs. Crotch. In their general character they are evidently much allied to the *L. puncticollis*, from Hierro; nevertheless they differ from that species in being larger and more piceous (or less black); in the suberect hairs with which they are studded being a little longer, denser, darker (or less cinereous), and more robust; in their eyes being somewhat less rounded, and a good deal less prominent; in their head and prothorax being less deeply, and rather

less closely, punctured, but with the minute intermediate punctules more distinct; in their elytra being relatively longer, and a trifle more rounded-off at the shoulders; and in their limbs being appreciably more developed—with the legs more pilose, the third tarsal joint perceptibly broader, and the front tibiæ of the male sex a little more scooped out internally.

Genus **LICHENOPHAGUS.**

Wollaston, *Ins. Mad.* 389 (1854).

a. *Funiculi articulo secundo primo sublongiore.*

Lichenophagus buccatrix, n. sp.

L. squamulis minutissimis, vel brunneis vel cinereo-fuscis, densissime tectus, sed setulis fere carens (sc. brevissimis, interdum ægre observandis), subter squamulis opacus; rostro leviter concavo sed argute canaliculato, subtus appendiculis late divaricatis exstantibus instructo, oculis demissis; prothorace brevi, ad latera valde rotundato, parce punctato, utrinque necnon in medio plus minus obscure (interdum obsolete) subcinereo-lineato; elytris convexis, inflatis, ovato-ellipticis, ad latera valde et æqualiter rotundatis (antice paulatim valde angustioribus), punctato-striatis, interstitiis alternis plus minus evidenter tessellatis; antennis elongatis, gracilibus tarsisque piceo-testaceis; pedibus robustis. — Long. corp. lin. 3–3½.

Mas prothorace simplici, pedibus paulo robustioribus, tibiis ad apicem internum magis incurvis.

Fcem. prothorace ad basin in medio carinulâ obtusissimâ (vix elevatâ) valde abbreviatâ instructo; pedibus subgracilioribus, tibiis rectoribus.

Habitat in montibus Gomeræ excelsis, inter plantas *Sedi* à DD. Crotch parce deprehensus.

This is by far the most extraordinary member of the present genus which has been detected,—its gigantic size (as compared with all except the *L. incomptus*, which may possibly be the exponent of a distinct genus), elliptical inflated elytra (which are greatly rounded in the middle, and much narrowed before and behind), in conjunction with its slender antennæ (for a *Lichenophagus*) and the greatly developed divaricating processes on the underside of its rostrum at the apex, giving it a character completely its own. Its sexual dissimilarities, also, are more pronounced than in any of the other species,—its males having their legs thicker, and the tibiæ more incurved at the apex, than is the case with the females; whilst the latter have a greatly abbreviated, very obtuse, and suddenly termi-

nated keel in the centre of their prothorax behind, which does not appear to exist in the opposite sex*.

The discovery of the *L. buccatrix* is due to Messrs. Crotch, who captured a few specimens of it at a very high altitude in Gomera during their late Canarian campaign,—“by beating *Sedum* on Monte Fuerte,” one of the loftiest mountains above Hermigua.

b. *Funiculi articulo secundo primo multo longiore.*

(Subgenus **Amyntas**, *Woll.*).

Lichenophagus incomptus, n. sp.

L. brunneus, concolor (nec tessellatus), vix squamulosus sed setulis sive pilis brevibus omnino demissis nigrescentibus sat dense vestitus; rostro longiusculo, subparallelo, apicem versus late concavo, postice argute canaliculato, oculis leviter prominulis; prothorace ad latera æqualiter rotundato, dense, profunde et regulariter punctato; elytris oblongis, profunde punctato-striatis; antennis elongatis, rufo-ferrugineis; pedibus paulo dilutioribus.—Long. corp. lin. $3\frac{2}{3}$.

Habitat insulas Canarienses (mihi non obvius), à cl. de Marseul communicatus.

The single example from which the above diagnosis is compiled has been communicated by M. de Marseul as undoubtedly *Canarian*, though without any note as to the island in which it was taken; and although it recedes from the other *Lichenophagi* in two or three important particulars, yet its general aspect and affinities incline me to believe that it may truly have come from the Canaries. Nevertheless I need scarcely add that until further material has been obtained, I cannot regard this point as by any means satisfactorily established.

Judging from the specimen now before me, the *L. incomptus* is larger than any of the *Lichenophagi* hitherto detected (even than the *L. buccatrix*), its rostrum is a little less abbreviated and more parallel, and the second joint of its funiculus is *considerably* longer (being half as long again as the first). And it also differs (unless indeed this example is either imperfect or immature) in being concolorous throughout, or completely untessellated,—indeed apparently free from

* The fact of this minute, abbreviated, obtuse, central prothoracic keel (or node) being a sexual character in the *L. buccatrix* may well raise the inquiry whether it is not sexual in the *avctus* likewise: but *if such be the case*, it would follow that I have not yet seen the male of that species; for all the examples which I have hitherto taken possess it.

minute scales, but somewhat densely clothed with very short and quite decumbent darkish setæ (or stiff hairs) *.

Fam. HALTICIDÆ.

Genus LONGITARSUS.

Latreille, *Fam. Nat. des Ins.* 405 (1825).

Longitarsus maderensis.

L. oblongo-ovatus, convexus, nitidus, subcæneo-niger (interdum obsoletissime subænescens); antennarum basi pedibusque saturate testaceis; antennis ad apicem femoribusque posticis obscurioribus; prothorace subtiliter punctulato; elytris ad humeros rotundate declivibus, profundius punctatis, punctis versus basin vix subseriatim dispositis.—Long. corp. lin. $\frac{7}{8}$.

Teinodactyla Maderensis, *All., Ann. de la Soc. Ent. de France*, 659 (1863).

Habitat Maderam, in cultis editoribus à Dom. F. A. Anderson repertus.

Detected by the late Mr. F. A. Anderson in Madeira proper,—by brushing some grass, immediately outside the gates of the Palheiro, on the mountains to the eastward of Funchal. M. Allard, who described the species from an example which I sent to him, makes the following remark concerning its affinities: “ Cette espèce a la même taille et la forme que la *T. oblitterata* Ros.; mais elle s’en distingue par sa couleur plus noire et plus brillante, par la ponctuation de son corselet et de ses élytres beaucoup plus fine, et surtout par ses antennes dont les articles sont beaucoup plus courts. Elle a de l’analogie avec la *T. parvula* Gyll., mais cette dernière a les épaules plus larges et plus saillantes, et sa ponctuation, quoique à peu près aussi subtile, n’est pas en ligne à la base et près la suture comme dans la *T. Maderensis*.”

Genus PSYLLIODES.

Latreille, *Fam. Nat. des Ins.* 405 (1825).

Psylliodes amplicollis, n. sp.

P. subangustulo-elliptica, nitida, subæneo-viridescenti-nigra, antennis pedibusque picco-ferrugineis; antennis intra marginem oculorum (sat parvorum) subremote insertis; prothorace amplo, minute punctato; elytris ad humeros facile rotundatis (nec oblique trun-

* Since the above was written, I have had some reason to suspect that the type from which my diagnosis of the *L. incomptus* was compiled (but which unfortunately has been returned to Paris, so that I cannot now re-examine it) may possibly have been but a very small and immature (female) specimen of the *Atlantis tibialis*—slightly aberrant, and perhaps obtained in the island of Hierro.

catis), punctato-striatis (striis internis antice valde obliquis), in interstitiis minutissime parceque punctulatis.—Long. corp. lin. $1\frac{1}{3}$.

Habitat Maderam, à Dom. Bewicke semel deprehensa.

A single example of this *Psylliodes* is in the collection of the late Mr. Bewicke, by whom it was captured in Madeira proper. Although very distinct from both of them, it combines to a *certain extent* the shape of the *P. vehemens* with the colour and closer sculpture of the *umbratilis*. It may however be known by its *narrowish*-elliptic outline and dark-greenish surface (which seems also to have a faint brassy tinge), the limbs alone being of a piceo-ferruginous hue; by its eyes being rather small, which occasions the antennæ to be implanted at an appreciable distance from their inner margin; by its prothorax being largely developed; and by its elytra being very *gradually*, and obtusely, rounded at their humeral angles.

Fam. COCCINELLIDÆ.

Genus COCCINELLA.

Linnæus, *Syst. Nat.* edit. 1 (1735).

Coccinella Andersoni.

C. rotundato-ovalis, nitida, levissime punctulata; capite rufescenti-lurido, in fronte vix flavescentiore; prothorace antice et ad latera rotundata subpellucide marginato, apice truncato (angulis anticis haud porrectis), luride subflavescenti-rufo, ad utrumque latus necnon in maculis duabus basalibus parvis dilute flavo; elytris marginatis, margine circa humeros (valde rotundatos) versus scutellum continuato sed longe ante scutellum subito terminato, luride subflavescenti-rufis sed maculis maximis confluentibus dilute flavis marmoratis; antennis pedibusque infusate testaceis, illis tarsisque ad apices paulo obscurioribus.—Long. corp. lin. $1\frac{3}{4}$.

Coccinella Andersoni, *Woll., Ann. Nat. Hist.* x. 337 (1862).

Habitat Maderam, à DD. Anderson et Bewicke ad flores pinorum haud longe ab urbe Funchalensi capta.

Fam. EROTYLIDÆ.

Genus XESTUS.

Wollaston, *Cat. Can. Col.* 420 (1864).

Xestus fungicola, n. sp.

X. throscoides affinis, sed paulo minor, angustior, nitidior (sc. antice minus evidenter alutaceus); prothorace longiore, convexiore, qua-

drato (nec conico), ad latera æqualiter leviter rotundato, angulis anticis et præsertim posticis minus productis; clytris pone basin paulo convexioribus; antennis pedibusque vix brevioribus; palporum maxillarium articulo ultimo sensim minus late securiformi.—Long. corp. lin. 2.

Habitat Gomeram, in fungis putridis à DD. Crotch parce lectus.

Four examples of this fine *Xestus* were taken by the Messrs. Crotch in Gomera, from within a dead fungus on the sylvan mountains above Hermigua; and it is extremely interesting, as supplying us with a second member of this curious genus. It is a little smaller, narrower, and more shining than the Teneriffan *X. throscoides*, its anterior portion being less evidently alutaceous; its prothorax is relatively longer, convexer, and more square,—(instead of being conical) having its sides *equally* (though very slightly) rounded before and behind, with the anterior and (more especially) the posterior angles less produced; its elytra are a little more convex, or laterally-compressed; its limbs are perhaps a trifle shorter; and the last joint of its maxillary palpi is somewhat less *broadly* securiform.

Genus EUXESTUS.

Wollaston, *Ann. Nat. Hist.* ii. 411 (1858).

Euxestus Parkii.

E. oblongo-ellipticus, rufo-castaneus, nitidissimus, glaberrimus; prothorace transverso, postice lato elytris arete applicato; antennis pedibusque brevibus, paulo pallidioribus.—Long. corp. lin. 1–1½.

Euxestus Parkii, *Woll., Ann. Nat. Hist.* ii. 413 (1858).

Habitat in Maderæ inferioribus, plerumque sub quisquiliis in cultis degens.

Fam. ERODIADÆ.

Genus ARTHRODES.

Solier, *Ann. de la Soc. Ent. de France*, iii. 513 (1834).

Arthrodes Perraudieri, n. sp.

A. ater, subnitidus; capite prothoraceque fere quasi impunctatis (oculo fortiter armato pareissime et subtilissime punctulatis), illius carinâ frontali arcuatâ valde distinctâ, hâc ad latera et utrinque ad apicem sat grosse marginato; elytris subæqualibus (sc. tantum leviter et minute malleatis) necnon distincte et sat dense punctatis; epipleuræ plicâ humerali nullâ.—Long. corp. lin. 5½.

Habitat insulas Canarienses (sec. cl. de Marseul), mihi non obviis; à

Dom. H. de la Perraudière collectus, ejus in honorem nomen triviale dedi.

A single example of this *Arthrodes* has been communicated by M. de Marseul, and was taken at the Canaries by M. H. de la Perraudière ; but I have no reliable information as to the exact island in which it was found. In its humeral plica being altogether *absent* (and not even *obsolete*, as in the *A. inflatus* and *curtus*) it recedes from the members of the genus hitherto detected ; and it is further remarkable for its head and prothorax being nearly impunctate, whilst its elytra (which are almost *even*, being but minutely and slightly malleated) are rather densely and distinctly punctured. Its frontal keel is regularly arcuated, and much developed ; and the lateral edges of its prothorax (as well as a portion of the front one towards either side) are rather coarsely margined.

Fam. CONIONTIDÆ.

Genus CRYPTICUS.

Latreille, *Règn. An.* (édit. 1) iii. 298 (1817).

Crypticus calvus, n. sp.

C. punctatissimo similis et forsan ejus status insularis ; differt corpore vix oblongiore depressiore et omnino calvo (neque etiam minute pubescente), puncturâ vix subtiliore minusque densâ, prothorace paulo minus convexo necnon ad angulos posticos sensim minus producto, elytrorum striis vix levioribus.—Long. corp. lin. $3\frac{2}{5}$ —4.

Crypticus canariensis (p.), *Woll., Cat. Can. Col.* 482 (1864).

Habitat ins. Hierro, in sylvaticis occurrens.

A single specimen of a *Crypticus* which I recorded in my late Catalogue as an insular modification of the *canariensis*, and which was captured by myself in the wooded district of El Golfo on the western side of Hierro, seems better treated as a separate species—of which a long array of examples now before me, taken by the Messrs. Crotch in the same island, appear to be the exponents. I think, indeed, judging from this additional material, that it is certainly more allied to the *punctatissimus* than to the *canariensis* ; and it was the mere fact of its being free from pubescence that inclined me to regard it as a state of the latter. But, in point of fact, it is so near to the former that I am far from satisfied that it may not, in reality, be but a totally bald variety of that insect, peculiar to

Hierro. Nevertheless if this be the case (as I cannot but think far from impossible), it would perhaps tend to imply that the *C. navi-ularis* (from Teneriffe), the *punctatissimus* (from Palma), and the *calvus* (from Hierro) are but insular phases of a single, somewhat plastic, species. But, however this may be (for it is next to impossible to decide for certain), the *C. calvus* differs from the Palman *punctatissimus* in being just appreciably more oblong and depressed, *entirely* bald, and with its punctation (if anything) a trifle finer and less dense. Its prothorax, likewise, which is not quite so convex, has the basal angles perhaps somewhat less produced; and its elytral striæ are a little more lightly impressed.

Crypticus nitidulus, n. sp.

C. sat breviter oblongus, convexus, ater, omnino calvus, nitidus, ubique paulo minus dense et (præsertim in prothorace) multo profundius punctatus; prothorace latiusculo, convexo, ad latera rotundato, angulis posticis vix productis obtusis, intra angulos late et conspicue impresso; elytris distincte substriato-punctatis; antennis, palpis pedibusque piceo-ferrugineis.—Long. corp. lin. 3 $\frac{2}{3}$.

Habitat Gomeram, à DD. Crotch repertus.

A few examples now before me of a *Crypticus*, which were captured by the Messrs. Crotch in Gomera, are so distinct from the other species recorded in this volume that I cannot possibly treat them as an insular modification of any of their Canarian allies. In their oblong outline and the rounded edges of their prothorax, they are perhaps more on the type of the *C. oblongus* than of the more elliptic members of the genus; nevertheless they are very much larger and broader than that insect, and their punctation is (especially on the prothorax) extremely coarse. Indeed the latter character, in conjunction with their comparatively *shining*, intensely black, and totally bald surface, and their broad, laterally rounded prothorax, which is widely and conspicuously impressed posteriorly towards either edge, and has its hinder angles somewhat obtuse, will serve to separate them from the other *Cryptici* enumerated in the present Catalogue. I believe that the Messrs. Crotch's specimens were taken on the sylvan mountains above Hermigua.

Fam. OPATRIDÆ.

Genus HADRUS.

(Dej.) Wollaston, *Ins. Mud.* 502 (1854).

Hadrus Paivæ.

H. oblongus, niger, subtiliter et crebre granulatus; elytris substriatis, levissime et subtilissime pubescentibus.—Long. corp. lin. 4–4½.

Hadrus Paivæ, *Woll., Ann. Nat. Hist.* vi. 50 (1860).

Habitat Maderam orientalem, sub lapidibus in inferioribus juxta mare infra oppidulum Porto da Cruz sat copiose occurrens.

Taken by myself, at a low elevation, in the east of Madeira proper, —beneath stones, close to the sea, on the calcareous promontory below the little town of Porto da Cruz. It is in some respects intermediate between the *H. alpinus* and *cinerascens*, combining the outline of the former with the angulated clypeus of the latter; whilst in the relative *coarseness* of its sculpture (though not in its precise *character*) it is about midway between the two. In the pubescence of its clytra, also, which is *very* delicate and obscure, it is intermediate between the totally unclothed *alpinus* and the rather more evidently (though very minutely) setulose and roughened surface of the *cinerascens*.

Fam. ULOMIDÆ.**Genus ADELINA.**

(Chevr.) *Woll., Ann. Nat. Hist.* ii. 413 (1858).

Adelina farinaria.

A. oblonga, rufo-picea, nitida, valde depressa; capite prothoraceque confertim leviter punctulatis, hœc transverso, postice foveolis duabus brevibus longitudinaliter impresso, per marginem posticum sinuato; elytris punctato-striatis, interstitiis subtilissime punctulatis.—Long. corp. lin. 3.

Variat (immatura) colore pallido-ferrugineo.

Adelina farinaria, *Woll., loc. cit.* 414 (1858).

Habitat Maderam, in urbe ipsâ Funchalensi inter farinam Americanam (?) à Dom. M. Park sat copiose observata; ex alienis certe introducta.

Genus GNATHOCERUS.

Thunberg, *Act. Holmiens.* 47 (1814).

Gnathocerus maxillosus.

G. lineari-elongatus, pallide rufo-ferrugineus, subnitidus; prothorace subconvexo, subquadrato, subtilissime punctulato; elytris punctato-striatis; antennis pedibusque rufo-testaceis.—Long. corp. lin. 1⅓–1½.

Mas mandibulis elongatis, angustis, curvatis, falcatis, porrectis; fronte bituberculatâ, ad latera paulo subrecurvo-ampliatâ.

Trogosita maxillosa?, *Fab., Syst. Eleu.* i. 155 (1801).

Gnathocerus maxillosus, *Woll., Ann. Nat. Hist.* vi. 49 (1860).

Habitat Maderam australem, in urbe ipsâ Funchalensi sub cortice *Platani* laxo à meipso repertus.

Fam. TENEBRIONIDÆ.

Genus TENEBRIO.

Linnaeus, *Syst. Nat. edit.* 6 (1748).

Tenebrio Crotchii, n. sp.

T. aterrimus, nitidus; capite prothoraceque transversis ac profunde punctatis, illo inæquali et mox pone oculos (genis haud profunde incisos) subito in collum angustato, hôc postice vix angustato (ad latera oblique subrecto) angulis anticis valde rotundatis, posticis argute obtusis, per marginem basalem recte truncato, in limbo tenuiter marginato, basi utrinque foveâ brevissimâ impresso; scutello triangulariter subpentagono; elytris basi recte truncatis, profunde punctato-striatis, in interstitiis minutissime parce punctulatis; antennis pedibusque sæpius subpicescentioribus, tibiis masculis arcuatis.—Long. corp. lin. 4-4½.

Habitat Teneriffam et (præcipue) Gomeram, à DD. Crotch in *Euphorbiâ canariensi* emortuâ copiose deprehensus. *Tenebrio* late distinctus insulisque Canariensibus valde indigenus, necnon in honorem amici G. R. Crotch, entomologi inter Anglicanos periti, oculatissimi, perillustris, indefessi, citatus.

The discovery of this small, but most distinct and remarkable *Tenebrio* is due to the late Canarian researches of the Messrs. Crotch—who captured it abundantly in Gomera, and more sparingly near Buenavista in the north-west of Teneriffe. Judging from their report, it appears to be peculiar to the dead stalks of the *Euphorbia canariensis*—“in the tops and bottoms” of which, according to a note now before me, it “swarms, when the Lepidoptera have left.” Such being the case it is certainly remarkable that it should have totally escaped my own observations in those islands; though as I searched but little in Gomera, and less in the *E. canariensis* than in any of the Euphorbias, this is perhaps partly accounted for. I have had much pleasure in dedicating the species to my friend Mr. G. R. Crotch, to whose entomological labours (in conjunction with those of his brother) we are indebted for so large a number of interesting and important additions to the Canarian Coleoptera.

Apart from a number of minor distinctions which have been re-

corded in my diagnosis, the *T. Crotchii* is at once remarkable (in the present genus) for its comparatively small size and its shining, intensely black surface, for its head and prothorax being, both of them, short and transverse (the latter of which is straightly truncated at the base, with the hinder angles sharply defined and obtuse and the anterior ones extremely rounded and blunt), and for its elytra being likewise very straight along its front margin, and deeply punctate-striate.

Fam. HELOPIDÆ.

Genus HELOPS.

Fabricius, *Syst. Ent.* 257 (1775).

Helops Marseulii, n. sp.

H. ater, nitidus; oculis angustulis; capite prothoraceque sat profunde et dense punctatis, hœ convexo, ad latera rotundato, ante angulos posticos vix subsinuato; elytris subellipticis, argute substriato-punctatis (punctis inter se valde distinctis), in interstitiis minutissime, levissime et parce punctulatis (nec tuberculatis, nec transversim rugulosis); antennis pedibusque dilutioribus.—Long. corp. lin. $5\frac{1}{2}$.

Habitat Teneriffam?, à cl. de Marseul communicatus; certe in insulis Canariensibus captus.

A single example of this *Helops*, from which the above diagnosis is drawn-out, has been communicated by M. de Marseul; and although very unwilling to erect an additional species for its reception, I feel nevertheless that I have no option but to do so, seeing that I cannot refer it to any member of the genus enumerated in this Catalogue. It has the label "Teneriffe" appended to it; and whilst I cannot vouch for the accuracy of this *habitat* (having already detected so many topographical errors amongst the insects which have been transmitted to me from the same source), I nevertheless must add that that species has so decided an affinity with the *H. altivagans* and *elliptipennis* of the higher districts of that island that I believe it to be correct.

The *H. Marseulii* would seem to differ from its two allies just mentioned in its more highly polished surface (even the elytra being exceedingly shining), its more intensely black hue, and in its comparatively coarsely punctured striæ (the punctures of which, although not very large, are deep and remarkably well defined). Its interstices are most minutely and sparingly punctulated (the punctules being

perceptible only under a strong lens), as well as quite free from tubercles and transverse *rugæ*.

Helops arboricola.

H. subcylindrico-oblongus, ater, subopacus; capite prothoraceque confertissime punctulatis (punctis subconfluentibus), hœc longiusculo, utrinque versus basin plus minus valde sinuato, angulis positicis plus minus acutis; elytris subparallelis, densissime et minute granulatis (granulis versus suturam obsoletis), crenato-striatis, interstitiis tuberculis parvis remotis longitudinaliter obsitis; antennis pedibusque elongatis.—Long. corp. lin. 7.

Helops arboricola, *Woll., Ann. Nat. Hist.* x. 338 (1862).

Habitat in Maderæ intermediis, à Dom. Bewicke sub cortice laurorum laxo parce lectus.

Detected in Madera proper by the late Mr. Bewicke.

Helops gomerensis, n. sp.

H. congeneri affinis, sed paulo major, depressior, antennis pedibusque (saltem in sexu masculino) multo longioribus; clypeo apice rectius truncato; prothorace elytrisque ad basin sensim magis angustatis, illo vix levius parciusque punctato, his paulo profundius crenato-striatis, in interstitiis convexioribus et (oculo fortiter armato) evidentius alutaceis, minus punctulatis (punctis sæpius obsoletis) sed magis evidenter (tamen minute ac valde obsolete) seriatim tuberculatis.—Long. corp. lin. 5-7.

Habitat Gomeram, à DD. Crotch copiose repertus.

Considering the great variability of the *H. congener*, I at first thought it not unlikely that the present *Helops* (sixteen examples of which, taken by the Messrs. Crotch in Gomera, are now before me) might be some insular modification of that species; and even still I would not be quite positive that such *may* not, in reality, be the case; though, as it seems in some respects to be more on the type of the Teneriffan *H. altivagans* and *elliptipennis*, I think it would be rash to treat it as a mere phasis of the *congener*. It differs from that insect in being on the average a little larger, and in having its limbs (at any rate in the male sex) much more elongate. Its clypeus, also, is more straightly truncated at the apex; its prothorax and elytra are a trifle more drawn in at their respective bases; and the latter are more deeply striated, with their interstices more alutaceous and convex, less evidently punctulated (the punctures being usually obsolete), but with a rather *more* decided tendency to be longitudinally studded (posteriorly and towards the sides) with very remote and minute tubercles.

Fam. MELOIDÆ.

Genus ZONITIS.

Fabricius, *Syst. Ent.* 126 (1775).*Zonitis imperialis.*

Z. cylindrica, nigra, dense pubescens; capite prothoraceque profunde punctatis; scutello magno; elytris pallide rufis, utrinque maculis duabus (anticâ minore et interdum obsoletâ) nigrescentibus ornatis; antennis pedibusque longissimis, robustis, unguiculis tibiârumque calcaris piceo-ferrugineis.—Long. corp. lin. 5–7.

Zonitis 4-punctata, Woll. [nec Fab.], *Ins. Mad.* 530 (1854).

— —, *Id.*, *Cat. Mad. Col.* 163 (1857).

Habitat in Maderâ et Portu Sancto, hinc inde ad flores in inferioribus.

Fam. ANTHICIDÆ.

Genus MECYNOTARSUS.

La Ferté, *Mon. des. Anth.* 57 (1848).*Mecynotarsus semicinctus*, n. sp.

M. fragilis, leviter punctulatus, opacus, sericeo-pubescens, testaceus, solum in elytris fasciâ mediâ (versus latera abbreviatâ et per suturam anguste interruptâ) nigrescente ornatus; prothorace globoso, processu antico maximo triangulari (basi lato) valde serrato instructo; elytris subconvexis, ovalibus, apice leviter subtruncato-abbreviatis; antennis pedibusque etiam pallidioribus, gracillimis, longissimis.—Long. corp. lin. $1\frac{1}{4}$ – $1\frac{2}{3}$.

Habitat Canariam Grandem, in aridis arenosis submaritimis juxta urbem Las Palmas à W. D. Crotch, M. D., repertus.

This interesting *Mecynotarsus*, three examples of which were captured by Dr. Crotch in the sandy maritime region of Grand Canary between Las Palmas and the Isleta, is totally distinct from the Mediterranean *M. rhinoceros*,—being not only *very* much larger but also entirely testaceous, with the exception of a blackish transverse fascia in the middle of the elytra (which is shortened towards either side and narrowly interrupted along the suture, so as to constitute two large oblique patches). In minor particulars it is less densely, but rather more coarsely sericeous than the *M. rhinoceros*, with its decumbent pubescence of a pale testaceous hue instead of being silvery or cinereous; its prothorax is less opaque, with the anterior process both broader at the base (or more triangular) and more *finely* and *numerously* serrated along the edges; its elytra are con-

vexer, or more truncated at their extreme apex; and its limbs are even longer still.

In several of the characters above alluded to, it will be seen that the present *Mecynotarsus* would appear (judging at least from La Ferté's diagnosis) to agree with the *M. bison*, of Olivier, from Arabia; but that insect is described as entirely testaceous, whereas the Canarian one (which is probably also slenderer) has a black fascia across the middle of its elytra; and, even had this not been so, it is hardly likely that the same species (and one so manifestly indigenous) would be found in regions which are separated from each other by the whole continent of Africa, and which does not seem to exist in any of the intermediate countries.

Fam. SCYDMÆNIDÆ.

Genus SCYDMÆNUS.

Latreille, *Gen. Crust. et Ins.* i. 232 (1806).

Scydmænus castaneus, n. sp.

S. angustulus, rufo-castaneus, nitidus, pube grossâ subdemissâ fulvo-cinereâ parce vestitus, (oculo fortissime armato) minutissime ac parcissime punctulatus; prothorace subcordato (postice valde angustato), ad basin parce rugoso-punctato; elytris ellipticis (antice et præsertim postice acutiusculis); antennis breviusculis pedibusque saturate testaceis.—Long. corp. lin. $\frac{3}{4}$ —vix 1.

Habitat in Gomerâ et Hierro, sub foliis dejectis à DD. Crotch lectus.

Several examples of this little *Scydmænus* were taken by the Messrs. Crotch in Gomera, by sifting dead leaves above Hermigua; and they likewise met with two more in Hierro. It is remarkable for its brightly polished but pubescent surface, reddish-chestnut hue, narrowish outline, elliptical elytra, and for its prothorax being cordiform, or greatly attenuated behind, and roughly punctured at the base. Some of the specimens are altogether a little smaller and narrower than the remainder; but after overhauling them very closely beneath the microscope, I cannot discover a single character either of outline or structure which will enable me to separate them even as a permanent variety.

Fam. PSELAPHIDÆ.

Genus PSELAPHUS.

Herbst, *Käf.* iv. 106 (1792).

Pselaphus palpiger, n. sp.

P. gracilis, rufo-castaneus, nitidissimus, parcissime fulvo-pubescens, impunctatus; capite prothoraceaeque angustissimis, ovalibus; oculis minutissimis, demissis, subobsoletis (e lentibus perpaucis compositis); elytris triangularibus, brevissimis, singulis lineâ suturali integrâ et alterâ sulciformi basali abbreviatâ instructis; palporum maxillarium articulo ultimo longissimo, subflexuoso, breviter pubescente; tarsorum art^o 2^{do} sat grosse clavato.—Long. corp. lin. 1.

Habitat in Gomerâ, à DD. Crotch parce collectus.

In the immensely elongated *subflexuose* last joint of its maxillary palpi, its extremely narrow head and nearly obsolete eyes, the curious little Pselaphid from which the above diagnosis has been drawn out, and which practically must be well-nigh blind, might almost claim a distinct *genus* for its reception; yet in size, colour, clothing, surface, and general contour it so much resembles the European *P. Heisii* that before careful examination it might literally be mistaken for that insect. Apart, however, from the enormously developed, somewhat ensiform apex of its palpi, its rudimentary eyes, and the greatly narrowed anterior segments of its body, it may be known by its elytra being likewise narrower, as well as much shorter and with the line down the disk of each *obsolete posteriorly*, by its antennæ being a little paler and rather more abbreviated, and by its feet having their second joint a little thicker and more clavate.

Several specimens of the *P. palpiger* were taken by the Messrs. Crotch in Gomera, during their late Canarian campaign.

Fam. STAPHYLINIDÆ.**Genus TACHYUSA.**

Erichson, *Käf. der Mark Brand.* i. 307 (1837).

Tachyusa maritima.

T. depressa, minute punctulata, subopaca, nigra, dense cinereo-pubescens; capite transversim subquadrato; prothorace late canaliculato, postice angustiore; elytris vix picescentioribus; antennis pedibusque saturate testaceis, illis gracilibus, apicem versus vix obscurioribus.—Long. corp. lin. $1\frac{1}{4}$.

Tachyusa maritima, Woll., *Ann. Nat. Hist.* vi. 51 (1860).

Habitat Maderam, in salinis maritimis sub lapidibus parcissime degens.

Genus HOMALOTA.

Mannerheim, *Brachél.* 73 (1831).

Homalota depauperata, n. sp.

H. angustulo-linearis, subnitida, parce pubescens, capite vix, prothorace subtilissime, sed elytris paululum evidentius punctulatis; capite parvo, rotundato-ovali, nigro-piceo, oculis minutis ac valde demissis; prothorace parvo, angusto, rufo-ferrugineo, ad latera subrecto, obsolete (postice evidentius) canaliculato; elytris parvis, brevibus, subtestaceo-fuscis, versus angulos externos posticos vix obscurioribus; abdomine nitido, parce asperato-punctato, fusco-ferrugineo, in medio nigrescentiore; antennis subgracilibus, fusco-testaceis, basi paulo dilutioribus; pedibus pallide testaceis.—Long. corp. lin. $1\frac{1}{3}$.

Habitat in Gomerâ, à DD. Crotch semel capta.

A single specimen of the *Homalota* described above was taken by the Messrs. Crotch in Gomera; and it differs so very decidedly from all the other members of the genus enumerated in this volume, that I am compelled, even in the absence of further material, to treat it as new. It may be recognized by its narrow, linear outline, and by its head, eyes, prothorax, and elytra being each of them very small—or, as it were, reduced in dimensions—in proportion to the size of the insect. The punctures of its head (which is of a blackish-piceous tint) are almost obsolete, being barely traceable even beneath the microscope; those of its prothorax (which is reddish-ferruginous), although extremely minute, are more perceptible; whilst those of its (testaceous-brown and greatly abbreviated) elytra, though likewise *very* small, are comparatively distinct. Its antennæ are somewhat slender, and of a brownish-testaceous hue; and its legs are extremely pale.

Genus **OXYPODA**.

Mannerheim, *Brachél.* 69 (1831).

Oxypoda obscœna, n. sp.

O. rufo-ferruginea, subnitida, minute sericeo-pubescens, dense et minute punctulata; capite subrotundato, oculis parvis; elytris brevissimis; abdomine in medio nigrescentiore; antennis brunneis, ad basin saturate testaceis; pedibus pallide testaceis.—Long. corp. lin. vix $1\frac{1}{3}$.

Habitat Teneriffam, à DD. Crotch semel tantum deprehensa.

Captured by the Messrs. Crotch in Teneriffe, though only a single example. The species which it appears to represent is closely allied to the *O. brevipennis* (found likewise in that island, as well as in Gomera), but is a little larger, with its head somewhat rounder and

more developed, its eyes not *quite* so minute, its antennæ longer and darker, its intermediate abdominal segments slightly blackened, and with its hinder feet less elongate.

Genus **HYPOCYPTUS**.

Mannerheim, *Brachél.* 58 (1831).

Hypocypsus reductus.

H. acuminato-obovatus, convexus, niger, nitidus, pubescens; prothorace ad latera angustissime diluto; elytris valde abbreviatis, singulatim oblique truncatis; antennis pedibusque piceo-testaceis, illarum articulo ultimo longitudine reducto.—Long. corp. lin. $\frac{2}{3}$.

Hypocypsus reductus, *Woll., Ann. Nat. Hist.* vi. 52 (1860).

Habitat Maderam, rarissimus. In urbe ipsâ Funchalensi exemplar unicum collegi.

Genus **MYCETOPORUS**.

Mannerheim, *Brachél.* 62 (1831).

Mycetoporus monilicornis.

M. angustus, elongato-filiformis; capite (angusto, triangulari, oculis parvis) prothoraceque rufo-testaceis; elytris (brevibus) vel rufo-testaceis vel fere nigris; abdomine (sat profunde punctato) piceo-testaceo, basi apiceque sæpius clarioribus; antennis (elongatis, submoniliformibus, articulo ultimo fere oblongo) pedibusque testaceis; prothoracis punctis 4 anticis fere ad marginem ipsum sitis; elytrorum seriebus tribus parce obsoleteque punctatis.—Long. corp. lin. $1\frac{2}{3}$ –2.

α . Elytris fere concoloribus, rufo-testaceis. [In ins. *Gomerá*; et forsan in *Teneriffæ* locis valde elevatis.]

β . *obscuripennis*. Elytris plus minus piceo-nigrescentibus, interdum fere omnino obscuris. [In *Teneriffæ* locis valde excelsis.]

Mycetoporus monilicornis, *Woll., Cat. Can. Col.* 559 (1864).

Habitat in editioribus *Teneriffæ* et *Gomeræ*, à DD. Crotch lectus.

My original diagnosis of this *Mycetoporus* having been drawn out from a single and rather immature example, which was captured by Dr. Crotch (during the spring of 1862) in the higher elevations of *Teneriffe*, I had no opportunity of perceiving that it varies considerably in the colour of its elytra; and I have thought it desirable, therefore, to give a corrected one in the present Appendix. The species is remarkable for being extremely slender and filiform, for its head and prothorax (the former of which is small, narrowed and subtriangular, with the eyes comparatively minute) being rufo-tes-

taceous, for its elytra and abdomen being *either* brownish-testaceous or else more or less darkened—the state “*β. obscuripennis*,” as defined above, having its elytra nearly black,—and for its antennæ being not only rather elongated (with the subapical joints moniliform, and the apical one oblong) but also (like the legs) of a pale testaceous throughout. Its four anterior prothoracic impressions are placed *very* close to the front margin; and its three elytral lines are but sparingly and obsoletely punctured.

The *M. filiformis* is a species which is so well defined by its narrow outline, the construction of its pallid antennæ, its small eyes, and its rufo-testaceous head and prothorax, that I cannot think that the variation in the mere colour of its elytra is of much significance,—particularly since some of the examples are, in that respect, partially intermediate. As a *whole*, however, judging from the series now before me, it would appear that the Gomeran individuals (and *perhaps* also those from the very lofty altitudes of Teneriffe) have their elytra rufo-testaceous and immaculate; whilst those (the state “*β*” of my diagnosis) which were captured by the Messrs. Crotch in the somewhat less elevated districts of the latter island, namely in the Pinal above Yeod el Alto, have their elytra more or less darkened, and sometimes nearly black.

Mycetoporus Johnsoni.

M. rufo-testaceus, nitidus; pectore abdomineque (ano plus minus ferrugineo excepto) obscurioribus; oculis parvis; prothoracis punctis 4 anticis à margine valde remotis; elytris convexis, brevibus, punctorum seriebus tribus fere obsoletis; antennis pallidioribus.—Long. corp. lin. 1–vix $1\frac{1}{2}$.

Mycetoporus pronus, var. *β.*, *Woll., Ins. Mad.* 573 (1854).

— — —, — — —, *Id., Cat. Mad. Col.* 186 (1857).

— — — *Johnsoni, Id., Ann. Nat. Hist.* vi. 52 (1860).

Habitat Maderam, in sylvaticis editioribus, passim.

The present *Mycetoporus*, which occurs sparingly in the sylvan districts of Madeira proper, I had regarded formerly as a depauperated state of the *M. pronus*; but a subsequent and more critical examination of it has induced me to describe it as distinct. It is rather smaller than the *pronus*, with the eyes more minute, and with the four punctures a little further removed from the anterior edge of the prothorax; the elytra are shorter and more convex, with their three rows of longitudinal punctures almost obsolete; and the antennæ are somewhat paler, and not quite so incrassated towards their apex.

Mycetoporus adumbratus, n. sp.

M. solidicorni similis, sed forsan paululum major; prothorace nigro, in margine basali præsertim ad angulos posticos testaceo, punctis 4 anticis a margine antico sensim remotioribus; elytris sublongioribus et fere nigris (sc. ad humeros necnon per marginem posticum solum testaceis); antennis paulo longioribus.—Long. corp. lin. $1\frac{2}{3}$.

Habitat Teneriffam, à DD. Crotch deprehensus.

Detected by the Messrs. Crotch in Teneriffe (in the Pinal above Ycod el Alto), and, like the following species, hitherto unique. It is much allied to the *M. solidicornis*, of which at first I had imagined that it might be only a dark variety; but a more accurate inspection reveals too many differences to render this probable. Judging from the individual before me, the *M. adumbratus* would appear to be a trifle larger than the *solidicornis* (though this may be merely accidental); its prothorax (instead of being testaceous) is black, with only the hinder margin (particularly about the basal angles) pale, and has the four anterior punctures further removed from the front edge; the dark patch, or cloud, on the disk of each elytron is not only very much darker but also so much suffused as to cover the greater portion of the surface,—extending to the extreme base, and leaving only the posterior margin and a spot at the shoulders testaceous; and its antennæ are a little longer.

Mycetoporus discoideus, n. sp.

M. elongato-ellipticus; capite nigro-piceo; prothorace, elytris abdomineque (valde profunde punctato) infuscato-testaceis, elytris singulis per marginem lateralem anguste nigris necnon in disco postico ample nigro-maculatis, abdominis segmentis singulis antice nigris; antennis (breviusculis, articulo ultimo brevi subgloboso) fuscis, ad basin pedibusque saturate testaceis; prothoracis punctis 4 anticis a margine parum remotis; elytris seriebus tribus dense asperato-punctatis.—Long. corp. lin. 2.

Habitat Teneriffam, à DD. Crotch semel tantum lectus.

A single example of this *Mycetoporus* was taken by the Messrs. Crotch in Teneriffe. In its general aspect and colouring it is a good deal suggestive of the *Bolitobius luridus*; nevertheless the aciculated last joint of its maxillary palpi at once assigns it to the present genus. It seems to be a little shorter and relatively broader than the *M. rufus*, and its colour is entirely different,—the head being black (or nearly so), whilst the prothorax and elytra (the latter of

which have their extreme outer margin dark, as well a large suffused patch on the hinder disk of each) are brownish-testaceous. Its abdomen also has the posterior half of each segment conspicuously diluted in hue. But, apart from colour and outline, it may immediately be known from that species by its antennæ being more abbreviated and compact, with the terminal articulation shorter and more globose, and by its three elytral lines being *very* much more closely punctured, with the punctures smaller and more asperate.

The *M. discoideus* is far more closely allied however to the *solidicornis*, with which indeed I am inclined to think that it may prove eventually to be conspecific; though, with but a single example of each for comparison, I scarcely like to amalgamate them. *Judging from the type now before me*, it seems to differ from the latter chiefly in its larger size, in the last joint of its antennæ being a little broader, and in the infuscated portion of its elytra being both more expressed and more concentrated into a large patch on the disk of each. If it should be shown ultimately to be but a state of the *solidicornis*, of course the latter name (as being the prior one) will have to stand for the species.

Genus **OCYPUS.**

(Kirby) Steph., *Ill. Brit. Ent.* v. 211 (1832).

Ocypus sylvaticus, n. sp.

O. niger vel piceo-niger (sæpius in elytris paulo rufescentior), subnitidus elytris subopacis; capite prothoraceque plus minus obsolete æneo-tinctis, sat profunde punctatis, parce pubescentibus, illo parum magno subrotundato convexo, hâc subcarinato-lineato; elytris brevibus, densius pubescentibus ac densius asperato-punctatis; abdomine parce asperato-punctato; antennis pedibusque piceo-ferrugineis et (præsertim his) fulvo-pubescentibus.—Long. corp. lin. $7\frac{1}{2}$ –11.

Habitat in sylvaticis Gomere editioribus, à DD. Crotch repertus.

Twenty examples of this *Ocypus*, from which the above diagnosis has been compiled, were taken by the Messrs. Crotch in the laurel-woods above Hermigua in Gomera. The species much resembles the *curtipennis* from Grand Canary, but its head and prothorax are less shining, less brassy, rather less pubescent, and not quite so thickly punctured; its elytra (although short) are a little less abbreviated, much less closely and somewhat more coarsely beset with asperated punctules; and the punctules of its abdomen are very much more remote. The last-mentioned character, indeed, will separate it from

all the *Ocypis* enumerated in this volume, though the *O. affinis* approaches it more than any of the others in the comparatively wide sculpture of its abdomen.

Genus **DOLICAON.**

Laporte, *Étud. Ent.* i. 119 (1834).

Dolicaon debilipennis, n. sp.

D. angustus, filiformis, nitidus, læte testaceo-rufus, abdominis segmentis 4 basalibus solum nigris, antennis pedibusque rufo-testaceis; capite prothoraceque parce et (præsertim illo) profunde punctatis, oculis minutis; elytris parvis, brevissimis abdomineque paulo minutius, tamen parce, asperato-punctulatis.—Long. corp. lin. $2\frac{1}{2}$ – $3\frac{1}{2}$.

Habitat in sylvaticis editioribus Gomæræ, à DD. Crotch collectus.

Apart from its beautifully coloured surface (which is entirely of a clear testaceo-rufous, with only the four basal segments of the abdomen black), this elegant *Dolicaon* may be known from the other species enumerated in the present volume by its narrower outline, minute eyes, less elongated prothorax, and its small, greatly abbreviated elytra. Its discovery is due to the indefatigable researches of the Messrs. Crotch, who met with several examples of it at a high elevation (in the laurel-woods above Hermigua) in Gomera—during their late trip to the Canaries.

Dolicaon Paivæ, n. sp.

D. subcylindricus sed postice plus minus evidenter sublatior, nitidus, niger vel subpiceo-niger, elytris postice necnon abdomine ad apicem sæpius obscure subpicescentioribus, antennis, palpis pedibusque clare rufo-ferrugineis; capite crassiusculo; sculpturâ fere ut in *D. debilipenni*.—Long. corp. lin. $3\frac{1}{3}$ – $4\frac{1}{3}$.

Habitat in ins. Salvages; à Barone "Castello de Paiva" benigne communicatus, cujus in honorem nomen triviale proposui.

A well-defined species, and which may easily be known from the others enumerated in this Catalogue by its uniformly black hue (the elytra and apex of the abdomen, particularly the former, being for the most part but *very* slightly diluted in hue), whilst its antennæ, palpi, and legs are of a clear rufo-ferruginous. It appears to be peculiar to the Salvages, from the larger or more northern island of which it has on two separate occasions been obtained (though very sparingly) by the Barão do Castello de Paiva,—to whose kindness I

have frequently been indebted for much valuable material from those remote rocks, and to whom I have great pleasure in now dedicating this interesting addition to the Atlantic fauna.

Genus **SCOPÆUS.**

Erichson, *Gen. et Spec. Staph.* 604 (1839).

Scopæus subopacus.

S. angustus, nigro-piceus, subopacus; capite prothoraceque dense alutaccis, fere pilis carentibus, illo subrotundato-quadrato; elytris crebre et minute punctulatis ac pilis brevibus demissis cinereis vestitis; antennis rufo-testaceis, apicem versus fuscescentibus; pedibus infusate testaceis.—Long. corp. lin. $1\frac{1}{4}$.

Scopæus subopacus, *Woll., Ann. Nat. Hist.* vi. 103 (1860).

Habitat Maderam, sub recremento ad basin acervorum fœni sparso à Dom. Bewicke in intermediis semel tantum captus.

Genus **TROGOPHLÆUS.**

Mannerheim, *Brachél.* 49 (1831).

Trogophlæus oculatus, n. sp.

T. angustulus, niger vel piceo-niger, subnitidus, subtiliter cinereo-pubescentis; capite prothoraceque minute et sat crebre punctulatis, oculis magnis prominentibus usque ad basin illius postice ductis, hœc in disco postico utrinque longitudinaliter biimpresso; elytris breviusculis, subpicescentioribus, paulo distinctius punctatis; antennis pedibusque breviusculis, illis piceo-, ad basin pedibusque rufo-testaceis.—Long. corp. lin. $1\frac{1}{3}$ – $1\frac{1}{2}$.

Trogophlæus bilineatus, *Woll. [nec Erich.], Cat. Can. Col.* 599 (1864).

Habitat in Canariâ Grandi et Teneriffâ, rarissimus.

Obs.—Species *T. bilineato* affinis sed vix minor, angustior, subpicescentior ac paulo subtilius punctulatus, oculis multo majoribus, usque ad capitis basin ipsam postice continuatis, elytris brevioribus necnon antennis pedibusque sensim pallidioribus.

A Canarian *Trogophlæus* of which I have seen as yet but two examples, one having been taken by myself (in the region of El Monte) in Grand Canary and the other by the Messrs. Crotch in Teneriffe. In my late Catalogue I cited it as the *T. bilineatus* of Erichson, but I am informed by Messrs. Rye and Waterhouse that it cannot be identified with that species; and, indeed, a more critical comparison of it with a type of the *bilineatus*, which has been communicated by the latter, has quite satisfied me that such is the case.

Thus, it is not only a trifle smaller, narrower, and perhaps somewhat less black, than the *bilineatus*, with its punctation a little finer, its elytra not quite so developed, and its limbs appreciably paler(?), but its eyes are considerably larger—extending to the very base of the head (and having, therefore, no decided orbit behind them), and occupying, as Mr. Rye well expressed it, “the whole temporal area.”

Trogophlæus exilis.

T. angustus, niger, subnitidus, densissime subtilissimeque cinereo-sericeus; capite prothoraceque minutissime, creberrime et æqualiter subpunctulatis (primo visu quasi grosse subalutaceis), hęc in disco postico obsolete longitudinaliter biimpresso; elytris longiusculis, sensim picescentioribus, creberrime sed paulo argutius punctulatis; antennis ad basin obscure dilutioribus; pedibus saturate testaceis.—Long. corp. lin. $\frac{7}{8}$.

Trogophlæus exilis, *Woll., Ann. Nat. Hist.* vi. 105 (1860).

Habitat Maderam, Teneriffam et Gomeram, in humidis rarissimus.

Genus HOMALIUM.

Gravenhorst, *Col. Micropt.* 116 (1802).

Homalium tricolor, n. sp.

H. nitidulum abdomine subopaco; capite rufo-ferrugineo, antice in medio nigrescentiore; prothorace rufo-testaceo, amplo, punctis perpaucis irregulariter irrorato, in disco postico longitudinaliter bifoveolato; elytris longiusculis, nigro-fuscis ad humeros magis testaceis, crebre et profunde ruguloso-punctatis; abdomine alutaceo (sed haud punctato), nigro segmentis 3 ultimis rufo-testaceis; antennis nigris, articulis 4 basalibus pedibusque læte rufo-testaceis.—Long. corp. lin. $1\frac{1}{2}$.

Habitat Maderam borealem, à Dom. Bewicke in *Euphorbiâ* quâdam emortuâ semel repertum.

Obs.—Species *H. clavicorni* affinis, sed differt præcipue capite (rufescentiore), prothorace (majore) elytris (longioribus, nigrescentioribus, densius rugosiusque punctatis) nitidiusculis (nec opacis alutaceis), abdomine antice nigrescentiore, postice lætius et abrupte rufo-testaceo, haud punctato, necnon antennis paulo longioribus minusque clavatis, articulis 4 (nec 5) basalibus læte et abrupte rufo-testaceis.

Of this beautiful *Homalium* a single example was captured by the late Mr. Bewicke in the north of Madeira proper, from under the bark of a rotten *Euphorbia* in the Ribeira de São Jorge. It would appear consequently to have much the same habits as the *H. clavi-*

corne, to which in some other respects also it is allied. It is, however, abundantly distinct from that species,—being not only a little broader, with its antennæ rather longer and less clavate, but with its head (which is more rufescent), its prothorax (which is altogether larger, and of a clearer testaceous hue) and its elytra (which are longer, darker, and more closely and roughly punctured) *shining*, instead of alutaceous and opaque. Its abdomen, which is free from the minute punctules which are traceable in that insect, is blacker anteriorly, but has the hinder segments more clearly and abruptly testaceous—a colour which pertains likewise to the *four* (instead of five) basal articulations of its antennæ.

Genus **MEGARTHUS**.

(Kirby) Steph., *Ill. Brit. Ent.* v. 330 (1832).

Megarthus serrula, n. sp.

M. subovatus, fuscus, in limbo plus minus subpellucide dilutior, subnitidus et præsertim in elytris brevibus valde profunde subasperato-punctatus; capite latiusculo, triangulari, antice inter oculos (parvos sed valde prominentes) obtuse producto et anguste subrecurvo, in fronte grosse et late subsemicirculariter impresso; prothorace profunde canaliculato, ad latera latissime subrecurvo-explanato et (oculo fortiter armato) minutissime serratø, ad angulos posticos exciso, mox pone medium obsoletissime subangulato, et pone angulos rotundatos anticos abrupte angulato; scutello late triangulari (nec scutiformi); antennis gracilibus, longiusculis, nigrescentibus, ad basin piceis; pedibus fusco-testaceis, tibiis intermediis subcurvatis.—Long. corp. lin. 1–1½.

Habitat Gomeram, sub quisquiliis à DD. Crotch in editoribus lectus.

Several examples of this most distinct and interesting *Megarthus* were taken by the Messrs. Crotch (beneath leaves and rubbish, on the mountains above Hermigua) in Gomera, during their late sojourn at the Canaries. In the dilated, somewhat concave edges of its body, its comparatively broad outline, the structure of its small but very prominent eyes, and its slightly curved intermediate tibiæ (at any rate of the male sex), it would seem at first sight to be almost transitional between the *M. longicornis* and the genus *Metopsia*; but this is not the case in reality,—for the peculiar configuration of its prothorax, added to the entire (or *un-incised*) margin of its forehead and its total freedom from a central ocellus, will, even of themselves, at once remove it from the members of that group.

From the *M. longicornis*, which is so widely spread over these

Atlantic islands, the present *Megarthus* may be known by being relatively shorter, broader and more ovate, more expanded and concave at the sides, and rather more convex down its central region, somewhat paler (or more piceous), more coarsely punctured (especially on the elytra), and not quite so opaque. Its head is wider, and deeply branded with a nearly semicircular line (the two ends of which cut into the upper surface of the clypeus immediately behind the base of each antenna, at the exact spot occupied by the *open fissure* which is so conspicuous in *Metopsia*); its prothorax is also broader, free from a transverse central impression behind, and with the edges (which are minutely serrated, and have the usual excavation at the posterior angles) shaped out into a distinct angular tooth immediately behind each of the anterior angles, which are themselves rounded and obtuse; its scutellum is wide and triangular, instead of being scutiform; and its elytra are more abbreviated.

- (1) For the 19 species¹ *the habitats of which are marked thus †*, I consider that more conclusive evidence is required before it can be looked upon as *absolutely certain* that they were really captured in the island-Groups thus indicated.
- (2) The species in *italics* have not, so far as I am aware, been observed hitherto *except in these Atlantic islands*; though we may be quite sure that a proportion of them will be detected in Mediterranean latitudes—whilst it is also *possible* that certain others may be but modifications of species (which I have usually indicated within brackets) already known².
- (3) Those, however, which I should regard as *ultra-indigenous* (and which, therefore, are not *likely* ever to be found except in this Atlantic province), I have noted by prefixing to them an asterisk (*); and they must consequently be looked upon as emphatically “endemic.”

¹ *Siagona curopæa*, *Dytiscus circumflexus*, *Gyrinus natator*, *Berosus spinosus*, *Cholovocera Maderæ*, *Attagenus pellio*, *Chasmatopterus nigrocinctus*, *Laparocerus morio*, *Hesperophanes roridus*, *Clytus Webbi*, *Crioceris asparagi*, *Gastrophysa polygoni*, *Cassida nebulosa*, *Coccinella 14-pustulata*, *Tentyria interrupta*, *Pimelia fornicata*, *Tenebrio molitor*, *Helops Marseulii*, and *Ischnomera melanura*.

² Although I have thought it desirable to indicate certain species within brackets (prefixing to them an ←), which I feel it far from impossible *may* be the central types from which their Atlantic representatives have radiated, I wish particularly to state that I do *not* myself believe (at any rate in the majority of cases) that the latter *are* undoubted modifications of the former; for had I done so, I should simply have *recorded* them as mere *varieties*. But, as I know that there are many naturalists who would hold an opposite opinion, and since I consider it a decided advantage (as an aid to the eye) to express (when practicable), even on a tabular list, the exact affinities of species *by pointing out their nearest known allies*, I have adopted this latter course,—leaving future collectors to judge for themselves (by observation *in situ*) whether they should regard those particular forms as truly specific ones, or not.

INDEX TOPOGRAPHICUS.

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(<i>Loricicides</i> .)			
2. ELLIPTOSOMA, W. (1).			
*2. <i>Wollastoni</i> , Javet	*
(<i>Carabides</i> .)			
3. LEISTUS, Fröh. (2).			
*3. <i>nubivagus</i> , W.	*
*4. <i>ellipticus</i> , W.	*
4. NEBRIA, Lat. (2).			
*5. <i>dilatata</i> , Dej.	*
*6. <i>currax</i> , W.	*
5. CALOSOMA, Weber (2).			
7. <i>indagator</i> , F.	*	*
8. <i>azoricum</i> ?, Heer [← <i>indagator</i> , F.]	*
6. CARABUS, L. (3).			
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*10. <i>interruptus</i> (Lat.), Dej.	*
*11. <i>coarctatus</i> , Br.	*
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*13. <i>humeralis</i> , W. [← <i>abbreviatus</i> , Dej.] ..	*
*14. <i>abbreviatus</i> (Köll.), Dej.	*
8. DYSCHIRIUS, Bon. (3).			
15. <i>armatus</i> , W.	*
16. <i>subcæneus</i> , W. [← <i>cæneus</i> , Dej.]	*
17. <i>pauzillus</i> , W. [← <i>misellus</i> , Sch.]	*
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19. <i>testaceus</i> , Dej.	*
(<i>Ditomides</i> .)			
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11. SIAGONA, Lat. (1).			
21. <i>europæa</i> , Dej.	†
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	Mad.	Sal.	Can.
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*25. <i>discoideus</i> , Dej.	*
*26. <i>Paivanus</i> , W. [← <i>discoideus</i> , Dej.]	*
*27. <i>Maderæ</i> , W. [← <i>lineatus</i> , Schön.]	*
*28. <i>marginellus</i> , Br.	*
*29. <i>cinctus</i> , Br.	*
*30. <i>velatus</i> , W.	*
*31. <i>amictus</i> , W.	*
*32. <i>zargoides</i> , W. [← <i>cordatus</i> , Ramb.]	*
15. DROMIUS, Bon. (12).			
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35. <i>alutaceus</i> , W. [← <i>meridionalis</i> , Dej.] ..	*
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*37. <i>insularis</i> , W.	*
38. <i>strigifrons</i> , W. [← <i>linearis</i> , Ol.]	*
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42. <i>umbratus</i> , W. [← <i>sigma</i> , Rossi]	*
*43. <i>pervenustus</i> , W.	*
44. <i>incertus</i> , W. [← ? <i>nigriventris</i> , Thoms.]	*
16. BLECHRUS, Mots. (3).			
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46. <i>maurus</i> , St. [← <i>glabratus</i> , Dfts.]	*	*
47. <i>plagiatus</i> , (Meg.), Dfts.	*	*
17. METABLETUS, Göbel (5).			
48. <i>patruelis</i> , Chaud.	*	*
49. <i>obscuroguttatus</i> (And.), Dfts.	*
50. <i>inæqualis</i> , W.	*
51. <i>lancerotensis</i> , W. [← <i>inæqualis</i> , W.]	*
52. <i>brevipennis</i> , W. [← <i>inæqualis</i>]	*
18. MASOREUS (Ziegl.), Dej. (3).			
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54. <i>arenicola</i> , W. [← <i>Wetterhali</i> , Gyll.]	*
*55. <i>alticola</i> , W.	*
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20. LICINUS, Lat. (1).			
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21. EURYGNATHUS, W. (1).			
*59. <i>Latreillii</i> , Lap.	*
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22. BROSCUS, Pnz. (3).			
*60. <i>crassimargo</i> , W.	*
*61. <i>glaber</i> , Br.	*
*62. <i>rutilans</i> , W.	*

	Mad.	Sal.	Can.
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23. POGONUS (Ziegl.), Dej. (2).			
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64. <i>Grayii</i> , W.	*
24. ZARGUS, W. (5).			
*65. <i>Schaumii</i> , W.	*
*66. <i>Desertæ</i> , W.	*
*67. <i>Crotchianus</i> , W.	*
*68. <i>Monzii</i> , W. [←= <i>pellucidus</i> , W.]	*
*69. <i>pellucidus</i> , W.	*
25. SPHODRUS, Clairv. (1).			
70. <i>leucophthalmus</i> , L.	*
26. PRISTONYCHUS, Dej. (3).			
*71. <i>alternans</i> , Dej.	*
*72. <i>picescens</i> , W.	*
73. <i>complanatus</i> , Dej.	*	*
27. CALATHUS, Bon. (23).			
*74. <i>sphodroides</i> , W.	*
*75. <i>acuminatus</i> , W.	*
*76. <i>rufocastaneus</i> , W.	*
*77. <i>carinatus</i> , Br.	*
*78. <i>advena</i> , W.	*
*79. <i>abacooides</i> , Br.	*
*80. <i>obliteratus</i> , W.	*
*81. <i>cognatus</i> , W.	*
*82. <i>rectus</i> , W.	*
*83. <i>simplicicollis</i> , W. [←= <i>rectus</i> , W.]	*
*84. <i>ascendens</i> , W.	*
*85. <i>subfuscus</i> , W. [←= <i>fuscus</i> , F.]	*
*86. <i>complanatus</i> (Koll.), Dej.	*
*87. <i>viridus</i> , F.	*
*88. <i>ciliatus</i> , W.	*
*89. <i>auctus</i> , W. [←= <i>ciliatus</i> , W.]	*
*90. <i>angustulus</i> , W.	*
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28. ANCHOMENUS, Bon. (4).			
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*98. <i>debilis</i> , W. [←= <i>Nichollsii</i> , W.]	*
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100. <i>marginatus</i> , L.	*	*
29. OLISTHOPUS, Dej. (7).			
*101. <i>humerosus</i> (Schm.), W. [←= <i>glabratus</i> , Br.]	*
*102. <i>maderensis</i> , W. [←= <i>glabratus</i> , Br.]	*
*103. <i>acutangulus</i> , W. [←= <i>glabratus</i> , Br.]	*
*104. <i>glabratus</i> , Br.	*
*105. <i>palmensis</i> , W.	*
*106. <i>ericæ</i> , W.	*
107. <i>elongatus</i> , W. [←= <i>fuscatus</i> , Dej.]	*	*
30. PLATYDERUS, Steph. (2).			
*108. <i>alticola</i> , W.	*
*109. <i>tenuistriatus</i> , W.	*

	Mad.	Sal.	Can.
31. PTEROSTICHUS, Auct. (13).			
Pœcilus, Bon.			
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Lagarus, Chaud.			
*111. figuratus, Chaud.	*
Orthomus, Chaud.			
112. longulus, Reiche	*
113. haligena, W. [← longulus, Reiche]	*
Lyperus, Chaud.			
114. nigerrimus, Dej. [← aterrimus, Pk.] ..	*
*115. Wollastoni (Heer), W.	*
Haptoderus, Chaud.			
*116. harpaloides, W.	*
*117. angularis, Br.	*
*118. robustus, W.	*
*119. gracilipes, W.	*
*120. calathiformis, W.	*
*121. dilaticollis, W.	*
*122. curtus, W.	*
32. AMARA, Bon. (3).			
123. trivialis, Gyll.	*
*124. versuta, W.	*
*125. superans, W.	*
33. ZABRUS, Clairv. (2).			
*126. crassus, Dej.	*
*127. lævigatus, Zimm. [← crassus, Dej.]	*
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34. ANISODACTYLUS, Dej. (1).			
128. binotatus, F.	*
35. CRATOGNATHUS, Dej. (7).			
*129. solitarius, W.	*
*130. pelagicus, W.	*
*131. fortunatus, W.	*
*132. micans, W.	*
*133. empiricus, W. [← micans, W.]	*
*134. æmulus, W.	*
*135. vividus, Dej.	*
36. HARPALUS, Lat. (4).			
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137. attenuatus, Steph.	*
138. Schaumii, W.	*
139. tenebrosus, Dej.	*	*
37. OPHONUS (Ziegl.), Steph. (1).			
140. rotundicollis, Fairm.	*	*
38. DICHIROTRICHUS, Duv. (1).			
141. levistriatus, W. [← obsoletus, Dej.]	*
39. STENOLOPHUS (Meg.), Steph. (4).			
142. Teutonus, Schr.	*	*
143. discophorus, Fisch.	*
144. marginatus, Dej.	*	*
145. dorsalis, F.	*	*
40. BRADYCELLUS, Erich. (3).			
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*147. excultus, W.	*
*148. ventricosus, W.	*

	Mad.	Sal.	Can.
41. TRECHICHUS, Lec. (2).			
*149. <i>fimicola</i> , W.	*
*150. <i>Jansonianus</i> , W. [← ← <i>fimicola</i> , W.]	*
42. TRECHUS, Clairv. (14).			
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*152. <i>umbricola</i> , W.	*
*153. <i>nigrocruciatus</i> , W.	*
*154. <i>lævis</i> , W. [← ← <i>flavomarginatus</i> , W.]	*
*155. <i>flavomarginatus</i> , W.	*
*156. <i>flavolimbatus</i> , W. [← ← <i>flavomarginatus</i> , W.]	*
*157. <i>signatus</i> , W.	*
*158. <i>dilutus</i> , W.	*
*159. <i>felix</i> , W. [← ← <i>custos</i> , W.]	*
*160. <i>quadricollis</i> , W. [← ← <i>custos</i> , W.]	*
*161. <i>custos</i> , W.	*
*162. <i>alticola</i> , W. [← ← <i>custos</i> , W.]	*
*163. <i>cautus</i> , W.	*
*164. <i>minyops</i> , W.	*
43. THALASSOPHILUS, W. (1).			
165. <i>Whitii</i> , W. [← ← <i>longicornis</i> , St.]	*	*
44. AEPYS, Leach (1).			
166. <i>gracilicornis</i> , W.	*
45. PERILEPTUS, Schm. (1).			
167. <i>nigritulus</i> , W. [← ← <i>areolatus</i> , Creutz.]	*
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46. TACHYS (Ziegl.), Steph. (7).			
168. <i>Fockii</i> , Humm.	*
169. <i>bistriatus</i> (Meg.), Dfts.	*	*
170. <i>scutellaris</i> , Germ.	*
171. <i>centromaculatus</i> , W.	*
172. <i>curvimanus</i> , W. [← ← <i>4-signatus</i> , Dfts.] ..	*	*
173. <i>Lucasii</i> , Duv.	*
174. <i>hæmorrhoidalis</i> , Dej.	*
47. BEMBIIDIUM, Lat. (14).			
Philochthus, Steph.			
175. <i>obtusum</i> , St.	*
176. <i>biguttatum</i> , F.	*
177. <i>vicinum</i> , Luc.	*
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178. <i>dubium</i> , W. [← ← <i>rufescens</i> , Dej.]	*
Peryphus, Meg.			
179. <i>atlanticum</i> , W. [← ← <i>obsoletum</i> , Dej.]	*	*
180. <i>tabellatum</i> , W. [← ← <i>tibiale</i> , Dfts.]	*
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181. <i>elongatum</i> , Dej.	*
*182. <i>concolor</i> , Br.	*
183. <i>subcallosum</i> , W. [← ← <i>callosum</i> , Küst.]	*
184. <i>Schmidti</i> , W. [← ← <i>callosum</i> , Küst.]	*
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	Mad.	Sal.	Can.
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191. <i>confluens</i> , F.	*	*
192. <i>geminus</i> , F.	*
193. <i>minutissimus</i> , Germ.	*
194. <i>delectus</i> , W. [← ← <i>flavipes</i> , Ol.]	*
195. <i>compunctus</i> , W.	*
196. <i>xanthopus</i> , Steph.	*
197. <i>planus</i> , F.	*
198. <i>Clarkii</i> , W. [← ← <i>affinis</i> , Aubé]	*
199. <i>ceresyi</i> , Aubé	*	*
*200. <i>vigilans</i> , W. [← ← <i>tessellatus</i> , Aubé]	*
*201. <i>tessellatus</i> (Dej.), Aubé	*
50. LACCOPHILUS, Leach (1).			
202. <i>inflatus</i> , W. [← ← <i>minutus</i> , L.]	*
51. COLYMBETES, Clairv. (2).			
203. <i>coriaceus</i> (Hoffm.), Lap.	*
*204. <i>lanio</i> , F. [← ← <i>coriaceus</i> , Lap.]	*
52. AGABUS, Leach (5).			
205. <i>bipustulatus</i> , L.	*
206. <i>nebulosus</i> , Forst.	*	*
207. <i>biguttatus</i> , Oliv.	*
208. <i>consanguineus</i> , W. [← ← <i>biguttatus</i> , L.]	*
*209. <i>maderensis</i> , W.	*
53. CYBISTER, Curt. (1).			
210. <i>africanus</i> , Lap.	*
54. DYTISCUS, L. (1).			
211. <i>circumflexus</i> , F.	†
55. EUNECTES, Erich. (2).			
212. <i>subdiaphanus</i> , W. [← ← <i>sticticus</i> , L.]	*
213. <i>subcoriaceus</i> , W. [← ← <i>sticticus</i> , L.]	*
Fam. 3. Gyrinidæ.			
56. GYRINUS Geoffr. (4).			
214. <i>striatus</i> , F.	*
215. <i>urinator</i> , Ill.	*
216. <i>Dejeanii</i> , Br.	*
217. <i>natator</i> , L.	†
Fam. 4. Parnidæ.			
57. PARNUS, F. (1).			
218. <i>prolificornis</i> , F.	*	*
Fam. 5. Helophoridæ.			
58. HELOPHORUS, F. (1).			
219. <i>longitarsis</i> , W.	*
59. CALOBIUS, W. (1).			
220. <i>Heeri</i> , W.	*	*
60. OCHTHEBIUS, Leach (5).			
221. <i>4-foveolatus</i> , W. [← ← <i>? punctatus</i> , Steph.]	*	*
222. <i>pygmæus</i> , F.	*

	Mad.	Sal.	Can.
60. OCHTHEBIUS (<i>continued</i>).			
*223. <i>subpictus</i> , W. [← ? <i>marinus</i> , Pk.]	*
224. <i>rugulosus</i> , W.	*
225. <i>lapidicola</i> , W.	*
61. HYDRÆNA, Kugel. (2).			
226. <i>serricollis</i> , W.	*
227. <i>quadricollis</i> , W.	*
Fam. 6. Hydrophilidæ.			
62. LIMNOBIUS, Leach (3).			
228. <i>gracilipes</i> , W.	*
*229. <i>grandicollis</i> , W.	*
*230. <i>punctatus</i> , W.	*
63. LACCOBIUS, Erich. (1).			
231. <i>minutus</i> , L.	*	*
64. PHILHYDRUS, Sol. (1).			
232. <i>melanocephalus</i> , Oliv.	*	*
65. BEROSUS, Leach (1).			
233. <i>spinosus</i> (Stev.), Schön.	†
66. HYDROBIUS, Leach (3)			
*234. <i>hæmorrhous</i> , W.	*
*235. <i>marchantiæ</i> , W.	*
*236. <i>conglobatus</i> , W.	*
67. CHÆTARTHRIA (Waterh.), Steph. (1).			
237. <i>similis</i> , W. [← ? <i>seminulum</i> , Pk.]	*
Fam. 7. Sphæridiadæ.			
68. CYCLONOTUM (Dej.), Erich. (1).			
238. <i>orbiculare</i> , F.	*
69. DACTYLOSTERNUM, W. (1).			
239. <i>abdominale</i> , F.	*	*
70. SPHÆRIDIUM, F. (1).			
240. <i>bipustulatum</i> , F.	*
71. CERCYON, Leach (6).			
241. <i>littorale</i> , Gyll.	*	*
242. <i>inquinatum</i> , W.	*	*
243. <i>fiometarium</i> , W.	*
244. <i>lepidum</i> , W.	*
245. <i>nigriceps</i> , Mshm.	*	*	*
246. <i>quisquiliun</i> , L.	*	*
Fam. 8. Silphidæ.			
72. CATOPS, Payk (4).			
*247. <i>Murrayi</i> , W.	*
*248. <i>putridus</i> , W.	*
249. <i>velox</i> , Spence.	*
250. <i>pinicola</i> , W. [← ? <i>velox</i> , Sp.]	*
73. SILPHA, L. (2).			
*251. <i>simplicicornis</i> , Br.	*
*252. <i>figurata</i> , Br.	*
Fam. 9. Anisotomidæ.			
74. STEREUS, W. (1).			
*253. <i>cercyonides</i> , W.	*

	Mad.	Sal.	Can.
75. ANISOTOMA (Knoch), Illig. (2).			
*254. <i>canariensis</i> , W.	*
*255. <i>oceanica</i> , W.	*
76. AGATHIDIUM, Illig. (2).			
256. <i>globulum</i> , W. [← ? <i>marginatum</i> , St.]	*
257. <i>integricolle</i> , W.	*
Fam. 10. Cybocephalidæ.			
77. CYBOCEPHALUS, Erich. (2).			
258. <i>sphærulea</i> , W. [← ? <i>exiguus</i> , Sahlb.]....	*	*
259. <i>lævis</i> , W.	*
Fam. 11. Clambidæ.			
78. CLAMBUS, Fisch. (1).			
260. <i>complicans</i> , W.	*
79. CALYPTOMERUS, Redt. (1).			
261. <i>dubius</i> , Mshm	*	*
Fam. 12. Corylophidæ.			
80. SACIUM, Lec. (1)			
262. <i>pusillum</i> , Gyll.	*
81. ARTHROLIPS, W. (2).			
263. <i>æqualis</i> , W.	*
264. <i>obscurus</i> (Dej.), Sahlb.	*	*
82. CORYLOPHUS (Leach), Steph. (1).			
*265. <i>tectiformis</i> , W.	*
83. ORTHOPERUS, Steph. (2).			
266. <i>atomus</i> , Gyll.	*
267. <i>atomarius</i> , Heer	*
84. GLÆOSOMA, W. (1).			
268. <i>velox</i> , W.	*
85. MICROSTAGETUS, W. (1).			
269. <i>parvulus</i> , W.	*
86. SERICODERUS, Steph. (1).			
270. <i>lateralis</i> (Meg.), Gyll.	*	*
Fam. 13. Ptiliadæ.			
87. ACROTRICHIS, Mots. (11).			
271. <i>fucicola</i> , Allib.	*
*272. <i>umbricola</i> , W.	*
*273. <i>Matthewsii</i> , W.	*
274. <i>atomaria</i> , De Geer	*
*275. <i>anthracina</i> , Matth.	*
276. <i>Wollastoni</i> , Matth. [← ? <i>fascicularis</i> , Hbst]	*
*277. <i>Crotchii</i> , Matth.	*
278. <i>sericans</i> , Heer	*
279. <i>Montandonii</i> , Allib.	*
280. <i>Guerinii</i> , Allib.	*	*
*281. <i>canariensis</i> , Matth.	*
88. NEPHANES, Thoms. (1).			
282. <i>Titan</i> , Newm.	*	*
89. PTENIDIUM, Erich. (3).			
283. <i>lævigatum</i> , Gillm.	*
284. <i>apicale</i> (St.), Gillm.	*	*
285. <i>punctatum</i> , Gyll.	*

	Mad.	Sal.	Can.
90. PTINELLA, Mots. (3).			
286. aptera, Guér.	*
287. Proteus, Matth.	*
288. angustula, Gilm.	*
Fam. 14. Phalacridæ.			
91. PHALACRUS, Payk. (1).			
289. cornuscus, Payk.	*
92. OLIBRUS, Erich. (7).			
*290. cineraria, W.	*
*291. florum, W.	*
292. bicolor, F.	*
293. Stephensii (Leach), Steph.	*
294. congener, W.	*
295. subcereus, W.	*
296. consimilis, Mshm.	*	*
Fam. 15. Nitidulidæ.			
93. HETEROBRACHIUM, W. (1).			
*297. longimanum, W.	*
94. BRACHYPTERUS, Kugel. (3).			
298. ancomicans, W.	*
299. velatus, W.	*
300. curtulus, W.	*
95. CARPOPHILUS (Leach), Steph. (4).			
301. mutilatus (Hoffm.), Erich.	*
302. dimidiatus, F.	*	*
303. hemipterus, L.	*	*
*304. tersus, W.	*
96. EPURÆA, Erich. (1).			
305. obsoleta, F.	*
97. NITIDULA, F. (2).			
306. flexuosa, Oliv.	*	*
307. 4-pustulata, F.	*
98. OMOBITA, Erich. (2).			
308. discoidea, F.	*
309. colon, L.	*
99. PRIA (Kby), Steph. (1).			
310. dulcamaræ, Scop.	*	*
100. MELIGETHES (Kby), Steph. (5).			
311. echii, W. [← ← tristis, St.]	*	*
312. tristis (Schüpp.), St.	*	*
313. picipes, St.	*
314. virescens, W.	*
315. varicollis, W.	*	*
101. XENOSTRONGYLUS, W. (1).			
316. histrio, W.	*	*
Fam. 16. Rhizophagidæ.			
102. RHIZOPHAGUS, Hbst (3).			
317. pinetorum, W. [← ← ferrugineus, Pk.]	*
318. subopacus, W.	*
319. bipustulatus, F.	*

	Mad.	Sal.	Can.
103. EUROPS, W. (2).			
*320. <i>impressicollis</i> , W.	*	*
*321. <i>duplicatus</i> , W.	*
Fam. 17. Trogositidæ.			
104. TEMNOCHILA, Westw. (1).			
322. <i>pini</i> , Br. [← <i>cærulea</i> , Ol.]		(3).	*
105. LIPASPIS, W. (3).			
*323. <i>lauricola</i> , W.	*
*324. <i>pimicola</i> , W.	*
*325. <i>caulicola</i> , W.	*	*
106. TROGOSITA, Oliv. (4).			
326. <i>mauritanica</i> , L.	*	*
327. <i>serrata</i> , W.	*
328. <i>recta</i> , W. [← <i>serrata</i> , W.]	*
*329. <i>latens</i> , W.	*
Fam. 18. Monotomidæ.			
107. MONOTOMA, Hbst (5).			
330. <i>spinicollis</i> , Aubé	*	*
331. <i>picipes</i> , Hbst.	*	*
332. <i>quadricollis</i> , Aubé	*	*
333. <i>4-foveolata</i> , Aubé.	*	*
334. <i>longicollis</i> (Schön.), Gyll.	*
Fam. 19. Endophlecidæ.			
108. TARPHIUS (Germ.), Erich. (34).			
*335. <i>Loweï</i> , W.	*
*336. <i>excisus</i> , W.	*
*337. <i>parallelus</i> , W.	*
*338. <i>angustulus</i> , W.	*
*339. <i>inornatus</i> , W.	*
*340. <i>nodosus</i> , W.	*
*341. <i>compactus</i> , W.	*
*342. <i>lauri</i> , W.	*
*343. <i>formosus</i> , W.	*
*344. <i>angusticollis</i> , W.	*
*345. <i>sylvicola</i> , W.	*
*346. <i>rotundatus</i> , W.	*
*347. <i>truncatus</i> , W.	*
*348. <i>Wolffii</i> , W. [← <i>truncatus</i> , W.]	*
*349. <i>sculptipennis</i> , W.	*
*350. <i>testudinalis</i> , W.	*
*351. <i>cicatricosus</i> , W.	*
*352. <i>echinatus</i> , W.	*
*353. <i>brevicollis</i> , W.	*
*354. <i>rugosus</i> , W.	*
*355. <i>explicatus</i> , W.	*
*356. <i>deformis</i> , W.	*
*357. <i>camelus</i> , W.	*
*358. <i>canariensis</i> , W.	*
*359. <i>setosus</i> , W. [← <i>canariensis</i> , W.]	*
*360. <i>humerosus</i> , W.	*
*361. <i>affinis</i> , W.	*
*362. <i>abbreviatus</i> , W.	*

	Mad.	Sal.	Can.
108. <i>TARPHIUS</i> (<i>continued</i>).			
*363. <i>quadratus</i> , W.	*
*364. <i>monstrosus</i> , W.	*
*365. <i>gigas</i> , W.	*
*366. <i>caudatus</i> , W.	*
*367. <i>congestus</i> , W.	*
*368. <i>simplex</i> , W.	*
109. <i>PROSTHECA</i> , W. (1).			
*369. <i>aspera</i> , W.	*
Fam. 20. <i>Colydiadæ</i> .			
110. <i>AULONIUM</i> , Erich. (1).			
*370. <i>sulcicolle</i> , W. [\leftarrow ? <i>bicolor</i> , Hbst]	*
111. <i>AGLENUS</i> , Erich. (1).			
371. <i>brunneus</i> , Gyll.	*	*
112. <i>PLÆOSOMA</i> , W. (1).			
*372. <i>ellipticum</i> , W.	*
113. <i>COSSYPHODES</i> , Westw. (1).			
373. <i>Wollastonii</i> , Westw.	*	*
Fam. 21. <i>Cucujidæ</i> .			
114. <i>CAULONOMUS</i> , W. (1).			
*374. <i>rhizophagoides</i> , W.	*
115. <i>LÆMOPHLEUS</i> (Dej.), Erich. (7).			
*375. <i>donacioides</i> , W.	*
376. <i>granulatus</i> , W.	*	*
377. <i>pusillus</i> , Schön.	*	*
378. <i>ferrugineus</i> (Creutz.), Steph.	*
379. <i>clavicornis</i> , W.	*	*
*380. <i>axillaris</i> , W.	*
*381. <i>stenoides</i> , W.	*
116. <i>CRYPTAMORPHA</i> , W. (1).			
382. <i>musæ</i> , W.	*
117. <i>PEDIACUS</i> , Shuck. (1).			
383. <i>tabellatus</i> , W. [\leftarrow <i>depressus</i> , Hbst]	*
118. <i>XENOSCELIS</i> , W. (1).			
*384. <i>deplanatus</i> , W.	*
119. <i>NAUSIBIUS</i> (Sch.), Redt. (1).			
385. <i>dentatus</i> , Mshm.	*	*
120. <i>SILVANUS</i> , Lat. (4).			
386. <i>surinamensis</i> , L.	*	*
387. <i>unidentatus</i> , Oliv.	*
*388. <i>nubigena</i> , W.	*
389. <i>advena</i> (Kunze), Waltl.	*	*
Fam. 22. <i>Cryptophagidæ</i> .			
121. <i>CRYPTOPHAGUS</i> , Hbst (9).			
390. <i>saginat</i> (Schüpp.), St.	*
391. <i>cellaris</i> , Scop.	*	*
392. <i>dentatus</i> , Hbst.	*	*
393. <i>affinis</i> , St.	*	*
394. <i>obesus</i> , W.	*
395. <i>impressus</i> , W.	*
396. <i>fusiformis</i> , W.	*
*397. <i>nitiduloides</i> , W.	*

	Mad.	Sal.	Can.
121. CRYPTOPHAGUS (<i>continued</i>).			
*398. <i>hesperius</i> , W.	*
122. MNIONOMUS, W. (1).			
*399. <i>ellipticus</i> , W.	*
123. PARAMECOSOMA, Curt. (1).			
400. <i>simplex</i> , W.	*	*
124. LEUCOHIMATIUM, Rosenh. (1).			
401. <i>elongatum</i> , St.	*	*
125. HYPOCOPRUS, Mots. (2).			
402. <i>latridioides</i> , Mots.	*
403. <i>Motschulskii</i> , W. [← ← <i>latridioides</i> , M.] ..	*
126. ATOMARIA (Kby), Steph. (11).			
*404. <i>pilosula</i> , W. [← ← <i>canariensis</i> , W.]	*
*405. <i>canariensis</i> , W.	*
*406. <i>laticollis</i> , W.	*
407. <i>pusilla</i> , Payk.	*
408. <i>munda</i> , Erich.	*	*
409. <i>apicalis</i> , Erich.	*
*410. <i>rubricollis</i> , W.	*
*411. <i>venusta</i> , W.	*
*412. <i>bulbosa</i> , W.	*
*413. <i>insecta</i> , W.	*
*414. <i>alternans</i> , W.	*
127. EPISTEMUS (Westw.), Steph. (1).			
415. <i>gyrinoïdes</i> , Mshm.	*	*
Fam. 23. Latridiadae.			
128. CHOLOVOCERA, Mots. (1).			
416. <i>Maderæ</i> , Westw.	†
129. ANOMMATUS, Wesm. (1).			
417. <i>12-striatus</i> , Müll.	*
130. HOLOPARAMECUS, Curt. (4).			
418. <i>Kunzii</i> , Aubé	*
419. <i>singularis</i> , Beck	*
420. <i>caularum</i> , Aubé	*
421. <i>niger</i> (Chevr.), Aubé	*	*
131. CORTICARIA, Mshm (11).			
422. <i>pubescens</i> (Ill.), Gyll.	*
423. <i>fulva</i> (Chevr.), Villa	*	*
424. <i>crenicollis</i> ?, Mann.	*
425. <i>maculosa</i> , W.	*	*
426. <i>serrata</i> , Payk.	*	*
427. <i>inconspicua</i> , W. [← ← <i>serrata</i> , Payk.] ..	*
428. <i>rotundicollis</i> , W.	*
429. <i>angulata</i> , W. [← ← <i>angulosa</i> , Mots.]	*
430. <i>curta</i> , W. (<i>truncatella</i> ?, Mann.)	*	*
431. <i>tenella</i> , W.	*
432. <i>fagi</i> , W. [← ← <i>elongata</i> , Gyll.]	*
132. LATRIDIVS, Hbst (6).			
433. <i>assimilis</i> , Mann.	*
434. <i>minutus</i> , L.	*	*
435. <i>opacipennis</i> , W. [← ← <i>minutus</i> , L.]	*
436. <i>transversus</i> , Oliv.	*
437. <i>delectus</i> , W.	*
438. <i>ruficollis</i> , Mshm.	*	*

	Mad.	Sal.	Can.
133. METOPHTHALMUS (Mots.), W. (5).			
*439. <i>asperatus</i> , W.	*
*440. <i>ferrugineus</i> , W.	*
*441. <i>encaustus</i> , W.	*
*442. <i>sculpturatus</i> , W.	*
*443. <i>exiguus</i> , W.	*
Fam. 24. Mycetophagidæ.			
134. BERGINUS (Dej.), Erich. (1).			
444. <i>tamarisci</i> (Dej.), W.	*
135. MYRMECOXENUS, Chev. (1).			
445. <i>picinus</i> , Aubé	*	*
136. MYCETÆA (Kby), Steph. (1).			
446. <i>hirta</i> , Gyll.	*
137. SYMBIOTES, Redt. (1).			
447. <i>pygmaeus</i> , Hampe.	*	*
138. LITARGUS, Erich. (3).			
*448. <i>pictus</i> , W.	*
449. <i>pilosus</i> , W.	*
450. <i>3-fasciatus</i> , W. [\leftarrow <i>pilosus</i> , W.]	*
139. TYRHÆA (Kby), Steph. (1).			
451. <i>fumata</i> , L.	*	*
Fam. 25. Telmatophilidæ.			
140. THALLESTUS, W. (2).			
*452. <i>typhæoides</i> , W.	*
*453. <i>subellipticus</i> , W.	*
141. DIPHYLLUS, Steph. (1).			
454. <i>lunatus</i> , F.	*	*
Fam. 26. Dermestidæ.			
142. DERMESTES, L. (2).			
455. <i>vulpinus</i> , F.	*	*
456. <i>Frischii</i> , Kugel.	*
143. ATTAGENUS, Lat. (3).			
457. <i>megatoma</i> , F.	*	*
458. <i>Schæfferi</i> , Hbst.	*	*
459. <i>pellio</i> , L.	†
144. TELOPES, Redt. (4).			
460. <i>obtusus</i> , Gyll.	*
*461. <i>anthrenoides</i> , W.	*
*462. <i>multifasciatus</i> , W.	*
*463. <i>fasciatus</i> , W.	*
145. ANTHRENUS, Geoffr. (2).			
464. <i>varius</i> , F.	*	*	*
465. <i>minor</i> , W. [\leftarrow ? <i>minutus</i> , Küst.]	*
Fam. 27. Byrrhidæ.			
146. SYNCALYPTA (Dillw.), Steph. (5).			
466. <i>integra</i> , W.	*
467. <i>granulosa</i> , W.	*
468. <i>capitata</i> , W. [\leftarrow ? <i>setigera</i> , Ill.]	*
469. <i>ovuliformis</i> , W. [\leftarrow ? <i>setigera</i> , Ill.]	*	*
470. <i>horrida</i> , W.	*

	Mad.	Sal.	Can.
Fam. 28. Histeridæ.			
147. ACRITUS, Lec. (4).			
*471. <i>gemmula</i> , W.			*
472. <i>minutus</i> , Hbst	*		*
473. <i>homœopathicus</i> , W.	*	
474. <i>punctum</i> , Aubé.	*	
148. EUBRACHIUM, W. (3).			
*475. <i>politum</i> , W.			*
*476. <i>ovale</i> , W.			*
*477. <i>punctatum</i> , W.			*
149. XENONYCHUS, W. (1).			
478. <i>fossor</i> , W.			*
150. SAPRINUS, Erich. (13).			
479. <i>lobatus</i> , W. [\leftarrow ? <i>sabulosus</i> , Mars.]			*
480. <i>erosus</i> , W.			*
481. <i>apricarius</i> , Erich.	*		*
482. <i>mundus</i> , W.			*
483. <i>angulosus</i> , W.			*
484. <i>minyops</i> , W.			*
485. <i>ignobilis</i> , W.			*
486. <i>fortunatus</i> , W.			*
487. <i>chalcites</i> , Illig.	*		*
488. <i>subnitidus</i> , Mars.			*
489. <i>nitidulus</i> , F.	*		*
490. <i>nobilis</i> , W. [\leftarrow ? <i>figuratus</i> , Mars.]			*
491. <i>osculans</i> , W. [\leftarrow ? <i>detersus</i> , Mars.]			*
151. CARCINOPS, Mars. (2).			
492. <i>minimus</i> (Dej.), Aubé.	*	
493. <i>14-striatus</i> , Steph.	*		*
152. HISTER, L. (2).			
494. <i>major</i> , L.	*		*
495. <i>canariensis</i> , W.			*
153. EUTRIPTUS, W. (1).			
*496. <i>putricola</i> , W.	*		*
154. TERETRIUS, Erich. (1).			
*497. <i>cylindricus</i> , W.			*
155. HOLOLEPTA, Payk. (1).			
*498. <i>Perraudieri</i> , Mars.			*
Fam. 29. Thorictidæ.			
156. THORICTUS, Germ. (4).			
*499. <i>gigas</i> , W.			*
*500. <i>Westwoodii</i> , W.	*	
*501. <i>canariensis</i> , W.			*
*502. <i>vestitus</i> , W. [\leftarrow ? <i>canariensis</i> , W.]			*
Fam. 30. Aphodiadæ.			
157. APHODIUS, Illig. (9).			
503. <i>hydrochæris</i> , F.	*		*
504. <i>Wollastonii</i> , Harold.			*
505. <i>nitidulus</i> , F.	*		*
506. <i>tæniatus</i> , W. [\leftarrow <i>nitidulus</i> , F.]			*
507. <i>maculosus</i> (Har.), W.			*
508. <i>rufus</i> , Illig.	*	
509. <i>lividus</i> , Oliv.	*		*
510. <i>Pedrosi</i> , W.	*	

	Mad.	Sal.	Can.
157. APHODIUS (<i>continued</i>).			
511. granarius, L.	*	*
158. OXYOMUS (Eschsch.), Casteln. (2).			
512. Heinekeni, W.	*
513. brevicollis, W.	*	*
159. PSAMMODIUS, Gyll. (3).			
514. cæsus, Pnz.	*	*
515. sabulosus (Dej.), Muls.	*	*
516. porcicollis, Illig.	*	*
Fam. 31. Trogidæ.			
160. TROX, F. (2).			
517. confluens, W.	*
518. scaber, L.	*
Fam. 32. Melolonthidæ.			
161. OOTOMA, Blanch. (6).			
*519. bipartita, Br.	*
*520. fuscipennis, Br.	*
*521. integra, W.	*
*522. castanea, Br.	*
*523. obscurella, W. [← ? <i>obscura</i> , Br.]	*
*524. obscura, Br.	*
Fam. 33. Glaphyridæ.			
162. CHASMATOPTERUS (Dej.), Lat. (1).			
525. nigrocinctus, W.	†
Fam. 34. Dynastidæ.			
163. PHYLLOGNATHUS, Eschscholtz (1).			
526. Silenus, F.	*
164. ORYCTES, Illig. (1).			
527. prolixus, W. [← ? <i>grypus</i> , Ill.]	*
Fam. 35. Cetoniadæ.			
165. EPICOMETIS, Burm. (2).			
528. squalida, L.	*
529. femorata, Illig.	*
Fam. 36. Buprestidæ.			
166. ACMÆODERA, Eschscholtz (4).			
530. cisti, W.	*
*531. fracta, W. [← ? <i>cisti</i> , W.]	*
*532. plagiata, W.	*
533. ornata, W. [← ? <i>discoidea</i> , F.]	*
167. BUPRESTIS, L. (1).			
*534. Bertheloti, Br.	*
168. ANTHRAXIA, Eschscholtz (1).			
*535. senilis, W.	*
169. AGRILUS (Meg.), Steph. (1).			
*536. <i>Darwini</i> , W.	*
Fam. 37. Throscidæ.			
170. THROSCUS, Lat. (4).			
*537. <i>latiusculus</i> , W.	*

	Mad.	Sal.	Can.
170. THROSCUS (<i>continued</i>).			
*538. <i>elongatulus</i> , W. [\leftarrow <i>integer</i> , W.]	*
*539. <i>integer</i> , W.	*
540. <i>gracilis</i> , W. (<i>elateroides</i> ?, Heer)	*
Fam. 38. Elateridæ.			
171. COPTOSTETHUS, W. (7).			
*541. <i>femoratus</i> , W.	*
*542. <i>crassiusculus</i> , W.	*
*543. <i>brunneipennis</i> , W.	*
*544. <i>gracilis</i> , W.	*
*545. <i>canariensis</i> , W.	*
*546. <i>globulicollis</i> , W.	*
*547. <i>obtusus</i> , W. [\leftarrow <i>globulicollis</i> , W.]	*
Fam. 39. Cyphonidæ.			
172. EUCINETUS, Schüpp. (1).			
*548. <i>ovum</i> , W.	*	*
173. CYPHON, Payk. (1).			
549. <i>gracilicornis</i> , W. [\leftarrow <i>coarctatus</i> , Pk.]	*
Fam. 40. Drilidæ.			
174. MALACOGASTER, Bassi (1).			
550. <i>tilloides</i> , W. [\leftarrow <i>Passerini</i> , Bassi]	*
Fam. 41. Telephoridæ.			
175. MALTHINUS, Lat. (2).			
551. <i>mutabilis</i> , W. [\leftarrow <i>flaveolus</i> , Pk.]	*
552. <i>flammeicollis</i> , W.	*
176. MALTHODES, Kiesw. (1).			
553. <i>Kiesemcetteri</i> , W. [\leftarrow <i>brevicollis</i> , Pk.] ..	*
Fam. 42. Malachiadæ.			
177. MALACHIUS, F. (1).			
554. <i>militaris</i> , W. [\leftarrow <i>rubricollis</i> , Mshm]
178. ATTALUS, Erich. (19).			
*555. <i>pellucidus</i> , W.	*
*556. <i>ruficollis</i> , W. [\leftarrow <i>pellucidus</i> , W.]	*
*557. <i>pallipes</i> , W. [\leftarrow <i>pellucidus</i> , W.]	*
*558. <i>ornatissimus</i> , W.	*
*559. <i>rugifrons</i> , W.	*
*560. <i>ovatipennis</i> , W.	*
*561. <i>bisculpturatus</i> , W.	*
*562. <i>chrysanthemi</i> , W.	*
*563. <i>commixtus</i> , W.	*
*564. <i>lavicollis</i> , W. [\leftarrow <i>commixtus</i> , W.]	*
*565. <i>posticus</i> , W.	*
*566. <i>anthicoides</i> , W.	*
*567. <i>tuberculatus</i> , W.	*
*568. <i>obscurus</i> , W.	*
*569. <i>subopacus</i> , W.	*
*570. <i>metallicus</i> , W.	*
*571. <i>ænescens</i> , W.	*
*572. <i>maderensis</i> , W.	*
*573. <i>rugosus</i> , W. [\leftarrow <i>maderensis</i> , W.]	*

	Mad.	Sal.	Can.
179. PECTEROPUS, W. (3).			
*574. <i>rostratus</i> , W.	*
*575. <i>angustifrons</i> , W.	*
*576. <i>scitulus</i> , W.	*
180. MICROMIMETES, W. (2).			
*577. <i>alutaceus</i> , W.	*
*578. <i>jucundus</i> , W.	*
181. CEPHALOGONIA, W. (1).			
*579. <i>cerasina</i> , W.	*
182. CEPHALONCUS, Westw. (1).			
*580. <i>capito</i> , Westw.	*
Fam. 43. Melyridæ.			
183. DASYTES, Payk. (3).			
581. <i>subænescens</i> , W. [← <i>flavipes</i> , F.]	*
582. <i>dispar</i> , W.	*
583. <i>illustris</i> , W. [← <i>nobilis</i> , Ill.]	*
184. DOLICHOSOMA, Steph. (1).			
584. <i>Hartungii</i> , W. [← <i>protensum</i> , Gené]	*
185. HAPLOCNEMUS, Steph. (2).			
*585. <i>sculpturatus</i> , W.	*
*586. <i>vestitus</i> , W. [← <i>sculpturatus</i> , W.]	*
186. MELYROSOMA, W. (6).			
*587. <i>oceanicum</i> , W.	*
*588. <i>costipenne</i> , W.	*
*589. <i>hirtum</i> , W.	*
*590. <i>abdominale</i> , W.	*
*591. <i>flavescens</i> , W.	*
*592. <i>artemisiæ</i> , W.	*
Fam. 44. Cleridæ.			
187. OPILUS, Lat. (1).			
593. <i>mollis</i> , L.	*
188. CLERUS, Geoffr. (1).			
*594. <i>Paivæ</i> , W.	*
189. CORYNETES, Hbst (3).			
595. <i>ruficollis</i> , Thunb.	*	*
596. <i>rufipes</i> , Thunb.	*
*597. <i>fimetarius</i> , W.	*
Fam. 45. Ptinidæ.			
190. CASOPUS, W. (6).			
*598. <i>Bonvouloirii</i> , W.	*
*599. <i>dilaticollis</i> , W.	*
*600. <i>alticola</i> , W. [← <i>dilaticollis</i> , W.]	*
*601. <i>pedatus</i> , W. [← <i>dilaticollis</i> , W.]	*
*602. <i>radiosus</i> , W. [← <i>dilaticollis</i> , W.]	*
*603. <i>subcalvus</i> , W.	*
191. DIGNOMUS, W. (1).			
604. <i>gracilipes</i> , W.	*
192. PTINUS, L. (3).			
605. <i>testaceus</i> , Ol.	*	*
606. <i>brunneus</i> (Meg.), Dufts.	*
607. <i>variegatus</i> , Rossi	*

	Mad.	Sal.	Can.
193. MEZIUM (Leach), Curt. (1).			
608. <i>sulcatum</i> , F.	*	*
194. GIBBIUM, Scop. (1).			
609. <i>scotias</i> , F.	*
195. MICROPTINUS, W. (1).			
*610. <i>gonospermi</i> , Duv.	*
196. SPHÆRICUS, W. (12).			
*611. <i>albopictus</i> , W.	*
*612. <i>simplex</i> , W. [← <i>albopictus</i> , W.]	*
*613. <i>pibula</i> , W. [← <i>albopictus</i> , W.]	*
*614. <i>ambiguus</i> , W.	*
*615. <i>gibbicollis</i> , W.	*
*616. <i>pinguis</i> , W.	*
*617. <i>impunctipennis</i> , W. [← <i>pinguis</i> , W.]	*
*618. <i>orbatus</i> , W.	*
*619. <i>nodulus</i> , W.	*
*620. <i>Dawsoni</i> , W.	*
*621. <i>marmoratus</i> , W.	*
*622. <i>Crotchianus</i> , W.	*
197. PTINODES, W. (2).			
*623. <i>nigrescens</i> , W.	*
*624. <i>fragilis</i> , W.	*
198. PIARUS, W. (1).			
*625. <i>basalis</i> , W.	*
199. PIOTES, W. (2).			
*626. <i>inconstans</i> , W.	*
*627. <i>vestita</i> , W.	*
Fam. 46. Anobiadæ.			
200. STAGETUS, W. (2).			
*628. <i>crenatus</i> , W.	*
*629. <i>hirtulus</i> , W. [← <i>crenatus</i> , W.]	*
201. XYLETINUS, Lat. (5).			
*630. <i>flavicollis</i> , W.	*
*631. <i>latitans</i> , W.	*
*632. <i>desectus</i> , W.	*
*633. <i>brevis</i> , W.	*
*634. <i>excavatus</i> , W.	*
202. NOTIOMIMUS, W. (3).			
*635. <i>fimicola</i> , W.	*
*636. <i>holosericeus</i> , W.	*
*637. <i>punctulatissimus</i> , W.	*
203. ANOBIUM, F. (10).			
638. <i>villosum</i> , Br. [← <i>hirtum</i> , Ill.]	*
639. <i>velatum</i> , W. [← <i>hirtum</i> , Ill.] ..	*
640. <i>paniceum</i> , L.	*	*
641. <i>striatum</i> , Ol.	*	*
*642. <i>cryptophagoides</i> , W.	*
*643. <i>impressum</i> , W.	*
644. <i>molle</i> , L.	*	*
645. <i>lyctoides</i> , W.	*
*646. <i>oculatum</i> , W.	*
647. <i>ptilinoides</i> , W.	*
204. PTILINUS, Geoffr. (3).			
648. <i>pectinicornis</i> , L.	*

	Mad.	Sal.	Can.
204. Ptilinus (<i>continued</i>).			
649. <i>cylindripennis</i> , W.....	*
650. <i>lepidus</i> , W. [←← <i>cylindripennis</i> , W.].....	*
Fam. 47. Bostrichidæ.			
205. Xylopertha, Guér. (3).			
651. <i>ficicola</i> , W. [←← <i>humeralis</i> , Lucas]	*
652. <i>barbifrons</i> , W.	*
653. <i>barbata</i> , W.	*
206. Dinoderus, Steph. (1).			
654. <i>brunneus</i> , W. [←← <i>substriatus</i> , Pk.]	*
207. Rhizopertha, Steph. (2).			
655. <i>bifoveolata</i> , W.	*
656. <i>pusilla</i> , F.	*
Fam. 48. Lyctidæ.			
208. Lyctus, F. (2).			
657. <i>brunneus</i> , Steph.	*	*
658. <i>leucocianus</i> , W.	*
Fam. 49. Cioidæ.			
209. Cis, Lat. (5).			
*659. <i>Wollastonii</i> , Mellié	*
*660. <i>cucullatus</i> , W.	*
661. <i>fuscipes</i> (Chev.), Mellié	*
662. <i>puncticollis</i> , W.	*	*
*663. <i>lauri</i> , W.	*	*
210. Octotemnus, Mellié (1).			
*664. <i>opacus</i> , Mellié	*	*
Fam. 50. Tomicidæ.			
211. Tomicus, Lat. (5).			
665. <i>nobilis</i> , W.	*
666. <i>erosus</i> , W.	*
667. <i>villosus</i> , F.	*
668. <i>Saxeseni</i> , Ratz.	*	*
669. <i>perforans</i> , W. (<i>ferrugineus</i> ?, F.)	*
212. Xyloterus, Erich. (1).			
670. <i>longicollis</i> , W.	*
213. Cryphalus, Erich. (1).			
671. <i>aspericollis</i> , W.	*	*
214. Aphanarthrum, W. (14).			
*672. <i>Jubæ</i> , W.	*
*673. <i>tuberculatum</i> , W. [←← <i>Jubæ</i> , W.]	*
*674. <i>armatum</i> , W.	*
*675. <i>canescens</i> , W.	*
*676. <i>canariense</i> , W.	*
*677. <i>pygmaeum</i> , W.	*
*678. <i>bicinctum</i> , W.	*
*679. <i>piscatorium</i> , W.	*	*
*680. <i>euphorbiæ</i> , W.	*
*681. <i>affine</i> , W. [←← <i>euphorbiæ</i> , W.]	*
*682. <i>glabrum</i> , W.	*
*683. <i>bicolor</i> , W.	*	*
*684. <i>lividum</i> , W.	*

	Mad.	Sal.	Can.
214. APHANARTHURUM (<i>continued</i>).			
*685. <i>pusillum</i> , W.			*
215. CRYPTURGUS, Erich. (1).			
686. <i>concolor</i> , W. [\leftarrow <i>pusillum</i> , Gyll.]			*
216. TRIOTEMNUS, W. (1).			
*687. <i>subretusus</i> , W.			*
217. LIPARTHURUM, W. (8).			
*688. <i>mandibulare</i> , W.	*		
*689. <i>nigrescens</i> , W.			*
*690. <i>bituberculatum</i> , W.	*		
*691. <i>curtum</i> , W. [\leftarrow <i>bituberculatum</i> , W.] ..	*		*
*692. <i>inarmatum</i> , W.	*		*
*693. <i>artemisice</i> , W.	*		
*694. <i>Loweii</i> , W.			*
*695. <i>bicaudatum</i> , W.			*
218. HYPOBORUS, Erich. (1).			
696. <i>ficus</i> , Erich.	*		
Fam. 51. Hylesinidæ.			
219. HYLESINUS, F. (1).			
*697. <i>indigenus</i> , W.			*
220. PHLÆOPHTHORUS, W. (1).			
698. <i>rhododactylus</i> , Mshm	*		
221. HYLURGUS, Lat. (2).			
699. <i>ligniperda</i> , F.	*		*
700. <i>destruens</i> , W. [\leftarrow <i>piniperda</i> , L.]	*		
222. HYLASTES, Erich. (3).			
701. <i>Loweii</i> , Paiva [\leftarrow <i>ater</i> , Payk.]			*
702. <i>clavus</i> , W.	*		
703. <i>trifolii</i> , Müll.	*		
Fam. 52. Curculionidæ.			
(<i>Cossonides</i> .)			
223. SYNTOMOCERUS, W. (1).			
*704. <i>crassicornis</i> , Br.			*
224. HEXARTHURUM, W. (1).			
*705. <i>capitulum</i> , W.	*		
225. RHYNCOLUS (Creutz.), Germ. (1).			
*706. <i>crassirostris</i> , W.			*
226. CAULOPHILUS, W. (1).			
*707. <i>sculpturatus</i> , W.	*		
227. PHLÆOPHAGUS, Schön. (7).			
*708. <i>tenax</i> , W.	*		
709. <i>sulcipennis</i> , W. (<i>spadix</i> ?, Hbst)	*		
*710. <i>cautum</i> , W.			*
*711. <i>laurineus</i> , W.			*
*712. <i>simplicipes</i> , W. [\leftarrow <i>laurineus</i> , W.]			*
713. <i>piceus</i> , W.			*
714. <i>calvus</i> , W.	*		
228. LIPOMMATA, W. (1).			
*715. <i>calcaratum</i> , W.	*		
229. PENTATEMNUS, W. (1).			
*716. <i>arenarius</i> , W.			*
230. ONYCHOLIPS, W. (1).			
*717. <i>bifurcatus</i> , W.			*

	Mad.	Sal.	Can.
231. MESOXENUS, W. (2).			
718. <i>Monizianus</i> , W.	*	*
719. <i>Bewickianus</i> , W.	*
232. CAULOTRUPIS, W. (8).			
*720. <i>lacertosus</i> , W.	*
*721. <i>subnitidus</i> , W. [\leftarrow <i>lacertosus</i> , W.]	*
*722. <i>lucifugus</i> , W.	*
*723. <i>impius</i> , W.	*
*724. <i>tercibrans</i> , W.	*
*725. <i>Chevrolatii</i> , W.	*
*726. <i>opacus</i> , W.	*
*727. <i>conicollis</i> , W.	*
233. STENOTIS, W. (1).			
*728. <i>acicula</i> , W.	*
234. MESITES, Schön. (7).			
*729. <i>complanatus</i> , W.	*
730. <i>maderensis</i> , W. [\leftarrow <i>Tardii</i> , Curt.]	*
731. <i>persimilis</i> , W. [\leftarrow <i>Tardii</i> , Curt.]	*	*
*732. <i>euphorbiæ</i> , W.	*
*733. <i>proximus</i> , W. [\leftarrow ? <i>euphorbiæ</i> , W.]	*
*734. <i>fusiformis</i> , W.	*
*735. <i>pupipennis</i> , W. [\leftarrow <i>fusiformis</i> , W.]	*
(<i>Rhynchophorides</i> .)			
235. SITOPHILUS, Schön. (2).			
736. <i>granarius</i> , L.	*	*
737. <i>oryzæ</i> , L.	*	*
(<i>Cionides</i> .)			
236. NANOPHYES, Schön. (2).			
738. <i>longulus</i> , W.	*
739. <i>lunulatus</i> , W.	*
237. CIONUS, Clairv. (1).			
740. <i>pulchellus</i> , Hbst.	*
(<i>Chryptorhynchides</i> .)			
238. CEUTHORHYNCHIDEUS, Duv. (1).			
741. <i>pyrrhorhynchus</i> , Mshm.	*
239. CEUTHORHYNCHUS (Schüpp), Schön. (7).			
742. <i>echii</i> , F.	*
743. <i>pollinarius</i> , Forst.	*
744. <i>quadridens</i> , Pnz.	*	*
745. <i>nigroterminatus</i> , W.	*	*
*746. <i>phytobioides</i> , W.	*
*747. <i>hesperus</i> , W.	*
*748. <i>lineatotessellatus</i> , W.	*
240. CÆLIODES, Schön. (1).			
749. <i>guttula</i> , F.	*
241. MONONYX (Brullé in litt.) (1).			
*750. <i>variegatus</i> , Br.	*
242. ACALLES, Schön. (30).			
*751. <i>Neptunus</i> , W. [\leftarrow <i>argillosus</i> , Sch.]	*
*752. <i>argillosus</i> , Schön.	*
*753. <i>æonii</i> (Chev.), W.	*
*754. <i>saxicola</i> , W.	*
*755. <i>histrionicus</i> , W.	*
*756. <i>pulverulentus</i> , W.	*
*757. <i>oblitus</i> , W. [\leftarrow ? <i>pulverulentus</i> , W.]	*

	Mad.	Sal.	Can.
242. ACALLES (<i>continued</i>).			
*758. <i>nodiferus</i> W.	*
*759. <i>vau</i> , W.	*
*760. <i>sigma</i> , W. [← <i>vau</i> , W.]	*
*761. <i>fortunatus</i> , W. [← <i>ornatus</i> , W.]	*
*762. <i>ornatus</i> , W.	*
*763. <i>senilis</i> , W. [← <i>terminalis</i> , W.]	*
*764. <i>terminalis</i> , W.	*
*765. <i>brevitarsis</i> , W. [← <i>acutus</i> , W.]	*
*766. <i>acutus</i> , W.	*
*767. <i>instabilis</i> , W. [← <i>acutus</i> , W.]	*
*768. <i>dispar</i> , W.	*
*769. <i>coarctatus</i> , W.	*
*770. <i>xerampelinus</i> , W.	*
*771. <i>nubilosus</i> , W. [← <i>xerampelinus</i> , W.]	*
*772. <i>cinereus</i> , W.	*
*773. <i>festivus</i> , W.	*
*774. <i>lunulatus</i> , W.	*
*775. <i>albolineatus</i> , W.	*
*776. <i>Wollastoni</i> , Chev.	*
*777. <i>seticollis</i> , W. [← <i>Wollastoni</i> , Ch.]	*
*778. <i>globulipennis</i> , W.	*
*779. <i>pilula</i> , W. [← <i>globulipennis</i> , W.]	*
*780. <i>verrucosus</i> , W.	*
243. ECHINODERA, W. (6).			
*781. <i>lystrix</i> , W.	*
*782. <i>crenata</i> , W.	*
*783. <i>angulipennis</i> , W.	*
*784. <i>orbiculata</i> , W.	*
*785. <i>compacta</i> , W. [← <i>orbiculata</i> , W.]	*
*786. <i>picta</i> , W.	*
244. TORNEUMA, W. (2).			
*787. <i>cæcum</i> , W.	*
*788. <i>orbatum</i> , W. [← <i>cæcum</i> , W.]	*
(<i>Baridiides</i> .)			
245. BARIS, Germ. (1).			
789. <i>sellata</i> , Schön.	*
(<i>Tychiides</i> .)			
246. SIBYNIA, Germ. (1).			
790. <i>sericea</i> , W.	*
247. TYCHIUS (Germ.), Schön. (5).			
*791. <i>robustus</i> , W.	*
*792. <i>aridicola</i> , W. [← <i>robustus</i> , W.]	*
793. <i>decoratus</i> , Rosenh.	*
794. <i>filirostris</i> , W.	*
795. <i>depauperatus</i> , W.	*
(<i>Orchestides</i> .)			
248. RAMPHUS, Clairv. (1).			
796. <i>æneus</i> (Dej.), Schön.	*
(<i>Magdalinides</i> .)			
249. MAGDALIS, Germ. (1).			
797. <i>barbicornis</i> , Lat.	*
(<i>Rhinomacerides</i> .)			
250. AULETES, Schön. (4).			
*798. <i>cylindricollis</i> , W.	*

	Mad.	Sal.	Can.
250. AULETES (<i>continued</i>).			
*799. <i>anceps</i> , W. [← <i>maderensis</i> , W.]	*
*800. <i>convexifrons</i> , W. [← <i>maderensis</i> , W.]	*
*801. <i>maderensis</i> , W.	*
(<i>Apionides</i> .)			
251. APION, Hbst (18).			
802. <i>frumentarium</i> , L.	*
803. <i>malvæ</i> , F.	*
*804. <i>senex</i> , W.	*
805. <i>vernale</i> , F.	*	*
806. <i>delicatulum</i> , W.	*	*
807. <i>sagittiferum</i> , W. [← <i>Germari</i> , Walt.] ..	*	*
808. <i>Germari</i> , Walt.	*
809. <i>chalybeipenne</i> (Schön.), W.	*	*
810. <i>calcaratum</i> , W. [← <i>carduorum</i> , Kby]	*
*811. <i>Westwoodii</i> , W.	*
812. <i>tubiferum</i> (Dej.), Schön.	*
813. <i>austrinum</i> , W.	*
814. <i>fallax</i> , W. [← <i>hydrolapathi</i> , Kby]	*
815. <i>ceuthorhynchoides</i> , W.	*
816. <i>rotundipenne</i> , W.	*	*
*817. <i>Wollastoni</i> , Chev.	*
818. <i>umbrinum</i> , W. [← <i>ononis</i> , Kby]	*
819. <i>longipes</i> , W. [← <i>vorax</i> , Hbst]	*
(<i>Cryptophides</i> .)			
252. SMICRONYX, Schön. (2).			
*820. <i>albosquamosus</i> , W.	*	*
*821. <i>pauperculus</i> , W.	*
(<i>Erirhinides</i> .)			
253. PROCAS, Steph. (1).			
822. <i>picipes</i> , Mshm.	*	*
(<i>Hyllobiides</i> .)			
254. PISSODES, Germ. (1).			
823. <i>notatus</i> , F.	*
(<i>Lixides</i> .)			
255. LIXUS, F. (8).			
824. <i>anguinus</i> , L.	*	*
825. <i>anguiculus</i> , Schön. [← <i>anguinus</i> , L.]	*
826. <i>cheiranthi</i> , W.	*
827. <i>Chawneri</i> , W.	*	*
828. <i>vectiformis</i> , W.	*
829. <i>rufitarsis</i> , Schön.	*
830. <i>guttiventris</i> (Germ.), Schön.	*
831. <i>angustatus</i> , F.	*
(<i>Cleonides</i> .)			
256. BOTHYNODERES, Schön. (1).			
832. <i>Jekeli</i> , W.	*
257. CLEONUS, Schön. (3).			
833. <i>Armitagii</i> , W.	*
834. <i>variolosus</i> , W.	*
835. <i>tabidus</i> , Oliv.	*
258. RHYTIDODERES, Schön. (1).			
836. <i>siculus</i> (Dup.), Schön.	*	*

	Mad.	Sal.	Can.
(<i>Hyperides.</i>)			
259. ALOPHUS, Schön. (2).			
*837. <i>magnificus</i> , W.			*
*838. <i>alternans</i> , W.			*
260. HYPERA, Germ. (3).			
839. <i>lunata</i> , W.	*		*
840. <i>irrorata</i> , W.			*
841. <i>murina</i> , F.	*		*
261. CONIATUS, Germ. (1).			
842. <i>tamarisci</i> , F.			*
(<i>Synaptonicides.</i>)			
262. ECHINOSOMA, W. (1).			
*843. <i>porcellus</i> , W.	*		
(<i>Plinthides.</i>)			
263. PLINTHUS, Germ. (3).			
*844. <i>musicus</i> , W.			*
*845. <i>velutinus</i> , W.			*
*846. <i>cucullus</i> , W. [← <i>musicus</i> , W.]			*
(<i>Molytides.</i>)			
264. XENOMICRUS, W. (1).			
*847. <i>apionides</i> , W.			*
(<i>Rhytidorhinides.</i>)			
265. GRONOPS, Schön. (1).			
848. <i>lunatus</i> , F.			*
266. RHYTIDORHINUS, Schön. (1).			
849. <i>brevitaris</i> , W. [← <i>crispatus</i> , S.]			*
(<i>Brachycerides.</i>)			
267. BRACHYCERUS, F. (1). ¹			
850. <i>opacus</i> , W.			*
(<i>Laparocerides.</i>)			
268. ATLANTIS, W. (20).			
*851. <i>canariensis</i> (Chev.), Schön.			*
*852. <i>subnebulosa</i> , W. [← <i>tibialis</i> , W.]			*
*853. <i>tibialis</i> , W.			*
*854. <i>tetrica</i> , Schön.			*
*855. <i>Grayana</i> , W.			*
*856. <i>lamellipes</i> , W.	*		
*857. <i>calcatrix</i> , W. [← <i>lamellipes</i> , W.]	*		
*858. <i>noctivagans</i> , W.	*		
*859. <i>vespertina</i> , W. (<i>picea</i> ?, Sch.)	*		
*860. <i>lanata</i> , W.	*		
*861. <i>navicularis</i> , W.	*		
*862. <i>inconstans</i> , W.	*		
*863. <i>mendax</i> , W.	*		
*864. <i>instabilis</i> , W.	*		
*865. <i>excelsa</i> , W.	*		
*866. <i>Schaumii</i> , W.	*		
*867. <i>angustula</i> , W. [← <i>ventrosa</i> , W.]	*		
*868. <i>ventrosa</i> , W.	*		
*869. <i>ænescens</i> , W. [← <i>ventrosa</i> , W.]	*		
*870. <i>Waterhousii</i> , W.	*		
269. CYPHOSCELIS, W. (1).			
*871. <i>distorta</i> , W.	*		
270. LAPAROCERUS, Schön. (36).			
*872. <i>clavatus</i> , W.	*		
*873. <i>undulatus</i> , W.	*		

	Mad.	Sal.	Can.
270. LAPAROCERUS (<i>continued</i>).			
*874. <i>morio</i> , Schön.	*	†	†
*875. <i>sculptus</i> , Br.	*
*876. <i>undatus</i> , W.	*
*877. <i>excavatus</i> , W.	*
*878. <i>grossepunctatus</i> , W. [← <i>squamosus</i> , Br.]	*
*879. <i>squamosus</i> , Br.	*
*880. <i>crassirostris</i> , W.	*
*881. <i>crassifrons</i> , W.	*
*882. <i>scapularis</i> , W. [← <i>crassifrons</i> , W.]	*
*883. <i>æthiops</i> , W.	*
*884. <i>hirtus</i> , W. [← <i>inequalis</i> , W.]	*
*885. <i>inequalis</i> , W.	*
*886. <i>globulipennis</i> , W. [← <i>inequalis</i> , W.]	*
*887. <i>occidentalis</i> , W. [← <i>inequalis</i> , W.]	*
*888. <i>obtriangularis</i> , W.	*
*889. <i>ellipticus</i> , W.	*
*890. <i>inflatus</i> , W. [← <i>lepidopterus</i> , W.]	*
*891. <i>lepidopterus</i> , W.	*
*892. <i>rasus</i> , W.	*
*893. <i>seniculus</i> , W.	*
*894. <i>subopacus</i> , W. [← <i>obscurus</i> , W.]	*
*895. <i>obscurus</i> , W.	*
*896. <i>mendicus</i> , W. [← <i>obscurus</i> , W.]	*
*897. <i>gracilis</i> , W.	*
*898. <i>dispar</i> , W.	*
*899. <i>debilis</i> , W.	*
*900. <i>vestitus</i> , W.	*
*901. <i>tessellatus</i> , Br.	*
*902. <i>obsitus</i> , W. [← <i>tessellatus</i> , Br.]	*
*903. <i>tenellus</i> , W.	*
*904. <i>puncticollis</i> , W.	*
*905. <i>indutus</i> , W. [← <i>puncticollis</i> , W.]	*
*906. <i>compactus</i> , W.	*
*907. <i>sulcirostris</i> , W. [← <i>compactus</i> , W.]	*
(<i>Trachyphleides</i> .)			
271. ANEMOPHILUS, W. (3).			
*908. <i>crassus</i> , W.	*
*909. <i>subtessellatus</i> , W.	*
*910. <i>trossulus</i> , W.	*
272. SCOLIOCERUS, W. (2).			
*911. <i>Maderæ</i> , W.	*
*912. <i>curvipes</i> , W.	*
273. TRACHYPHLEUS, Germ. (1).			
*913. <i>scaber</i> , L.	*	..	*
274. CÆNOPSIS, Bach (1).			
914. <i>Waltoni</i> , Schön.	*
(<i>Peritelides</i> .)			
275. LICHENOPHAGUS, W. (9).			
*915. <i>fritillus</i> , W.	*
*916. <i>acuminatus</i> , W. [← <i>fritillus</i> , W.] ..	*
*917. <i>auctus</i> , W.	*
*918. <i>tesserula</i> , W.	*
*919. <i>persimilis</i> , W. [← <i>tesserula</i> , W.]	*
*920. <i>subnodosus</i> , W.	*
*921. <i>sculptipennis</i> , W. [← <i>subnodosus</i> , W.]	*

	Mad.	Sal.	Can.
275. LICHENOPHAGUS (<i>continued</i>).			
*922. <i>impressicollis</i> , W.	*
*923. <i>buccatrix</i> , W.	*
(<i>Tanymecides</i> .)			
276. THYLACITES, Germ. (1).			
924. <i>obesulus</i> , W.	*
277. HERPYSTICUS, Germ. (3).			
*925. <i>eremita</i> , Oliv.	*
*926. <i>calvus</i> , W. [← <i>eremita</i> , Ol.]	*
*927. <i>oculatus</i> , W. [← <i>eremita</i> , Ol.]	*
(<i>Naupactides</i> .)			
278. SITONA, Germ. (7).			
928. <i>gressorius</i> , F.	*	*
929. <i>latipennis</i> , Schön.	*	*
930. <i>punctiger</i> , W.	*
931. <i>cambricus</i> (Kby), Steph.	*	*
932. <i>lineatus</i> , L.	*	*
933. <i>humeralis</i> (Kby), Steph.	*	*
934. <i>sericsetosus</i> , Schön.	*
(<i>Brachyderides</i> .)			
279. BRACHYDERES, Schön. (2).			
*935. <i>rugatus</i> , W.	*
*936. <i>sculpturatus</i> , W. [← <i>rugatus</i> , W.]	*
280. STROPHOSOMUS (Billb.), Schön. (1).			
937. <i>coryli</i> , F.	*
Fam. 53. Anthribidæ.			
281. XENORCHESTES, W. (1).			
*938. <i>saltitans</i> , W.	*
Fam. 54. Aglycyderidæ.			
282. AGLYCYDERES, Westw. (1).			
*939. <i>setifer</i> , Westw.	*
Fam. 55. Bruchidæ.			
283. BRUCHUS, Geoffr. (7).			
940. <i>pisi</i> , L.	*	*
941. <i>rufimanus</i> , Schön.	*	*
942. <i>terminatus</i> , W.	*
943. <i>subellipticus</i> , W.	*
*944. <i>Teneriffæ</i> (Stev.), Schön.	*
945. <i>lichenicola</i> , W.	*	*
*946. <i>antennatus</i> , W.	*
Fam. 56. Cerambicidæ.			
284. STROMATIUM, Serv. (1).			
947. <i>unicolor</i> , Oliv.	*
285. HYLOTROPES, Serv. (1).			
948. <i>bajulus</i> , L.	*	*
286. PHYMATODES, Muls. (1).			
949. <i>variabilis</i> , L.	*
287. BLABINOTUS, W. (1).			
*950. <i>spinicollis</i> , W.	*	*
288. OXYPLEURUS, Muls. (2).			
951. <i>Bewickii</i> , W. [← <i>Nodieri</i> , Muls.]	*
952. <i>pinicola</i> , W. [← <i>Nodieri</i> , Muls.]	*

	Mad.	Sal.	Can.
289. CRIOCEPHALUS, Muls. (1).			
953. <i>rusticus</i> , L.	*	*
290. HESPEROPHANES, Muls. (2).			
954. <i>senex</i> , W. (<i>roridus</i> ?, Br.)	*	*
955. <i>roridus</i> , Br.	†
291. CLYTUS, F. (3).			
956. <i>arietis</i> , L.	*
957. <i>Webbii</i> , Br. [←4- <i>punctatus</i> , F.]	†
958. <i>erythrocephalus</i> , F.	*
292. GRACILIA, Serv. (1).			
959. <i>pygmæa</i> , F.	*	*
Fam. 57. Lamiadæ.			
293. DEUCALION, W. (2).			
*960. <i>Desertarum</i> , W.	*
*961. <i>oceanicus</i> , W.	*
294. LEPROMORIS, Pascoe (1).			
*962. <i>gibba</i> , Br.	*
295. POGONOCHERUS (Meg.), Steph. (1).			
963. <i>hispidus</i> , L.	*
296. STENIDEA, Muls. (4).			
*964. <i>annulicornis</i> , Br. [← <i>Troberti</i> , Muls.]	*
*965. <i>albida</i> , Br. [← <i>Troberti</i> , Muls.]	*
*966. <i>pilosa</i> , W.	*
*967. <i>Hesperus</i> , W.	*
297. AGAPANTHIA, Serv. (1).			
968. <i>cardui</i> , L.	*
Fam. 58. Crioceridæ.			
298. LEMA, F. (1).			
969. <i>melanopa</i> , L.	*	*	*
299. CRIOCERIS, Geoffr. (2).			
970. <i>asparagi</i> , L.	†
*971. <i>nigropicta</i> , W.	*
Fam. 59. Eumolpidæ.			
300. PSEUDOCOLASPIS, Lap. (4).			
*972. <i>divisa</i> , W.	*
*973. <i>dubia</i> , W.	*
*974. <i>splendidula</i> , W.	*
*975. <i>obscuripes</i> , W.	*
Fam. 60. Cryptocephalidæ.			
301. CRYPTOCEPHALUS, Geoffr. (3).			
976. <i>crenatus</i> , W.	*
977. <i>nitidicollis</i> , W. [←? <i>crenatus</i> , W.]	*
978. <i>puncticollis</i> , W.	*
302. STYLOSOMUS, Suffr. (1).			
979. <i>biplagiatus</i> , W.	*
Fam. 61. Chrysomelidæ.			
303. CHRYSOMELA, L. (7).			
980. <i>sanguinolenta</i> , L.	*
981. <i>regalis</i> , Oliv.	*
*982. <i>obsoleta</i> , Br.	*

	Mad.	Sal.	Can.
303. CHRYSOMELA (<i>continued</i>).			
*983. <i>fortunata</i> , W. [← <i>obsoleta</i> , Br.]	*
*984. <i>rutilans</i> , W.	*
*985. <i>gemina</i> , Br.	*
*986. <i>onychina</i> , W.	*
304. GASTROPHYSA (Chev.), Redt. (1).			
987. <i>polygona</i> , L.	†
305. PHÆDON (Meg.) (1).			
988. <i>menthae</i> , W.	*
306. PHRATORA (Chev.), Redt. (1).			
989. <i>vulgatissima</i> , L.	*
307. MNIOPHILOSOMA, W. (1).			
*990. <i>laeve</i> , W.	*
Fam. 62. Gallerucidæ.			
308. CALOMICRUS, Steph. (1).			
*991. <i>Wollastoni</i> , Paiva	*
Fam. 63. Halticidæ.			
309. HALTICA, Geoffr. (8).			
Crepidodera, Chev.			
992. <i>Allardii</i> , W. [← <i>atropa</i> , All.]	*
993. <i>ventralis</i> , Illig.	*
994. <i>lubrica</i> , W.	*
Phyllotreta, Chev.			
995. <i>procera</i> , Redt.	*
996. <i>variipennis</i> , Boield.	*
Aphthona, Chev.			
*997. <i>Paivana</i> , W.	*
998. <i>plenifrons</i> , W.	*
*999. <i>crassipes</i> , W.	*
310. LONGITARSUS, Lat. (20).			
*1000. <i>cinerarice</i> , W.	*
1001. <i>echii</i> , Illig.	*	*
1002. <i>fuscoæneus</i> , Redt.	*	*
*1003. <i>Masoni</i> , W.	*
*1004. <i>persimilis</i> , W. [← <i>Masoni</i> , W.]	*
1005. <i>messerschmidtiæ</i> , W.	*
1006. <i>kleiniiperda</i> , W.	*
1007. <i>saltator</i> , W.	*
1008. <i>brevipennis</i> , W.	*
1009. <i>atricapillus</i> , Dufts.	*
1010. <i>nervosus</i> , W.	*
1011. <i>ochroleucus</i> , Mshm	*
1012. <i>circumseptus</i> (Gené), All. [← <i>dorsalis</i> , F.]	*
1013. <i>strigicollis</i> , W.	*
1014. <i>nubigena</i> , W.	*	*
1015. <i>lycopi</i> , Foudr.	*
1016. <i>pusillus</i> , Gyll.	*
1017. <i>inconspicuus</i> , W.	*
1018. <i>vilis</i> , W.	*
1019. <i>maderensis</i> , All. [← <i>obliteratus</i> , Ros.]	*
311. PSYLLIODES, Lat. (7).			
1020. <i>chrysocephala</i> , Scop.	*
1021. <i>umbratilis</i> , W. (<i>napi</i> ?, E. H.)	*

	Mad.	Sal.	Can.
311. PSYLLIODES (<i>continued</i>).			
1022. <i>amplicollis</i> , W.	*
1023. <i>stobida</i> , W.	*
1024. <i>hospes</i> , W. [← ← <i>cuprea</i> , Illig.]	*	*
*1025. <i>vehemens</i> , W.	*	*
*1026. <i>tarsata</i> , W.	*
312. DIBOLIA, Lat. (1).			
1027. <i>obtusa</i> , W.	*
313. CHÆTOCHEMA, Steph. (1).			
1028. <i>tarsalis</i> , W. [← ← <i>aridella</i> , Pk.]	*
Fam. 64. Hispidæ.			
314. HISPA, L. (1).			
1029. <i>occator</i> , Br. [← ← <i>testacea</i> , L.].....	*
Fam. 65. Cassididæ.			
315. CASSIDA, L. (3).			
1030. <i>nebulosa</i> , L.	†
1031. <i>hemisphærica</i> , Hbst.	*	*
1032. <i>Rossii</i> , W. [← ← <i>hemisphærica</i> , Hbst] ..	*
Fam. 66. Coccinellidæ.			
316. CHILOCORUS, Leach (1).			
1033. <i>renipustulatus</i> , Scriba.	*
317. EPILACHNA, Chev. (3).			
*1034. <i>4-plagiata</i> , W.	*
*1035. <i>bella</i> , W.	*
1036. <i>10-plagiata</i> , W.	*	*
318. COCCINELLA, L. (8).			
1037. <i>mutabilis</i> , Scriba.	*
1038. <i>7-punctata</i> , L.	*	*
1039. <i>14-pustulata</i> , L.	†
1040. <i>Doublieri</i> , Muls.	*
1041. <i>Andersoni</i> , W.	*
1042. <i>testudinea</i> (Hein.), W.	*
1043. <i>Miranda</i> , W.	*
1044. <i>genistæ</i> , W. [← ← <i>phalerata</i> , Luc.]	*
319. SCYMNUS, Kugel. (10).			
1045. <i>marginalis</i> , Rossi.	*
1046. <i>durantæ</i> , W.	*
1047. <i>canariensis</i> , W. [← ← <i>durantæ</i> , W.]	*
1848. <i>oblongior</i> , W. [← ← <i>canariensis</i> , W.]	*
1049. <i>cercyonides</i> , W. [← ← <i>canariensis</i> , W.]	*
1050. <i>maculosus</i> , W. [← ← <i>flavopictus</i> , W.]	*
1051. <i>flavopictus</i> , W.	*
1052. <i>arcuatus</i> , Rossi.	*	*
1053. <i>minimus</i> , Rossi.	*	*
*1054. <i>limnichoides</i> , W.	*
320. RHIZOBIUS, Steph. (2).			
1055. <i>litura</i> , F.	*	*
*1056. <i>oculatissimus</i> , W.	*
321. LITHOPHILUS, Fröhl. (1).			
1057. <i>deserticola</i> , W.	*

	Mad.	Sal.	Can.
Fam. 67. Endomychidæ.			
322. DAPSA (Ziegl.), Lat. (1).			
1058. <i>edentata</i> , W. (barbara?, Luc.)			*
323. LYCOPERDINA, Lat. (1).			
*1059. <i>humeralis</i> , W.			*
Fam. 68. Erotylidæ.			
324. XESTUS, W. (2).			
*1060. <i>throscoides</i> , W.			*
*1061. <i>fungicola</i> , W.			*
325. EUXESTES, W. (1).			
*1062. <i>Parkii</i> , W.	*		
Fam. 69. Zophosidæ.			
326. ZOPHOSIS, Lat. (5).			
*1063. <i>4-carinata</i> , Deyr.			*
*1064. <i>plicata</i> , Br.			*
*1065. <i>vagans</i> , Br. [← <i>plicata</i> , Br.]			*
*1066. <i>Clarkii</i> , Deyr. [← <i>plicata</i> , Br.]			*
*1067. <i>bicarinata</i> , Sol. (minuta?, F.)			*
Fam. 70. Erodiadæ.			
327. ARTHRODES, Sol. (15).			
*1068. <i>Perraudieri</i> , W.			*
*1069. <i>inflatus</i> , W.			*
*1070. <i>curtus</i> , Br.			*
*1071. <i>obesus</i> , Br.			*
*1072. <i>byrrhoides</i> , W.			*
*1073. <i>laticollis</i> , Br.			*
*1074. <i>Hartungii</i> , W.			*
*1075. <i>punctatulus</i> , W.			*
*1076. <i>parcepunctatus</i> , W.			*
*1077. <i>subciliatus</i> , W.			*
*1078. <i>subcostatus</i> , Br. [← <i>subciliatus</i> , W.]			*
*1079. <i>costifrons</i> , W.			*
*1080. <i>malleatus</i> , W.			*
*1081. <i>emarginatus</i> , W.			*
*1082. <i>geotrupoides</i> , W. [← <i>emarginatus</i> , W.]			*
Fam. 71. Tentyriadæ.			
328. TENTYRIA, Lat. (2).			
1083. <i>interrupta?</i> , Lat.			†
1084. <i>Brullæi</i> , W.			*
329. ΠΑΥΛÆΑ, W. (1).			
*1085. <i>hispida</i> , Br.			*
330. HEGETER, Lat. (13).			
1086. <i>tristis</i> , F.			*
*1087. <i>Webbianus</i> , Hein. [← <i>tristis</i> , F.]	*		*
*1088. <i>glaber</i> , Br. [← <i>amaroides</i> , Sol.]			*
1089. <i>amaroides</i> , Sol.			*
*1090. <i>transversus</i> , Br.			*
*1091. <i>brevicollis</i> , Br. [← <i>transversus</i> , Br.]			*
*1092. <i>abbreviatus</i> , Br.			*
*1093. <i>costipennis</i> , W.			*
*1094. <i>impessus</i> , Br.			*
*1095. <i>subrotundatus</i> , W. [← <i>impessus</i> , Br.]			*

	Mad.	Sal.	Can.
330. HEGETER (<i>continued</i>).			
*1096. <i>tenuipunctatus</i> , Br.	*
*1097. <i>lateralis</i> , Br.	*
*1098. <i>latebricola</i> , W.	*
331. THALPOPHILA, Sol. (4).			
*1099. <i>plicifrons</i> , W.	*
*1100. <i>Deyrollii</i> , W.	*
*1101. <i>fuscipes</i> , Br.	*
*1102. <i>submetallica</i> , W. [\leftarrow <i>fuscipes</i> , Br.]	*
332. GNOPHOTA, Erich. (3).			
*1103. <i>cribricollis</i> , Br.	*
*1104. <i>inæqualis</i> , W. [\leftarrow <i>cribricollis</i> , Br.]	*
*1105. <i>punctipennis</i> , W. [\leftarrow <i>cribricollis</i> , Br.]	*
333. MELANOCHRUS, W. (1).			
1106. <i>Lacordairii</i> , W.	*
Fam. 72. Blapidæ.			
334. BLAPS, F. (3).			
1107. <i>gages</i> , L.	*	*	*
1108. <i>alternans</i> , Br.	*
1109. <i>similis</i> , Lat.	*	*
Fam. 73. Pimeliadæ.			
335. PIMELIA, F. (12).			
*1110. <i>lutaria</i> , Br.	*
*1111. <i>canariensis</i> , Br.	*
1112. <i>fornicata</i> , Hbst.	†
*1113. <i>ascendens</i> , W.	*
1114. <i>radula</i> (Dej.), Sol.	*
1115. <i>sparsa</i> , Br. [\leftarrow ? <i>radula</i> , Sol.]	*
*1116. <i>ambigua</i> , W. [\leftarrow <i>costipennis</i> , W.]	*
*1117. <i>costipennis</i> , W.	*
*1118. <i>lævigata</i> , Br. [\leftarrow <i>costipennis</i> , W.]	*
*1119. <i>serrimargo</i> , W.	*
*1120. <i>granulicollis</i> , W.	*
*1121. <i>auriculata</i> , W.	*
Fam. 74. Coniontidæ.			
336. CRYPTICUS, Lat. (7).			
*1122. <i>navicularis</i> , Br.	*
*1123. <i>punctatissimus</i> , W. [\leftarrow <i>navicularis</i> , Br.]	*
*1124. <i>calvus</i> , W. [\leftarrow <i>navicularis</i> , Br.]	*
*1125. <i>canariensis</i> , W.	*
*1126. <i>nitidulus</i> , W.	*
*1127. <i>oblongus</i> , W.	*
*1128. <i>minutus</i> , Br.	*
337. ELLIPSOIDES, W. (2).			
*1129. <i>glabratus</i> , F.	*
*1130. <i>oblongior</i> , W. [\leftarrow <i>glabratus</i> , F.]	*
Fam. 75. Pedinidæ.			
338. MELASMA, W. (1).			
*1131. <i>lineatum</i> , Br.	*

	Mad.	Sal.	Can.
Fam. 76. Opatridæ.			
339. CNEMOPLATIA, Costa (1).			
1132. <i>laticeps</i> , W. [←← <i>Atropos</i> , Cost.]	*	*
340. SCLERUM (Dej.), Hope (1).			
*1133. <i>asperulum</i> , W.	*
341. OPATRUM, F. (5).			
1134. <i>lutosum</i> , W. [←← ? <i>fuscum</i> , Hbst]	*
1135. <i>fuscum</i> , Hbst.	*	*
1136. <i>hispidum</i> , Br.	*	*
1137. <i>oblitum</i> , W.	*
*1138. <i>dilatatum</i> , W.	*
342. MELANSIS, W. (2).			
*1139. <i>costata</i> , Br.	*
*1140. <i>angulata</i> , W.	*
343. HADRUS (Dej.), W. (4).			
*1141. <i>alpinus</i> , W.	*
*1142. <i>Paivæ</i> , W. [←← <i>cinerascens</i> , W.]	*
*1143. <i>cinerascens</i> (Dej.), W.	*
*1144. <i>illotus</i> , W.	*
344. HALONOMUS, W. (1).			
*1145. <i>salinicola</i> , W. [←← <i>ovatus</i> , Er.]	*
Fam. 77. Trachyscelidæ.			
345. PSEUDANEMIA, W. (1).			
1146. <i>brevicollis</i> , W.	*
346. TRACHYSCELIS, Lat. (1).			
1147. <i>aphodioides</i> , Lat.	*
347. PHALERIA, Lat. (4).			
1148. <i>bimaculata</i> , Hbst [←← <i>cadaverina</i> , F.]	*
1149. <i>cadaverina</i> , F.	*
1150. <i>ornata</i> , W.	*
1151. <i>ciliata</i> , W.	*
Fam. 78. Ulomidæ.			
348. ADELINA (Chev.) W. (1).			
1152. <i>farinaria</i> , W.	*
349. ALPHITOBIOUS, Steph. (2).			
1153. <i>diaperinus</i> , Kugel.	*	*
1154. <i>piceus</i> , Oliv.	*	*
350. GNATHOCERUS, Thunb. (2).			
1155. <i>cornutus</i> , F.	*	*
1156. <i>maxillosus</i> , F.	*
351. TRIBOLIUM, MacLeay (1).			
1157. <i>ferrugineum</i> , F.	*	*
352. PSEUDOSTENE, W. (1).			
1158. <i>fossoria</i> , W. [←← <i>angusta</i> , W.]	*
353. HYPOPHLÆUS, F. (4).			
1159. <i>pini</i> (Creutz.), Pnz.	*
*1160. <i>euphorbiæ</i> , W. [←← ? <i>ambiguus</i> , W.]	*
*1161. <i>ambiguus</i> , W.	*
1162. <i>subdepressus</i> , W. [←← <i>depressus</i> , F.]	*
Fam. 79. Cossyphidæ.			
354. COSSYPHUS, Oliv. (1).			
1163. <i>insularis</i> , Lap.	*

Fam. 80. Cœlomelopidæ.

	Mad.	Sal.	Can.
355. MACROSTETHUS, W. (1).			
*1164. <i>tuberculatus</i> , W. [← ← <i>clypeatus</i> , Germ.].	*

Fam. 81. Tenebrionidæ.

356. TENEBRIO, L. (4).			
1165. <i>molitor</i> , L. ....	†	....	....
1166. <i>obscurus</i> , F. ....	*	....	*
1167. <i>olivensis</i> , W. ....	....	....	*
1168. <i>Crotchii</i> , W. ....	....	....	*
357. CALCAR (Dej.), Lat. (1).			
1169. <i>elongatus</i> , Hbst. ....	*	....	....
358. BOROMORPHUS (Mots.), W. (2).			
1170. <i>tagenioides</i> , Luc. ....	*	....	....
*1171. <i>parvus</i> , W. ....	....	....	*

Fam. 82. Helopidæ.

359. HELOPS, F. (27).			
*1172. <i>altivagans</i> , W. ....	....	....	*
*1173. <i>elliptipennis</i> , W. [← ← <i>altivagans</i> , W.]	....	....	*
*1174. <i>Marseulii</i> , W. [← ← <i>altivagans</i> , W.]	....	....	†
*1175. <i>arboricola</i> , W. [← ← <i>asper</i> , Küst.]	*	....	....
*1176. <i>Vulcanus</i> , W. [← ← <i>asper</i> , Küst.]	*	....	....
*1177. <i>asper</i> , Küst. ....	*	....	....
*1178. <i>gomerensis</i> , W. [← ← <i>asper</i> , Küst.]	....	....	*
*1179. <i>congener</i> , W. [← ← <i>asper</i> , Küst.]	....	....	*
*1180. <i>carbunculus</i> , W. (transversus?, Br.)	....	....	*
*1181. <i>aterrimus</i> , W. ....	....	....	*
*1182. <i>nitens</i> , W. [← ← <i>asper</i> , Küst.]	....	....	*
*1183. <i>licifugus</i> , W. [← ← <i>asper</i> , Küst.]	*	....	....
*1184. <i>gagatinus</i> , Küst. ....	*	....	....
*1185. <i>Leacocianus</i> , W. [← ← <i>infernus</i> , W.]	....	*	....
*1186. <i>infernus</i> , W. ....	*	....	....
*1187. <i>subdepressus</i> , W. [← ← <i>infernus</i> , W.]	*	....	....
*1188. <i>congregatus</i> , W. ....	*	....	....
*1189. <i>quadratus</i> , Br. ....	....	....	*
*1190. <i>rimosus</i> , W. ....	....	....	*
*1191. <i>porrectus</i> , W. ....	....	....	*
*1192. <i>æthiops</i> , W. [← ← <i>porrectus</i> , W.]	....	....	*
*1193. <i>picescens</i> , W. [← ← <i>porrectus</i> , W.]	....	....	*
*1194. <i>fuscus</i> , W. ....	....	....	*
*1195. <i>futilis</i> , W. [← ← <i>graniger</i> , Küst.]	*	....	....
*1196. <i>portosanctanus</i> , W. [← ← <i>graniger</i> , Küst.]	*	....	....
*1197. <i>graniger</i> , Küst. ....	*	....	....
1198. <i>pallidus</i> , Curt. ....	*	....	....

Fam. 83. Œdemeridæ.

360. DITYLUS, Schmidt (1).			
*1199. <i>concolor</i> , Br. [← ← <i>pallidus</i> , W.]	....	*	*
361. ISCHNOMERA, Steph. (1).			
1200. <i>melanura</i> , L. ....	....	....	†
362. STENAXIS, Schmidt (1).			
*1201. <i>Lowei</i> , W. ....	*	....	....

	Mad.	Sal.	Can.
Fam. 84. Salpingidæ.			
363. SALPINGUS, Illig. (1).			
1202. <i>impressus</i> , W.	*
Fam. 85. Meloidæ.			
364. MELOË, L. (6).			
1203. <i>tuccia</i> , Rossi	*
1204. <i>austrina</i> , W.	*
1205. <i>rugosa</i> , Mshm	*	*
1206. <i>murina</i> , Br. et Erich.	*	*
1207. <i>nuda</i> , W.	*
1208. <i>subcyanea</i> , W.	*
365. ZONITIS, F. (1).			
1209. <i>imperialis</i> , W.	*
Fam. 86. Mordellidæ.			
366. MORDELLISTENA, Costa (2).			
1210. <i>pumila</i> , Gyll.	*
1211. <i>sericata</i> , W. [\leftarrow <i>pumila</i> , Gyll.]	*
367. ANASPIS, Geoffr. (1).			
1212. <i>Proteus</i> , W.	*	*
Fam. 87. Anthicidæ.			
368. XYLOPHILUS (Bonel.), Lat. (2).			
1213. <i>pallescens</i> , W.	*	*
*1214. <i>oculatissimus</i> , W.	*
369. MECYNOTARSUS, Laf. (1).			
1215. <i>semicinctus</i> , W. [\leftarrow <i>bison</i> , Ol.]	*
370. FORMICOMUS, Laf. (2).			
1216. <i>pedestris</i> , Rossi	*
1217. <i>cæruleipennis</i> (Duf.), Laf.	*
371. OCHTHENOMUS (Dej.), Schmidt (2).			
*1218. <i>senilis</i> , W.	*
1219. <i>punctatus</i> (Dej.), Laf.	*
372. ANTHICUS, Payk. (15).			
1220. <i>floralis</i> , F.	*	*
1221. <i>hispidus</i> , Rossi	*	*
1222. <i>crinitus</i> , Laf.	*	*
1223. <i>humilis</i> , Germ.	*
1224. <i>opaculus</i> , W.	*
1225. <i>notoxoides</i> , W.	*
1226. <i>instabilis</i> (Hoffm.), Schmidt	*
1227. <i>litoralis</i> (Heer), W.	*
1228. <i>dimidiatus</i> , W.	*
1229. <i>lapidosus</i> , W.	*
1230. <i>angustatus</i> , Curt.	*
*1231. <i>Lubbockii</i> , W.	*
1232. <i>guttifer</i> , W. [\leftarrow <i>tristis</i> , Schm.]	*
*1233. <i>canariensis</i> , W.	*
*1234. <i>scydmaenoides</i> , W.	*
Fam. 88. Scydmaenidæ.			
373. SCYDMÆNUS, Lat. (3).			
1235. <i>Helferi</i> , Schaum	*
*1236. <i>castaneus</i> , W.	*
1237. <i>tarsatus</i> , Kunze	*

	Mad.	Sal.	Can.
Fam. 89. Pselaphidæ.			
374. EUPLECTUS (Kby), Leach (5).			
1238. <i>singulneus</i> , Denny	*
1239. <i>Karstenii</i> , Reich.	*
*1240. <i>monticola</i> , W. [\leftarrow <i>Karstenii</i> , Reich.]	*
1241. <i>intermedius</i> , W. [\leftarrow <i>signatus</i> , Reich.]	*	*
1242. <i>signatus</i> , Reich.	*
375. ENOPTOSTOMUS, Schaum (1).			
*1243. <i>Wollastoni</i> , Schaum	*
376. PSELAPHUS, Hbst (1).			
*1244. <i>palpiger</i> , W.	*
Fam. 90. Staphylinidæ.			
(<i>Aleocharides</i> .)			
377. FALAGRIA (Leach), Mann. (1).			
1245. <i>obscura</i> , Grav.	*
378. ECHIDNOGLOSSA, W. (1).			
*1246. <i>constricta</i> , W.	*
379. PHYTOSUS (Rudd), Curt. (3).			
1247. <i>dimidiatus</i> , W.	*
1248. <i>nigriventris</i> , Chev.	*
1249. <i>balticus</i> , Kraatz	*
380. PHLÆOPORA, Erich. (1).			
1250. <i>corticina</i> , W. [\leftarrow <i>corticalis</i> , Gr.]	*
381. TACHYUSA, Erich. (3).			
1251. <i>maritima</i> , W.	*
1252. <i>simillima</i> , W.	*
1253. <i>raptoria</i> , W.	*	*
382. ISCHNOPODA, Steph. (1).			
1254. <i>longitarsis</i> (Kby), Steph.	*
383. XENOMMA, W. (4).			
*1255. <i>planifrons</i> , W.	*
*1256. <i>fornicarum</i> , W.	*
*1257. <i>filiforme</i> , W.	*
1258. <i>musicola</i> , W.	*
384. HOMALOTA, Mann. (43).			
*1259. <i>rufofusca</i> , W.	*
*1260. <i>rufobadia</i> , W.	*
*1261. <i>sanguinolenta</i> , W.	*
*1262. <i>haliyena</i> , W. [\leftarrow <i>sanguinolenta</i> , W.]	*
1263. <i>clientula</i> , Erich.	*	*
1264. <i>montivagans</i> , W.	*
*1265. <i>vagepunctata</i> , W.	*
1266. <i>plumbea</i> , Waterh.	*
*1267. <i>granulosa</i> , W.	*
1268. <i>obliquepunctata</i> , W.	*
1269. <i>ammicola</i> , W.	*
1270. <i>luridipennis</i> , Mann.	*
1271. <i>gregaria</i> , Erich.	*	*
1272. <i>philonthoides</i> , W.	*
1273. <i>amnigena</i> , W.	*	*
1274. <i>persimilis</i> , W.	*
1275. <i>longula</i> (Chevr.), Heer	*	*
1276. <i>fragilis</i> ?, Kr. [\leftarrow <i>longula</i> , Heer]	*
1277. <i>palustris</i> , Kiesw.	*
*1278. <i>cursitans</i> , W.	*

	Mad.	Sal.	Can.
384. HOMALOTA (<i>continued</i>).			
*1279. <i>subsericea</i> , W.	*
*1280. <i>angustissima</i> , W.	*
*1281. <i>misella</i> , W.	*
*1282. <i>truncorum</i> , W.	*
1283. <i>analis</i> , Grav.	*
1284. <i>nigra</i> , Kr.	*
1285. <i>cethiops</i> , W.	*
1286. <i>aleocharoides</i> , W.	*
1287. <i>atramentaria</i> (Kby), Gyll.	*
1288. <i>depauperata</i> , W.	*
*1289. <i>canariensis</i> , W.	*
1290. <i>insignis</i> , W.	*
1291. <i>leta</i> , W. [\leftarrow <i>insignis</i> , W.]	*
1292. <i>umbratilis</i> , W.	*
1293. <i>ahutaria</i> , W.	*
1294. <i>coriaria</i> (Mill.), Kr.	*	*
*1295. <i>subcoriaria</i> , W. [\leftarrow ? <i>coriaria</i> , Kr.]	*
1296. <i>cacti</i> , W.	*
1297. <i>putrescens</i> , W.	*
1298. <i>terricola</i> , W.	*
1299. <i>Waterhousii</i> , W.	*
1300. <i>longicornis</i> , Grav.	*
1301. <i>melanaria</i> , Sahlb.	*	*
385. OXYPODA, Mann. (4).			
*1302. <i>brevipennis</i> , W.	*
*1303. <i>obscura</i> , W. [\leftarrow <i>brevipennis</i> , W.]	*
1304. <i>exoleta</i> , Er.	*	*
1305. <i>rugifrons</i> , W.	*
386. ALEOCHARA, Grav. (8).			
1306. <i>puberula</i> , Klug	*	*
1307. <i>crassiuscula</i> , Sahlb.	*	*
1308. <i>littoralis</i> , W. [\leftarrow <i>grisea</i> , Kr.]	*
1309. <i>funebri</i> , W.	*
1310. <i>mœsta</i> , Grav.	*
1311. <i>nitida</i> , Grav.	*	*
1312. <i>binotata</i> , Kr. [\leftarrow <i>nitida</i> , Gr.]	*	*
1313. <i>morian</i> , Grav.	*	*
387. OLIGOTA, Mann. (3).			
1314. <i>castanea</i> , W. [\leftarrow <i>inflata</i> , Mann.]	*
1315. <i>inflata</i> , Mann.	*	*
1316. <i>pusillima</i> , Grav.	*
(<i>Tachyporides</i> .)			
388. SOMATIUM, W. (1).			
*1317. <i>anale</i> , W.	*
389. HYPOCYPUS, Mann. (1).			
1318. <i>reductus</i> , W.	*
390. CONOSOMA, Kr. (3).			
1319. <i>pubescens</i> , Payk.	*	*
1320. <i>pedicularium</i> , Grav.	*	*
*1321. <i>monticola</i> , W.	*
391. TACHYPORUS, Grav. (2).			
1322. <i>pusillus</i> , Grav.	*	*
1323. <i>brunneus</i> , F.	*	*
392. HABROCERUS, Erich. (1).			
1324. <i>capillaricornis</i> , Grav.	*	*

	Mad.	Sal.	Can.
393. LEUCOPARYPHUS, Kr. (1).			
1325. <i>silphoides</i> , L.	*
394. TRICHOPHYA, Mann. (1).			
1326. <i>pilicornis</i> , Gyll.	*	*
395. MYCETOPORUS, Mann. (7).			
*1327. <i>monilicornis</i> , W.	*
*1328. <i>Johnsoni</i> , W. [\leftarrow <i>pronus</i> , Er.]	*
1329. <i>pronus</i> , Erich.	*
1330. <i>rufus</i> , W.	*
1331. <i>adumbratus</i> , W. [\leftarrow <i>solidicornis</i> , W.]	*
*1332. <i>solidicornis</i> , W.	*
1333. <i>discoideus</i> , W. [\leftarrow <i>solidicornis</i> , W.]	*
396. BOLITOBIVS (Leach), Steph. (2).			
1334. <i>turidus</i> , W.	*
1335. <i>filicornis</i> , W.	*
(<i>Quediides</i> .)			
397. EURYPORUS, Erich. (1).			
*1336. <i>princeps</i> , W.	*
398. HETEROTHOPIVS (Kby), Steph. (1).			
1337. <i>minutus</i> , W. [\leftarrow <i>dissimilis</i> , Gr.]	*	*
399. QUEDIUS (Leach), Steph. (3).			
*1338. <i>angustifrons</i> , W.	*
1339. <i>fulgidus</i> , F.	*
1340. <i>megalops</i> , W.	*
(<i>Staphylinides</i> .)			
400. CREOPHILUS (Kby), Steph. (1).			
1341. <i>maxillosus</i> , L.	*	*
401. OCYPVS (Kby), Steph. (9).			
1342. <i>olens</i> , Müll.	*
*1343. <i>brachypterus</i> , Br.	*
*1344. <i>affinis</i> , W. [\leftarrow <i>brachypterus</i> , Br.]	*
*1345. <i>umbricola</i> , W.	*
*1346. <i>curtipennis</i> , W.	*
*1347. <i>sylvaticus</i> , W.	*
1348. <i>atratus</i> , W.	*
1349. <i>subanesceus</i> , W.	*
1350. <i>punctatissimus</i> , W. [\leftarrow <i>cupreus</i> , Rossi]	*
402. PHILONTHUS (Leach), Steph. (18).			
1351. <i>æneus</i> , Rossi	*	*
1352. <i>umbratilis</i> , Grav.	*	*
1353. <i>varius</i> , Gyll.	*
1354. <i>sordidus</i> , Grav.	*	*
1355. <i>xantholoma</i> , Grav.	*
1356. <i>thermarum</i> , Aubé.	*
1357. <i>bipustulatus</i> , Pnz.	*	*
1358. <i>scybalarius</i> , Nrdm. [\leftarrow <i>bipustulatus</i> , Pnz.] ..	*	*
1359. <i>marcidus</i> , W.	*
1360. <i>proximus</i> , W.	*	*
1361. <i>discoideus</i> , Grav.	*	*
1362. <i>simulans</i> , W. [\leftarrow <i>nigritulus</i> , Gr.]	*	*
1363. <i>nigritulus</i> , Grav.	*	*
1364. <i>punctipennis</i> , W.	*	*
1365. <i>sericeus</i> , Holme	*
1366. <i>tenellus</i> , W. [\leftarrow <i>procerulus</i> , Gr.]	*
1367. <i>filiformis</i> , W. [\leftarrow <i>procerulus</i> , Gr.]	*
*1368. <i>xantholinoides</i> , W.	*

	Mad.	Sal.	Can.
(<i>Xantholinides</i> .)			
403. XANTHOLINUS, Dahl (4).			
*1369. <i>marginalis</i> , W.			*
1370. <i>hesperius</i> , Erich.	*		*
1371. <i>linearis</i> , Oliv.	*		
1372. <i>punctulatus</i> , Payk.	*		*
404. LEPTACINUS, Erich. (2).			
1373. <i>parumpunctatus</i> , Gyll.	*		*
1374. <i>linearis</i> , Grav.	*		*
405. OTHIUS (Leach), Steph. (5).			
*1375. <i>strigulosus</i> , W.	*		
*1376. <i>Jansoni</i> , W.	*		
*1377. <i>brevicornis</i> , W. [← ? <i>Jansoni</i> , W.]	*		
*1378. <i>brachypterus</i> , W.			*
*1379. <i>philonthoides</i> , W.			*
(<i>Pæderides</i> .)			
406. ACHENIUM (Leach), Curt. (3).			
1380. <i>Hartungii</i> (Heer), W. [← <i>depressum</i> , Gr.]	*		
*1381. <i>subcæcum</i> , W.			*
1382. <i>salinum</i> , W.			*
407. LATHROBIUM, Grav. (2).			
1383. <i>labile</i> , Erich.			*
1384. <i>multipunctatum</i> , Grav.	*		*
408. DOLICAON, Lap. (4).			
1385. <i>nigricollis</i> , W. [← <i>illyricus</i> , Er.]			*
1386. <i>ruficollis</i> , W. [← <i>illyricus</i> , Er.]			*
*1387. <i>debilipennis</i> , W.			*
*1388. <i>Paiva</i> , W.		*	
409. STILICUS, Lat. (1).			
1389. <i>affinis</i> , Erich.	*		*
410. SCOPÆUS, Erich. (3).			
1390. <i>trossulus</i> , W. [← <i>lævigatus</i> , Gyll.]			*
1391. <i>subopacus</i> , W.	*		
1392. <i>nigellus</i> , W.			*
411. LITHOCHARIS (Dej.), Boisd. et Lac. (10).			
1393. <i>quadriceps</i> , W.			*
*1394. <i>indigena</i> , W.	*		
1395. <i>fuscula</i> (Ziegl.), Boisd. et Lac.	*		
1396. <i>subcoriacea</i> , W.			*
1397. <i>ochracea</i> , Grav.	*		*
1398. <i>obsoleta</i> , Nordm.	*		
1399. <i>nigritula</i> ?, Erich.			*
1400. <i>tricolor</i> , Mshm	*		*
1401. <i>brevipennis</i> , W. [← <i>tricolor</i> , Mshm] ..			*
1402. <i>debilicornis</i> , W.	*		*
412. SUNIUS (Leach), Steph. (7).			
*1403. <i>myrmecophilus</i> , W.			*
1404. <i>æquivocus</i> , W.	*		
1405. <i>angustatus</i> , Payk.	*		
1406. <i>bimaculatus</i> , Erich.	*		
*1407. <i>pallidulus</i> , W.			*
*1408. <i>dimidiatus</i> , W. [← ? <i>megacephalus</i> , W.]			*
*1409. <i>megacephalus</i> , W.			*
413. MECOGNATHUS, W. (1).			
*1410. <i>chimera</i> , W.	*		

	Mad.	Sal.	Can.
(<i>Stenides.</i>)			
414. STENUS, Lat. (7).			
1411. <i>guttula</i> , Müll. ....	*	....	*
1412. <i>Rogeri</i> , Kr. ....	*	....	....
*1413. <i>undulatus</i> , W. ....	*	....	....
*1414. <i>ancotinctus</i> , W. ....	....	....	*
*1415. <i>fulvescens</i> , W. ....	*	....	....
*1416. <i>Heeri</i> , W. ....	*	....	....
1417. <i>cicindeloides</i> , Grav. ....	*	....	....
(<i>Oxytelides.</i>)			
415. BLEDIUS (Leach), Steph. (3).			
1418. <i>januvianus</i> , W. (<i>bicornis</i> ?, Germ.) ....	....	....	*
1419. <i>cornutissimus</i> , W. ....	....	....	*
1420. <i>galeatus</i> , W. ....	....	....	*
416. PLATYSTETHUS, Mann. (2).			
1421. <i>cornutus</i> , Grav. ....	*	....	*
1422. <i>spinosus</i> , Erich. ....	*	....	*
417. OXYTELUS, Grav. (6).			
1423. <i>piceus</i> , Grav. ....	*	....	*
1424. <i>sculptus</i> , Grav. ....	*	....	*
1425. <i>insignitus</i> , Grav. ....	*	....	....
1426. <i>complanatus</i> , Erich. ....	*	....	*
1427. <i>nitidulus</i> , Grav. ....	*	....	*
1428. <i>glareosus</i> , W. ....	*	....	*
418. TROGOPHLEŪS, Mann. (9).			
1429. <i>transversalis</i> , W. [←← <i>scrobiculatus</i> , Er.] ....	*	....	*
1430. <i>riparius</i> , Boisd. et Lac. ....	*	....	*
1431. <i>oculatus</i> , W. ....	....	....	*
1432. <i>nigrita</i> , W. ....	*	....	....
1433. <i>corticinus</i> , Grav. ....	*	....	*
1434. <i>exilis</i> , W. ....	*	....	*
1435. <i>ruficollis</i> , W. ....	....	....	*
1436. <i>bledioides</i> , W. ....	....	....	*
*1437. <i>simplicicollis</i> , W. ....	*	....	....
(<i>Homaliades.</i>)			
419. PHILORINUM, Kr. (2).			
1438. <i>humile</i> , Er. ....	*	....	....
*1439. <i>floricola</i> , W. ....	....	....	*
420. HOMALIUM, Grav. (5).			
1440. <i>sculpticolle</i> , W. [←← <i>riparium</i> , Thom.] ....	....	....	*
1441. <i>ocellatum</i> , W. ....	*	....	*
*1442. <i>tricolor</i> , W. ....	*	....	....
*1443. <i>clavicorne</i> , W. ....	*	....	....
1444. <i>pusillum</i> , Grav. ....	*	....	*
421. ANTHOBIUM (Leach), Steph. (1).			
1445. <i>torquatum</i> , Mshn. ....	*	....	....
(<i>Protinides.</i>)			
422. MEGARTHURUS (Kby), Steph. (2).			
1446. <i>longicornis</i> , W. ....	*	....	*
*1447. <i>serrula</i> , W.	*
423. METOPSIA, W. (2).			
*1448. <i>ampliata</i> , W.	*
*1449. <i>cimicoides</i> , W. [←← ? <i>ampliata</i> , W.]	*
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