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NOTES
FROM THE
LEYDEN MUSEUM.

NOTES

FROM THE

LEYDEN MUSEUM

FOUNDED BY THE LATE

Prof. H. SCHLEGEL,

CONTINUED BY

Dr. F. A. JENTINK,

Director of the Museum.

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VOL. X.  
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LEYDEN

E. J. BRILL.

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CONTENTS OF VOL. X.

MAMMALIA.

	age
Zoological researches in Liberia. A list of Mammals, collected by J. Büttikofer, C. F. Sala and F. X. Stampfli, with biological observations. By Dr. F. A. Jentink. (Plate 1—4) ¹⁾	1.
On the Shrews from the Malayan Archipelago. By Dr. F. A. Jentink	161.

AVES.

Zoological researches in Liberia. A list of Birds, collected by the Author and Mr. F. X. Stampfli during their last sojourn in Liberia. By J. Büttikofer. (Plate 5)	59.
On the habits and anatomy of <i>Opisthocomus cristatus</i> Illig. By Dr. C. G. Young. (Plate 8).	169.
On a new species of <i>Accipiter</i> from Liberia. By R. Bowdler Sharpe	199.
On Birds from the Congo and South Western Africa. By J. Büttikofer. (Plate 9)	209.

INSECTA.

COLEOPTERA.

Descriptions of new Cetoniidae. By Oliver E. Janson	107.
On the male sex of <i>Argyripa subfasciata</i> Rits., and description of a new species of the Cetoniid genus <i>Allorhina</i> . By Oliver E. Janson. (With two woodcuts)	118.
Bemerkung über zwei Histeriden. Von Joh. Schmidt	121.
On Erotylidae of the Leyden Museum. By the Rev. H. S. Gorham. (Plate 7).	129.
A new species of the Coleopterous family Endomychidae. Described by the Rev. H. S. Gorham.	152.
Some new species of Phytophagous Coleoptera from Brasil (Colony Blumenau). Described by Martin Jacoby	153.
On the genus <i>Apoleon</i> Gorrh. By the Rev. H. S. Gorham.	158.

1) Correction: the *Hyrax*-species represented on Plate 4 is *Dendrohyrax stampflii* Jentink not *Dendrohyrax dorsalis* Fraser as is erroneously indicated on page 26.

	Page
Description of a new species of the Coleopterous genus <i>Languria</i> . By the Rev. W. W. Fowler	159.
The species of the Rhynchophorous genus <i>Ectatorhinus</i> Lacord. Enumerated by C. Ritsema Cz.	168.
Description of a new species of the Buprestid genus <i>Endelus</i> H. Deyr. By C. Ritsema Cz.	175.
On five new and two unsufficiently known species of the Longicorn genus <i>Pachyteria</i> . By C. Ritsema Cz. ¹⁾	177.
Description of two new species of the Longicorn group Callichromini. By C. Ritsema Cz.	193.
Two synonymical remarks about Longicorn Coleoptera. By C. Ritsema Cz.	198.
Description of three new species of the Longicorn group Agniini. By C. Ritsema Cz.	201.
Description of a new Cetoniid. By Oliver E. Janson	207.
Description of a new species of the Longicorn genus <i>Bacchisa</i> Pascoe. By C. Ritsema Cz.	253.
Coléoptères nouveaux de l'Afrique du Musée de Leyde. Décrits par L. Fairmaire	255.
On the male sex of <i>Lamia grisator</i> Fabr. By C. Ritsema Cz.	272.

MOLLUSCA.

Zoological researches in Liberia. List of Mollusca, with descriptions of new species. By M. M. Schepman. (Plate 10).	245.
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VERMES.

Descriptions of Earthworms. By Dr. R. Horst. IV. (Plate 6).	123.
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1) Correction: p. 183, line 5 (from bottom), for "the knees, apex of the femora and" read "the knees, apex of the tibiae and".

Vol. X was issued in parts in the following order:

N^o. 1 and 2 — April 1888, Note I—VI.

N^o. 3 — July 1888, Note VII—XXII.

N^o. 4 — October 1888, Note XXIII—XXVI.

NOTE I.

ZOOLOGICAL RESEARCHES IN LIBERIA.

A LIST OF MAMMALS,

collected by J. BÜTTIKOFER, C. F. SALA and
F. X. STAMPFLI,
with Biological Observations.

BY

Dr. F. A. JENTINK.

December 1887.

(Plate 1—4).

This paper is a continuation of Büttikofer's papers on the zoological researches in Liberia in the Notes from the Leyden Museum, 1885, Vol. VII, p. 129 and 1886, Vol. VIII, p. 243. As well as Büttikofer's list of the birds gives a good impression of the richness of the Avifauna in that part of Africa, so my paper will give an idea of the luxuriousness of the Mammalian forms in that country. Our travellers have been happy enough to procure several new species besides specimens of species hitherto only known by mutilated skins or by a single skull, by a single specimen or of which the locality was unknown or uncertain. The collections are the results of four voyages, made by Büttikofer and Sala (January 1880—April 1882), by Stampfli (July 1884—April 1886), by Büttikofer and Stampfli (November 1886—May 1887) and the continuation of the latter by Mr. Stampfli who is still hunting in Eastern Liberia, but intends to return within a few months. In the above mentioned paper

Notes from the Leyden Museum, Vol. X.

(1885) on the birds of Liberia, Büttikofer has given a very clear and interesting introduction treating on the physical condition of Western Liberia. In an expected paper Büttikofer intends to enter in some details on the Eastern parts of that country, the field of his later investigations; he will adjoin a sketch of the latter part of Liberia embracing the Junk-, Du Queah- and Farmington Rivers.

Nearly every species he procured has given opportunity to Büttikofer to make biological observations, which he always very eagerly collected and which I add hereafter in the German language. If we peruse the following pages and Büttikofer's papers on the Liberian birds and we consider that Reptiles and Fishes, Mollusks and Insects have been collected by our travellers on the same large scale and in the same exhausting manner, then we must wonder that Büttikofer has found time for such extensive observations concerning Botany, Ethnology, Anthropology, Geography, Meteorology and Philology as he made and which he partly published in a Dutch journal (*Tijdschrift van het Nederlandsch Aardrijkskundig Genootschap*, 1883, Bijblad n^o 12). I think that no traveller before Büttikofer, under such bad conditions and in such a murderous climate has gathered such an enormous mass of *données* in every branch of science and that in the short time of a few months.

1. *Simia troglodytes*, Gmelin.

A young male, Grand Bassa (Büttikofer); a very adult male, Du Queah River, Weflah (Büttikofer and Stampfli); skull of an adult male, Fisherman-lake, Tala (Büttikofer); a young female, River Cess (Büttikofer).

Scheint tiefer in Innern ziemlich standfest und allgemein bekannt zu sein, während er im Küstenstrich nur eine sporadische Erscheinung ist. In Goro und Fali gelang es mir über den Chimpanzen — denn nichts Anderes ist der dort durch Jedermann gekannte *baboon* — einige Nachrichten einzu-

ziehen. Der *baboon* soll in den Wäldern der Umgebung nicht selten sein. Hie und da wird wohl einer erlegt, sein Fleisch aber nicht, wie das anderer Affen, gegessen, denn der *baboon* ist, wie die Leute sagen, *too much like man*. Es geschieht nicht allzuseiten, dass hier junge *baboons* gefangen werden, die man dann gewöhnlich an die englischen Postdampfer verkauft, welche auf der Heimreise stets ganze Menagerien lebender Thiere an Bord haben. Unter anderm erzählt man auch, dass er auf zwei Beinen gehe, wie der Mensch, dass er ungern klettere, sich mit einem Stock gegen Angriffe zur Wehre setze und dass er selbst dem stärksten Mann gegenüber Sieger bleibe. Im Zorn trommle er mit geballter Faust auf der Brust und könne fürchterlich brüllen. Wie sehr man bestrebt ist, diesen Affen dem Menschen nahe zu stellen, mag folgende humoristische Erzählung beweisen, die ich von einem Eingebornen gehört. »Man trifft“, so sagte mir der alte Mann, »hie und da im Urwald freie Stellen an, bei den Eingebornen *baboons fire places* genannt. *Baboons* haben nämlich die Eigenthümlichkeit, in vielen Dingen den Menschen nachzuahmen. Auf solchen Plätzen nun tragen sie trockenes Holz zusammen und schichten es zu einem grossen Holzstoss auf. Nachher thun sie, als ob sie das Holz in Brand steckten, worauf sie blasen und blasen, bis ihnen die Zunge zur Kehle heraushängt. Hierauf kauern sie um das eingebildete Feuer nieder, halten die Hände darüber, um sich zu wärmen — denn in der Regenzeit ist es oft recht kalt — und können so Stunden lang sitzen bleiben“.

Oft machen die Chimpanzen, wenn auf ihrem Standplatze das Futter, Baumfrüchte, Maïs, Reis etc., spärlich zu werden beginnt, grössere Züge *en famille* und besuchen dann oft Orte, an denen man nie zuvor derartige Gäste gesehen hat. So hörte man einen Trupp derselben einige Nächte hinter einander in den Abhängen der Mountain dicht hinter Robertsport zu Ende Novembers 1881. Als ich davon hörte und hinging, fand ich sie schon nicht mehr, sie waren und blieben verschwunden. Ein junges ♂ aus Grand Bassa

herstammend, ist an Bord des Postdampfers »Ambriz'', während der Rückkehr von meiner ersten Reise, gestorben.

The young male from Grand Bassa is colored like our young specimens from the Gold-Coast and the Congo, viz: black, with exception of the hairs on lips, chin and anal region, which are pure white. The young female from River Cess, which was living during a short time in Büttikofer's possession, was colored like the young male.

The adult male from Weflah measures from margin of upperlip to anus 960 mM., its foot 210 mM. It is colored like the specimen from the Cameroon Mountains mentioned by Gray (P. Z. S. L. 1862, p. 181) as a distinct variety or species under the name of *Troglodytes vellerosus*: it is black colored, the hairs however of the back are brown, that is to say, each black hair has a large brown tip, meanwhile the hairs on lips and chin, which are white in young specimens, are brown like the back. As the dimensions of this animal and its dentition demonstrates that it is a very adult individual I think that the brown colored back is a characteristic of its far advanced age.

All the teeth, especially the incisors, are very much worn off.

Greatest length of skull from margin of upper jaw	190	mM.
Width between zygomatics	130	»
» » orbits	104	»
Length of bony palate	67	»
Length of lower jaw	65	»

2. *Colobus* species?

A young female, Buluma (Büttikofer and Sala).

Iris dark brown.

Nach allem was ich in Erfahrung bringen konnte, hält sich dieser schöne Affe nie in den Küstenstrichen auf. Unser kleines Exemplar, das wir lebend erhielten, wurde ziemlich weit hinter Buluma hergebracht. Es war ein ganz char-

mantes Thierchen: da es aber keine Milch trinken wollte — ich halte zu solchen Zwecken stets etwas condensirte Milch vorrätzig — und Tag und Nacht ohne Aufhören schrie, verurtheilten wir es »to the end of a rope”.

Description of the young specimen:

Crown of head, nape of neck and back silverly white, passing into livid on the upperarms and thighs, meanwhile the hands and the legs are black for the rest. Head, sides of body and underparts white, with numerous black hairs interspersed. Tail with a well developed tuft; the tail is black towards its basal end, the hairs of the tuft are white with a black tip on each hair, so that the extreme end of the tail where the black tipped hairs come together is black. All the hairs of the upperparts of the body are undulated, like in the young *Colobus guereza* mentioned by Schlegel (*Simiae*, p. 25 and 26).

Length of head and body 330 mM.

» » tail with tuft 348 mM.

Professor Schlegel thought it to be a young *Colobus polycomos* Illiger and under that name it is to find in my Catalogue ostéologique, p. 6, but until we possess young specimens of all the known *Colobus*-species to compare with I believe it better to mention it with a?, and in so doing to avoid confusion.

Very important is the peculiar color of the tail: the tuft has a tendency to grow black, so that it is not too hazardous, I think, to suppose that in adult specimens the tuft will be black throughout. Up to this time however we do not know a *Colobus*-species with a black tufted tail, the single species with a black tail is *Colobus satanas*, but in this species the tail has no tuft. As there is no reason moreover to accept that untufted specimens of a given species were tufted in their youth, it could be that our young specimen belongs to an unknown species, perhaps to a species, which we must ascribe a black tail with a black tuft.

3. *Colobus ursinus*, Ogilby.

Soforé-place (Büttikofer and Sala); Robertsport (Büttikofer and Sala); Grand Cape Mount (Büttikofer); Junk River (Stampfli); Du Queah River (Büttikofer and Stampfli).

Iris light brown.

Dieser Affe ist viel seltener als *Colobus ferrugineus*. Ihr Geruch ist so stark, dass man schon daran ihre Nähe erkennen kann, dennoch ist ihr Fleisch schmackhafter als das der meisten *Cercopithecus*-Arten. Wird meist allein, nie in grössern Trupps angetroffen; höchstens in 8 Exemplare beisammen.

According to Büttikofer's informations is Sinoe the most eastern locality where the natives bring skins of this species from the interior.

The young specimens of this species are white colored, with here and there interspersed black hairs; they have a very well developed tuft on the tail. They very soon become dressed like the adult ones.

One of our skeletons presents 7 cervicales, 12 costales, 7 lumbares, 3 sacrales and 29 caudales, another skeleton 7 cervicales, 12 costales, 8 lumbares, 3 sacrales and 28 caudales. They are both females and of about the same age. As the number of 7 lumbares seems to be very constant in the *Colobus*-group (except in *Colobus verus*) I think we must suppose that the skeleton with 8 lumbares is an abnormality, the more as we know not another example of a true Monkey with more than 7 lumbares. In the *Lemurina* the number of lumbares varies from 6 to 9.

4. *Colobus ferrugineus*, Illiger.

Bavia (Büttikofer and Sala); Soforé-place (Büttikofer and Sala); Buluma (Büttikofer and Sala); Robertsport (Büttikofer); Junk River (Stampfli); Du Queah R. (Büttikofer); Farmington R. (Stampfli).

Iris light brown.

Diesen Affen darf man überall erwarten, wo man etwas hügeliges Terrain mit fließendem Wasser findet, sowohl im Innern als im Küstenstrich. In flachen Gegenden, sie mögen noch so schön bestanden sein, findet man ihn selten. Fast immer in den höchsten Baumkronen, oft gar nicht erreichbar. Alle diese Eigenschaften hat er gemein mit *Colobus ursinus*. Er ist ein streitsüchtiger Kerl, der, wenn angeschossen und zum Fall gebracht, sich muthig vertheidigt: ein solcher hat mir, als ich im Gefecht einen Schlag nach meinem Gesicht abwehren wollte, hinter dem Ellbogengelenk den Arm durch und durch gebissen.

If de Rochebrune's figure, Faune de la Sénégambie, supplément, 1886—1887, pl. XIV, truly represents a foetus of *Colobus ferrugineus*, it is not without interest to observe that in this species like in *Colobus guereza* and *Colobus ursinus* very young specimens are entirely white colored.

Skeleton with 7 cervicales, 12 costales, 7 lumbares, 3 sacrales and 27 caudales.

5. *Colobus verus*, van Beneden.

An adult male, Schieffelinsville, Junk River (Stampfli); an adult female, Morfi R., Grand Cape Mount (Büttikofer).

Iris brown.

The skeleton presents 7 cervicales, 12 costales, 6 lumbares, 3 sacrales and 29 caudales, showing a number of lumbares lower than in any other known *Colobus*-skeleton (a *Colobus vellerosus*-skeleton in our Museum has like the other *Colobus*-species 7 lumbares, and a skeleton of this species in the Museum of the Royal college of Surgeons of England has too 7 lumbares): it is the skeleton of the very adult male from the Junk River, which is now stuffed in our collection. The animal measures from margin of upperlip to base of tail 530 mM., tail 580 mM., foot 130 mM.

Notes from the Leyden Museum, Vol. X.

Skull with a well developed crista; canines very strong. De Rochebrune correctly observes (Faune de la Sénégambie, supplément, 1886—1887, p. 102) that in this species »la tête osseuse se fait remarquer par sa petitesse relative». Greatest length of skull from margin of upper jaw 90 mM. Width between zygomatics 72 »
 » » orbits 61 »
 Length of bony palate 28 »
 » » nasal bones 14,5 »
 Greatest length of lower jaw 60 »
 » height » » » 33 »

Das alte Weibchen schoss ich auf einer Reise nach Japaca Ende November 1886. Es sass, als wir den Morfi R. im Canoe hinunter fuhren, in einem hohen Mangrovebaum und erst nach vier aus dem Canoe abgegebenen Schüssen blieb es auf einem Aste liegen und konnte herunter geholt werden. Ich hatte dem Affen eine Hand zerschossen, und obschon er mit Schrot über und über gespickt war, lebte er noch, so dass ich beschloss ihn unter Behandlung zu nehmen und womöglich am Leben zu erhalten. Einige Tagen später ist er mir doch trotz aller Sorge zu Grunde gegangen. Eigenthümlich ist, dass ich das Thier erst für *C. callitrichus* hielt, mit dem er in seinem Aeuszern viel Aehnlichkeit hat, und erst nachdem es in meinen Händen war, sah ich zur meiner grossen Freude dass ich den seltenen, so lange vergeblich gesuchten *C. verus* geschossen hatte.

6. *Cercopithecus callitrichus*, I. Geoffroy.

A male, Buluma (Büttikofer).

Iris redbrown.

Skeleton with 7 cervicales, 12 costales, 7 lumbares, 3 sacrales and 29 caudales.

Nur ein einziges Mal beobachtet und geschossen dicht bei

Notes from the Leyden Museum, Vol. X.

unserer Station Hokhie-Buluma. Der Affe sass ganz allein in mässig hohen Bäumen, und beim weitem Durchstreifen des Waldes konnte ich keine Spur von andern entdecken. Auf meiner zweiten Reise erhielt ich in Robertsport ein lebendes Weibchen dieser Art, das ich nach dem Junk River und später nach Europa mitnahm, wo es einige Wochen später in Amsterdamer Thiergarten gestorben ist. Dieser Affe ist in Senegambien, ja selbst noch in Sierra Leone sehr gemein so dass ich bei meinem Besuch in Sierra Leone dreissig Stück aus dem Inlande habe anbringen sehen, die wie man mir erzählte alle in einer Falle gefangen worden sind. Liberia ist wahrscheinlich der östlichste Küstenstrich auf welchem dieser Art noch angetroffen wird, denn soviele heimkehrende Dampfboote ich während meines Aufenthalts in Liberia auch besucht habe, konnte ich sie dort nie antreffen. Wohl aber erhielt ich von einem Officier an Bord eines deutschen Kriegschiffes ein lebendes Exemplar dieser Art, das er von den Capverdischen Inseln mitgebracht hatte.

7. *Cercopithecus campbellii*, Waterhouse.

Bavia (Büttikofer and Sala); Soforé-place (Büttikofer and Sala); Buluma (Büttikofer and Sala); Grand Cape Mount (Büttikofer); Junk River (Stampfli); Du Queah R. (Büttikofer and Stampfli).

Iris brown.

Skeleton with 7 cervicales, 12 costales, 7 lumbares, 3 sacrales and 29 caudales.

Der gemeinste aller hiesigen Affen, sowohl im Innern als im Küstenstrich. In Truppen von oft 50 und mehr Exemplaren beisammen. Gewöhnlich in mittelhohem Wald; ungemein wachsam, aber weil in solchen Trupps beisammen, doch leicht zu schiessen. Es wird oft bezweifelt dass Affen ins Wasser gehen. Den Beweis dass dies aber wohl geschieht, lieferte mir ein altes Exemplar dieser Art, das

im Begriffe war, den Mahfa River hinüber zu schwimmen, das ich aber im Canoe einholte und mitten im Flusse gefangen nahm.

8. *Cercopithecus büttikoferi*, Jentink.

Bavia (Büttikofer and Sala); Mühlenburg (Büttikofer and Sala); Soforé-place (Büttikofer and Sala); Buluma (Büttikofer and Sala); Grand Cape Mount (Büttikofer); Junk River (Stampfli); Du Queah R. (Büttikofer).

Iris brown.

I described this species in the Notes from the Leyden Museum, 1886, Vol. VIII, p. 56.

Skeleton with 7 cervicales, 12 costales, 7 lumbares, 3 sacrales and 32 caudales.

Lebensweise und Aufenthalt wie bei *Cercopithecus campbellii*, fast ebenso gemein wie jener.

9. *Cercopithecus stampflii*, n. sp.

One specimen, an adult male, from Pessy-country (Büttikofer and Stampfli).

This specimen agrees exactly with a young individual in our collection enregistered by Schlegel in his Catalogue, T. VII, Simiae, p. 90, under the name *C. melanogenys* Gray. In comparing our adult and young specimen with Gray's descriptions, it seemed to me that Schlegel had misunderstood Gray and that they belong to a hitherto undescribed species. I wrote to my friend Oldfield Thomas of the British Museum for information as to Gray's type and after his kindly furnished details I now feel sure that I have a new species before me. Before describing it I believe it desirable to reproduce the history of Gray's *C. melanogenys*, thus it will be clear at the same time what are the differences between Gray's and my new species, how Gray's incorrect descriptions could induce in error

the late Schlegel, and finally because I now can give a better description of Gray's typical specimen, kindly furnished by Mr. Oldfield Thomas of the British Museum.

Gray described his Monkey, *C. melanogenys*, in 1845, after a half-grown specimen in the British Museum, which died in a menagerie near London, and was said to have come from Western Africa. In the P. Z. S. L. 1849 is a colored plate, representing his type specimen together with another new species, *Cercopithecus ludio* (*C. lupio* on the plate), but the figures are not numbered: the darkest colored one is *C. melanogenys*. In Monteiro's collections from Angola was a flat skin of *C. melanogenys* and Monteiro stated that it is very abundant at Encôge, two days' journey to the south of Bembe (P. Z. S. L. 1860). I find nowhere any other indication concerning this species and it seems therefore to be very rare and a desideratum to all other Musea. Gray's descriptions however in Ann. of Nat. Hist. 1845, P. Z. S. L. 1849 and Cat. of Monkeys, etc., 1870 do not agree:

1845.	1849.	1870.
<i>Black, olive speckled.</i>	<i>Dark olive, minutely yellow-grizzled.</i>	<i>Fur olive, minutely yellow-grizzled.</i>
<i>Beneath ashy white.</i>	<i>Underpart of the body whitish.</i>	<i>Greyish beneath.</i>
<i>Temples yellowish.</i>	<i>A small spot on each temple white.</i>	<i>Temples whitish.</i>

and Oldfield Thomas writes me that the figure (P. Z. S. L. 1849) is worse than the description!

The description of the type runs as follows: *C. melanogenys* (type) is a small monkey; head and body \pm 400 mM., tail (tip broken) \pm 430 mM., hind foot 98.8 mM. — The legs are dark grey outside, gradually darkening to black on the hands and feet; inside whitish. The back is finely grizzled with black and orange; the centre of the back, however, washed with deep rufous (in the other specimen the back is all grizzled, and there is a more general olivaceous tinge). A band across the eyebrows, and passing backwards over the ear, and the lower cheeks,

are black, but the region between the eye and ear is whitish. The tail is dark rufous. The skull is quite young, the milk-teeth being still in place, and the first molar the only permanent tooth up.

Description of C. stampflii: it belongs to Schlegel's section B (Simiae, p. 88) »base du triangle¹⁾ formé par le champ nasal revêtu de poils blancs, tournée vers le bas, tandis que son angle opposé se prolonge vers le haut en pointe jusque sur l'entredeux du bord inférieur des orbites».

Hairs of fore-head, cheeks, back, sides of back and basal half of tail of a more or less rufous-green tinge, each hair ringed with black and rufous-yellow: crown of head, nape of neck, legs and terminal half of tail black; a ditto colored patch on the middle of the lower lip: chin, breast, fore-most part of belly and upperpart of inside of fore-legs white.

It differs at first sight from *C. nictitans* by having white colored underparts, meanwhile *C. melanogenys* differs from *C. nictitans* and *C. stampflii* by having the lower cheeks black and the region between eye and ear whitish.

Length of the type-specimen, an adult male: head and body 638 mM., tail 980 mM., hind foot 160 mM.

The skeleton presents 7 cervicales, 12 costales, 7 lumbarés, 3 sacrales and 33 caudales.

10. *Cercopithecus diana*, Erxleben.

Bavia (Büttikofer and Sala); Soforé-place (Büttikofer and Sala); Grand Cape Mount (Büttikofer); Junk River (Stampfli); Du Queah R. (Büttikofer).

Iris light brown.

Nicht so gemein wie die beiden vorigen, auch nicht in so grossen Trupps beisammen. Bei den hiesigen (Buluma,

1) The white figure on the nose in this section hardly can be said to have the form of a "triangle". I think it better to call it a "square", meanwhile it remembers a "triangle" in Schlegel's section A, l. c. p. 86.

Robertsport) Ansiedlern *Dandy Jack* genannt. Dass er ein streitsüchtiger, muthiger Affe ist, hat Sala einst am St. Paul erfahren, wo ein heruntergeschossener Dandy Jack, unfähig um zu entfliehen, sich gegen ihn zur Wehre setzte, voll Todesverachtung seine Zähne wies und erst capitulirte, als ein Schlag mit dem Gewehrkolben ihn zu Boden streckte.

11. *Cercocebus fuliginosus*, E. Geoffroy.

Bavia (Büttikofer and Sala); Grand Cape Mount (Büttikofer); Junk River (Stampfli); Du Queah River (Büttikofer).
Iris chestnut.

Diese Affen werden nur selten angetroffen; sie bewegen sich viel auf dem Boden, wo sie die herabgefallenen wilden Pflaumen und andere Waldfrüchte aufsuchen. Ich habe sie jedoch auch in niedrigen Bäumen angetroffen und geschossen. Nur oben am Fisherman lake und unten am Mahfa River bei Sauwira angetroffen, in der Mountain nie.

12. *Nycticebus potto*, E. Geoffroy.

A young male, from Soforé-place (Büttikofer and Sala); a very young specimen, Junk River (Büttikofer and Stampfli).
Iris black.

Im Küstenstrich wird diese einzige Art, die ich aus dieser Gegend kenne, kaum angetroffen; ein verstümmeltes Exemplar erhielt ich aus dem Innern weit hinter Cobolia am Mahfa River. Man kennt das Thierchen übrigens auch weiter unten; es wird in der Vey-sprache *Softi* genannt, d. h. soviel als ein *schlauer Schleicher* — *Softi-man* wird in dem verstümmelten Eingebornen-english ein Spion im Kriege genannt. — Es wurde mir bei den Gola's erzählt, dass der *Softi* ein ungeheure Kraft in seinen Händen habe, und dass ein festgehaltenes Thier sich nicht daraus losmachen könne.

13. *Galago demidoffii*, Fischer.

A young specimen, from the Junk River (Stampfli); two young specimens from Schieffelinsville, Junk River (Büttikofer and Stampfli).

Die zwei letzten Exemplare wurden durch einen Libe-
rianer gebracht, der sie im Buschwald in einem Vogelnest
gefunden hatte.

14. *Felis pardus*, Linné.

Habe ihn nie im Freien angetroffen, wohl aber sehr oft
grosse Felle von ihm gesehen. Ist über das ganze Gebiet
vereinzelt, jedoch nirgends häufig. Er bricht mit grosser
Kühnheit und Frechheit des Nachts, selbst mitten in be-
wohnten Plätzen, in Ziegenställe ein und schleppt seine
Beute weg. Den Tag verschläft er irgendwo in undurch-
dringlichem Dickicht. Die Negerfürsten bezahlen für den
Kopf eines alten Leoparden einen Sklaven, d. i. 15 Dollars,
nur um seine Eckzähne zu kriegen, die in diesen Gegen-
den, hübsch in Silber gefasst, um Arme oder den Hals
getragen werden. In der Nacht vor meiner Ankunft in
Robertsport wurde auf der dortigen Mission durch einen
Leoparden ein Ziegenstall überfallen: eine Ziege wurde
auf dem Platze zerrissen, eine andere weggetragen und am
andern Morgen zum Theil von Missions-jungen, die der
Blutspur folgten, im Walde aufgefunden. Junge Leoparden
werden ab und zu durch Eingeborne nach den Küsten-
plätzen gebracht und dort zum Kaufe angeboten.

15. *Felis serval*, Schreber.

An adult male from Schieffelinsville, Junk River (Stampfli).

Skeleton with 7 cervicales, 13 costales, 7 lumbares, 3
sacrales and 21 caudales.

16. *Felis celidogaster*, Temminck.

Bavia (Büttikofer and Sala); Farmington River (Stampfli).
Iris greenish.

Nur einmal am St. Paul angetroffen. In der Umgegend von Buluma auf der Jagd in fast mannshohem Grase gesehen. In der Erwartung wahrscheinlich, dass ich ihn nicht sehen werde, war er ruhig liegen geblieben, und erst als ich dicht vor ihm stille stand, um nach einem Vogel zu sehen, that er einen gewaltigen Sprung und rannte davon. Ein Schuss, den ich ihm aus meiner Vogelflinte auf das Genick brannte, blieb ohne Wirkung, und bevor ich die andere Flinte aus der Hand meines Jungen hatte, war das Thier verschwunden.

The specimen from Bavia agrees exactly with the type-specimens of the species in our collection; the specimen from Farmington River is somewhat smaller and bright red colored. I refer it to *Felis celidogaster* as a red variety. In our Museum is a Cat, described by Temminck (Mammalogie, I, p. 120 and 251) under the name *F. aurata* or *F. chrysothrix*; the spots on the sides of the body, mentioned by Temminck, are not very clearly to see, perhaps caused by the influence of the day-light. Now Temminck's description of *F. chrysothrix* is exceedingly applicable on Stampfli's red variety and there is thus reason to suppose that Temminck's species, based upon a specimen from an unknown locality, represents a mere variety of his *F. celidogaster*. Unhappily the specimen was without skull.

17. *Viverra civetta*, Schreber.

Robertsport (Büttikofer); Bavia (Büttikofer and Sala);
Junk River (Stampfli); Du Queah R. (Büttikofer).
Iris brown.

In New-Robertsport in einer Farm geschossen. Ihr Fleisch wird gegessen. Halten sich über Tag an den Abhängen der Mountain unter überhängenden Felsblöcken auf.

18. *Genetta pardina*, I. Geoffroy.

A male, Buluma (Büttikofer and Sala); one specimen, Junk River (Büttikofer and Stampfli); River Cess (Büttikofer).

Iris brown.

Bei Buluma des Nachts im Walde aus einem Baum herunter geschossen.

19. *Nandinia binotata*, Temminck.

Junk River (Stampfli); Du Queah River (Büttikofer and Stampfli).

Auf unser Jagdstation in Schieffelinsville hatte ich zwei junge Exemplare lebend, die ich mit condensirter Milch aufzog. Sie waren bald so zahm, dass ich sie frei im Hause herumgehen liess und sie verfehlten nicht bei meinen Mahlzeiten an den Tischbeinen herauf auf den Tisch zu klettern, aus meinem Glase zu trinken und das Futter aus meiner Hand anzunehmen. Damals hatte ich das Haus voll Ratten, die an meinen Sammlungen viel Schaden anrichteten; kaum hatten nun diese zwei Thiere selbst die Grösse einer Ratte erreicht als sie während der Nacht die Ratten selbst in ihren Schlupfwinkeln aufsuchten und todtbissen, sodass ich bald von diesen lästigen Gästen befreit war. Das eine dieser Thierchen habe ich lebend mitgebracht und es lebt jetzt im Amsterdamer zoologischen Garten.

20. *Herpestes pluto*, Temminck.

Junk River (Stampfli); Du Queah River (Büttikofer and Stampfli).

21. *Herpestes gracilis*, Rüppell.

Junk River (Stampfli); Farmington River (Stampfli).

22. *Crossarchus obscurus*, Cuvier.

Two specimens, Bavia (Büttikofer and Sala); one, Soforé-place (Büttikofer and Sala); three young specimens from one nest, Robertsport (Büttikofer); Junk- and Du Queah River (Büttikofer and Stampfli); Farmington River (Stampfli).

Iris darkbrown.

Nicht selten. Bohrt kreisrunde Löcher in die Erde, um Käfern und deren Larven und Würmern nachzustellen. Man findet diese Löcher sehr oft an Waldwegen. In der Gefangenschaft lässt er sonderbar knurrende Laute hören, ähnlich dem europäischen Siebenschläfer (*Myoxus glis*). Sein Gang und seine hastigen Bewegungen, offenbar Furcht verrathend, erinnern lebhaft an den europäischen Igel. Diese Thierchen werden oft zahm in Häusern gehalten; ich kenne kein wildes Thier, das so zahm und anhänglich an den Menschen wird, wie dieses. Sie sind sehr munter und reinlich. Auch in domesticirtem Zustande können sie die angeborene Neigung, mit dem Rüssel zu bohren, nicht lassen, und bohren in Spalten der Fussböden und zwischen den Zehen barfüssiger Menschen. Sie scheinen sehr die Wärme zu lieben und legen sich einem mit Vorliebe auf die Füße, sobald man sich irgendwo niedersetzt oder stille steht. Sie scheinen mehr Tag- als Nachthiere zu sein. In ganz Liberia sind sie unter den Namen von *Du* bekannt.

23. *Aonyx inunguis*, Cuvier.

St. John's River (Büttikofer).

This species seems to be very common along the banks of the rivers of West Africa, as we have in our collection specimens from the Cape, from Mossamedes and from Li-

beria (see my Catalogue ostéologique, 1887, p. 117); from Liberia too collected by Büttikofer; De Rochebrune procured specimens from Senegambia (des bords du marigot de Fanaye et sur les bords du lac de Pagnefoul, l. c. p. 143).

Nach den vielen verstümmelten Häuten, die man bei den Eingebornen sieht, zu urtheilen, muss dieses Thier an allen liberianischen Flüssen häufig vorkommen, doch bei der Unzugänglichkeit der Flussufer ist es für den Weissen schwierig, unbeschädigte Exemplare für die Sammlungen zu bekommen.

24. *Hydrogale maculicollis*, Lichtenstein.

Farmington River (Stampfli).

Like *Aonyx inunguis* generally distributed over West-Africa. Described from South-Africa; from Natal in the British Museum; in our Museum is an adult female from the Gold-Coast, collected by Mr. Nagtglas in 1862; Stampfli has sent over two specimens, one very adult and the other nearly fullgrown, from Liberia.

In the description of the genus *Hydrogale*, Gray wrote: »the orbit scarcely defined behind, without any indication of a tubercle on either the upper- or lower edge". This expression is applicable on not fullgrown specimens, like one of Stampfli's and like Gray's specimen (see his woodcut of the skull in P. Z. S. L. 1865 and in Cat. of Carnivorous, etc. 1869), but our adult specimen shows the mentioned tubercles very well developed.

25. *Bubalus brachyceros*, Gray.

The skull of a female, Robertsport (Büttikofer).

Mein Jäger Jackson war so glücklich im Cape Mount Gebirge obgenanntes Exemplar zu schiessen, doch war ich krankheitshalber verhindert das ganze Thier zu präpariren

und kaufte deshalb nur den Schädel. Das Thier mochte ungefähr zwei Jahre alt sein. Seine Farbe war gelblich grau, Füße schwarz. Kommt auch in einer dunkeln Varietät vor. Hält sich gern in der Nähe bewohnter Plätze im dichtesten Gebüsch auf und fällt des Nachts in die Reisz- und Cassave-Pflanzungen ein, wo er nicht nur in einer Nacht eine ganze Strecke kahl frisst, sondern durch Ausraufen der Pflanzen viel verwüstet und den Rest in den Boden hineinstampft. Bei Mondschein lässt die *Bush-cow* sich nicht sehen. Bei Buluma wurde ganz in der Nähe von meine Station eine Cassave-farm auf diese Weise zu Grunde gerichtet; doch trotz wiederholten nächtlichen Auf-lauerns wollte es mir nicht gelingen, eines dieser Thiere zu schiessen.

26. *Terpone longiceps*, Gray.

(Plate 1).

An adult female, Schieffelinsville, Junk River (Stampfli); two adult females, Farmington River (Stampfli).

The skeleton presents 7 cervicales, 15 costales, 5 lum-bares, 4 sacrales and 14 caudales.

There is no difference in color between the later procured females and the type-female, described and figured in the Notes from the Leyden Museum, 1885, p. 273, plate 10. As the horns of the type-female were in a very bad state, plate 1 will give a more exact impression of these parts.

It seems to be a very rare species as the three above named ones are the only specimens which our hunters could procure.

Etwas unterhalb Schieffelinsville, in dem Dreieck das durch den Junk River einerseits und seine beiden Zuflüsse Du Queah- und Farmington River gebildet wird, erhebt sich ein durch Sümpfe umgebener bewaldeter Höhenzug, auf welchem nach den Aussagen der Eingebornen diese Thiere sich aufhalten sollen. Da die Sümpfe in der trockenen

Zeit so weit austrocknen, dass man nicht mehr in Canoes durchfahren kann, aber nicht so weit, um zu Fusse durchkommen zu können, so wird allein in der Regenzeit auf diese Thiere Jagd gemacht, und es soll eine grosse Seltenheit sein wenn eines ausserhalb der Regenzeit geschossen wird.

27. *Cephalophus dorsalis*, Gray.

Schieffelinsville, Junk River (Stampfli); Du Queah River (Büttikofer and Stampfli).

Skeleton with 7 cervicales, 14 costales, 5 lumbares, 4 sacrales and 14 caudales.

28. *Cephalophus niger*, Gray.

St. Paul's River (Büttikofer and Sala); Schieffelinsville, Junk River (Stampfli); Du Queah River (Büttikofer and Stampfli); Farmington River (Stampfli).

Das Fleisch dieser Antilope hat eigenthümlicher Weise einen stark bitteren Beigeschmack, den wir sonst bei keiner Antilopen-Art bemerkt haben. Diese Eigenthümlichkeit mag wohl am Futter liegen. In Cape Mount, wo dieselbe Antilope auch vorkommt, wird durch die Eingebornen dasselbe behauptet.

29. *Cephalophus ogilbyi*, Waterhouse.

Two specimens, Du Queah River (Büttikofer and Stampfli).

30. *Cephalophus sylvicultrix*, Afzelius.

Soll nach den Aussagen meines Jäger's Jackson am Mahfa River vereinzelt, am Manna- und Solyman River aber häufiger sein. Constatirt ist jedoch, dass derselbe in der Gegend des Junk Rivers vorkommt; das dort durch Herrn Schweitzer gesammelte Exemplar steht im Berliner Museum.

31. *Cephalophus maxwellii*, Smith.

Soforé-place (Büttikofer and Sala); Buluma (Büttikofer and Sala); Robertsport (Büttikofer); Junk River (Stampfli); Du Queah River (Büttikofer and Stampfli); Farmington River (Stampfli).

Iris brown.

Die gemeinste aller hiesigen Antilopen; ein munteres aber sehr furchtsames und scheues Thierchen, lebt in kleinen Trupps beisammen und spielt gerne unter seinesgleichen. In Hoch- und Buschwald, wagt sich jedoch selten auf bebaute Plätze hinaus. Der ganze Gesichtsausdruck ist sehr prägnant. Besonders auffallend stark sind die Thränendrüsen geschwollen, und die schwulstige Oberlippe trägt mit dazu bei, um den sonst so zierlichen, schlanken Thierchen einen etwas dummen Gesichtsausdruck zu geben. Man schießt diese Thierchen meist auf dem Anstand, indem man sich im Wald auf einen hohen Termitenhaufen oder in eine Baumgabel hinaufsetzt. Sie werden übrigens durch die Eingebornen auch in Fusschlingen oder in Waldzäunen mit der Halsschlinge gefangen; meist in dichtem Urwald. Ich habe in allen Küstenplätzen bis Cape Palmas hinunter die Häute dieses Thieres angetroffen.

32. *Cephalophus doria*, Ogilby.

(Plate 2 and 3).

Soforé-place (Büttikofer and Sala); Du Queah River (Büttikofer and Stampfli); Farmington River (Stampfli).

Iris chestnut.

Das *Mountain-deer* der Americo-Liberianer kommt in den Küstenstrichen nicht vor, sondern nach übereinstimmenden Aussagen nur im Innern in hügeligem und bergigem Terrain. In der Gegend von Buluma und Robertsport nie angetroffen. Bei meinem letzten Besuche in Grand Cape Mount

jedoch erhielt ich ein Stück Fleisch mit Haut dieses Thieres aus Carpenter's Settlement am oberen Mahfa River. Ein Jagdausflug nach jener Gegend, zu dem mich dieser Umstand veranlasste, blieb jedoch wegen eingetretenen Regens ohne Resultat.

As the series of specimens collected by Büttikofer and Stampfli demonstrates, this species is not uncommon in the countries where it lives.

In a paper in the Notes from the Leyden Museum, 1885, p. 271, I observed that I nowhere could find Gray's description of *Antilope zebra* in Ann. and Mag. of Nat. Hist. for 1836 or foregoing volumes, meanwhile Gray several times cited the year 1836 of the named Journal as the year that he described the species: now I find Gray's first word on this species in the abovenamed Journal, 1838, p. 27, where he described it (under the name of *Antilope zebra*) in three lines, entirely overlooking Ogilby's priority of date, notwithstanding Gray was present at the meeting of the Zoological Society, at which Ogilby gave the name of *Antilope doria* to the animal in question and notwithstanding the original skin of the animal had long been exhibited, with Ogilby's name attached, in the Museum of the Zoological Society, to which Gray was a frequent visitor, besides being a member of the Museum Committee! (Cf. Ann. Mag. Nat. Hist. 1838, p. 217 and p. 293). Gray had the intention to correct his error but instead of doing so, he introduced still more confusion by the incorrect synonymes in his List of spec. of Mammalia, 1843, p. 163.

In the males (see plate 3) the horns are much longer than in the females and more curved outwards. The skull figured in the Notes from the Leyden Museum, 1885, is that of a female and *not* of a male, as I wrote by an unfortunate mistake. This female was the mother of the young specimen described by me in 1885; its skin has been found in the dense forest, the day after the animal was

shot by Büttikofer, but, as it was destroyed by ants, its skull alone could be saved.

Plate 2 presents very exactly drawn figures of the male, female and young, and will give a better idea of this splendid species than Fraser's figure; the distribution of the colors will be clearer demonstrated than by a long description. The only point to which I call attention is the interesting brush on the heel. I observed small brushes on the heel in a few other species of small Antelopes although always in young ones, never in adult ones. In *Antilope doria* however the heel-brushes are highly developed in the young as well as in full-grown specimens of both sexes.

The skeleton presents 7 cervicales, 14 costales, 5 lumbares, 3 sacrales and 15 caudales.

33. *Euryceros euryceros*, Ogilby.

One specimen, an adult male, Hill-town (Büttikofer and Stampfli), one skin without extremities from the Junk River (Stampfli) and one skin without extremities from the Mahfa River (Büttikofer).

Diese Antilope ist ausschliesslicher Waldbewohner.

Described by Ogilby in 1836 after two pairs of horns, one attached to the skull, the other to the integuments of the head and from an unknown locality. A specimen without hoofs, ears and tail in Du Chaillu's collections and described as a new species, *Tragelaphus alborigatus* (Gray cites *Tragelaphus albovittatus*, P. Z. S. L. 1861, p. 276) by that traveller, belongs according to Gray to Ogilby's species. There is a young male, figured P. Z. S. L. 1871, pl. XXXIX, from the Ashkankoloo Mountains, and from Du Chaillu's voyage, in the British Museum.

In the Leyden Museum is a pair of horns of an adult male from Central Africa (Catalogue ostéologique, 1887, p. 141).

In the collection of Sir Victor Brooke were (P. Z. S. L.

1871, p. 489) two frontal bones with horns belonging to our species. In the diagnosis (l. c. p. 485) sir Victor Brooke characterized *Tragelaphus euryceros* as having »Neck, back and belly *maneless*”, meanwhile in the accompanying plate the young male is represented with a *maned* neck, back and belly.

De Rochebrune says that this species is »assez commun. Cayor, Oualo, forêts de Gommiers de la rive droite du Sénégal”. But it does not appear that he has brought over to Europe a single skin of it.

The first adult and at the same time the first complete specimen has been collected by Büttikofer in Liberia and is now with its skeleton in the Leyden Museum. It is from the neighborhood of Hill-town. There are two flat skins, without head and legs, in the collections of Büttikofer and Stampfli, one, a young one, from the Mahfa River, the other from the Junk River still more adult than our complete specimen.

Description of the adult male:

Length along the curve of the back, measured from upperlip to root of tail . . .	199	cM.
Tail without tuft	37	»
» with tuft	41	»
Height from the haunches	105	»
Length of ear	22	»
Breadth » »	13	»
Length of horns	54	»
Distance between the tops of the horns . .	30,5	»

The number of the white stripes on the back is very inconstant and sometimes different on the left and right side of the same animal, f. i. in the Mahfa River-specimen 11 on each side, in the Hill-town-specimen 15 on the right and 13 on the left side, in the Junk River-specimen 14 on the right and 13 on the left side. In the Mahfa River-specimen one of the stripes is bifurcated on its lowerhalf.

Tail chestnut above, underside white, tuft black.

Belly black; fore legs black, except a large white patch

on the inside of the upper part, on in- and afterside of knee, on out- and inside of ankle and a ditto colored band above the hoofs. Hindlegs chestnut, except the white inside and a ditto colored band above the hoofs; a ring round the knee and lower outside are black.

There are three (not two, cf. P. Z. S. L. 1850, p. 144) white spots on each cheek, a ditto colored broad band on the nose before the eyes, chin and front of upperlip also white; a broad white band on the lower part of the throat.

Upper margin of the ear strongly white hairy, lower margin black: a large white spot on the inside of the ear near to the top.

A few black hairs along the nape of the neck show perhaps a rest of the more developed mane in younger specimens. The mane is erect with the tips of the hairs towards the horns. A mane of rather long hairs along the spine of the back, alternately white and chestnut colored. It seems that in advanced age the mane on back and nape of neck disappears, so there is in the Junk River-specimen only a slight trace of the backmane. With the mane on the neck the case is perhaps the same, for in our stuffed specimen the mane is absent, but there is a kind of black goat's beard.

The skeleton presents 7 cervicales, 13 costales, 6 lumbarcs, 6 sacrales and 14 caudales.

34. *Tragelaphus scriptus*, Pallas.

Bavia (Büttikofer and Sala); Bendo (Büttikofer and Sala); Robertsport (Büttikofer); Junk River (Stampfli); Du Queah River (Büttikofer and Stampfli).

Iris blackbrown.

Skeleton with 7 cervicales, 13 costales, 6 lumbarcs, 4 sacrales and 14 caudales.

Ueberall in der Nähe bebauter Plätze, Lebensweise gleich wie bei *Bubalus brachyceros*. Nach Sonnenuntergang

kommt sie häufig aus dem Dickicht in die Savanen hinaus, wo sie durch ihre graziösen Bewegungen und die prachtvolle Zeichnung einen überraschend schönen Anblick gewährt. In ganz Liberia ist sie unter den Namen *Red-deer* bekannt.

35. *Hyamoschus aquaticus*, Ogilby.

Bendo (Büttikofer and Sala); Junk River (Stampfli); Du Queah River (Büttikofer and Stampfli); Farmington River (Stampfli).

Skeleton with 7 cervicales, 13 costales, 6 lumbares, 5 sacrales and 12 caudales.

Die Leute behaupten, das Thier fresse Fische; wir haben nur etwas Gras in seinem Magen gefunden. Man behauptet überall sein Vorkommen, und doch wurde uns, trotz aller Versprechungen, während unseres langen Aufenthaltes am Lake und in Robertsport, kein einziges Exemplar angebracht. Am Junk- und Du Queah River hingegen wird es in der Nähe des Wassers überall gefunden, und ist unter den Namen *Water-deer* bekannt. Sein weisses, zartes Fleisch ist das schmackhafteste aller Antilopen.

36. *Hyrax (Dendrohyrax) stampflii*, Jentink.

One specimen, an adult female, Schieffelinsville, Junk River (Stampfli).

See the description of the type-specimen in the Notes from the Leyden Museum, 1886, p. 211, and the figures of the skull in my Catalogue ostéologique des Mammifères, 1887.

37. *Hyrax (Dendrohyrax) dorsalis*, Fraser.

(Plate 4).

Du Queah River (Büttikofer and Stampfli); Farmington River (Stampfli).

They agree exactly with the type-specimens of *H. sylvestris* Temminck.

Notes from the Leyden Museum, Vol. X.

The skeleton presents 7 cervicales, 20 costales, 9 lumbares, 4 sacrales and 7 caudales (the tip is wanting).

Dieser Klippdachs ist ein echter Wald- und Baumbewohner. Gleich am ersten Abend nach meiner Ankunft in Hill-town wurde ich durch eigenthümliche Laute getroffen, die aus dem nahen Walde herüberklangen und die ich während meiner ersten Reise nie gehört hatte. Es war ein durchdringendes, in kurzen Intervallen ausgestossenes und weithinschallendes *Kerr*, und im ersten Augenblicke wusste ich nicht, ob ich dasselbe einem Vogel oder vielleicht einem Amphibium zuschreiben sollte. Am allerwenigsten aber dachte ich an ein Säugethier. Die Eingebornen, die ich darüber befragte, behaupteten jedoch mit Bestimmtheit, dass der Urheber dieser Töne ein Säugethier sei, das in hohlen Bäumen lebe, und mittelst seiner langen Zähne an den Stämmen hinaufklettere; es sollte eine nächtliche Lebensweise führen und den Tag in Baumhöhlen zubringen. Eine hohe Belohnung, die ich auf das Einbringen dieses Thieres setzte, sah ich nach einiger Zeit mit Erfolg bekrönt und nicht lange dauerte es bis ich verschiedene Exemplare davon beieinander hatte. Alle wurden mir lebend gebracht, wohl geborgen in aus starken Knüppeln construirten, fischreusenartigen Körben; denn die Thiere sind ungemein bissig und duldeten kaum, dass man mit der Hand den Käfig berührte. Wüthend und pfauchend bissen sie in die starken Stäbe, schlugen mit einer der Vorpoten kräftig auf den Boden und richteten dabei die langen Rückenhaare senkrecht empor, wobei die weissen Haare auf dem Hinterrücken seitwärts auseinanderschlugen und den darunter verborgenen nackten und bläulichen Streifen sehen liessen. Bekanntlich wird dieser nackte Streif, der bei allen Klippdachsen vorkommt, durch eine eigenthümliche Hautdrüse gebildet. Die meisten dieser Thiere wurden gefangen, indem man das Schlupfloch verstopfte und nachher den Baum umhackte, worauf man ein starkes Fischnetz vor das wiedergeöffnete Schlupfloch band

und nachher das Thier aus den Höhle herausklopfte. Hie und da wird auch, nachdem man das Schlupfloch verstopft hat, durch Klopfen an dem Stamm sondirt, wie tief die Höhle sei, worauf dann am unteren Ende derselben der Baum angehackt wird, bis der Einschnitt die Höhle erreicht; darauf wird von unten her mit einem Stück Rotang so lange nach dem Thier gestochert, bis dasselbe wüthend wird, sich in den Rotang verbeisst und so herausgezogen werden kann. Die Schlupflöcher befinden sich gewöhnlich auf einer Höhe von 8 bis 15 Fuss, und die Stämme sind in der Regel mit Lianen bewachsen und nicht allzu dick. An den bohnenartigen Excrementen sind die Stellen, wo diese Thiere sich aufhalten, leicht zu erkennen. Da wir diese Thiere alle lebend und in unverletztem Zustande erhielten, trachtete ich dieselben in Gefangenschaft zu halten; nach vielen vergeblichen Versuchen mit den verschiedensten Pflanzen gelang es mir, dieselben mit Cassave-Blättern zu füttern. Aus einem und demselben Baumstamm erhielten wir einmal ein Paar (altes Männchen und Weibchen) mit einem Jungen, welche ich einige Tage in einem Käfige bewahrte. In einer Nacht aber brachen sie aus dem Käfig aus, kletterten an einem Thürposten empor und wussten durch eine Oeffnung über der Thüre ins Freie zu kommen. Das junge Thierchen aber blieb zurück, und mit ihm gelang mir nun, was mir mit alten nie gelingen wollte: es wurde verhältnissmässig zahm, so dass ich es unter einiger Aufsicht im Zimmer herumlaufen lassen konnte. Selbstverständlich war ich sehr begierig, um dieses Thierchen einmal klettern zu sehen. Dies gelang mir auch über Erwarten gut, denn bald hatte ich es so weit gebracht, dass es an einem der Tischbeine auf meinen Arbeitstisch kletterte, welcher am Fenster stand, und von da an einem der Fensterposten hinauf auf eine Bank, die sich über dem Fenster befand. Von diesem dunkeln Platze aus sah es oft stundenlang meinen Arbeiten zu. Das Hinaufklettern wurde bewerkstelligt, indem das Thierchen seine nackten Fusssohlen an die zwei aneinanderstossenden Seiten des vier-

eckigen Tischbeins, respective Fensterpostens, drückte und sich so mit grosser Leichtigkeit emporarbeitete.

38. *Potamochoerus penicillatus*, Schinz.

Junk River (Büttikofer and Stampfli); Du Queah River (Büttikofer and Stampfli); River Cess (Büttikofer).

Ist auch eines von den Thieren, die überall und nirgends sind. Sie sind über die ganze Gegend verbreitet, ziehen jedoch sumpfiges Terrain jedem andern vor. Den Tag über liegen sie halb im Schlamm begraben, oder liegen, d. h. die Bache mit ihren 8—12 Ferkeln, in einer kesselartigen Vertiefung des Grasfeldes, die sie sich selbst gewühlt und gescharrt, alle mit der Nase gegen die Mitte zu und schlafen, während der Eber etwas abseits Wache hält. Diese Wildschweine werden stets nur durch Zufall des Jägers Beute. Ihr Fleisch ist sehr schmackhaft.

The skeleton presents 7 cervicales, 14 costales, 5 lumbarcs, 4 sacrales and 26 caudales.

39. *Choeropsis liberiensis*, Morton.

A very young male, Buluma (Büttikofer and Sala); an adult and a halfgrown male and an adult female, Hilltown (Büttikofer and Stampfli); skull of an adult female, Jeh, Du Queah River (Büttikofer); observed on the St. John's River (Büttikofer).

Infolge der vielen Nachforschungen und Jagden auf dieses hohe Wild, wobei es sich freilich meinen Nachstellungen immer entziehen konnte, kann ich über seine Lebensweise Folgendes berichten.

Hippopotamus liberiensis hat eine von seinem Namensvetter *amphibius* ganz verschiedene Lebensweise. Sein bevorzugtes Element ist Wald und Sumpf; in Flüssen scheint man ihn

nicht zu finden. Er ist — und gerade dieses macht die Jagd auf ihn so schwierig und unsicher — nicht auf kleine Reviere beschränkt und geht auch nicht stets dieselben Pfade, sondern dehnt, gerade wie das Wildschwein, mit dessen Lebensweise die seine viel Aehnlichkeit hat, seine Wanderungen auf sehr grosse, wenn auch nicht gerade unbegrenzte Gebiete aus, sucht sich sein Futter, das aus allerlei Kräutern und Waldfrüchten, wie wilden Pflaumen und dergl. besteht, in Hoch- und Busch-Wald und zieht sich nachher in die zahlreichen, oft für den Jäger unpassirbaren Sümpfe zurück. Ob er des Nachts oder bei Tage seinem Futter nachgeht, kann ich nicht bestimmt sagen, glaube jedoch das Letztere. Er ist an seinen eigenthümlichen Fährten sowohl als an seinen Excrementen sehr leicht zu erkennen. Auch ist sicher, dass diese Art nicht wie *H. amphibius* in Trupps beisammen lebt; *H. liberiensis* durchstreift den Wald stets allein und es scheint, dass jedes einzelne Paar, wenn sie überhaupt paarweise leben, ein ausgedehntes Gebiet inne hat, dass diese Thiere sonst nirgends häufig sind, obgleich man sie überall in den von mir durchreisten Gegenden, wenigstens dem Namen nach, kennt.

Auf einer Reise nach den Wasserfällen des Du Queah Rivers, die ich zu Anfang Februars 1887 unternahm, fand ich an den schlammigen Uferbänken nebst zahlreichen Elephantenspuren auch diejenigen des *Hippopotamus*; da die Beine dieses letztern so kurz sind, dass der Bauch beinahe an die Erde hängt, sind diese Spuren in weichem Boden stets durch eine tiefe, durch den Leib glattgeschliffene Rinne gekennzeichnet.

Milne Edwards (Recherches, etc., p. 45) described the color of the body of the Liberian-*Hippopotamus* as »légèrement rosée», (copperas-colored on the plate), Büttikofer however, who has seen fresh specimens, assures that the upperparts are of a slaty black, turning into a greenish tinged slaty on the sides of the body, and changing into a dirty greenish white on the under parts.

If the epidermis is lost (and this is very difficult to prevent) then the color is »rosée”, and therefore there is reason to believe that the specimen in the Paris-Museum had lost its epidermis. Büttikofer showed to the natives a colored copy of Milne Edwards' plate (l. c. plate I) but they unanimously assured that they never had seen a *Hippopotamus* of that color and that this animal never had a rose-color.

Iris black.

Skeleton with 7 cervicales, 15 costales, 4 lumbares and 17 caudales.

There is a peculiar inconstancy in the number of *lower incisors* in the three skulls now before me, viz: that of an adult male, of a nearly fullgrown female (the hindmost upper- and lower molars are present, but have not yet obtained their full development) and of a halfgrown male (greatest length of skull 210 mM.). In the smallest skull there are two alveoli and in each alveolus three teeth (in the left ramus the smallest tooth is fallen out). In the lower jaw of the female-skull there are in the right ramus two alveoli closely crowded and in each alveolus a single tooth (the tooth near the canine is the smallest and measures about 10 mM., the other measures about 26 mM.), meanwhile there is in the left ramus a single alveolus with one tooth as large and strong as the largest tooth in the right ramus. The right ramus of the lower jaw of the adult male presents a single alveolus with a single incisor (measuring 42 mM.); the left ramus a single alveolus however with three well developed incisors (the largest measures 48 mM., the second 30 mM. and the third one 9 mM.). I studied our skulls of *H. amphibius* in order to investigate if there the number of lower incisors always is constant and I find in the six skulls in our Museum normally two incisors in each ramus of the lower jaw, but N°. c (see Cat. ostéol. 1887) has only one incisor in each ramus and no trace of a second, meanwhile N°. b (a somewhat younger specimen, as the hindmost molars are not yet developed) shows in each ramus

of the upper jaw two well developed incisors and an alveolus for a third incisor, which however is lost.

The Liberian-*Hippopotamus* presents for the rest the same number of premolars, molars and upper incisors as the common *H. amphibius*, and in *liberiensis* like in *amphibius* the first molars always are the most used: this very used condition of the first molars thus is not characteristic for *liberiensis* as Prof. A. Milne Edwards mentions (Recherches, T. I, p. 56).

In conclusion, the difference between *amphibius* and *liberiensis* as to the normal number of teeth solely is, that in *amphibius* there are 4 lower incisors and in *liberiensis* only 2, and thus the dental-formulae run as follows:

$$H. \textit{amphibius} \quad \frac{2 - 1 - 4 - 3}{2 - 1 - 4 - 3} = 40 \text{ teeth.}$$

$$Ch. \textit{liberiensis} \quad \frac{2 - 1 - 4 - 3}{1 - 1 - 4 - 3} = 38 \text{ teeth.}$$

I think that in the Leyden Museum under the name of *amphibius* there are at least two species brought together, for I see such great differences in form and size of the premolars and in form, size and direction of the incisors in the skulls in our Museum, that I hardly can believe that they belong to one and the same species, but unhappily their origin is unknown or uncertain and their number too small to solve this question for our specimens.

That there are among the skulls of *Ch. liberiensis* and of *H. amphibius* some ones which have in one of the ramus of the lower- or upper jaws three incisors indicates that the ancestors of these two species had six lower incisors and too six upper ones as we see now still in their congeners belonging to the *Sus*-family. Therefore N^o. *b* mentioned above of my Cat. ostéol. is so highly instructive.

Of this interesting and rare species we now possess the finest imaginable series, viz: an adult male with its skeleton, the skull of an adult female, a young male with its skeleton and a very young male in alcohol.

40. *Elephas africanus*, Blumenbach.

Elephanten pflegten früher — noch seit Menschengedenken — bis an die Küste herabzukommen, jetzt aber sind sie weit in's Innere zurückgedrängt. Elfenbein kommt wenig mehr an die Factoreien in Robertsport. In meiner Station Soforé-place hatte ich einen Elephantenschädel, den ich gelegentlich als Stuhl benützte und den ich unweit der Station im Walde gefunden hatte. In der Nähe dieser Station, auf einer Insel im St. Paul's River, hielt sich ein grosser alter Elephant auf, dessen Spuren wir oft fanden und der, den Fluss durchschwimmend, gelegentlich auch die Wälder an beiden Ufern besuchte. Vor zwei Jahren wurde ein Elephant bei Kisikoro ganz in der Nähe von Robertsport geschossen. Der Elephantenspuren am Du Queah River ist bereits erwähnt.

41. *Manatus senegalensis*, Desmarest.

One specimen, a nearly adult male, Cape Mount (Bütikofer and Sala).

Iris black.

Skeleton with 6 cervicales, 18 costales and 26 lumbares, sacrales and caudales. The 18th pair of ribs is connected by ossification with the transverse processes of the 18th costal vertebra, the right one shows still the suture.

Wird sehr selten im Mahfa- und Cape Mount River soviel ich weiss nie im Lake, beobachtet. In unsern Besitz gelangte nur ein einziges, beinahe ausgewachsenes Exemplar, aus dem Cape Mount River bei Robertsport. Seither wurde in dieser Gegend keiner mehr gefangen. Unser Exemplar, obschon dem Gebiss nach zu urtheilen noch lange nicht ausgewachsen, scheint der grösste gewesen zu sein der seit Menschengedenken da gefangen wurde. Die Epidermis ist theils schon vor, theils während des Präparirens z. gr. Thl. weggegangen. Dies konnte jedoch

nicht anders erwartet werden. Die Haut war ungemein schwammig und fett, die Messer augenblicklich stumpf, daher viel Fett in der Haut sitzen geblieben. Den Magen habe ich nicht gesehen, Herr Romahn erzählte mir indessen, dass es eine Art doppelten Magens gewesen sei und der Inhalt aus nichts als Pflanzenstoffen bestanden habe. Die Farbe war bei dem frischen Exemplar bläulich schwarz, auf Rücken und Seiten mit einem Stich ins olivengrüne, am Bauch ins gelbliche. Gewicht 590 engl. ℥; Länge von dem Schnauze bis zum Ende der Hinter-

füsse	264 cM.
Grösste Breite über die Rippen	60 »
Höhe	33 »
Schnauze, grösste Breite	16 »
Schulterbreite	49 »
Grösste Breite der Vorderfüsse.	14 »
» » » Hinterfüsse.	49 »

Ich habe diesen Notizen noch beizufügen, dass *Manatus senegalensis* im St. Paul am Fusse der untersten Rapids in ziemlich grossen sog. Schulen beisammen angetroffen wird, welche bei ihren Spielen nicht selten vorbeifahrenden Canoes mit Umwerfen drohen. Letzten Sommer wurden zwei ausgewachsene Exemplare im Messurado River gefangen.

42. *Anomalurus beecroftii*, Fraser.

Three adult specimens, Du Queah River (Büttikofer and Stampfli).

Iris light-brown.

Skeleton with 7 cervicales, 15 costales, 9 lumbares, 4 sacrales and 23 caudales. It is very interesting to observe that this species differs from the two other North-West-African-species not only by its shorter tail (*Anomalurus pelii* has 30 to 32 and *A. fraseri* 27 caudales) but also by having 9 lumbares, meanwhile *A. fraseri* and *A. pelii* have 10 lumbares (see Blainville's *Ostéographie*, Atlas, T. IV, *Sciurus*, pl. I, Catalogue of the Bones of Mammalia

in the coll. of the Br. Mus., 1862, p. 209, and the skeleton of one of the type-specimens of *Anomalurus pelii* in our collection). The type of *Anomalurus laniger* Temminck, from an unknown locality, is in our Museum and belongs to *A. beecroftii* Fraser.

Auf meinen nächtlichen Ständen in der Mountain hörte ich in den Kronen der Waldbäume bald hier, bald dort ein schrilles Gezwitscher, dass ich schon oben am Lake wie auch am St. Paul gehört und früher immer den Nachtaffen zugeschrieben. Dieses Gezwitscher soll aber von den fliegenden Eichhörnchen herrühren, die von Baumfrüchten leben und in der Dunkelheit der Nacht von Baum zu Baum fliegen. Ich konnte sie, obschon sie sich oft gerade über meinem Kopfe befanden, nur selten zu Gesichte kriegen. Am Du Queah River, wo ich dieselben erhielt, stellte sich heraus, dass sie den Tag über sich an Baumstämme festdrücken und dann wie ein Stück alte Rinde aussehen, so dass es nur dem scharfen Auge eines Eingebornen möglich ist, sie zu entdecken. Es wurde jedoch eines unserer Exemplare vom Du Queah River in einem hohlen, im Walde liegenden Baumstamm gefunden.

43. *Anomalurus fraseri*, Waterhouse.

Du Queah River (Büttikofer and Stampfli); Farmington River (Stampfli).

Iris brown.

Skeleton with 7 cervicales, 15 costales, 10 lumbares, 4 sacrales and 27 caudales.

Lebensweise wie bei voriger Art.

44. *Sciurus stangeri*, Waterhouse.

Bavia (Büttikofer and Sala); Soforé-place (Büttikofer and Sala); Junk River (Stampfli); Du Queah River (Büttikofer and Stampfli).

Iris dark gray-brown.

Notes from the Leyden Museum, Vol. X.

Wurde stets auf Oelpalmen angetroffen, von deren gelbfärbenden fetten Früchten er lebt. Sollte wohl davon die gelbe Färbung des Bauches herrühren? Nicht häufig.

45. *Sciurus aubinnii*, Gray.

Bavia (Büttikofer and Sala); Soforé-place (Büttikofer and Sala); Bendo (Büttikofer and Sala); Junk River (Stampfli).
Iris black.

Der schwarze Rückenstreif ist bald deutlich, bald weniger deutlich ausgeprägt. Dieser Eichhorn wohnt, was ich an keiner der übrigen Arten beobachtet, in Baumhöhlen. Die Eingebornen haben mich zuerst darauf aufmerksam gemacht und später habe ich die gleiche Beobachtung selbst gemacht. Die Eingebornen sagen auch, dies sei kein *Squirrel* sondern ein *Bush-cat*. Ziemlich häufig.

46. *Sciurus rufobrachiatus*, Waterhouse.

Bavia (Büttikofer and Sala); Soforé-place (Büttikofer and Sala); Bendo (Büttikofer and Sala); Junk River (Stampfli); Du Queah River (Büttikofer and Stampfli).
Iris black.

Diese Art ist die häufigste von allen und wurde auf allen von mir besuchten Plätzen gefunden. Stellenweise kam sie so zahlreich vor, dass sie jedem Augenblick auf unserer Speisekarte figurirte.

47. *Sciurus punctatus*, Temminck.

Soforé-place (Büttikofer and Sala); Buluma (Büttikofer and Sala); Junk River (Stampfli).
Iris black.

Diese Art scheint dem Buschwald als Wohnplatz vor dem Hochwald den Vorzug zu geben.

48. *Sciurus poënsis*, Smith.

Three specimens, Soforé-place (Büttikofer and Sala).
Iris black.

Lebensweise wie bei voriger Art.

49. *Sciurus pyrropus*, F. Cuvier.

Soforé-place (Büttikofer and Sala); Buluma (Büttikofer and Sala); Junk River (Stampfli); Du Queah River (Büttikofer and Stampfli).

Iris black.

Dieses zierliche Eichhörnchen wurde bei Buluma nicht selten angetroffen, mehr in kleinen Gehölzen und Palmenbeständen als im dichten Hochwald. Es baut sein Nest gerne in die Achseln der Blattstümpfe dicht an die Stämme der Oelpalmen, etwa 6 Fuss vom Boden, aus Palmblattfasern gleichgültig zusammengestellt. Jedes Nest enthält zwei blinde Junge. Am Du Queah River ist dieses Thierchen so häufig, dass man es auf jeder Wasserfahrt beobachtet. Es hält sich dort mit Vorliebe in den Weinpalmen auf, die in dichten Beständen die Ufer einsäumen, wo es sich stets durch seine Stimme verräth, die täuschend dem Zwitschern eines Vogels ähnelt. Die blinden Nestjungen wurden mir häufig zum Kaufe angeboten.

50. *Xerus erythropus*, E. Geoffroy.

Buluma (Büttikofer and Sala); Robertsport (Büttikofer).
Iris black.

Diese ungemein lebhaften Thierchen finden sich am zahlreichsten in Erdnuss-Anpflanzungen und auch in neu angepflanzten Cassave-farms, wo sie die in den Grund eingelegten Cassave-Stecklinge ausgraben und deren Rinde

abnagen. Sie graben Höhlen in den Boden und schlafen darin zur Nachtzeit. Sie sind Tagthiere und man kann sie zu jeder Tageszeit, selbst in der heissen Mittagsonne, beim Fressen antreffen. Sie fressen ihr Futter stets an Ort und Stelle, sind sehr scheu und leichter zu beobachten als zu schiessen. Sie sind sehr aufmerksam, selbst auf das leiseste Geräusch, wobei sie sich sofort auf die Hinterbeine setzen und, wenn sie sich beobachtet sehen, schnell die Flucht ergreifen. Sie graben sich kleine Baue in den Boden, legen kleine Vorräthe an und leben gerne in Gesellschaft, oft bis 6 Stück beisammen. In der Gefangenschaft werden sie bald sehr zahm. Ihr Fleisch is sehr schmackhaft, namentlich von denjenigen, die sich in Erdnussfeldern aufhalten. In der Nähe von Schieffelinsville konnte ich in einer Maniokfarm das Vorkommen dieses Thieres constatiren.

51. *Graphiurus nagtglasii*, n. sp.

Du Queah River (Büttikofer and Stampfli); Farmington River (Stampfli).

De Rochebrune (Faune de la Sénégambie, Mammifères, p. 110, pl. VI, fig. 1) described and figured a new *Graphiurus*, *Gr. hueti*. But it is impossible to get a good idea of this species, for the colors and measurements given in the text do not correspond at all with what we see on the plate; he writes: »les joues ont une teinte *jaune grisâtre*; cette teinte devient d'un *blanc faiblement ardoisé* sous le ventre", in the figure however the named parts are *pure white* colored; further on he observes: »Longueur du bout du museau à l'origine de la queue 150¹⁾ mM. — Longueur de la queue 170 mM." If we now measure these parts in the figure than we find the following measurements — head and body 110 mM., tail with tuft 85 mM., or, as

1) De Rochebrune writes 0.150 mM. and 0.170 mM.; this is clearly a *lapsus calami*, but remarkably enough he everywhere in his book confounds Meters with Millimeters.

the figure represents the animal reduced at $\frac{2}{3}$ of its natural size (vide Explication des planches), 146.5 mM. and 113 mM.; so that the tail is in the text *much longer* than head and body, and in the figure it is *a good deal shorter* than head and body! I was obliged to mention De Rochebrune's species as there are in Büttikofer's collections three specimens belonging to a species of *Graphiurus* approaching closely to *Graphiurus hueti*, much more than to *Graphiurus capensis*, the only two long-tailed and large species with which our species can be compared. It differs from *G. hueti* by having head and body longer than the tail (not shorter, see De Rochebrune, p. 110), and underparts of body not pure white as on the plate of *G. hueti* (see De Rochebrune, pl. VI) and it is distinguished from *G. capensis* by the different color of upper- and lower parts. In our Museum there are still two other specimens belonging to this new species: they are from the Gold-Coast from the collections sent by Mr. Nagtglas in 1862. As thus Mr. Nagtglas was the first collector of this species I propose to call it after him

Graphiurus nagtglasii, n. sp.

All the hairs are of a slaty black, on the head, upperparts and sides of the body and outside of legs tipped with reddish brown, on the underparts of head and body and inside of legs tipped with white. The distichous tail very hairy; hairs somewhat longer towards its tip, they are of a livercolor with shining tips. Hands and feet white: whiskers numerous, black and long. A more or less dark reddish colored line from mouth round eyes.

Measurements of an adult male (in alcohol):

Length of head (from tip of nose) and body	. 165 mM.
» » tail without hairy tip	75 »
» » » with » »	120 »
» » hind foot	30 »
» » ear	15 »

With the here given description of a specimen from the

Du Queah River agree an alcoholic specimen from the Farmington River and a stuffed specimen from the Gold-Coast. Another alcoholic specimen from the Farmington River and curiously enough a stuffed specimen from the Gold-Coast have a burned appearance: the whiskers are down to the base burned off and nearly all the hairs of body and tail have lost their tips, each hair ending like the whiskers in a brownish colored small ball, so that the general color is slaty black (the color of the basal parts of the hairs in the other specimens) and the hairs are very rough to the touch instead of being velvet soft as in the other species: moreover the feet and ears are thrivelled and of a sooty color. Now it is possible that the negros have procured the named specimens after having burned the trees: it may also be that the animals lived in the collector's house and rolled in the fire, perhaps on the manner related by Lataste (Les Gerboises d'Algérie, Mus. civ. di Stor. nat. di Gen. 1883, p. 679) of some species of *Dipus*.

Incisors light yellow, ungrooved. The upper premolar smaller than the hindmost upper molar; first upper molar of about the size of the second. Lower premolar nearly of the size of the hindmost lower molar; first and second lower molars equally sized, larger than their congeners. All the molars concave, hardly a trace of enamel-folds.

The material at my disposal is not sufficient to decide whether there are really good grounds to separate generically from *Myoxus* the species generally brought under the group *Graphiurus*. Peters (Reise nach Mossambique, Säugethiere, 1852, p. 137) observed: »Ogleich es sehr wünschenswerth wäre, die africanischen Schläfer in eine besondere Gruppe *Graphiurus* vereinigen zu können, so scheint eine generische Abtrennung derselben doch nicht ganz gerechtfertigt zu sein". Alston (P. Z. S. L. 1876, p. 80) accepted *Graphiurus* F. Cuvier & Geoffroy, as a distinct genus, characterized by a »short tail, cylindrical, ending in a pencil". *Graphiurus capensis* F. Cuvier &

Geoffroy, the type-species of the genus however, has a distichous, not a cylindrical (Alston) tail, and if we accept this characteristic than De Rochebrune's *hueti* and my *nagtglasii* belong to the genus *Graphiurus*. The species named *coupeii* and *murinus*, like *erythrobronchus* have cylindrical tails and therefore ought to be separated in another genus, perhaps in the neighborhood of *Muscardinus*, understand in the sense of Alston (l. c. p. 79) »tail bushy and cylindrical throughout'', not of Blasius (Säugethiere, 1857, p. 298) »der Schwanz ist der ganzen Länge nach gleichmässig buschig und zweizeilig''. Later investigations based upon large series of specimens in alcohol, skeletons and skulls are necessary to conclude if the above named small species belong to the same group with the new species I now proceed to mention.

52. *Claviglis crassicaudatus*, n. g. et n. sp.

Du Queah River (Büttikofer and Stampfli).

An adult female in Büttikofer's and Stampfli's collections belonging to the *Myoxidae*-family is distinguished from all other hitherto described species by its tail, which is shorter and more pencil-like than in any other species. I call it *crassicaudatus*.

Description of the single specimen (in alcohol): Upperparts ashy brown, underparts white with a reddish-brown shade: the basal-part of the hairs is slaty black colored; a black stripe from nose to and round eyes. The tail is club-shaped: at the base of the tail are the hairs very short, abruptly they are followed by very long hairs to its tip, forming a broad club: the hairs round the base of the tail and above are colored like the back, underparts for the rest and tip of tail black. Whiskers black, whitish towards their tips.

Length of head and body	100	mM.
» » tail with tuft	50	»
» » » without tuft	28	»

Notes from the Leyden Museum, Vol. X.

Length of hind foot. 15 mM.
 » » ear. 7 »

Incisors ungrooved, light yellow. Upper premolar smaller than the third molar, first and second molar of the same size and with several enamel-folds. — Lower premolar much smaller than hindmost molar, first molar somewhat smaller than the second; each molar divided into two parts by a rather deep furrow.

Claviglis is a genus-name for Myoxine-species which are characterized by a club-shaped, not distichous tail.

53. *Cricetomys gambianus*, Waterhouse.

Bavia (Büttikofer and Sala); Buluma (Büttikofer and Sala); Junk River (Stampfli); Du Queah River (Büttikofer); Farmington River (Stampfli).

Iris black.

Lebt in verlassenen Termitenbauten, wo er durch die Eingebornen nicht selten ausgegraben wird. Wir haben zahlreiche Exemplare lange Zeit lebend gehabt; sie erreichen sehr bald ein gewisser Grad von Zahmheit, doch bleiben immer bissig. In ihrer Lebensweise haben sie mich immer an das Känguru erinnert, da sie mit Vorliebe auf ihren starken Hinterpfoten sitzen und den Schwanz als Stütze gebrauchen, während der dünne Vorderleib wie bei einem Känguru eine aufrechte Haltung hat. Beim Gehen berühren sie mit den Vorpften kaum den Boden und werfen sich oft känguruartig mit den Hinterpfoten vorwärts.

54. *Lophuromys sikapusi*, Temminck.

Buluma (Büttikofer and Sala); Robertsport (Büttikofer); Junk- and Du Queah River (Büttikofer and Stampfli).

Iris black.

This species described by Temminck under the name

Mus sikapusi (Esquisses zool. sur la Côte de Guinée, 1853, p. 160) has afterwards been redescribed by Peters under the name *Lophuromys* (*Lasiomys*) *afer* (M. B. Berl. Akad. 1866, p. 409).

In der Nähe von Wohnungen im Freien gefangen; auch in Buschwald.

55. *Mus rattus*, Linné.

Diese Ratte wird in allen Küstenplätzen angetroffen, wo sie jedenfalls durch Schiffe importirt worden ist. In meiner Station in Robertsport war es mir möglich, ausser dieser Art auch *M. decumanus* und *alexandrinus* zu erhalten. Niemals aber kamen zwei oder sogar alle drei Arten zugleich in meinem Hause vor, sondern jeweilen nur eine Art, die später dann durch eine der andern verdrängt wurde.

56. *Mus decumanus*, Pallas.

In Robertsport gefangen.

57. *Mus alexandrinus*, Geoffroy.

In Robertsport.

58. *Mus nigricauda*, O. Thomas.

Du Queah River (Büttikofer and Stampfli).

A very young specimen, characterized by a hairy and black colored tail, and by white feet. I think that it belongs to this species.

59. *Mus rufinus*, Temminck.

Junk River (Büttikofer and Stampfli).

60. *Mus barbarus*, Linné.

Grand Cape Mount (Büttikofer); Junk River (Büttikofer and Stampfli).

The young specimens are exactly colored like the adult ones, and their back is ornated with the same beautiful dark lines.

61. *Mus trivirgatus*, Temminck.

Grand Cape Mount (Büttikofer and Sala).

Lebt im Walde, wo sie sich den Tag über unter Buschwerk heruntreibt; scheint nach den Aussagen der Eingebornen nicht selten zu sein.

62. *Mus dorsalis*, Smith.

An adult male, Hill-town (Büttikofer and Stampfli).

63. *Mus musculoïdes*, Temminck.

Grand Cape Mount (Büttikofer); Junk- and Du Queah River (Büttikofer and Stampfli).

Iris black.

This is perhaps the same species as *Mus minutoïdes* Smith, but I think the question can only be settled if there are fresh (alcoholic) specimens from South-Africa to compare with.

In verschiedenen Localitäten erhalten. Diese Mäuse leben in Gebüsch, kommen dicht in die Nähe der menschlichen Wohnungen, wo sie in Buschwerk, hohem Schilfgrase und in Fenzen etwas über den Grund erhaben ihre kugligen Nester bauen. Diese letztern sind kaum faustgross, mit seitlichem Eingang, aus Grashälmmchen geflochten und zwischen Fenzstöcke, Grashalme, Zweige von niedrigem Strauchwerk

etc. befestigt. Ich glaube constatiren zu können, dass sich in hohem Schilfgebüsch hinter meinem Station in Robertsport eine Colonie dieser niedlichen Thiere aufhielt, da ich in kurzer Zeit hinter einander verschiedene Exemplare von diesem Platze in Besitz bekam.

64. *Aulacodus swinderianus*, Temminck.

An adult male from Bavia (Büttikofer and Sala).

Iris gray-brown.

Described by Temminck after a young individual from an unknown locality; we now know it from Mozambique to South-Africa and from South-Africa to Senegambia. Temminck called the species after Professor Van Swinderen, the specific title therefore is incorrectly written, *swinderenii* or *swinderenianus* would have been more correct.

Ein sehr fettes Thier mit schwammiger Haut und äusserst schmackhaftem Fleisch; richtet in Cassave-, Reis- und Maispflanzungen grossen Schaden an. Am untern St. Paul gemein, in der Waldregion seltener. Wird in an den Fenzen angebrachten Prügelfallen gefangen. Die Pflanzer nennen ihn *Ground-hog*. Es ist auffällig, dass es mir trotz aller Nachforschungen weder im Gebiet von Grand Cape Mount noch in demjenigen des Junk Rivers und seiner Nebenflüsse, gelungen ist, das Vorkommen dieses Thieres mit Bestimmtheit constatiren zu können.

65. *Atherura africana*, Gray.

One specimen, a young male, Grand Cape Mount (Büttikofer); two specimens, Junk River (Büttikofer and Stampfli).

Verlassene Termitenbauten bilden willkommene Wohnplätze für diese Art. Doch habe ich in den waldbedeckten Abhängen des Cape Mount Gebirges einen Bau dieser Thiere gefunden. Derselbe war unter den Wurzeln eines

starken Baumes angelegt und hatte sechs verschiedene Ausgänge, die leider nicht alle frühzeitig genug aufgefunden und verstopft werden konnten, so dass nur ein junges von etwa acht, in unseren Besitz kam. Am Fusse des Cape Mount Gebirges ganz nahe am Strande befand sich ein ähnlicher Bau zwischen hohen Felstrümmern, doch war es hier nicht möglich, dessen Bewohnern beizukommen. Einen andern Bau fanden wir unterhalb Schieffelinsville in dem steilen Ufer des Junk Rivers und einen weitem auf Sharps-hill, einem waldbedeckten Berge am linken Ufer des Junk Rivers, wo sie sich ebenfalls zwischen Felstrümmern eingeknistet hatten.

66. *Hystrix cristata*, Linné.

Robertsport (Büttikofer); Junk River, Sharps-hill (Büttikofer and Stampfli).

Lebensweise und Wohnstätten wie bei voriger Art.

67. *Crocidura schweitzeri*, Peters.

An adult female, Grand Cape Mount (Büttikofer).

In einem Acker im Gras gefangen.

Agrees very well with Peters' description (Monatsb. Berl. Ak. Wiss. 1877, p. 187) of a new Shrew from Liberia. Peters sayd that »der Schwanz erscheint im trockneten Zustande viereckig», I however believe that in every dried Shrew the tail grows more or less quadrangular and it thus is not a characteristic of *Cr. schweitzeri* alone.

Measures of the adult female, in spirits:

Head and body	89 mM.
tail	55 »
hind foot	15 »
ear	10 »

68. *Crocidura büttikoferi*, n. sp.

One specimen, Robertsport (Büttikofer).

Iris black.

Differs from *schweitzeri* by its much shorter tail, by having the upperparts of the body brownish black colored and the underparts with silverly tips to the slaty hairs, finally by having a denticulation on the first lower incisors. Like in *schweitzeri* all the teeth are white.

Measures of the type, an adult female, in spirits.

Head and body	76	mM.
tail	40	»
hind foot	15	»
ear	7,5	»

Lebt unter Häusern, zwischen alten Holzstössen und hat einen starken Moschusgeruch.

69. *Crocidura stampflii*, n. sp.

Schieffelinsville, Junk River (Büttikofer and Stampfli); Hill-town, Du Queah River (Büttikofer and Stampfli).

Distinguished from the other species by the nearly uniform color of upper- and lowerparts of head and body, a color exactly like that of young specimens of *Mus rattus*; the upperparts have a slightly darker tinge; with that color contrasts the color of tail and extremities, which parts have a whitish tinge and are clothed with widely spread short blackish hairs: the basal half of the tail is furnished with some elongated and lighter colored hairs.

Measurements of the two specimens, an adult and a younger one, in spirits:

Head and body	94—79	mM.
tail	60—47	»
hind foot	15—15	»
ear.	10— 8,5	»

Upper jaw: first incisor with a posterior hook about half the height of the anterior hook, third and fourth unicuspidate tooth equal to each other, much smaller than the second and as high as the posterior hook of the first incisor.

Lower jaw: first incisor with one denticulation near its tip; second tooth flat, third tooth unicuspidate, as broad as the second.

All the teeth are white.

70. *Pachyura megalura*, n. sp.

An adult female, Schieffelinsville, Junk River (Stampfli).

Tail much longer than in any known species of Shrew, as it measures 13 mM. more than head and body.

All the hairs have slaty black bases; upperparts of head and body of a beautiful light chocolate-brown, lowerparts pure white: feet and tail with short brownish red hairs.

Measurements of the type, in spirits.

Head and body	62	mM.
tail	75	»
hind foot	15	»
ear	8,5	»

Upper jaw: posterior hook of first incisor about one third of the anterior hook; the second tooth, like the following much smaller three teeth unicuspidate, has its tip in one level with the tip of the anterior hook of the first incisor; fourth tooth of the size of the posterior hook of the first incisor and somewhat stronger than the third and fifth; the latter is the smallest and nearly crowded out of view externally.

Lower jaw: first incisor with two denticulations; second and third unicuspidate, the third triangular, not double the size of the second.

All the teeth are white.

71. *Epomophorus monstrosus*, Allen.

Schieffelinsville, Junk River (Stampfli); Du Queah River (Büttikofer and Stampfli).

Diese eigenthümliche Form lebt meist gesellig in Mangrove-Wald, wird aber gelegentlich beim Reifen gewisser Baumfrüchte im Hochwald angetroffen und kommt oft sogar in die Pflanzungen der Ansiedler, um sich von Mangopflanzen und Saursofs, *Anona muricata*, zu nähren. Sie verräth sich stets durch lautes weithin hörbares Quacken. Sie scheint die Nähe des Wassers zu lieben, wo alle unsere Exemplare auch geschossen wurden. Bei nächtlichen Fahrten auf dem Du Queah River während der Trockenzeit haben wir dieselben stets beobachten können und auch verschiedene Exemplare von unserem Canoe aus geschossen, während sie mit lautlosem, etwas schwankendem Fluge über die Wasserfläche hinschwebten.

Skeleton with 7 cervicales, 15 costales and 3 lumbares. Dobson (Catalogue of Chiroptera, 1878, p. VIII) observed that in the *Chiroptera* the ribs vary from 12 to 13 pairs; according to Hans Gadow (Osteology of the Mammalia, 1885, p. 87) the number of ribs varies from 11 to 14 pairs. The large number (about 130) of *Chiroptera*-skeletons in the Leyden Museum shows that the ribs vary from 10 (in *Nycteris*- and *Vespertilio*-species) to 15 (in *Epomophorus monstrosus*).

First lower premolar very inconspicuous, smaller than the minute upper incisors; first upper- and second lower premolars canine-like, the first somewhat smaller than the upper canine, the second as large as the lower canine; the molars, the second upper- and third lower premolars have each three cusps externally, very distinct especially in the third lower premolar and first lower molar; the third lower premolar and the first lower molar have each two cusps internally.

Notes from the Leyden Museum, Vol. X.

72. *Epomophorus gambianus*, Ogilby.

Two specimens, Junk River (Stampfli).

One of the specimens, a very adult male with beautifully developed shoulder-glands, is much larger than the adult male of which Dobson, l. c. p. 11, gives measurements: the forearm of Dobson's male measures 3.4 inches, meanwhile it measures fully 4 inches in my specimen:

	Dobson. inches.	Leyden inches.	Museum. mM.
Forearm	3.4	4.0	101
third finger, metacarpal	2.35	3.0	75.5
» » 1 st phalanx	1.5	1.9	48
» » 2 nd »	2.2	2.55	64.5
fifth finger, metacarpal	2.25	2.9	73
» » 1 st phalanx.	1.1	1.4	35
» » 2 nd »	1.1	1.4	35
tibia	1.4	1.7	43
eye from tip of nostril	1.0	1.2	30

73. *Epomophorus franqueti*, Tomes.

Robertsport (Büttikofer); St. Paul's River (Büttikofer and Sala); Junk- and Du Queah River (Büttikofer and Stampfli).

Auf dem Begräbnissplatz von Robertsport fand ich einen Baum von dem einige Aeste mit ganzen Trauben dieser Art behängt waren.

Dobson's (l. c. p. 12) description of the peculiar palate-ridges is very correct, but the figure (l. c. plate II, fig. 4) is less good: as Dobson mentions in the text, there are only two undivided palate-ridges and not three (see the figure with a ridge between the second premolars) and there are five or six pairs of small oval elevations, not three pairs (see Dobson's figure).

The skeleton presents 7 cervicales, 13 costales and 5 lumbares.

74. *Epomophorus pusillus*, Peters.

Grand Cape Mount (Büttikofer and Sala); Little Cola, lower Liberia (Büttikofer).

The male of this species is unknown; our five specimens are females. The forearm of an adult female measures 2.2 inches (55 mM.)

Skéleton with 7 cervicales, 13 costales and 4 lumbares.

75. *Epomophorus veldkampii*, n. sp.

One specimen, Buluma, Fisherman Lake (Büttikofer and Sala).

It is of the size of *Epomophorus pusillus* and is very difficult to distinguish externally from this species, but the palate-ridges are so different from the peculiar Y-shaped groove in *Ep. pusillus*, that it can never be confounded with this species. First palate-ridge undivided, straight, between the canines; second and third, undivided, semi-circular, between the first and second premolars; the following ridges, five in number, are divided in their centre, they form semicircular lines, the portion near the central groove is thickened; the remaining ridges are represented by toothed lines.

Ears with a thickened dark-colored margin; wing-membrane from the middle of the back of the first phalanx of the second toe; tail shorter than in *Ep. pusillus*.

Measurements of the type, an adult female, in alcohol:

Eye from tip of nostrils	9.5 mM.
ear	15 »
forearm	50 »
thumb	22 »
third finger, metacarpal	38 »
» » 1 st phalanx	22.5 »
» » 2 nd »	33 »
fifth finger, metacarpal	36 »
» » 1 st phalanx	16 »

fifth finger, 2 nd phalanx	16	mM.
tibia	21.5	»

The color of the fur is somewhat lighter tinged than in *Ep. pusillus*; distribution of fur like in that species.

I call this new species *veldkampii*, as Büttikofer wishes to connect the name of one of his Liberian friends with this new acquisition. Mr. Veldkamp, at present Consul for the Netherlands in Liberia, has helped our travellers as much as he could, has promoted their investigations in every way and finally assisted to Sala's funeral.

76. *Cynonycteris torquata*, Gray.

One specimen, Schieffelinsville, Junk River (Stampfli).

The type of this beautiful species in the British Museum is from Angola, and thus our specimen, an adult male, is a proof that the species is a habitant of the greatest part of West-Africa.

To Dobson's description (l. c. p. 76) I have to add that just beneath the tip of the ear the outer margin is slightly concave and on the above cited page 76, line 11 from bottom, we must read »plate V, fig. 1'' instead of »plate V, fig. 2''.

77. *Cynonycteris straminea*, Geoffroy.

Buluma (Büttikofer and Sala).

Bei unserer Station Hokhië sahen wir diese Art an einem Abend bis 12 Uhr nachts in ganzen Schwärmen um einen einzelnstehenden Bombax fliegen, von dem sie Blüten und junge Triebe abfrassen. Sie liessen kein Geschrei hören, stiessen jedoch, wenn angeschossen, beim Fallen rasch aufeinanderfolgende piepende Rufe aus. Ihres ruhigen Fluges wegen sind sie leicht zu treffen, haben aber ein so zähes Leben, dass sie nie todt herunterfallen und man die meisten noch im Unterholze verliert. Sie mussten in Spiritus getödtet werden, Erdrosseln mit einer Schnur war erfolglos. Später haben wir diese Art nie wieder angetroffen.

78. *Leiponyx büttikoferi*, Jentink.

An adult female, Mühlenburg-Mission, St.-Paul's River (Büttikofer and Sala).

See the description of the type in Notes from the Leyden Museum, 1881, Vol. III, p. 59.

Während meines Aufenthaltes in Mühlenburg-Mission, Ende October 1880, sah ich in der Abenddämmerung zahlreiche Exemplare dieser Thiere hoch über die Mission hin nach Süden fliegen. Ihr Flug war ruhig, etwas eulenartig und schwankend. Sie kamen wahrscheinlich aus den hinter der Mission liegenden Urwäldern und mochten wohl auf dem Wege nach den liberianischen Ansiedlungen sein, um sich wie die *Epomophorus*-Arten auf den Mango- und andern Obstbäumen der liberianische Niederlassungen ihr Futter zu suchen. Es gelang mir nur ein einziges Exemplar zu schiessen, worauf die andern gleich so hoch flogen, dass kein Schuss sie mehr erreichen konnte.

79. *Megaloglossus woermanni*, Pagenstecher.

An adult female, Schieffelinsville, Junk River (Stampfli).

In einer Negerhütte gefangen.

The type-specimen, a female, has been captured by Mr. Soyaux at Sibange-farm, about an hour North-west of Gaboon. Although Prof. Pagenstecher does not mention the peculiar semi-collar which I see in our specimen, so I do not hesitate as to its identification, for it for the rest exactly agrees with Pagenstecher's description and figures in »Naturhistorisches Museum zu Hamburg, 1885." The above mentioned semi-collar is a ruff remembering that part in *Cynonycteris torquata*, consisting on long, densely set pale hairs.

See Oldfield Thomas' remarks, P. Z. S. L. 1887, p. 324.

Notes from the Leyden Museum, Vol. X.

80. *Phyllorhina fuliginosa*, Temminck.

Junk River (Stampfli); Du Queah River (Büttikofer and Stampfli).

81. *Nycteris hispida*, Schreber.

Schieffelinsville, Junk River (Stampfli).

To this species belongs the skeleton accidentally enregistered in my »Catalogue Ostéologique, 1887, p. 273'' under the title *Nycteris macrotis* Dobson.

82. *Nycteris grandis*, Peters.

Du Queah River (Büttikofer and Stampfli).

In Büttikofer's collection was a single specimen of this very rare species, being a nearly fullgrown male, measuring its forearm 57 mM. (2.3 inches). See further Dobson's »Report on accessions to our knowledge of the Chiroptera, etc., 1880, p. 14."''

In einer Baumhöhle gefangen.

83. *Vesperus minutus*, Temminck.

Du Queah River (Büttikofer and Stampfli).

Two adult specimens, a male and a female.

84. *Vesperus tenuipinnis*, Peters.

Schieffelinsville, Junk River (Büttikofer and Stampfli).

An adult male in this collection is the single representative of this rare, white-winged species. In van der Kellen's collection from Mossamedes I find an adult male belonging too to this species.

85. *Vesperugo stampflii*, n. sp.

An adult male, Farmington River (Stampfli).

The smallest *Vesperugo*-species hitherto recorded. Ears rounded off, inner margin convex, outer margin straight for its greatest part, then convex, terminating in a small rounded lobe at a short distance behind the angle of the mouth. Inner margin of tragus slightly concave, outer margin convex, tip rounded off.

Wings from base of toes, calcaneum long with projecting tip; extreme tip of tail free. Interfemoral and wing-membranes margined with white.

Fur above black with brownish red tips, beneath black with light brown tips. Ears and membranes black.

Inner upper incisors bifid, outer incisors unicuspidate; lower incisors trifid. First upper premolar very small, hardly visible from without; first lower premolar three fourth of the size of the second premolar.

Measurements of the adult male, in alcohol:

Length of head and body	38	mM.
» » tail	24	»
» » ear	9	»
» » tragus	4	»
» » forearm	32	»
» » thumb	5	»
» » third finger	45	»
» » fifth »	36	»
» » tibia	10	»
» » foot	5	»

I call it after its discoverer, Mr. Stampfli.

86. *Vesperugo nanus*, Peters.

Soforé-place (Büttikofer and Sala); Robertsport, Grand Cape Mount (Büttikofer); Junk- and Du Queah River (Büttikofer and Stampfli).

Hält sich den Tag über in den Palmlatt-Dächern der Negerhütten auf und fliegt Abends in der Dämmerung.

87. *Kerivoula africana*, Dobson.

Hill-town, Du Queah River (Büttikofer and Stampfli).

The type is in the Paris-Museum; our specimen, an adult male, is the second individual hitherto recorded.

88. *Manis gigantea*, Illiger.

An adult male, Grand Cape Mount (Büttikofer); an adult male, Little Bassa (Büttikofer and Stampfli).

Iris black.

Dieser *Ant-bear* ist, sowohl jung als alt, stets eine Seltenheit zu nennen, jedenfalls weit seltener als *Manis longicaudata*. Er läuft, entgegen den Angaben in Büchern, sehr schnell, so dass ein Mann ihn kaum einholen könnte, und richtet sich auf der Flucht bisweilen auf Hinterbeinen und Schwanz auf, um sich umzusehen, wobei er seine Vorderfüsse hängen lässt. Da das Thier sich weder aufrollen noch in seiner Höhle umdrehen kann, hat letztere einen besondern Eingang und Ausgang. Im Magen, der aus einem Vor- und eigentlichen Magen besteht, fand ich in dem Exemplare von Grand Cape Mount, nichts als Termiten und Wander-Ameisen (Drivers), und in den Gedärmen 6 Exemplare eines Wurms (*Echinorhynchus*-species?). Der Magen des zweiten Exemplars enthielt nach den Aussagen Stampfli's nichts anderes als einen faustgrossen Grasballen.

89. *Manis longicaudata*, Brisson.

Soforé-place (Büttikofer and Sala); Hill-town (Büttikofer and Stampfli); Farmington River (Stampfli).

Iris black.

Sehr gewandte und schnelle Kletterer, werden oft in Baumgabeln und Baumhöhlen, zu einer Kugel aufgerollt schlafend gefunden. In Soforé-place hatte ich eine Zeit

lang eines dieser Thiere lebend; wir fütterten es mit Larven aus den pilzartigen Termitenbauten, die wir zu diesem Zwecke aus dem Walde holen und zertrümmern liessen. Dasselbe kletterte mit der grösste Behendigkeit an den Wänden bis ins Dach hinauf und durchstöberte dasselbe nach Insecten, besonders den lästigen Haus-termiten.

90. *Manis tricuspis*, Rafinesque.

Buluma (Büttikofer and Sala); Schieffelinsville, Junk River (Stampfli); Hill-town (Büttikofer and Stampfli); Farmington River (Stampfli).

Scheint über die ganze Gegend verbreitet zu sein. Klettert leicht auf Bäume; wird zahm und kann lange Zeit in Häusern gehalten werden, wo man sie frei herumlaufen lässt, weil sie den Ameisen, Kakkerlakken und andern lästigen Insecten eifrig nachstellen. Sehr behende Thiere, die im Umsehen die Dächer der Häuser und Stämme der Bäume erklettern können.

RECAPITULATION.

Simiae.

	Page
1. <i>Simia troglodytes</i> , Gmelin.	2.
2. <i>Colobus</i> -species?	4.
3. <i>Colobus ursinus</i> , Ogilby.	6.
4. " <i>ferrugineus</i> , Illiger.	6.
5. " <i>verus</i> , Van Beneden.	7.
6. <i>Cercopithecus callithrichus</i> , l. Geoffroy.	8.
7. " <i>campbellii</i> , Waterhouse.	9.
8. " <i>büttikoferi</i> , Jentink.	10.
9. " <i>stampflii</i> , n. sp.	10.
10. " <i>diana</i> , Erxleben.	12.
11. <i>Cercocebus fuliginosus</i> , E. Geoffroy.	13.
12. <i>Nycticebus potto</i> , E. Geoffroy.	13.
13. <i>Galago demidoffii</i> , Fischer.	14.

Carnivora.

	Page
14. <i>Felis pardus</i> , Linné.	14.
15. " <i>serval</i> , Schreber.	14.
16. " <i>celidogaster</i> , Temminck.	15.
17. <i>Viverra civetta</i> , Schreber.	15.
18. <i>Genetta pardina</i> , l. Geoffroy.	16.
19. <i>Nandinia binotata</i> , Temminck.	16.
20. <i>Herpestes pluto</i> , Temminck.	16.
21. " <i>gracilis</i> , Rüppell.	17.
22. <i>Crossarchus obscurus</i> , Cuvier.	17.
23. <i>Aonyx inunguis</i> , Cuvier.	17.
24. <i>Hydrogale maculicollis</i> , Lichtenstein.	18.

Ruminantia.

25. <i>Bubalus brachyceros</i> , Gray.	18.
26. <i>Terpone longiceps</i> , Gray.	19.

NOTE II.

ZOOLOGICAL RESEARCHES IN LIBERIA.

A LIST OF BIRDS,

collected by the Author and Mr. F. X. STAMPFLI

during their last sojourn in Liberia.

BY

J. BÜTTIKOFER.

(Plate 5).

As I told in my previous paper on Liberian Ornithology ¹⁾, Mr. Stampfli and I left for Liberia at the end of October 1886, and arrived at Monrovia, after short stays at Hamburg, Madeira, Teneriffa, Gran Canaria and the Senegal, on the 26th of November.

The next day I proceeded in an open sailing boat to Grand Cape Mount to get the servants, which were already hired for me by Mr. Watson, the Liberian Superintendent at Robertsport. From this latter place I visited some of my former stations on the Fisherman Lake, the Japaca Creek and on the Mahfa River. ²⁾ Everywhere I was very

1) N. L. M. 1886, p. 244.

2) Erroneously written Marfa R. in my Notes of 1885. Mahfa signifies in the Vey language „not full” (mah = not, fa = full) on account of its being bordered by very high banks.

kindly received by the natives, who had not yet forgotten me and were much enjoyed to see me again. About medio December I returned with three Vey-boys and my old Liberian huntsman Jackson Demery to Monrovia and prepared for my removal to Schieffelinsville on the Junk River, where Mr. Stampfli meanwhile had hired a small Liberian farming house. As our outfit was very voluminous, I went to Schieffelinsville by sea with two sailing boats, entered near Marshall (a small Liberian settlement) the Junk River and reached, along this river, safely the place of my destination.

Schieffelinsville is a settlement of Americo-Liberians, most of which are coffee-farmers. The houses are surrounded by farms and hidden by plum-, orange- and other fruit-trees and plantain-bushes, and are therefore scattered over a wide area, so that hardly more than half a dozen can be seen at once. It lays on the back and the northern slope of a moderate elevation, which separates the Junk River from the sea and must be considered as the continuation of the promontory which forms the Cape Messurado. The environs of Schieffelinsville are in a high degree favorable for bird-shooting, as there is a mixtum compositum of high forest, brushwood, coffee- and cassava-farms, grassy savannas with small bosquets, hills and valleys, and all that bordered on one side by the sandy beach, on the other by the Junk River with its extensive mangrove-swamps. The Junk River runs in parallel line with the beach and is separated from the latter by the already mentioned hilly range. It is tolerably deep and navigable, even for large rowing boats, from off its mouth up to the so-called Old Field, a very extensive savanna, which separates it from the Messurado River. The Junk River has two very important tributaries: the Du Queah ¹⁾ and the Farmington River. Both those rivers come far down from the interior and drain a vast

1) Du = river, Queah = the name of a tribe of natives, inhabiting this part of the country.

hilly country which is for a great deal thickly covered with primeval forest.

In the beginning of 1887 I removed to Hill Town, a small native town on the banks of the Du Queah. Here, in that thickly wooded country, I was much engaged in collecting large mammals, amongst which many rare species, as the Chimpanzee, *Antilope euryceros*, *Cephalophus doria*, *Hyrae dorsalis* and *Choeropsis liberiensis*, and but little time was left for bird-shooting. Nevertheless I obtained many very interesting species and was able to state, for the second time in Liberia, the occurrence of *Columba unicincta*. From here I made an excursion by canoe to the falls of the Du Queah, where I found, under the same conditions as formerly on the St. Paul's River, *Glareola megapoda*, together with *Motacilla vidua*, and, peculiar enough, our common Sandpiper. Along all the rivers I happened to visit in Liberia, I looked out in vain for *Aegialites forbesi*, the W. African representative of *A. tricoloris*, which I the more expected to meet with, as it was discovered in about the same localities as the type of *Glareola megapoda*.

During February and March I resided at Schieffelinsville, while my friend Mr. Stampfli took my place at Hill Town. Unfortunately enough I suffered nearly all this time with malaria and dysentery, a disease which made me entirely unable to do any work and compelled me at last to remove to Monrovia. After having recovered a little, I was afraid to return immediately to the unhealthy station at Schieffelinsville and preferred to make a some weeks trip along the lower coast of Liberia. I had never visited this part of Liberia before, and though I did not expect collecting very much, I hoped to be able to make out how far down the many specific Liberian animals, as the small Hippopotamus, both species of Liberian white-nose-monkeys, *Antilope doria* and *sylvicultrix*, the Liberian gray Parrot and *Agapornis swinderniana*, *Buceros semifasciatus* and other interesting species would range. By steamer I went

to Grand Bassa, from there by sea in an open sailing boat to River Cess, with a similar opportunity to Sinoe and from there again by steamer to Cape Palmas. In Grand Bassa I went up the St. John's River as far as the first rapids, and the same I did on the Cess (Cestos)- and Sinoe River. Wherever I had an opportunity, I tried to get informations from Liberians and natives, and am now convinced that most of the mentioned species are to be found as far down as the Cavallo River east of Cape Palmas, or still farther towards the Ivory Coast. I was very sorry that heavy attacks of fever did not allow me to have a short stay on the Cavallo River, which is navigable much higher up than any other Liberian river, but compelled me to return on board a German steamer to Monrovia and shortly afterwards to Europe.

The results of my investigations are contained in the list of birds, to which these lines are to form a short introduction. I am sorry to say, that I am not fully satisfied with the ornithological part of our collections. Many questions I hoped to be able to make out in loco or at least to collect materials and facts to settle them after my return, are still to be called the attention of ornithologists upon. Some of them I hope to get materials for by my friend Mr. Stampfli, whom I left in Liberia and who at present, until next spring, is collecting on the Farmington River, the other large confluent of the Junk. The total number of species, found during my last visit to Liberia is 151, and, with the exception of some of the most common ones, all are represented in our collections by at least one specimen. The species, mentioned in my previous list (Notes 1886, p. 245) as collected by Mr. Schweitzer and others, but not yet found by us, is now reduced to a very small number, and several of those which are left, may afterwards turn out to be identical with other species. Our last collection contains the following species, not obtained during our previous investigations in Liberia:

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|-------------------------------------|--------------------------------------|
| 1. <i>Polyboroides typicus.</i> | 14. <i>Trochocercus nitens.</i> |
| 2. <i>Bubo cinerascens.</i> | 15. <i>Muscicapa lugens.</i> |
| 3. » <i>leucostictus.</i> | 16. <i>Smithornis rufilateralis.</i> |
| 4. <i>Ispidina leucogastra.</i> | 17. <i>Diaphorophya castanea.</i> |
| 5. <i>Cinnyris sp.?</i> | 18. <i>Cassinia finschii.</i> |
| 6. <i>Hylia prasina.</i> | 19. <i>Laniarius multicolor.</i> |
| 7. <i>Stiphronis erythrothorax.</i> | 20. » <i>sulfureipectus.</i> |
| 8. <i>Cossypha cyanocampter.</i> | 21. <i>Ploceus nigerrimus.</i> |
| 9. » <i>leucosticta.</i> | 22. <i>Megalaema atrofava.</i> |
| 10. <i>Turdinus fulvescens.</i> | 23. <i>Chrysococcyx klaasii.</i> |
| 11. <i>Dryocotaphus cleaveri.</i> | 24. <i>Rallina oculea.</i> |
| 12. <i>Geocichla princei.</i> | 25. <i>Corethrura pulchra.</i> |
| 13. <i>Ixonotus guttatus.</i> | |

The total number of species, at present known from Liberia, is 231, and others may be expected to be sent from the Farmington River by Mr. Stampfli.

1. *Spizaetus coronatus.*

Falco coronatus, Linn. S. N. I. p. 124 (1766).

Spizaetus coronatus, Hartl. Orn. W. Afr. p. 5 (1857); — Schlegel, Mus. P.-B. Astures, p. 3 (1862); — Sharpe, Cat. Birds Br. Mus. Vol. I. p. 266 (1874).

Spizaetus bellicosus, Bütt. N. L. M. 1885, p. 152.

An adult female; sent in young stage during my first stay in Liberia (1882) from that country to the Zoological Garden at Rotterdam and in September last, after its death, received for our collection, is decidedly a true *coronatus*, and therefore erroneously mentioned as a young specimen of *bellicosus* in my first enumeration of Liberian birds.

2. *Nisus macroscelides* (Hartl.).

Bütt. N. L. M. 1885, p. 153.

A female, very strongly spotted underneath, was collected at Weflah, near the falls of the Du Queah on February 6th, and two others, male and female, both with

the under surface nearly pure white, near the Farmington River, on July 2^d and August 9th.

The dark slaty brown upper surface will readily distinguish our five (with the two of my first journey) specimens from those from southern and eastern Africa, and even from those from the Gold Coast. A young female, all over spotted underneath, except the throat, which has a central longitudinal streak of brown, and the under tail-coverts, which are pure white, I received as a nestling and kept it alive for about six weeks. This specimen had the iris bluish grey, and the thighs begin already to get a rufous tinge. It died on the 19th of February.

The above cited full-grown female from the Du Queah has the under surface also strongly spotted and the throat striped, but the under tail-coverts are spotted like the rest of the lower surface, which latter has a slight fulvous hue, and the thighs are strongly tinged with rufous. Both male and female from the Farmington R. have the whole lower surface pure white, with the exception of the spotted sides of chest and the flanks, which are broadly barred with dark brown. The thighs of the male are very, those of the female less strongly tinged with rufous.

Measurements in cM.:		wing	tail	tarsus
♂	St. Paul's R.	18	15,5	5
♂	Farmington R.	19	17	6
♀	Buluma, not full grown		15,7	6
♀	Du Queah	20	18,2	5,8
♀	Farmington R.	20,7	18,7	5,6

3. *Nisus hartlaubii*, Verr.

Bütt. N. J. M. 1885, p. 153; id. 1886, p. 246.

An adult male, collected at Schieffelinsville. Both our former specimens were females, of about the same size as a male(?) mentioned in Mr. Sharpe's Catalogue of the British Museum (Vol. I).

Our male specimen is considerably smaller and a very

tiny bird, its wings measuring only 15 cM. (in one female 16, in the other 16,5 cM.).

In all our three specimens the lower surface, with the exception of the pure white chin and throat, is silvery gray with very faint and narrow vermiculations of ashy; the flanks and partially the thighs are showing the plain vinous chestnut of the fully adult, without any vermiculations. They have from six to ten whitish cross-bars on the inner web of the tailfeathers, except the innermost pair, which is entirely black on the upper surface and shows on the lower faint indications of three white spots.

4. *Polyboroides typicus*.

Polyboroides typicus, Smith, S. Afr. Q. J. I. p. 107 (1830); id. Zool. S. Afr. pl. 81, 82 (1849); — Hartl. Orn. W. Afr. pp. 2, 269 (1857); — Sharpe, Cat. Birds Br. Mus. I. p. 48 (1874); — Bocage, Orn. d'Angola, p. 7 (1881).

Nisus radiatus, Schl. Mus. P.-B. Astures, p. 54 (1862); id. Revue Accip. p. 100 (1873).

An immature male was obtained in the vicinity of Hill Town.

Iris, cere and bare parts round the eye orange red, bill black, feet yellow.

5. *Dryotriorchis spectabilis* (Schl.).

Bütt. N. L. M. 1886, p. 246.

Only one specimen of this beautiful species, an adult male, was procured. It was shot in the vicinity of Schiefelinsville, and as it had only a wing broken, we kept it alive for nearly two months, feeding it with small birds, especially with weavers.

6. *Milvus aegyptius* (Gm.).

Bütt. N. L. M. 1885, p. 155; id. 1886, p. 247.

Frequently found along the coast down to Cape Palmas.

7. *Basa cuculoides* (Sw.).

Bütt. N. L. M. 1885, p. 155; id. 1886, p. 247.

One adult specimen, obtained in the vicinity of Schieffelinville.

8. *Haliaetus angolensis* (Gm.).

Bütt. N. L. M. 1885, p. 154; id. 1886, p. 246.

This bird seems to be common all over in the coast region, but purer white specimens are found farther down the coast than above Monrovia, where I never found specimens with the white parts of the plumage quite pure.

9. *Bubo cinerascens*.

Bubo cinerascens, Guér. Rev. Zool. 1843, p. 321; — Schl. Mus. P.-B. Oti, p. 15 (1862); id. Revue Noctuae, p. 5 (1873); — Sharpe, Cat. Birds Br. Mus. II. p. 32 (1875).

One specimen (adult ♀), acquired in Grand Cape Mount, where it was kept in captivity by a native. Died Dec. 10, 1886.

Iris dark brown, bill, toes and nails dark lead color. Wing 30 cM., tail 17, tarsus 6,5.

This specimen agrees in every respect with the six ones from N. E. Africa, already in our collection, and its color alone, especially the predominant grayish tinge with the narrow, brownish vermiculations above and below, is sufficient to distinguish it at once from *B. leucostictus*, which latter species, moreover, has the eyes yellow, as well as the tip of the bill.

Mr. Sharpe, in his above cited Catalogue, adds to the synonymy of *B. cinerascens* the *B. maculosus* in Hartl. Orn. W. Afr. p. 19. I cannot agree with this opinion and feel quite sure that Dr. Hartlaub's description is really that of the South African *B. maculosus*, which he erroneously

says to come from West Africa. The synonymy given by Hartlaub after the description is likewise that of the true *B. maculosus*.

10. *Bubo leucostictus*.

Bubo leucostictus, Hartl. J. f. O. 1855, p. 354 (ex Temm.); id. Orn. W.-Afr. p. 18; — Schl. Mus. P.-B. Oti, p. 16 (1862); id. Rev. Noctuae, p. 6 (1873); — Sharpe, Cat. Birds Br. Mus. II, p. 41 (1875).

Adult male, January 1, Hill Town; adult female, May 22, Schieffelinsville; nestling, February 2, Hill Town.

Iris yellow, bill yellow, black at the base, toes yellow, nails black. Wing 32,5 cM.

Both specimens do not differ from each other and agree tolerably well with the description given by Mr. Sharpe in his Catalogue.

The nestling was still in down when I received it, and all over pure white. The first plumage was also pure white, but each feather above and below banded across with brown. Iris yellow.

11. *Syrnium nuchale*, Sharpe.

Bütt. N. L. M. 1885, p. 151; id. 1886, p. 247.

Of an adult female, killed Dec. 24th on a Mangrove-shrub near the river-side, the stomach contained a quantity of remainders of beetles. A nestling I received alive at Hill Town, was covered with down of a pure white colour. It died Febr. 8th, after having been kept alive for about six weeks and then the feathers, which still had a downy appearance, were pale fulvous with white and dark brown cross-bands and broadly tipped with pure white. Wing- and tail-feathers had already the same color as in the adult bird. The tarsal feathers are whitish. In my first report (1885) I said the iris to be yellow. This

must have been a slip of the pen, as in my original notebook the eye is registered as dark brown. Both, adult and young, above mentioned specimens have the iris of the same color.

12. *Scotornis longicauda* (Drap.).

Bütt. N. L. M. 1885, p. 156; id. 1886, p. 248.

A very frequent bird in brushwood and coffee-plantations at Schieffelinsville.

13. *Waldenia nigrita* (Gray).

Bütt. N. L. M. 1885, p. 157.

Frequently found in pairs with nest and eggs on the Du Queah, from its mouth upward to the first falls, and on all the other rivers I happened to visit on my journey to Cape Palmas. The beautiful River Swallow is not easily got to leave the place which it once has chosen as nesting place, and will always keep within some hundred yards from it. On one of my first trips up the Du Queah, the 3rd of January, I found a nest with two fresh eggs in a hollow of a log, projecting about six feet above high water. The nest consisted of small stems of grass, ditto pieces of bark and a few feathers without any earthy substances, and contained two eggs. As it was a very fine nesting place, I sawed the end of the log down when passing a few days afterwards and carried it off with nest and eggs, which were then four in number. About two weeks afterwards I happened to pass the same spot again and found a new nest in the resting part of the hollow, probably built by the same pair of Swallows, but this time constructed of clay and mud in the way of our House Martin and stuck to the wall of the hollow. It was lined with some stems of grass and other soft materials and a few feathers of a pigeon, and contained three eggs. I again carried off nest and eggs

without troubling the birds which had disappeared for a moment. Some time afterwards I once more visited this spot and was not little astonished to find a new nest, built like the last one and containing one single egg. But this time I found it too cruel to carry off the nest again, and therefore ordered my boys to pull on and let the repeatedly vexed birds the pleasure of their breeding business.

The eggs are thickly spotted and speckled with reddish brown on a rosy white ground. Their shape is oviform, the size 19 mM. in length and 13 mM. in width.

14. *Hirundo rustica*, Linn.

Bütt. N. L. M. 1885, p. 158.

The Chimney Swallow was found in great number near Schieffelinsville from December to March.

15. *Eurystomus afer* (Lath.).

Bütt. N. L. M. 1885, p. 158; id. 1886, p. 248.

This species seems to be much more frequent than *E. gularis*, as I found it not only along the Messurado-, Junk- and Du Queah Rivers, but also in all the places I visited down to Cape Palmas. At my station at Hill Town, I saw nearly every evening, about sunset, hundreds of these birds wheeling in the air and hunting for insects. With their long wings and thick heads they have, while flying, very much the appearance of a small Falcon. During day-time they are very lazy and sit for hours motionless on a dry twig exposed to the hot sun.

16. *Halcyon badia*, Verr.

Bütt. N. L. M. 1885, p. 165.

Only two specimens obtained (Du Queah).

Notes from the Leyden Museum, Vol. X.

17. *Halcyon semicoerulea* (Forsk.).

Bütt. N. L. M. 1885, p. 166; id. 1886, p. 249.

One specimen from the Du Queah.

18. *Halcyon malimbica* (Shaw).

Bütt. N. L. M. 1885, p. 162; id. 1886, p. 249.

Tolerably frequent along the Du Queah and Junk R

19. *Halcyon senegalensis* (Linn.).

Bütt. N. L. M. 1885, p. 161; id. 1886, p. 249.

Very common on the Junk R. and its tributaries.

20. *Ceryle maxima* (Pall.).

Bütt. N. L. M. 1885, p. 160; id. 1886, p. 248.

Very sparsely distributed on the Junk-, Farmington- and Du Queah R. On the latter I have shot a specimen as high up as Hill Town.

21. *Ceryle rudis* (Linn.).

Bütt. N. L. M. 1885, p. 161; id. 1886, p. 249.

Observed on the Junk R. and near the coast at Grand Bassa, but much less frequent than in the district of Grand Cape Mount.

22. *Corythornis cyanostigma*, Rüpp.

Alcedo cyanostigma, Bütt. N. L. M. 1885, p. 159; id. 1886, p. 248.

Tolerably common along the Du Queah, where it usually sits in low brushwood above the water.

Notes from the Leyden Museum, Vol. X.

23. *Ispidina picta* (Bodd.).

Alcedo picta, Bütt. N. L. M. 1885, p. 160.

Still more common than the former and found in the same localities. Specimens of this species I also found on the St. John's- and Sinoe River.

24. *Ispidina leucogastra*.

Halcyon leucogaster, Fraser, P. Z. S. 1843, p. 4; id. Zool. Typ. pl. 32.

Ispidina leucogastra, Hartl. Orn. W. Afr. p. 35; — Sharpe, Mon. Alced. pl. 50.

Only one specimen of this species was collected on the Du Queah.

Iris black, bill and feet red.

25. *Alcedo quadribrachys*, Temm.

Bütt. N. L. M. 1886, p. 248.

Tolerably common on the banks of the Du Queah and Farmington River.

26. *Merops albicollis*, Vieill.

Bütt. N. L. M. 1885, p. 166; id. 1886, p. 249.

Whole flocks of these birds found at Schieffelinsville, but less frequent on the Du Queah.

27. *Merops erythropterus*, Gm.

Bütt. N. L. M. 1885, p. 167; id. 1886, p. 249.

Collected at Paynesville on the Messurado River.

28. *Merops gularis*, Shaw.

Bütt. N. L. M. 1885, p. 167; id. 1886, p. 249.

Met with near Schieffelinsville and on the Du Queah, but nowhere in great number.

29. *Cinnyris venustus* (Shaw).

Bütt. N. L. M. 1885, p. 169; id. 1886, p. 250.

Frequently met with in maniok-plantations near Schieffelinsville and on the Du Queah.

30. *Cinnyris chloropygius* (Jard.).

Bütt. N. L. M. 1885, p. 169; id. 1886, p. 250.

Several times collected near Schieffelinsville and Hill Town, where it is, however, by far not as common as near Grand Cape Mount.

31. *Cinnyris fuliginosus* (Shaw).

Bütt. N. L. M. 1885, p. 168; id. 1886, p. 251.

Collected at Schieffelinsville, near our station, where it visited, together with other species, as *C. cyanolaemus* and *C. verticalis*, a flowering Cotton-tree.

32. *Cinnyris obscurus* (Jard.).

Bütt. N. L. M. 1886, p. 251.

Very frequently found on flowering brushwood and especially on the beautiful tulipe-shaped flowers of the Cotton-trees from December to February.

33. *Cinnyris cyanolaemus* (Jard.).

Bütt. N. L. M. 1886, p. 251.

Three specimens, collected at Schieffelinsville.

34. *Cinnyris* sp.?

One specimen, N^o. 86, sex not mentioned, but probably a young female, from Schieffelinsville, does not agree with

any description of Sun-Birds, nor with a specimen in our collection. The whole upper surface is dark brown, the feathers on the head faintly, those of back, upper tail-coverts, scapulars and wing-coverts broadly margined with olive-green; quills and tail-feathers broadly edged with olive-yellow. Tail-feathers dark brown, with paler tips, which are largest on the outermost pair. Sides of head dark grayish brown, like the front, without any superciliary stripe. Lower surface grayish olive-green, with the exception of the throat which is yellowish white, especially on the moustachial streaks; under wing-coverts gray, inner ones tinged with olive; pectoral tufts wanting.

Iris dark brown, bill black, angle and base of lower mandible orange-red, feet dark brown.

Wing 61 mM., tail 42, tarsus 15, bill from front 23.

35. *Anthreptes rectirostris* (Shaw).

Bütt. N. L. M. 1886, p. 251.

Collected near Schieffelinsville and Hill Town.

36. *Prinia mystacea*, Rüpp.

Bütt. N. L. M. 1885, p. 171; id. 1886, p. 252.

One specimen collected in a maniok-plantation on the River Cess, during my journey along the coast to Cape Palmas.

37. *Hylia prasina*.

Sylvia prasina, Cass. Proc. Acad. Philad. 1855, p. 325.

Stiphornis superciliaris, Hartl. J. f. O. 1855, p. 355 (ex Temm. M. S.).

Chloropeta superciliaris, Hartl. Orn. W. Afr. p. 60; id. J. f. O.

1860, p. 129; — Boc. Orn. d'Angola, pp. 285, 555 (1881);

— Sharpe, Cat. Birds Br. Mus. VII. p. 172 (1883).

Three specimens collected at Schieffelinsville.

Iris dark brown, bill black, feet grayish green. No difference in color between male and female.

Notes from the Leyden Museum, Vol. X.

38. *Stiphrornis erythrothorax*.

Stiphrornis erythrothorax, Hartl. J. f. O. 1855, p. 355 (ex Temm. Mus. Lugd.); id. Orn. W. Afr. p. 63; — Sharpe, Cat. Birds Br. Mus. VII. p. 173, pl. VI. fig. 1 (1883).

Two adult ♂, one jun. ♂, one adult ♀.

Junk- and Du Queah River.

Both adult males have the cheeks and moustaches grayish black, especially the latter; one of them has moreover a more brownish tinge on its upper surface and the wing-coverts grayish black instead of ashy gray. The younger male (N^o 145) has the cheeks pale ashy, and no dark moustachial streak at all. The whole chin and throat is orange-rufous, greater wing-coverts and secondaries tipped with rufous, the latter edged with the same color. The female has the cheeks uniform ashy, and no dark moustachial streak. As it wants the rufous markings on the wings entirely, I consider it to be a fully adult specimen.

Iris brown, bill black, in the younger male yellowish at the gape, feet flesh-color.

This species lives in thick brushwood and in the undergrowth of low forest. Its song is soft and agreeable.

39. *Motacilla vidua*, Sundev.

Bütt. N. L. M. 1885, p. 173; — Sharpe, Cat. Birds Br. Mus. X. p. 488 (1885).

Found on the Du Queah, the St. John's-, Cess-and Sinoe River, along the rapids and falls, like on the St. Paul's R. during my first visit to Liberia.

40. *Motacilla flava*, Linn.

Bütt. N. L. M. 1885, p. 174; id. 1886, p. 253; — Sharpe, Cat. Birds Br. Mus. X. p. 516 (1885).

At the same localities as *M. vidua*, and somewhat farther down the rivers.

41. *Anthus pyrrhonotus* (Vieill.).

Bütt. N. L. M. 1885, p. 174; id. 1886, p. 253; — Sharpe, Cat. Birds Br. Mus. X. p. 555 (1885).

This species is spread over whole Liberia, as I found it in all the places I visited between Grand Cape Mount and Cape Palmas, from which latter place it is moreover recorded by Fraser.

42. *Pitta angolensis*, Vieill.

Bütt. N. L. M. 1885, p. 175.

Only a few specimens procured in Hill Town. Two specimens of this beautiful bird, which were caught in snares, I kept alive for a few weeks, together with *Francolinus lathami*, and fed them with the larvae of *Termes mordax*, which were very abundant in the forests of that country.

43. *Cossypha cyanocampter*.

Bessonornis cyanocampter, Bp. Consp. I. p. 301.

Cossypha cyanocampter, Hartl. J. f. O. 1855, p. 360; id. Orn. W. Afr. p. 76; — Sharpe, Cat. Birds Br. Mus. VII. p. 40 (1883).

This bird is an inhabitant of brushwood and low forest, but seems to be very rare on the Du Queah, only one specimen being obtained.

Iris brown, bill black, feet grayish brown.

44. *Cossypha poënsis*, Strickl.

Bütt. N. L. M. 1885, p. 176; id. 1886, p. 253.

Only one specimen procured at Schieffelinsville.

45. *Cossypha leucosticta*.

Cossypha leucosticta, Sharpe, Cat. Birds Br. Mus. VII. p. 44, pl. 1 (1883).

A nestling, received from a native at Hill Town.

Upper surface black, with a broad rusty red band across

each feather, leaving a black terminal bar of one mM. in width and thus giving the upper surface the appearance of being rusty red and banded across with black, with the exception of rump and upper tail-coverts, which are entirely rusty red. Quills and wing-coverts black, the primaries narrowly bordered on the outer web and tipped with silvery gray, the secondaries broadly with rusty red, upper wing-coverts with a cordiform or oval spot, surrounded by jet black, on the outermost feather of the greater and median series this spot is pure white instead of red. No white alar speculum, on account of the quills not being sufficiently developed. The tail-feathers are sooty black, the outermost pair very broadly, the next one faintly tipped with white. Lores blackish, superciliary streak pale rusty, a ring of feathers round the eye white, cheeks grayish rusty, chin and upper throat whitish, sides and lower throat fulvous, each feather tipped with black, flanks and under tail-coverts fulvous, breast and abdomen whitish. Iris brown, bill black, feet pale yellow.

46. *Alethe diademata* (Bp.).

Bütt. N. L. M. 1886, p. 254.

Two specimens, adult and young male, collected in low forest near Hill Town.

Iris grayish brown, bill black, lower mandible and gape yellowish, feet greenish gray.

47. *Alethe poliocephala* (Temm.).

Bütt. N. L. M. 1885, p. 177.

One specimen from Schieffelinville, another from the Du Queah.

48. *Crateropus atripennis*, Sw.

Bütt. N. L. M. 1885, p. 178; id. 1886, p. 254.

An adult male from Schieffelinville.

Notes from the Leyden Museum, Vol. X.

49. *Turdinus gularis*, Sharpe.

Bütt. N. L. M. 1885, p. 178; id. 1886, p. 254.

An adult male from Schieffelinsville.

50. *Turdinus fulvescens*.

Turdirostris fulvescens, Cass. Proc. Acad. Philad. 1859, p. 54.

Turdinus fulvescens, Sharpe, Cat. Birds Br. Mus. VII. p. 545 (1883).

One specimen (♀), collected at Hill Town.

Iris brown, bill horny brown, lower mandible paler, feet flesh-color. Wing 6 cM., tail 2,5.

This specimen is considerably smaller than mentioned by Cassin and Mr. Sharpe. The latter, however, whom I sent this bird with some others for comparison, kindly informs me that it really belongs to *T. fulvescens*, a species which was hitherto not represented in our Museum.

51. *Drymocataphus cleaveri*.

Drymocataphus cleaveri, Shelley, Ibis, 1874, p. 556; — Sharpe, Cat. Birds Br. Mus. VII. p. 556 (1883).

One specimen, sex not mentioned, from Hill Town.

Iris reddish brown, bill grayish brown, lower mandible whitish, feet pale flesh-color.

52. *Geocichla princei*.

Chamactylas princei, Sharpe, P. Z. S. 1873, p. 625.

Geocichla princei, Seebohm, Cat. Birds Br. Mus. V. p. 164, pl. XII (1881).

An immature female, Du Queah.

This is, as far as I am aware, the first specimen which comes to our knowledge since the type, an adult specimen from Denkera, has been described by Mr. Sharpe.

Our young specimen differs from the description of the type by having the feathers on head, hind neck, interscapular feathers and some of the scapulars marked with a

white shaft-line, and both the latter moreover with a broader, rufous shaft-streak. The outer webs of the primaries are much paler than those of the secondaries, the primary coverts and bases of secondaries pure black although both series of wing-coverts, with the exception of the outermost feather of the greater ones, the outer web of which is pale sandy brown, like those of the primaries. Most of the greater wing-coverts are tipped with pure white, like in the adult stage, whilst the resting ones and all the median wing-coverts are broadly tipped with very pale rufous.

Chin, breast, abdomen and under tail-coverts ochraceous, both latter intermixed with pure white feathers, centre of breast, whole chest and a narrow moustachial streak russet brown, each feather with paler centre; a few feathers on the centre of the chest with dark brown centres, the two outermost tail-feathers very faintly tipped with white. Iris dark brown, bill brown, basal half of lower mandible whitish, feet flesh-color.

Wing 12 cM., tarsus 3,2, bill 1,8.

53. *Xenocichla syndactyla* (Sw.)¹).

Bütt. N. L. M. 1885, p. 179; id. 1886, p. 255.

Several specimens from Schieffelinsville and Hill Town. The males in all our specimens are larger than the females, and the bill about 3 mM. longer and more compressed.

1) Dr. Hartlaub, the Author of the generic name *Xenocichla*, has not given any diagnosis of the genus, but as he separates *X. syndactyla*, which is to be considered the type of the genus, from *Trichophorus* on account of its straight, compressed bill, these latter characters must be made the chief characters of the genus. Hartlaub describes the bill of *X. syndactyla* as *rectiusculo*, *compresso*, while the type of the genus *Trichophorus*, *T. barbatus*, has the bill bent downwards, broad at the base and only towards the point somewhat compressed. (Conf. Temm. Pl. Col. Vol. III. pl. 88, and Heine, J. f. O. 1860, p. 138). With regard hereupon I consider *Criniger eximius* of Authors to be a *Xenocichla*, and *Xenocichla simplex* as well as *leucopleura* and *indicator* of Mr. Sharpe (Cat. Birds Br. Mus.) to be true members of the genus *Criniger*.

54. *Xenocichla eximia* (Hartl.).

Bütt. N. L. M. 1885, p. 179; id. 1886, p. 255.

Amongst the few specimens, collected at Schieffelinsville and Hill Town, there is an immature female (N°. 35) from the latter place with a very interesting transitional stage of plumage. The specimen has nearly assumed the plumage of the adult bird, but some feathers on hind neck, scapulars, the greater wing-coverts and primary-coverts entirely and the rest of the wing-coverts partially, as well as the tips to the quills and some feathers on the back, are rusty red. A reddish tinge is also visible on the flanks, on some feathers of the throat and on the fore-head. One might therefore conclude that in young birds the whole plumage will have a rusty red color. The whole first half of the bill and the edges of the bill entirely, are yellow, iris brown, feet pale flesh-color.

Like in the former species the male is always larger than the female and this difference is especially striking in the size of the bill.

55. *Xenocichla canicapilla* (Hartl.).

Bütt. N. L. M. 1885, p. 178; id. 1886, p. 255.

Several specimens from Schieffelinsville and Hill Town.

56. *Criniger barbatus* (Temm.).

Bütt. N. L. M. 1885, p. 178; id. 1886, p. 255.

Adult male and female, Hill Town.

57. *Criniger verreauxi*.

Trichophorus gularis, Swains. B. W. Afr. II. p. 266 (1837) (nec Horsf.); — Hartl. Orn. W. Afr. p. 82.

Criniger verreauxi, Sharpe, Cat. Afr. B. p. 21 (1871); id. Cat. Birds Br. Mus. VI. p. 73, pl. 4. (1881).

Two adult females, from Schieffelinsville and Hill Town. Iris brown, bill and feet grayish horn-color.

In brushwood and low forest.

58. *Criniger simplex*.

Trichophorus simplex, Hartl. J. f. O. 1855, p. 356 (ex Temm.); id.

Orn. W. Afr. p. 83.

Xenocichla simplex, Sharpe, Cat. Birds Br. Mus. VI. p. 99 (1881).

Criniger simplex, Bocage, Orn. d'Ang. p. 550 (1881).

An adult female, Schieffelinsville.

Iris grayish brown, bill blackish, feet dark brown.

59. *Criniger leucopleurus* (Cass.).

Bütt. N. L. M. 1885, p. 179; id. 1886, p. 255.

Several specimens collected near Schieffelinsville and Hill Town.

60. *Criniger tricolor*.

Trichophorus icterinus, Bp. (nec. Strickl.) Consp. I. p. 262 (1850)

(ex Temm. Mus. Lugd.); — Hartl. Orn. W. Afr. p. 83.

Trichophorus tricolor, Cass. Proc. Acad. Philad. 1857, p. 33; —

Hartl. Orn. W. Afr. p. 265; — id. J. f. O. 1861, p. 164.

Criniger tricolor, Finsch, J. f. O. 1867, p. 25; — Sharpe, Cat. Birds Br. Mus. VI. p. 82 (1881).

One specimen (ad. ♂) collected in brushwood near Hill Town.

Iris brown, bill blackish horn-color, tip and lower mandible whitish, feet dark flesh-color.

61. *Criniger indicator*, Verr.

Bütt. N. L. M. 1886, p. 255.

Schieffelinsville. Like in *Xenocichla syndactyla* the male is considerably larger than the female. Difference in length of the bill 2 mM., of wing 5.

62. *Andropadus latirostris*, Strickl.

Bütt. N. L. M. 1885, p. 180; id. 1886, p. 256.

Four specimens, Junk River.

While staying in Liberia, I was very anxious to settle

Notes from the Leyden Museum, Vol. X.

the question how to distinguish specifically *A. latirostris* and *A. virens*.

The author of the name *latirostris*, Strickland, and with him Dr. Hartlaub, consider the yellow moustached birds to be the adult and those in which the moustaches are wanting, to be the young birds, while Mr. Sharpe in the Catalogue of Birds, Vol. VI. p. 107, believes that the yellow moustachial streaks are a specific character of *A. latirostris* in both adult and immature stages of plumage.

Unfortunately enough I arrived too late on my hunting grounds to find the birds breeding, which takes place in September and October, and no nestlings, together with their parents, could be obtained. This would, however, have been the only way to settle the question. I have collected eight specimens together, four with, and four without the yellow moustaches, and amongst the latter I believe to have adult and immature specimens, while among the first I cannot find any difference in age. On Jan. 30 I have shot in the vicinity of Schieffelinville three yellow-streaked specimens, all three being females with well-developed ovaries (Nos 71, 74, 75).

Together with the specimens, making already part of our Museum Collection, I have now before me nine yellow-moustached specimens, viz. six from Liberia (St. Paul's and Junk R.), one from the Gold Coast (Rio Boutry), one from Fernando Po and one only labelled West Africa.

Until we get materials fit to settle the question thoroughly, I accept Mr. Sharpe's opinion, who considers only the monstached birds to belong to the species *A. latirostris*, while the others, as far as they are known from West Africa North of the Congo, would belong either to *A. virens* or *curvirostris*.

Among the moustached specimens collected in Liberia, there is not much difference in color, all having wing-coverts and outer edge of quills olive-green, while in that from the Gold Coast these parts are decidedly reddish brown, which is considered as a mark of immaturity. The

length of the wing varies from 7,3 to 8 cM. The size of the bill is in all the specimens about the same, and in adult and somewhat younger birds the inside of the bill, the angle, and edges as well as the nasal grooves are yellow, the feet yellowish flesh-color. These peculiarities may thus not be considered to be characteristic for immature birds only.

63. *Andropadus virens*.

Andropadus virens, Cass. Proc. Acad. Philad. 1857, p. 34; — Hartl. Orn. W. Afr. p. 264; — Sharpe, Cat. Birds Br. Mus. VI. p. 109 (1881); — Boc. Orn. d'Angola, p. 249 (1881).

Four specimens, Junk River.

Amongst these four specimens there is so much difference in size and color, that I only with much hesitation came to the conclusion that they all must belong to this one species. Especially in the size of the bill the variation is so striking, that were no intermediate links between the most different forms, those differences would nearly be sufficient to base different genera upon. The many specimens, already contained in our Museum, have also not been able to throw more light upon the question. One of my four specimens (N° 184) has a very broad and short bill and is undoubtedly a true *A. virens*. An immature male (N°. 185) with more rusty red wings and a tolerably slender bill, which has the tip, the cutting edge and base yellow, agrees with Dr. Hartlaub's *A. erythropterus*, said by Mr. Sharpe (Cat. B. Br. Mus. Vol. VI. p. 110) to be the young of *A. virens*. Both these specimens have the feet ochraceous flesh-color.

The two other specimens (N°. 90 and 179) have the feet dark brown, and the bill is still more slender than in the previous specimen, conspicuously compressed towards the tip and somewhat bent downwards, resembling much that of *Chrysococcyx*. The crown in both specimens is conspicuously darker than the back, i. e. grayish olive-brown in-

stead of green, and chin and throat are strongly tinged with gray. Three other specimens, belonging to the Museum Collection and of which one is from the Gold Coast (Pel), the second from the Gaboon (Duchailu) and the third from unknown locality, show the same peculiarities, and very likely they might belong to the species *A. curvirostris* Cass. or *minor* Boc.

Before I have seen, however, a true specimen of those species, I prefer to range them amongst the specimens of *A. virens*.

64. *Ixonotus guttatus*.

Ixonotus guttatus, Verr. Rev. et Mag. de Zool. 1851, p. 306; — Hartl. Orn. W. Afr. p. 88; — Sharpe, Cat. Birds Br. Mus. VI, p. 119 (1881).

Two specimens from Schieffelinsville.

Iris yellowish white, bill horny brown, cutting edge of mandibles and basal half of lower mandible whitish, feet leaden gray. Lives in brushwood.

65. *Pycnonotus barbatus* (Desf.).

Bütt. N. L. M. 1885, p. 180; id. 1886, p. 256.

Very common along the whole coast of Liberia.

As its peculiar song is heard very early in the morning about the Liberian settlements, it is said to have the duty to wake up the lazy schoolboys and therefore sings with loud voice: »quick, come up, wash your face, go to school, lazy boy.”

66. *Terpsiphone nigriceps* (Hartl.).

Bütt. N. L. M. 1885, p. 181; id. 1886, p. 256.

Adult male and female from Schieffelinsville.

67. *Trochocercus nitens*.

Trochocercus nitens, Cass. Proc. Acad. Philad. 1859, p. 50; id. Journ. Acad. Philad. 2nd series, Vol. IV 4^o, p. 325, pl. 50, fig. 4; — Sharpe, Cat. Birds Br. Mus. III. p. 300 (1879).

Notes from the Leyden Museum, Vol. X.

Terpsiphone atrochalybea ♀, Sharpe, Ibis 1874, p. 61 (nec Thomson).
Terpsiphone nigrimitrata, Reichenow, J. f. O. 1874 p. 110.

Three specimens, adult male and female with their young, obtained in low forest near Hill Town.

I happened to shoot both parents while feeding the young, which had already left the nest. The young has the color of the adult female. Both adult male and female agree with our specimens from the Gold Coast, collected by Nagtglas.

Iris brown, upper mandible black, lower mandible and angle of the mouth bluish, feet blue.

68. *Muscicapa lugens*.

Butalis lugens, Hartl. P. Z. S. 1860, p. 110; id. J. f. O. 1861, p. 169.
Muscicapa lugens, Finsch & Hartl. Vög. Ost Afr. p. 302; — Reichenow, J. f. O. 1875, p. 22; — Boc. Orn. d'Ang. p. 203; — Sharpe, Cat. Birds Br. Mus. IV. p. 155 (1879).

Three specimens, ad. ♂, ♀ and young, altogether killed by one shot, on the Du Queah, Febr. 5th 1887.

Both adult specimens agree perfectly with the description of the type of the species, given by Sharpe in his Catalogue. Wing in the male 70 mM., in the female 65 mM. — Tail in male 54, in female 50 mM.

The young specimen, which short before must have left the nest, shows a distribution of colors about similar to the young *M. grisola*.

The whole upper surface is strongly spotted with fulvous. This color occupies in the fashion of a round spot the terminal part of each feather, except a narrow edge, which is left black. The edge of the wing, the tips to the greater wing-coverts, the broad edges and tips to the secondaries, the tips to the black primaries and tail-feathers are of the same color, the latter however inclining to white. Chin and throat are grayish white, abdomen and under tail-coverts pure white, chest grayish fulvous, faintly mottled with black. Bill black, inside, edges and base of lower mandible yellow.

Considering the geographical range of the West African Muscicapidae, it is peculiar that the Liberian specimens belong to a species hitherto only known as far north as the Cameroon, and not to Mr. Sharpe's subspecies *cinerascens* from the much nearer Gold Coast. This fact however is far from standing alone, as the same thing is the case with many other species found in Liberia.

This species is, as already stated by Dr. Reichenow (l. c.), a regular inhabitant of the river banks and will never be found anywhere else. It is not shy at all and sits on dead limbs and sticks close to the surface of the water.

69. *Smithornis rufilateralis*.

Smithornis rufilateralis, Gray, P. Z. S. 1864, p. 143, pl. 16; — Sharpe, Cat. Birds Br. Mus. IV. p. 389 (1879).

Two adult males, shot in high forest near Hill Town and near Weflah.

These small birds call the attention of the huntsman by an extremely loud noise, sounding like *Kerr, Kerr*, and reminding exactly the call of *Dendrohyrax dorsalis*. They sit, while calling, always in the dense undergrowth of high forest and use to fly up and immediately come back to the same twig again.

Iris dark brown, upper mandible black, lower whitish, feet green.

70. *Diaphorophya castanea*.

Platistira castanea, Fraser, P. Z. S. 1842, p. 141; id. Zool. Typ. pl. 34, fig. 2.

Platystira leucopygialis, Fraser, P. Z. S. 1842, p. 142; — Hartl. Orn. W. Afr. p. 95.

Diaphorophya castanea, Sharpe, Ibis 1873, p. 172; id. Cat. Birds Br. Mus. IV, p. 140 (1879).

Adult male and female, shot in brushwood near Hill Town, another male at Schieffelinsville.

Notes from the Leyden Museum, Vol. X.

Iris reddish brown, wattles red, bill black, feet purplish gray.

71. *Cassinia finschii*.

Cassinia finschi, Sharpe, Ibis 1870, pp. 53, 474, pl. 2. fig. 2; id. Cat. Birds Br. Mus. IV. p. 467 (1879).

Adult male and female, killed in low forest near Hill Town. Iris reddish brown, bill black, feet flesh-color. No difference in color between male and female.

72. *Dicrurus atripennis*, Sw.

Bütt. N. L. M. 1885, p. 183; id. 1886, p. 257.

Collected near Hill Town.

73. *Dicrurus modestus*, Hartl.

Bütt. N. L. M. 1885, p. 183; id. 1886, p. 257.

Amongst my specimens from Hill Town there is a half-grown male, which shows the same coloration as the adult bird, so that it could impossibly be mistaken for his Liberian congener *D. atripennis*.

Both species of this genus are very lively and noisy birds, which sometimes live in flocks of twelve to twenty specimens in low forest. Their voice is very harsh.

74. *Fraseria cinerascens* (Hartl.).

Bütt. N. L. M. 1885, p. 184.

An adult male from Hill Town.

75. *Sigmodus caniceps*, Bp.

Bütt. N. L. M. 1886, p. 257.

Several specimens from Hill Town and Schieffelinsville.

76. *Laniarius multicolor*.

Laniarius multicolor, Gray, Gen. B. I. p. 299, pl. 72; — Cass. Proc. Ac. Philad. 1855, p. 439; — Hartl. Orn. W. Afr. p. 108; — Gadow, Cat. Birds Br. Mus. VIII. p. 158 (1883).

Two specimens, a fully adult female and male, were

Notes from the Leyden Museum, Vol. X.

collected; the first on a small confluent of the Junk River a short distance above the Du Queah, the second near the Farmington River.

Iris in both specimens purplish blue, bill glossy black, feet grayish brown.

Unfortunately the first specimen got destroyed by one of our live monkeys, but before making the skin I wrote down a description of the fresh specimen, which agrees with that given by Mr. Gadow in the above cited Catalogue.

In an observation at the foot of this description Mr. Gadow tells us, that two probably very old specimens in the Brit. Mus. differ from the adult *L. multicolor* by having the whole body below brilliant orange. These two specimens very likely might belong to Dr. Reichenow's *L. melamprosopus*, which was collected by Mr. Schweitzer in Liberia (Journ. f. Orn. 1878, p. 209), a species which is nowhere mentioned in Dr. Gadow's Catalogue.

77. *Laniarius sulfureipectus*.

Tschagra sulfureopectus, Less. Traité Orn. p. 373.

Laniarius superciliosus, Hartl. Orn. W. Afr. p. 108.

Laniarius sulfureipectus, with full synonymy, see Gadow, Cat. Birds Br. Mus. VIII. p. 159 (1883).

An adult female, Du Queah.

Iris blue, bill black, feet gray.

78. *Nicator chloris* (Less.).

Bütt. N. L. M. 1885, p. 185; id. 1886, p. 258.

Several specimens, from Schieffelinsville and Hill Town, amongst which a very small nestling, which peculiarly enough shows not the slightest difference in color from the plumage of the adult bird.

79. *Corvus scapulatus*, Daud.

Bütt. N. L. M. 1885, p. 186.

Met with along the Junk-, St. John's-, Cestos- and Sinoe River, especially in the coast-region.

80. *Oriolus brachyrhynchus*, Sw.

Bütt. N. L. M. 1885, p. 186; id. 1886, p. 258.

Common in the forests near Schieffelinsville and Hill Town.

81. *Ploceus cucullatus* (P. L. S. Müller).

Hyphantornis textor, Bütt. N. L. M. 1885, p. 190.

Ploceus cucullatus, id. 1886, p. 259.

(For further references conf. Shelley, Ibis 1887, p. 36).

Common in all the places visited by me from Cape Mount down to Cape Palmas.

82. *Ploceus castaneofuscus*, Less.

Bütt. N. L. M. 1885, p. 192; id. 1886, p. 258.

Common throughout Liberia.

83. *Ploceus tricolor*, Hartl.

Hyphantornis tricolor, Bütt. N. L. M. 1885, p. 193.

An adult female, collected in brushwood, near our station at Schieffelinsville.

This was the only specimen I chanced to meet with, notwithstanding all my efforts to obtain more of them. It is similar in color and size to the adult male.

During my short stay at Robertsport in December 1886, I visited the two places which formerly had furnished me my specimens of *P. aurantius* (Notes 1885, p. 188), but though it was the breeding-time, I could not find any, and therefore suppose that they must have left the places.

84. *Ploceus nigerrimus*.

Ploceus nigerrimus, Vieill. N. D. Vol. 34, p. 130. (1819); — Shelley, Ibis 1887, p. 38.

Sycobius nigerrimus, Hartl. Orn. W. Afr. p. 133; — Boc. Orn. d'Angola, p. 333 (1881).

During my stay at Schieffelinsville, I found a colony

Notes from the Leyden Museum, Vol. X.

of about 20 nests, all hanging close together from one (the lowest) branch of a huge Cotton-tree near our station. The other parts of the crown were occupied by a large colony of *P. cucullatus*, the members of which continually attacked the nests of the former and used the materials for the construction and reparation of their own nests. I killed three specimens of the first species, viz. adult male and female and a somewhat younger male, altogether on one day. Male and female were similar in color. In all three specimens the bases to the feathers of the hind neck were conspicuously ashy white. — Unfortunately all three skins got destroyed by drivers (travelling ants) in the following night, and as I left for Hill Town the next morning, I had no chance to obtain other specimens. When I visited the same place again after some weeks, the whole colony had left the place, evidently driven away by their intolerant congeners.

85. *Pyromelana flammiceps* (Sw.).

Bütt. N. L. M. 1885, p. 194.

Tolerably common on the grassy plains behind Schieffelinsville; also observed at Oldfield.

86. *Quelea erythropis* (Hartl.).

Ploceus erythropis (Hartl.), Bütt. N. L. M. 1885, p. 194.

Adult male and female, collected in brushwood and coffee-plantations near Schieffelinsville.

An adult male, recently obtained from the Zoological Garden at Rotterdam, has the head considerably darker red than wild specimens, chin and upper throat are of the same red color as the other parts of the head, the dark brown basal part of the feathers being very small, and a great part of the feathers on the lower surface, the edge of the wing, the edges to the wing-coverts, to some of the feathers of the mantle and of the tail-feathers are strongly tinged with rosy.

87. *Nigrita emiliae*.

Nigrita emiliae, Sharpe, Ibis 1869, p. 384, pl. 11, fig. 2.

Nigrita canicapilla, Bütt. N. L. M. 1886, p. 261.

Collected in an abandoned plantation near Hill Town.

When I wrote my above cited note on Mr. Stampfli's collection, immediately before I was to leave for Liberia, I in the haste overlooked Mr. Sharpe's *N. emiliae*, the more as our four Museum specimens of this latter species were determined as *N. canicapilla*, which latter species is not represented in our Museum.

A young specimen from Schieffelinsville may shortly be described as follows:

Entire head, neck, back and lower surface uniform dark slaty gray, somewhat tinged with smoky brown, wings and upper wing-coverts smoky brown, lower wing-coverts white, upper tail-coverts and tail black. Iris yellowish white, bill black, feet smoky brown.

88. *Malimbus malimbicus* (Daud.).

Sycobius rubricollis, Bütt. N. L. M. 1885, p. 195; id. 1886, p. 259.

Malimbus malimbicus, Shelley, Ibis 1887, p. 40.

Several specimens from Schieffelinsville and Hill Town.

89. *Malimbus nitens*, Gray.

Bütt. N. L. M. 1885, p. 196.

Three specimens, Schieffelinsville and Hill Town.

One of both specimens from the first place, a male (N^o. 103, 7 February), has the black crown and sides of the head intermixed with numerous red feathers.

90. *Malimbus scutatus*, Cass.

Bütt. N. L. M. 1885, p. 196; id. 1886, p. 259.

Several specimens from Schieffelinsville and Hill Town, from the latter place also two large, retorte-shaped nests of this species.

Notes from the Leyden Museum, Vol. X.

91. *Vidua principalis*.

Bütt. N. L. M. 1885, p. 197; id. 1886, p. 259.

Tolerably common near Schieffelinsville and Marshall.

92. *Colius passer macrourus* (Gm.).

Bütt. N. L. M. 1885, p. 197; id. 1886, p. 259.

In the same localities as *Vidua principalis*.

93. *Spermospiza haematina* (Vieill.).

Bütt. N. L. M. 1885, p. 198; id. 1886, p. 260.

Amongst the specimens from Schieffelinsville and Hill Town there is a, as I think, adult male with the upper tail-coverts broadly tipped with red, a character, which Capt. Shelley (Ibis 1886, p. 316) ascribes to the male of *S. guttata*.

94. *Pyrenestes personatus*, Du Bus.

Bütt. N. L. M. 1885, p. 199; id. 1886, p. 260.

One specimen, ad. ♂, from Schieffelinsville, with the same chocolate-brown plumage as all the former, hitherto collected in Liberia. I feel quite sure that no black specimens are found between Cape Mount and the Junk River and that therefore the specimen from Mourovia, mentioned by Cassin as *P. coccineus*, is identical with our *P. personatus*.

95. *Pytilia schlegeli*, Sharpe.

Bütt. N. L. M. 1885, p. 201.

This specimen agrees with that, described in the above cited Notes as the adult female, the throat and chest however being still stronger tinged with ochre. Breast and abdomen black, and spotted with white, like in adult male.

96. *Spermestes fringilloides* (Lafr.).

Bütt. N. L. M. 1885, p. 201; id. 1886, p. 261.

Collected near Schieffelinsville.

97. *Spermestes bicolor* (Fras.).

Bütt. N. L. M. 1885, p. 202; id. 1886, p. 261.

Collected in plantations at Schieffelinsville, where they live together in flocks, of about 20 specimens.

98. *Corythaix macrorhynchus*, Fras.

Bütt. N. L. M. 1885, p. 202; id. 1886, p. 262.

Collected in the forests near Schieffelinsville and Hill Town. Also observed on the Cestos (Cess)- and Sinoe River.

99. *Turacus cristatus* (Vieill.).

Bütt. N. L. M. 1886, p. 262.

Collected in high forest along the upper Du Queah.

100. *Buceros elatus*, Temm.

Bütt. N. L. M. 1885, p. 204; id. 1886, p. 262.

Collected in the forests along the Du Queah, and observed on the Cess- and Sinoe River.

A young specimen I had a long time alive at Schieffelinsville, was very tame and extremely noisy, so that nobody, not even the bare-footed natives, could approach our station without being observed and loudly, with a plaintive voice, announced by this excellent watchman. It was tolerably large when I got it, but we had to cram the food into its bill during about two months, before it was able to help itself. We fed it with butter-pears, *Persea gratissima*, and very ripe plantains, but it was always a very helpless bird and could hardly walk on flat ground. When it slept it had always the tail clapped to the back. Unfortunately it died from cold during my return to Europe.

The color of its plumage as well as of the naked parts of the skin were the same as in the adult stage, the horn however very slightly developed.

101. *Buceros atratus*, Temm.

Bütt. N. L. M. 1885, p. 205.

Collected at Hill Town.

102. *Buceros cylindricus*, Temm.

Bütt. N. L. M. 1885, p. 206.

Only the skull of a very old specimen obtained during a trip to the falls of the Du Queah.

103. *Buceros fistulator*, Cass.

Bütt. N. L. M. 1885, p. 206; id. 1886, p. 262.

One specimen, Du Queah.

104. *Buceros albocristatus*, Cass.

Bütt. N. L. M. 1885, p. 207; id. 1886, p. 262.

Several specimens from Schieffelinville and Hill Town.

105. *Buceros semifasciatus*, Temm.

Bütt. N. L. M. 1885, p. 208; id. 1886, p. 262.

Met with in all the places I visited.

106. *Buceros camurus* (Cass.).

Bütt. N. L. M. 1885, p. 210; id. 1886, p. 262.

Collected near Hill Town.

107. *Psittacus timneh*, Fras.

Bütt. N. L. M. 1885, p. 212.

Obtained at Schieffelinsville and Hill Town; observed on the St. John's-, Cess- and Sinoe River.

In March I received a nearly naked nestling from a native, and was happy enough to keep it alive until, shortly before my return to Europe, it got killed by rats at Monrovia. The feathers in the very young stage of plumage are of a fulvous tinge, the tail-feathers nearly as brown as in the adult stage. I said, in my above cited paper, this species to be not as intelligent as *erythacus*, but if my specimen did not make an exception, I must state that there is absolutely no difference in the intellectual capacities between both species.

108. *Psittacula swinderniana*, Kuhl.

Bütt. N. L. M. 1885, p. 214; id. 1886, p. 263.

A few specimens from Schieffelinsville, shot on May 10th while feeding on a large fig-tree, out a flock of about twelve specimens.

109. *Pogonorrhynchus hirsutus* (Sw.).

Bütt. N. L. M. 1885, p. 215; id. 1886, p. 263.

Some few specimens from Schieffelinsville.

110. *Megalaema subsulphurea*.

Bucco subsulphureus, Fras., P. Z. S. 1843, p. 3; id. Zool. Typ. pl. 52.

Barbatula subsulfurea, Hartl. Orn. W. Afr. p. 172.

Megalaima subsulphurea, Goffin, Mus. P.-B. Buccones, p. 44 (1863)¹⁾
(without enumeration of specimens).

Megalaema leucolaema, Bütt. N. L. M. 1885, p. 216; id. 1886, p. 263.

1) Mr. Goffin, in his Catalogue of the Buccones of the Leyden Museum, has given careful descriptions of the allied species *M. subsulphurea* and *leucolaema*, but unfortunately in the enumeration of the specimens these latter got

An adult male, collected in brushwood, near Schieffelinsville.

Iris black, bill black, feet gray.

111. *Megalaema atrofava*.

Bucco atrofavus, Blumenb. Abbild. naturh. Gegenst. pl. 65 (1810).

Barbatula atrofava, Hartl. Orn. W. Afr. p. 172 (1857).

Megalaima atrofava, Goffin, Mus. P.-B. Buccones, p. 42 (1863).

An adult male from Schieffelinsville.

Iris and bill black, feet gray.

112. *Megalaema scolopacea* (Bp.).

Bütt. N. L. M. 1885, p. 217; id. 1886, p. 263.

Several specimens, collected in brushwood near Schieffelinsville.

113. *Trachyphonus coffinii* (Schl.).

Bütt. N. L. M. 1885, p. 218.

Several specimens from Schieffelinsville and Hill Town.

114. *Gymnobucco calvus* (Lafr.).

Bütt. N. L. M. 1885, p. 217; id. 1886, p. 263.

Collected near Schieffelinsville.

confounded by mistake, so that those of *leucolaima* are mentioned after the description of *subsulphurea* and vice versa. We have thus six catalogued specimens of *M. leucolaima*, and only four of *M. subsulphurea*. Moreover all the pale- and yellow-throated specimens and the young one, mentioned on p. 45 of that Catalogue, belong to *M. leucolaima*, instead of to *subsulphurea*. My determination of the specimens, mentioned in my above cited papers, was based upon comparison with the wrongly labelled specimens in our Museum, and only the field determination of the specimen, collected during my last journey, which I afterwards found to be identical with the former specimens, has led to the discovery of Mr. Goffin's mistake.

115. *Indicator variegatus*, Less.

Bütt. N. L. M. 1885, p. 219.

An adult female, collected near Hill Town, is exactly similar to the specimen which I obtained at Soforé Place during my first journey.

116. *Mesopicus pyrrhogaster* (Malh.).

Bütt. N. L. M. 1885, p. 219; id. 1886, p. 263.

Shot from a dead Cotton-tree at Schieffelinsville.

117. *Campothera caroli* (Malh.).

Bütt. N. L. M. 1885, p. 221.

Shot in the same locality as the former species.

118. *Chrysococcyx klaasi*.

Cuculus Klaasii, Steph. Gen. Zool. IX. Prt. I., p. 129; — Schl. Mus. P.-B.; Cuculi, p. 30 (1864).

Chrysococcyx Claasii, Hartl. Orn. W. Afr. p. 190; — Boc. Orn. d'Angola, p. 144.

An adult male from Hill Town.

Iris brown, bill blackish, feet grayish blue.

119. *Centropus francisci*, Bp.

Bütt. N. L. M. 1885, p. 222; id. 1886, p. 264.

Schieffelinsville and Hill Town.

120. *Centropus senegalensis* (Linn.).

Bütt. N. L. M. 1885, p. 223; id. 1886, p. 264.

Schieffelinsville.

Notes from the Leyden Museum, Vol. X.

121. *Treron calva* (Temm.).

Bütt. N. L. M. 1885, p. 226; id. 1886, p. 264.

During my stay at Hill Town in January, the green Pigeons came almost every morning in whole flocks upon a Fig-tree close to my station, where I easily killed one or two, whenever I was out of fresh meat. My »strangerfather”, the Chief of the place, was very estonished seeing that I never shot more than I just needed, but after I had told him, that if I disturbed them too much, they would never come back, he said to some of his people in the usual corrupted English: »You fools! Them white man clever pass (is more clever than) we all! Them tree be him provision-box, to day two, to morrow two, bamby (by and by) all!”

122. *Columba uncinata*, Cass.

Bütt. N. L. M. 1885, p. 226, pl. 6.

On the fourth of January, just after I had settled at Hill Town, a native brought me a specimen of this rare pigeon, but unfortunately the head of it was shot to pieces. As he promised to bring soon more specimens of the same species, I thought that at length I had found a place, where they would be numerous, and therefore neglected to preserve the mutilated specimen. I am sorry to say that afterwards I never met with the bird again.

123. *Columba iriditorques*, Cass.

Bütt. N. L. M. 1885, p. 227; id. 1886, p. 264.

Several specimens from Du Queah and Junk River.

124. *Peristera puella*, Schl.

Bütt. N. L. M. 1885, p. 228; id. 1886, p. 265.

Only now and then met with in low forest near Hill

Town. One of the collected specimens (N^c 10, immature female) has the gray feathers on the head, especially on front, sides of head and chin, strongly intermixed with rusty brown ones, which latter must be considered as the remainders of the plumage of the first year, which would thus be entirely brown. The quills, especially the secondaries, the wing-coverts and scapulars are, as far as they are reddish brown, banded across with black. The metallic spots on the wings, so characteristic in the adult stage, are entirely wanting.

125. *Peristera afra* (Linn.).

Bütt. N. L. M. 1885, p. 229; id. 1886, p. 265.

Plentiful on the Old Field and near Schieffelinsville.

126. *Peristera tympanistria* (Temm.).

Bütt. N. L. M. 1885, p. 229.

Found in high forest near Hill Town.

127. *Numida cristata*, Pall.

Bütt. N. L. M. 1885, p. 230.

Collected at Hill Town.

128. *Agelastes meleagrides*, Temm.

Bütt. N. L. M. 1885, p. 230.

A small number of specimens, amongst which a half-grown female, were obtained at Schieffelinsville.

To what I have said in my above cited paper I have to add, that the red color of the naked parts in the adult bird is considerably darker on the occiput and hind neck, and that in live specimens the skin on the lower neck, partially covered with white feathers, is beautiful

milky white, but changes into dark blue immediately after death, and afterwards into black.

The half-grown specimen had, when obtained, partially assumed the plumage of the adult stage. To conclude from the remainders of the first plumage, this latter must be very much different from that of the adult bird. The whole head and neck, naked in the adult stage, is tolerably thickly covered with short, downy, blackish brown feathers, only the superciliary region is separated from the occipital one by a narrow band of fulvous feathers, beginning on the front and ending on the neck. The white collar, so characteristic in the adult stage, is wanting, and the feathers of these parts are blackish brown, without vermiculations. The rest of the plumage is of the same color, somewhat paler underneath, with rusty brown tip and zigzag crossbands to each feather. The quills and probably also the tail-feathers, are marbled with rusty red on the tip and outer web. The centre of the abdomen is pure white, while in adult specimens this part is dark mouse-gray.

The bird seems to get both the red and milky color on head and neck after having lost the feathers on these parts. The bill is dark brown, the feet olivaceous brown.

129. *Francolinus lathamii*, Hartl.

Bütt. N. L. M. 1885, p. 231; id. 1886, p. 265.

Several specimens from Hill Town and Weflah on the Du Queah.

Two eggs, similar to that mentioned in the first of my above cited notes, as possibly belonging to *F. ahantensis*, I received at Hill Town, and I am convinced of their belonging to *F. lathamii*.

130. *Glaucopoda megapoda*, Gray.

Bütt. N. L. M. 1885, p. 233, 256.

Collected on the Fisherman Lake, near the falls of the Du Queah, St. John's- and Cestos River.

When re-visiting my old stations Bendo and Buluma on the Fisherman Lake in December 1886, I was very anxious to see what had become of the small colony of *Glareolas*, which I formerly knew to have settled on some mangrove-covered and bare rocks in the Lake between both aforesaid stations. I really found on the same spot six specimens — there were formerly never more than eight together — of which I killed two in one shot.

Again I found the same species along the rapids of the Du Queah, on my journey to the falls, in February 1887, but was not able to get any eggs. On the rocks in the St. John's River, above the first rapid, I shot three specimens, viz. an adult male and female with their young. The plumage of the latter is slaty gray with a fulvous tip to each feather, preceeded by a narrow black cross-band, the quills and tail-feathers included; the abdomen is pure white, the rusty red collar, so characteristic in the adult bird, not yet developed.

131. *Vanellus inornatus*, Sw.

Bütt. N. L. M. 1885, p. 235; id. 1886, p. 265.

Met with in flocks of 5—10 specimens in the savannas of the Old Field after the grass was burnt off.

132. *Ardea alba*, Linn.

Bütt. N. L. M. 1885, p. 238; id. 1886, p. 265.

One specimen killed near the mouth of the Junk River.

At several times I saw single specimens on the mud-banks of the Messurado River.

133. *Ardea gularis*, Bosc.

Bütt. N. L. M. 1885, p. 238; id. 1886, p. 266.

Only once met with when on a trip along the Barguay River.

134. *Ardea atricapilla*, Afz.

Bütt. N. L. M. 1885, p. 239; id. 1886, p. 266.

Very common in the whole mangrove-district and even higher up along the banks of the rivers, where we usually found them sitting in shadowy places on old logs close to the surface of the water. When disturbed, they move with noiseless flight to another convenient place close by.

135. *Botaurus leucolophus* (Jard.).

Bütt. N. L. M. 1885, p. 240; id. 1886, p. 266.

Two specimens obtained tolerably high up the Du Queah, where they use to sit in trees close to the banks.

136. *Ciconia episcopus*, Bodd.

Bütt. N. L. M. 1885, p. 242.

A beautiful adult specimen shot at the confluence of the Junk- and Du Queah River.

As it was not severely wounded, I kept it alive for several weeks. Food: lizards, frogs, fish and small birds. The skin on the under surface of the wings, on bare places as well as in those covered with feathers, was blood-red in the live specimen.

137. *Ibis olivacea*, Du Bus.

Bütt. N. L. M. 1885, p. 242.

A very frequent bird along the Du Queah as far as the forest-region extends. Especially short after daybreak and before sunset it is found in small flocks of 5—12 specimens, roosting on or flying round high silk-cottontrees on the river-banks, where they sometimes make an awful-noise, still more tremendous and harsh than that of a flock of crows. It is very shy and not easy to get within shot.

138. *Numenius phaeopus* (Linn.).

Bütt. N. L. M. 1885, p. 243.

Common on the sand- and mud-banks of the Junk River at ebb-tide.

139. *Totanus canescens* (Gm.).

Bütt. N. L. M. 1885, p. 244; id. 1886, p. 266.

Large flocks along the Barguay River, and on every suitable place in the coast-region.

140. *Totanus hypoleucos* (Linn.).

Bütt. N. L. M. 1885, p. 244; id. 1886, p. 266.

Single specimens of this Sandpiper were met with along the Du^oQueah until up to the falls, as well as on all the other rivers I visited during my stay in Liberia.

141. *Tringa subarquata* (Güld.).

Bütt. N. L. M. 1885, p. 244.

One specimen shot in a brackwater-lagoon on the Barguay River.

142. *Rallina oculoa*.

Gallinula oculoa, Hartl. (ex Temm. M. S.) J. f. O. 1855, p. 357.

Rallus oculoa, Hartl. Orn. W. Afr. p. 241.

Rallina oculoa, Schl. Mus. P.-B. Ralli, p. 20 (1865).

An adult male, shot in a swampy inlet of the Du Queah, near Hill Town.

Iris reddish brown, bill green, feet brown, soles yellow.

143. *Corethrura pulchra*.

Crex pulchra, J. E. Gray, Zool. Misc. I, p. 13; — Schl. Mus. P.-B.

Ralli, p. 26 (1865).

Ortygometra pulchra, Hartl. Orn. W. Afr. p. 241.

One specimen, Hill Town, in low, swampy forest.

Iris red, bill grayish green, feet reddish brown.

144. *Himantornis haematopus*, Temm.

Bütt. N. L. M. 1885, p. 245; id. 1886, p. 266.

Several specimens obtained on the Junk River and the Du Queah, one of them in the Mangrove about 200 yards off our station at Schieffelinsville.

145. *Heliornis senegalensis* (Vieill.).

Bütt. N. L. M. 1886, p. 267.

Tolerably rare on the Junk River, but more common on the Du Queah as far up as Hill Town and still higher.

I found most of them solitary or at least not more than two together, slowly swimming on the river. They are very shy and watchful, and as soon as they observe an approaching canoe, they row with full speed to gain the banks, where they hide themselves under the branches and thick foliage of overhanging shrubs. They are very hard to get on the wing, and only when they have no time enough to reach the bank by swimming, they flutter hastily away, keeping so close to the surface of the water as to beat it continually with wings and feet. While swimming they sit very deep and are therefore not easily killed in that position, the less as they are difficult to get within gunshot, but never, not even when I happened to catch a wounded specimen with the hand, I saw it make an attempt to dive. Its habits are much like those of our common Coot. On 31 Dec. I happened to shoot a male specimen, sitting on a low mangrove-bush near the banks of the Junk River.

The dress of this specimen is so much different from all the other specimens of *H. senegalensis* before me, and on the other hand so similar to that of our only specimen of *H. petersi* from Mosambique, and the description of a specimen from Chiloango in Bocage, Birds of Angola, p. 488, that I feel obliged to give a detailed description of

it. The whole upper surface is much darker than in any specimen of the western form I have before me ¹⁾, and even darker than in the specimen from Mosambique. The front, crown, hind neck and mantle are black with an intense greenish gloss, the feathers of the hinder part of the mantle, all the upper wing-coverts and the secondaries black and broadly margined with chocolate-brown, the primaries entirely black, the lower back and upper tail-coverts chocolate brown, unspotted, tail-feathers sooty brown, much faded and the white tips nearly worn off, some young, nearly half-grown tail-feathers black and conspicuously tipped with pure white. Some of the scapulars, the lesser wing-coverts and some of the greater, have one, some of the lesser wing-coverts two, pure white, lanceolate or arrow-shaped spots on the shaft of the feather, while those spots in the common plumage of *H. senegalensis* are more numerous, also on the interscapulary feathers, and more rounded, eye-shaped, and surrounded by black or glossy green. The under wing-coverts are not as largely spotted with white as in the common plumage. The entire chin, throat and fore-neck are slaty gray, which color is separated from the glossy green crown and hind neck by a row of slaty gray feathers, which are broadly tipped with white, forming a narrow but conspicuous line of white, which runs from the hind angle of the eye down to the sides of the chest. Some feathers of the throat are also tipped with white. The feathers of the chest are black, broadly banded across and tipped with white, and also are those of the flanks, thighs and under tail-coverts. The greatest peculiarity of this plumage however is, that the entire breast and abdomen, even in the centre, is spotted with black, each feather being white, with a black spot on each web, forming together a tolerably broad, incomplete crossband.

1) Three specimens from the Senegal and one from the Gold Coast, making part of the Museum collection, and seven specimens from Liberia (Junk- and Du Queah River).

The iris of this bird was reddish brown, the bill coral-red with black ridge, feet and claws coral-red. Wing 19 cM., tail 15, tarsus 4, bill from the feathered part of the base 4.

As I said already, our only specimen of *H. petersi* from Mosambique differs from this specimen only by having the hind parts of its upper surface more olive-brown, and amongst the banded feathers on breast and abdomen are many pure white ones. The measurements of this specimen are exactly similar to those of the above described bird and also of some of the smaller male specimen of *H. senegalensis*.

As far as I know, *H. petersi* is separated from *senegalensis* on account of its superior size, the darker color of the upper surface and the smaller white speckles on scapulars and wing-coverts, but as I consider on account of the red bill and black throat, our bird from Mosambique to be an adult male, though in a very peculiar stage, these characters would not be strong enough to base a new species upon, the less, as the darker form is now also found in Liberia and, by Lucan and Petit, near the mouth of the Congo. The plate with male and female of *H. petersi* in Sharpe's Birds of South Africa could, with the exception of the smaller white speckles on the wing-coverts, safely pass for *H. senegalensis*.

When bringing forward these facts, I have no intention to reunite as yet the eastern with the western form, but as I have called the attention of Mr. Stampfli upon this question, I hope soon to receive more well labelled specimens and to be able to make out what the different plumages now before me have to signify. Certainly we cannot say to know this peculiar species fully until we possess enough specimens as to represent the species in all the different stages of age, sex and seasons of the year.

146. *Querquedula hartlaubi*, Cass.

Bütt. N. L. M. 1886, p. 267.

The only place where I was happy enough to observe

Notes from the Leyden Museum, Vol. X.

this duck, was a forest of high mangrove- and other trees at the head of the Junk River near the Old Field. Nearly every time, I passed this forest by canoe, I saw two or more, sitting on some overhanging branches of trees, and only once I found a couple swimming, retiring however to their elevated sitting places as soon as they heard the noise of our canoe.

147. *Sterna cantiaca*, Gm.

Bütt. N. L. M. 1885, p. 249; id. 1886, p. 267.

One specimen killed at Marshall, near the mouth of the Junk River. Also observed at Grand Bassa and River Cess.

148. *Hydrochelidon nigra* (Briss.).

Bütt. N. L. M. 1885, p. 250; id. 1886, p. 267.

Very large flocks I found near Fish Town, Grand Bassa, on the sand-banks before the mouth of the Bissaw River.

149. *Stercorarius cephus* (Brünn.).

Bütt. N. L. M. 1886, p. 267.

An adult live specimen obtained short before my return at Monrovia.

150. *Plotus levaillantii*, Licht.

Bütt. N. L. M. 1885, p. 251; id. 1886, p. 268.

Several specimens, sitting on Pandanus- and Mangrove-bushes along the Junk River.

151. *Graculus africanus* (Gm.).

Bütt. N. L. M. 1885, p. 252.

In the same localities as the former. Also observed on all the rivers I visited lower down the coast.

NOTE III.

DESCRIPTIONS OF NEW CETONIIDAE.

BY

OLIVER E. JANSON.

Smaragdesthes guerini, n. sp.

Testaceous red, shining; head black; elytra with a broad pale greenish yellow longitudinal band at the sides, the lateral margin at the shoulder and humeral callosity black; mesosternal process, anterior and intermediate tibiae and posterior knees piceous; tarsi black. — Length 21 mm.

Very similar to *S. suturalis* Fab., but with the head less closely punctured, the median carina broader, more depressed and less produced at the apex, the clypeus broader in front and of a more quadrate form, with the anterior margin slightly reflexed and straight, without an elevated point as in that species; thorax entirely red; elytra longer and more narrowed behind than in *suturalis*, the punctuation much finer and the pale lateral band slightly curved inwardly towards the suture behind.

Senegal (Petit).

The unique specimen of this species in the Leyden Museum has been communicated to me by Mr. Ritsema who has directed my attention to the characters in which it differs from *suturalis* and also to the fact that it is apparently the same species as figured in Gory and Percheron, Monographie des Cétoines (pl. 21, fig. 6) under the name of *suturalis*, the description, however, of these authors evidently applies to the true *suturalis*, Fab., Olivier, etc.

I have named it after the artist of the figure quoted.

Stalagmosoma baliola, n. sp.

Black, shining. Head coarsely and very closely punctured, clypeus rounded at the sides and narrowed towards the apex, the lateral margins elevated, the apical margin more strongly elevated and very slightly emarginate in the centre; antennae pitchy, the apex and the palpi red. Thorax broadest at the base, the sides slightly rounded to the middle, thence obliquely narrowed to the apex, the base broadly and shallowly emarginate before the scutellum and slightly sinuous on each side, the basal angles rounded, coarsely punctured, the punctures very close at the sides but finer and more remote in the centre, the median line almost impunctate, a slight impression on each side of the disc near the base, the lateral margins narrowly bordered with white. Scutellum short, broad at the base, the apex obtusely pointed, with sparsely scattered punctures and a slight impression near the apex. Elytra with rows of very coarse confluent semicircular punctures, the sides and apex coarsely strigose, the outer costa behind the middle and the suture strongly elevated; black or pitchy black with eight to twelve small white spots, one, situate close to the apical sutural angle, largest. Pygidium coarsely strigose, a white spot on each side. Beneath sparsely pubescent, coarsely strigose at the sides, mesosternal process dilated and rounded at the apex, abdomen deeply impressed in the centre and generally with one or two white spots on each side, anterior tibiae with a strong lateral tooth near the apex. In the female the punctuation is a little stronger, the margins of the clypeus less elevated, the anterior tibiae have two lateral teeth, the apical spurs of the posterior tibiae are dilated and the abdomen is not impressed. — Length 11—13 mm.

Abyssinia.

This species appears to be most nearly allied to *S. luctuosa* Lansb., but the white markings on the upper side are more like *S. albella* Pall. One of the specimens in my

collection, evidently only a variety of this species, has the disc of the thorax, the pygidium and the apex of the abdomen red, there is also an indication of a red spot on the elytra near the suture behind the middle. The two specimens in the Leyden Museum are of the type form.

S. albella has been separated as a distinct genus by Dr. Kraatz under the name of *Stalagmopygus*, but the differences given to distinguish it from *Stalagmosoma* (such as the absence of a third minute white spot on the pygidium) appear to me to be too trivial as generic characters.

Leucocelis franki, n. sp.

Head black; closely punctured, the punctures confluent and forming striae on each side between the eyes, slightly convex in the middle, apex of the clypeus reflexed and slightly emarginate in the centre; antennae red-brown. Thorax red with a blue or green tinge, the anterior margin, a small spot on each side, a large longitudinal spot in the centre and an ill-defined transverse mark in front of the scutellum black or green, with a bluish tinge; strongly rounded at the base on each side, straight in front of the scutellum, slightly narrowed from the base to the middle, thence rounded and narrowed to the apex, the disc rather finely and sparsely punctured, the punctures coarser towards the sides. Scutellum black or green, impunctate, the apex very acute. Elytra red tinged with blue, the entire margin and the apical part blue or blue-black, two lateral spots behind the middle, two (sometimes confluent) close to the apex and a variable number of smaller spots near the suture and outer margin and on the disc white; ten rows of coarse punctures on each elytron, the first and second rows assuming striae behind the middle, the second and fourth interstices broader and convex, the suture elevated posteriorly and obtuse at the apex. Pygidium red; with coarse ring-shaped punctures. Beneath black, sides of the prothorax, a spot on the upper side of the

epimera, outer margin of the posterior coxae and the two apical segments of the abdomen red; coarsely punctate and strigose, with sparse grey hairs; mesosternal process very broad, truncate in front, a transverse impressed line with a fringe of grey hairs at the apex. Legs black, very coarsely punctured, with long grey hairs, anterior tibiae with one lateral tooth and the apex acute. — Length 9—12 mm.

Ovampo, S. W. Africa.

The three specimens in the Leyden Museum, one of which has been kindly ceded to me, exhibit considerable variation as regards colour and size, the smaller specimen having the thorax and elytra red-yellow tinged with green, the margins and apex of the latter are bright green and the central spot on the thorax is elongated and extends from the apical margin to the basal transverse mark; the number and size of the white spots on the elytra varies in all the specimens and differ on the two sides of the same individual.

This species appears to be allied to *L. triliturata* Quendf., but apart from the difference in colour and markings it has the head more coarsely punctured, the sides of the clypeus more strongly reflexed, the thorax narrower at the base with the angles more rounded and the punctuation less dense, the elytra shorter and broader at the apex with the interstices less convex, the pygidium more sparsely punctured and narrower at the apex and the mesosternal process shorter and more truncate in front.

Charadronota curvata, n. sp.

♂. Head yellow, the base black, margins of the clypeus pitchy, antennae red-brown; strongly punctured, the punctures coarser and confluent towards the apex, the base with a transverse impression on each side, sides of the clypeus rounded and elevated, the apex emarginate between the prominent lateral angles. Thorax yellow with two sub-triangular black spots placed obliquely on each side of the

disc, the apical and basal margins, a small spot on each side and a small obscure spot in front of the scutellum pitchy-black; strongly rounded at the sides in front and slightly narrowed behind, posterior angles obtuse, coarsely but not very closely punctured on the disc, the sides very coarsely and more closely punctured, the basal part broadly sulcate in the centre. Scutellum yellow; punctured at the base, the apex very acute.

Elytra black, the sides and apex red-brown, a broad hook-shaped mark commencing at the base near the humeral angle curved inwardly before the middle and terminating at the apex of the scutellum and a subquadrate spot near the apex yellow; the disc with several rows of ring-shaped punctures and two slightly elevated longitudinal costae in the middle, the base convex and smooth with a rugose impression near the humeral angle and sulcate at the suture, sides and apex closely and finely strigose. Pygidium broadly yellow at the sides and apex, the centre and base pitchy-black; very closely and finely strigose, a small impression on each side at the base. Beneath pitchy-black, broadly marked with yellow at the sides, anterior coxae, front margin of the metasternum and broad bands on the abdominal segments also yellow; prothorax, mesothorax and anterior and posterior coxae coarsely strigose; mesosternal process broad, slightly rounded in front, a transverse impressed line close to the apex; abdomen slightly impressed in the centre, sparsely strigose at the sides and apex. Legs red-brown, strigose and punctured, anterior tibiae with two lateral teeth and the apex acute. — Length 17 mm.

Niger District, W. Africa.

This well marked species is most nearly allied to *C. quadrisignata*, G. & P. I have at present seen but two specimens, the male, described above, in my own collection, and a female in the Leyden Museum from Nyam-Nyam; the latter is broader and more convex than the male and has the angles of the clypeus and the teeth on the anterior

tibiae more obtuse, the markings on the underside are also smaller and those on the upper surface which are yellow in the male are, perhaps owing to artificial causes, of a red-brown colour.

Macroma oberthüri, n. sp.

Head finely punctured, clypeus rounded and depressed at the sides, widened in front, the apex rounded and slightly raised; shining black, the clypeus pale yellow narrowly margined with black; antennae black, the club red-brown. Thorax with coarse oblong punctures at the sides, the disc very sparsely and finely punctured, the base slightly produced in the middle over the scutellum; shining black, a broad lateral border extending inwardly along the base and nearly united before the scutellum and a narrow transverse band close to the anterior margin and interrupted in the middle pale yellow, the lateral bands marked with a small black spot in the middle. Scutellum black, impressed at the base and impunctate. Elytra with sparse shallow irregular punctures on the disc, the base obsoletely punctured, the sides behind the middle and the apex strigose; ochreous yellow, paler towards the apex, a very narrow sutural border, a lateral border widened posteriorly and the apex black. Pygidium shining black, with three longitudinal carinae, the central one acute, the others obtuse and converging towards the apex, the impressed parts finely strigose. Beneath shining black, the outer parts and a small spot on each side of the metasternum and exposed parts of the posterior coxae pale yellow, abdomen of the male deeply impressed in the centre. — Length 18—19 mm.

Yerkalo, Thibet (Biet).

This species is closely allied to *M. xanthorina* Hope and *M. mirabilis* Faldm.; compared with the former it is of a rather more slender form with the clypeus a little broader in front, the thorax is narrower at the base with the cen-

tral lobe less produced, the yellow lateral bands are continued along the base and nearly united in front of the scutellum and at the apex, and are almost connected by a narrow yellow band interrupted in the middle; the elytra are slightly strigose at the sides with the black border narrower and not interrupted as in *xanthorina*, the black apical and sutural borders are also narrower, the outer carinae on the pygidium are much more obtuse and curve inwardly and unite with the central one towards the apex, the mesosternal process is much narrower and less produced and there are two additional yellow spots on the metasternum. *M. mirabilis* is unknown to me in nature but from the description and figure appears chiefly to differ from *oberthuri* in wanting the yellow apical and basal bands and black lateral spots on the thorax, in the colour and the broader black margins of the elytra and the absence of the inner yellow spots on the metasternum.

I am indebted to Mons. R. Oberthür for a male of this fine species and a female, from the same source, is in the Leyden Museum.

Incala stampflii, n. sp.

Above dull red-brown, base of the head and disc of the thorax brownish black; the punctures of the head and thorax pale luteous, on the thorax the punctures are confluent and form a narrow pale median line and a less clearly defined line on each side united behind by a V-shaped mark; elytra with numerous minute luteous spots which become confluent in places and form irregular cloudy markings, and two tolerably well defined narrow longitudinal lines united at the apical callosity; a short oblique linear mark close to the suture before the middle, a similar mark at the side behind the middle and a small lateral spot near the shoulder ochreous-white. Beneath piceous, shining, mesosternum and sides of the metasternum luteous; legs and antennae red-brown, the femora piceous

with luteous punctures, the intermediate and posterior femora margined with luteous on the outer side. The entire surface of the body and the legs with short erect reddish grey setae. Head with coarse variolose punctures, clypeus dilated in front, longitudinally convex in the centre, rounded at the anterior angles and scarcely reflexed at the apex. Thorax a little broader than long, the sides sub-angular in the middle, obliquely narrowed in front and behind, the lateral margins serrate, anterior and basal angles prominent and acute, the surface uneven and thickly covered with coarse semi-circular punctures. Scutellum oblong, rounded at the apex, sparsely punctured. Elytra convex, gently and regularly rounded at the sides, broadest in the middle, sub-truncate at the apex, the sutural angles a little produced and obtuse, coarsely punctured, the punctures semi-circular and arranged in tolerably regular rows. Pygidium with coarse confluent variolose punctures. Underside and legs coarsely punctured, sides of the prothorax longitudinally strigose, abdomen closely covered with irregular transverse confluent strigae; anterior tibiae with two lateral teeth, the upper one small. — Length 18 mm.

Junk River, Liberia (F. X. Stampfli).

This species is allied to *I. lineola* Westw., but besides dissimilarity in colour and markings, it may be distinguished from that species by the absence of the elevated point at the apex of the clypeus. The only specimen I have seen is the female belonging to the Leyden Museum; the type of *lineola* in the British Museum, with which I have compared it, is also a female.

Polyplastus, n. g.

Elongate, moderately convex above. Head depressed, apex of the clypeus slightly emarginate; antennae short, the club scarcely longer than the funiculus; mentum dilated in front, the anterior margin slightly emarginate; maxillae with six fine curved spines on the inner lobe,

Notes from the Leyden Museum, Vol. X.

the galea curved and very acute, the palpi short and stout. Thorax transverse, the sides sub-angular in the middle, strongly narrowed in front, the basal angles slightly prominent and obtuse, the base broadly rounded. Scutellum large, triangular, elongate, the sides slightly rounded. Elytra rounded at the sides and apex, the lateral margin a little dilated behind the shoulders, each with eight rows of coarse punctures, the humeral and apical callosities very prominent. Pygidium oblique, produced and very convex. Prosternum impressed in the centre, with the margin elevated and forming an acute angle between the anterior coxae. Mesosternal process short, broad and obtuse. Legs moderately long, the tarsi slightly longer than the tibiae, the claws equal, anterior tibiae with two small lateral teeth.

The general appearance of the species for which I have found it necessary to characterize this new genus is not unlike some of the Rutelidae and it also bears some resemblance to *Pantolia* and the allied genera, but the obliquely narrowed humeral angles and absence of a lateral sinus to the elytra and the small mesothoracic epimera indicate decided affinity to the Trichides and the prominent mesosternal process, form of the thorax, produced pygidium and sculpture suggest a position for this genus near *Platygenia*, *Myoderma* and *Stringophorus*, it differs, however, from all the genera of this sub-family in the armature of the maxillae and form of the prosternum and, with the exception of *Inca* and *Osmoderma*, in its elongate triangular scutellum.

Polyplastus assarius, n. sp.

Head black, clypeus testaceous with the margins black; thorax black, the sides broadly testaceous with an obscure spot near the margin; scutellum and elytra red-brown or piceous, the latter generally paler towards the apex; pygidium and underside testaceous, meso- and metasternum black; legs and antennae yellowish testaceous, apex of the tibiae

and the tarsi black. Head coarsely punctured, clypeus subquadrate, very closely punctured, the apex narrowly reflexed and slightly emarginate.

Thorax coarsely punctured at the sides, the punctures finer on the disc, the sides obliquely narrowed in front, obtuse and slightly prominent in the middle and scarcely narrowed behind with the basal angles a little produced and obtuse. Scutellum sparsely punctured. Elytra short, leaving the pygidium and penultimate segment exposed, broadest before the middle, with eight rows of coarse punctures, the six discal rows strongest with the interstices convex and remotely punctured, the two lateral rows very close together and somewhat irregular, an impressed marginal line at the sides and suture and a slight impression on each side of the humeral prominence. Pygidium strongly produced, very convex and slightly compressed near the apex, very sparsely and finely strigose at the base, more closely strigose towards the apex, the apical margin a little reflexed; the penultimate segment above finely punctured. Underside punctured and sparsely pubescent, abdomen strigose at the sides, a small impression at the apex. Legs punctured, the femora and tibiae sparsely fringed with reddish grey hairs. — Length 15—17 mm.

W. Africa, Liberia.

I have for some years possessed specimens of this peculiar species and others have been recently received at the Leyden Museum from Junk River, Liberia, collected by F. X. Stampfli. In some of the specimens the elytra are entirely testaceous red but in most of them they are more or less piceous especially at the base, the testaceous lateral borders of the thorax also vary slightly in width.

I have examined the interior of the abdomen of all these specimens and find they are males, but a single specimen, also sent to the Leyden Museum by F. X. Stampfli, which I at first regarded as a distinct species, proves upon dissection to be a female and should, I am inclined to think, be referred to this species; it differs from the males in

being entirely black with the exception of the anterior coxae which are yellow at the base in front, in having the clypeus narrowed at the apex with the angles more acute, the sides of the thorax more strongly angulated and prominent in the middle, the pygidium less produced and closely strigose and the punctuation of the thorax and elytra stronger.

NOTE IV.

ON THE MALE SEX OF ARGYRIPA SUBFASCIATA
RITS., AND DESCRIPTION OF A NEW SPECIES
OF THE CETONIID GENUS ALLORHINA.

BY

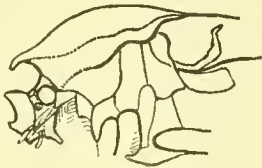
OLIVER E. JANSON.

Argyripa subfasciata, Rits. 1).

A unique female in the Leyden Museum was alone known to the author when describing this species and as I have recently received a male *Argyripa* which I have no hesitation in referring to *subfasciata*, I take this opportunity at the request of Mr. Ritsema of calling attention to the peculiarities of this sex. The most remarkable character is the extraordinary structure of the mentum, this being produced on the underside into a broad flattened vertical process margined at its sides and slightly emarginate at the apex; in the male of *A. lansbergei* Sallé, I find an indication of a similar structure in a conspicuous obtuse tubercle on the underside of the mentum, but in *A. anomala* Bates it is entirely absent. In other respects the male of *subfasciata* differs from the female in having the head strongly concave above, the lateral margins of the clypeus strongly elevated and forming an obtuse flattened horn on each side, the apex of the clypeus coarsely punctured with the mar-

1) Notes from the Leyden Museum. VII (1885). p. 41. pl. 3. fig. 2. ♀.

gin a little reflexed and slightly emarginate, the apex of the thorax more strongly produced and forming an obtuse slightly deflexed horn (much narrower than in *lansbergei*) and the body altogether of a much narrower form, the yellow markings are also of a decided greenish tint and the thoracic border is narrower especially at the base.



Mr. Ritsema gives New Granada as the probable locality of the type specimen, the male in my collection is from Chiriqui. On subjecting this specimen to a jet of steam for the purpose of relaxing it, I was astonished to observe all the greenish yellow markings of the upper side change to a deep red, but they gradually resumed their natural colour upon drying.

Allorhina insignis, n. sp.

Reddish piceous, shining, abdomen and tarsi black, thorax with a narrow white lateral border; elytra redder towards the apex, a transverse discal spot behind the middle and a very fine sutural line from the scutellum to the middle white; a large spot on each side of the pygidium and metasternum, a smaller spot on the outer margin of the posterior coxae and a transverse mark on each side of the abdominal segments white. Head closely punctured and pubescent between the eyes, the vertex smooth, longitudinally convex in the centre, the lateral margins strongly elevated and slightly produced in front of the eyes; clypeus quadrate and sparsely punctured in front, the anterior margin with a short broad horn which is slightly emarginate at its apex and connected by an obtuse carina at its base with the longitudinal central elevation. Thorax very coarsely and closely punctured, a narrow median line

and the basal margin smooth, the lateral margins slightly raised and bisinuous, the basal angles rounded and prominent, the basal lobe broad and depressed over the scutellum. Scutellum smooth and very acute at the apex. Elytra very coarsely and closely punctured, the punctures rather more sparse and arranged somewhat in rows in the region of the scutellum but very close and confluent at the sides and apex, the suture depressed at the base and slightly elevated posteriorly, the outer margins fringed with short brownish golden hairs. Pygidium slightly convex, coarsely and very closely strigose and with rather dense brownish golden pubescence. Beneath coarsely punctured, strigose and pubescent at the sides; mesosternal process short, broad and rounded at its apex; the white marks on the abdomen nearer together and almost united in the centre on the penultimate segment. Legs punctured and pubescent, the tibiae without lateral teeth. — Length 35 mm.

Chiriqui.

This fine species is very distinct from all others that are known to me, in general aspect it more resembles *Desicasta metallica* Jans., than any of the described species of *Allorhina*.

The unique specimen which I possess is a male.

NOTE V.

BEMERKUNG ÜBER ZWEI HISTERIDEN.

VON

JOH. SCHMIDT,

in Schmerzke bei Brandenburg a. H.

Hololepta sternincisa, Mars.

Unter dem Namen *parvifossa* beschreibt Hr. de Marseul (Notes Leyd. Mus. 1886, p. 150) eine Form, bei welcher die Halsschildgrube des ♂ sehr klein, der Marginalstreif des Halsschildes und der Einschnitt vor dem Prosternum fast verwischt sind und von welcher Hr. de M. es zweifelhaft lässt ob sie nur Varietät oder Hybride von *sternincisa* sei oder eine eigene Art bilde. Die Obliteration des Marginalstreifs sowie des Kehleinschnitts ist ohne Zweifel eine Folge von Abnutzung; die betreffenden typischen Stücke sind alte, stark abgeriebene Exemplare, wie schon der matte Glanz der Oberseite, namentlich aber die Vorder-schienen beweisen, die anstatt des doppelten Spitzenzahns nur noch einen einzigen, stark abgerundeten, erkennen lassen. Die von de Marseul vermissten Uebergänge finden sich allerdings; auch unter den typischen ♂♂ des *sternincisa* ist eines, bei welchem der Marginalstreif links in der Mitte verwischt ist, andererseits besitze ich ein ♂ mit ganz kleiner Grube aber überall deutlichem und kräftigem

Notes from the Leyden Museum, Vol. X.

Marginalstreif; bei diesem ist auch die Oberseite glänzender, und der Spitzenzahn der Vorderschienen doppelt. Die ♀ der *parvifossa* sind hiernach von *sternincisa* absolut nicht zu trennen und es muss der Name auf solche ♂♂ beschränkt werden, welche den Geschlechtscharacter schwach entwickelt zeigen; es hat also zu heissen *sternincisa* var. ♂ *parvifossa*.

Hister Leseleuci, Mars.

Nach Ausweis der Typen hat Hr. de M. unter diesem Namen 2 Arten confundirt. Die Exemplare des *Leseleuci* von Humpata sind identisch mit dem 1883 von mir (Berl. Ent. Zeit. 1883, p. 147) beschriebenen *H. Mechowi*. Der bogenförmige hie und da obsolete äussere Subhumeral-streif (ähnlich wie beim *H. unicolor*) wird von de Marseul nicht erwähnt, obwohl er bei sämtlichen Stücken deutlich ist, bei dem von de M. selbst bezettelten sogar weniger unterbrochen als bei meinem typischen *Mechowi*. Die bei meinem Exemplar sehr auffallende Punktirung neben dem inneren Seitenstreif des Halsschildes scheint nicht constant zu sein; bei 2 Stücken des *Leseleuci* ist sie innen recht deutlich, wogegen im Intervall des innern und äusseren Seitenstreifs nur wenige Punkte und Striche sich finden. Die Art ist übrigens mehr noch als mit *striolatus*, welchem sowohl de M. als ich sie genähert haben, mit *tropicalis* Mars. verwandt. Hieraus erklärt sich auch, dass Hr. de Marseul 4 Stücke von Liberia zum *Leseleuci* zog, welche ganz sicher zu *tropicalis* gehören. Der letztere ist hauptsächlich zu erkennen an den inneren Streifen der Flügeldecken, welche auffallend feiner sind als die äusseren, während sie beim *Mechowi* (*Leseleuci*) ebenfalls stark und furchenartig sind; auch sind die oberen letzten Segmente des *Mechowi* viel gröber und — namentlich das Pygidium — auch dichter punktirt als bei jenem.

H. striolatus kommt ebenfalls nahe am Aequator vor (Somali-land, Mus. Leyd.), sowie auch südlich von demselben (Angola).

NOTE VI.

DESCRIPTIONS OF EARTHWORMS.

BY

Dr. R. HORST.

IV.

Acanthodrilus Beddardi n. sp.,

a remarkable earthworm from Liberia.

(Plate 6).

Among the specimens of *Ac. Büttikoferi* from Liberia, described in my foregoing paper ¹⁾, I found a number of smaller Acanthodrilidae, which at first I believed to be young individuals of the same species. However examining them more accurately, I recognized that they present some characters, which hitherto are not observed in any other species of the genus *Acanthodrilus*, and I have no doubt, that they belong to a new species. In honour of the Naturalist, who had done so much to increase our knowledge of the tropical Earthworms, I will name it *Ac. Beddardi*.

The length of the largest individual is about 160 m.m. The cephalic lobe is rather long, compared to that of *Ac. Büttikoferi* and the setae are more projecting than in this species. The setae are arranged in four pairs, upon a white-

1) This Journal, Vol. IX, p. 291.

colored ridge in the middle of each segment; in the anterior segments they are situated on the ventral side of the body, however in the posterior segments the dorsal pair of them is placed more laterally. The clitellum is very distinct, extending from segment (13) 14 to (19) 20; it shows at the ventral side a deep, rectangular groove over its total length. The male generative apertures are situated in this depressed area, upon two pairs of papillae, in the 17th and 19th ring. The copulatory pouches open between the 7th and 8th, the 8th and 9th segment, in front of the ventral pairs of setae; in the vicinity of the openings there is a glandular, not well-defined area upon the ventral side of segment 7, 8 and 9.

The penial setae present a very singular appearance, quite different from that of the two other Liberian *Acanthodrilus*-species¹). The length of these bristles is about 3 m.m. Their distal extremity (fig. 3) is largely dilated and is furnished with a structure, resembling somewhat a cap; the one side (we may name it the dorsal half) of this cap is convex, smooth, bearing about 17 short, strong, hook-shaped spines and presents along its inferior edge a prominent brim, which is slightly folded and furnished with some small teeth. The opposite part (the ventral half) of the cap is divided by a ridge-shaped elevation in two halves, which are a little concave and beset over the whole surface with small, densely crowded spines. The main stalk of the bristle is furnished in the superior part of its ventral side, over about $\frac{1}{6}$ of its total length, with small, triangular, rather distant spines; opposite them the dorsal side shows a group of 9 to 10 much larger, ridge-shaped teeth. Perhaps the exact shape of these bristles can be gathered better from an inspection of the figures 3, *a* and *b*, than from any detailed description.

Ac. Beddardi possesses in the vicinity of the spermathecae still another kind of modified setae, about of the

1) This Journal, Vol. IX, pl. 4, and pl. 5 fig. 3.

same length as the penial setae, but quite different in appearance. The distal extremity of these bristles (fig. 4) is furnished with a conical point, forming an angle with the main axis of the bristle; beneath this point it is beset all around with large, triangular spines. The situation of these bristles — we may name them copulatory setae, to distinguish them from the penial setae, the modified bristles situated near to the male generative pores — is very remarkable. On opening the worm from the dorsal side, we recognize in the vicinity of each copulatory pouch a large muscle (fig. 1 and 2, *m*). These muscles, highly developed in proportion to the muscular layers of the body-wall, represent the locomotive muscle-fascicles of the ventral bristles of segment 7 and 8; their proximal end is not only inserted, as usual, into the proximal extremity of the bristle, but is also attached to the muscular layer of the body-wall in the 8th and 9th ring, not far from the median dorsal line. Each muscle is flattened vertically and has a breadth of $1\frac{1}{2}$ to 2 m.m.; it consists of two fascicles, whose fibres do not run in the same direction. There is namely a superior fascicle, whose fibres are directed to the ventral median line of the body, and an inferior bundle, whose fibres are directed more forward. The muscle-fibres have a lamelliform-shape and are arranged radially around a copulatory bristle, which is situated exactly in the centre of them; moreover a bundle of 4 to 6 similar bristles, in different stages of development, are placed against the posterior border of each muscle, and undoubtedly have the function of reserve-bristles (fig. 2, *cb*).

Each pair of copulatory setae is accompanied by a flat, band-shaped glandular body, which like a funnel surrounds their distal extremity; the two glands of each side are connected to each other and therefore the total glandular body has the shape of a ∞ (fig. 1 and 2, *x*).

The gland has a lobulated surface, and its internal structure consists, as shown by transverse sections, of a number of large, segregated lobes, parallel to each other and

each furnished with a central duct, that communicates with the sac, containing the bristle ¹).

It is a well-known fact, that also in other species of earthworms (f. i. *Lumbricus*, *Acanthodrilus*), which possess modified setae, these are not confined to the segments, bearing the male generative pores; however in those species the genital setae of different regions of the body have all the same appearance. Beddard ²) observed that in some specimens of *Ac. Layardi* — a species suggested by me to be identical with *Ac. unguatus* Perr. — the ventral pairs of setae on segment 8, the same segment that contains the anterior spermathecae, were replaced by stout, long bristles, very similar to the penial ³setae. They were contained in a thin-walled sac, precisely as are the genital setae. On either side of this sac he recognized a long, somewhat sausage-shaped glandular body, which communicates by a slender duct with the orifice, through which the setae project on to the exterior. Beddard believes these glands to be the equivalents of the glands, which he found in *Ac. multiporus* corresponding to the setae. However the large glands, observed in our species, do not appear to me to be referable to the same category, but they may be rather special structures, hitherto not observed in any species of earthworms, as far I am aware of.

There are two pairs of copulatory pouches, situated in segment 8 and 9 (fig. 1 and 2, *sp*); they consist of large, globular bodies, communicating with the exterior by a short, stout-walled duct. At the under extremity of the duct, not far from its external aperture, it possesses at the anterior and the posterior side a small diverticulum; these diverticula, only obvious in transverse sections, have their cavity divided in two or three compartments, which are densely filled up with spermatozoa. It is a curious

1) A more detailed account of the minute structure of the genital region I hope to publish elsewhere.

2) Proceed. Zool. Society of London, 1886, p. 168.

fact, already stated by Beddard¹⁾, that usually we find the spermatozoa contained within the supplementary pouches and not in the main copulatory pouch. I observed it in some specimens of *Perichaeta* and Beddard made the same statement with regard to the spermathecae of three species of *Acanthodrilus* from New Zealand.

The stout wall of the duct of each spermatheca not only consists of muscular tissue but also contains numerous tubular glands; these glandular tubes lie parallel to the longitudinal axis of the duct and enter its lumen quite near the external aperture.

With regard to the other particulars of its structure this species appears to agree very closely with *Ac. Büttikoferi*.

The intestinal canal is furnished with two gizzards (*g*) and with three pairs of lobed coeca (*gl*) in the segments 15 and 16; at the anterior side of the fifth septum two racemous glands are situated, surrounding the oesophagus on each side (*n*), and the segmental organs are replaced by tufts of faint tubes, especially obvious in the segments of the girdle. The funnels of the vasa deferentia (*f*) are situated in the 11th and 12th segments, enclosed in an unpaired vesicula seminalis, which surrounds the ventral nerve-cord and extends forward till into the 10th segment; in the 12th and 13th ring other paired vesiculae seminales are situated, which are connected with the unpaired sac.

The ovaries (*o*) are to be found in the 14th segment; they do not consist of a single contiguous mass of eggs, like in *Ac. Büttikoferi*, but are represented by a group of irregularly shaped grapes, containing numerous ripe ova.

The prostate glands (*pr*) consist of very long, highly coiled, tubular bodies.

1) Proceed. Zool. Society of London, 1885, p. 830.

EXPLANATION

OF

Plate 6.

- Fig. 1. *Ac. Beddardi* Horst; general view of the internal organs of the worm, opened from the dorsal side: *f.* vas-deferens funnel; *g.* gizzard; *gl.* intestinal coeca; *lv.* lateral vessel; *m.* the large muscles of the copulatory bristles; *n.* modified nephridia; *o.* ovary; *pr.* prostate glands; *sp.* spermatheca; *vs.* vesicula seminalis; *x.* gland. $\times 2\frac{1}{2}$ diam.
- Fig. 2. Region of the copulatory pouches of the right side, higher magnified; the anterior spermatheca is turned to the left: *cb.* copulatory bristles (reserve-bundle); other letters as before.
- Fig. 3. Distal end of a penial seta: *a.* dorsal aspect; *b.* ventral aspect; highly magnified.
- Fig. 4. Distal end of a copulatory seta, from the vicinity of the spermathecae; highly magnified.
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NOTE VII.

ON EROTYLIDAE OF THE LEYDEN MUSEUM.

BY

the Rev. H. S. GORHAM.

(Plate 7).

Among a number of species of Erotylidae, sent to me by Mr. Ritsema for determination, there are a great many of the very highest interest. About seventeen are new, including four for which it is necessary to make new genera, while others were up to this time only known by the unique types in the late Mr. Crotch's or my own collection.

I have had unusual facilities for this work, the Cambridge collection, formed by the late Mr. Crotch, being at present in my hand for the purposes of the description of the Erotylidae for the *Biologia Centrali-Americana*. This collection contains the types from Chevrolat's, Guérin Méneville's, E. Sheppard's, Reiche's and other collections; my own possesses the West African species from the late Mr. A. Murray's collection, and I am indebted to Dr. D. Sharp for the opportunity of examining, among other little known species, a type of *Tritomidea translucida* received from Motschulsky, also *Tritomidea rubripes* Reitter, *Euxestus minor* Sharp, *Hypodacne punctata* Lec. etc. This has been a very great aid to me, for it enables me to say certainly that some species referred by Crotch doubtfully to *Tritomidea*, and others so referred by myself, have no connection with that genus, and that *Tritomidea* and some allied genera

are at present only doubtfully placed in the Erotylidae, and will form at least a separate sub-family.

The object of the present paper is to give an account of the collection sent me by Mr. Ritsema, from the Dutch travellers in Liberia, and of the East India islands.

Fam. *Erotylidae*.

I. Subfam. *Encaustides*.

Encaustes malayana Guérin.

Lac. Erotyl. p. 36.

N. E. Sumatra: Tandjong Morawa, one specimen (Dr. B. Hagen); Deli, one specimen (J. A. N. Schagen van Leeuwen). — Borneo: Moeara teweh, one specimen (J. Semmelink).

Encaustes humeralis Crotch.

Cist. Ent. Vol. I. p. 478.

Aru islands, one specimen (C. B. H. von Rosenberg).

This species is very rare in collections at present, I only know of one in my own collection from the Philippines, besides Crotch's type and the specimen captured by von Rosenberg.

Micrencaustes lunulata Macleay.

Lac. Erotyl. p. 42.

N. E. Sumatra: Tandjong Morawa, five specimens (Dr. B. Hagen).

It seems likely to me that this species is after all distinct from *M. sinuata* Lac. The specimens are on the average larger and proportionally longer, the posterior lunule less arcuate, etc.

Micrencaustes sinuata Lacordaire.

Lac. Erotyl. p. 41.

Java, four specimens (Kuhl & van Hasselt).

This is at all events a geographical form, and besides

the striking difference in colour and pattern is proportionally broader than *M. lunulata*.

II. Subfam. *Dacnides*.

Megalodaene luteoguttata Crotch.

Cist. Ent. Vol. I. p. 417.

N. E. Sumatra: Tandjong Morawa, four specimens (Dr. B. Hagen).

Very scarce in collections. Both sexes are represented.

Megalodaene elongatula Crotch.

Cist. Ent. Vol. I. p. 417.

Flores, one specimen (Ludeking).

The type has been unique hitherto so far as I am aware.

Triplatoma Macleayi Lacordaire.

Lac. Erotyl. p. 47.

N. E. Sumatra: Tandjong Morawa, two specimens (Dr. B. Hagen).

Triplatoma Gestroi Bedel.

Ann. del Mus. Civ. di Genova, 1882, p. 440; t. 10, f. 4. — Gorham, Proc. Soc. Zool. London, 1883, p. 80; t. 18, f. 1.

N. E. Sumatra: Tandjong Morawa, thirteen specimens (Dr. B. Hagen).

Var.? *T. subsulcata* Gorham.

Borneo: Sarawak, one specimen (Ant. Duvivier).

Triplatoma picta Perty.

Lac. Erotyl. p. 45.

Java, two specimens (Reinwardt).

Triplatoma attenuata Crotch.

Cist. Ent. Vol. I. p. 405.

N. E. Sumatra: Tandjong Morawa, two specimens (Dr. B. Hagen).

Triplatoma bizonata Crotch.

Cist. Ent. Vol. I. p. 406.

Sumatra: Soekadana (Lampongs), three specimens (J. C. van Hasselt); Tandjong Morawa (Serdang), one specimen (Dr. B. Hagen).

Episcaphula piciventris Gorham.

Proc. Zool. Soc. London, 1883, p. 82.

Liberia: Junk-river, one specimen (J. Büttikofer).

The African species referred to *Episcaphula* or *Episcapha* differ from the Eastern species in having the prosternum compressed. I think the time is hardly come yet for separating them, as they are obviously allied genera, and other species, as e. g. *E. australis*, *E. cruciata* and its allies, shew divergence from the typical form, *E. amboinensis* Crotch.

Episcaphula rectesignata Crotch.

Cist. Ent. Vol. I. p. 414.

Africa: Nyam-Nyam, one specimen (Schlüter).

III. Subfam. *Triplacides*.

Zythonia fulva Westwood.

Thesaur. Ent. Oxon. p. 108; t. 5, f. 1.

Liberia: Junk-river, one specimen (F. X. Stampfli).

Doubtfully referred to this, of which I have not seen the type.

Amblyopus Murrayi Crotch.

Cist. Ent. Vol. I. p. 436.

Liberia: Junk-river, one specimen (F. X. Stampfli).

The hitherto unique type of this species is in my collection. This specimen does not differ in any way from it. This species certainly does not differ much from the type of *Amblyopus* in structure. The eyes are however much

coarser, the prosternum is raised so that the intercoxal process forms a flat triangular plateau terminating in a blunt but prominent point in front. The plateau of the mesosternum is in the segment of a circle.

It is not an *Amblyscelis*, for the tibiae are very little widened. It will however have to be separated with some other undescribed species.

IV. Subfam. *Erotylides*.

Aulacochilus birmanicus Bedel.

Ann. Soc. Ent. de France, 1871, p. 280.

Aru islands, one example (von Rosenberg). — Ceram: Wahaai, one example (Moens).

The distribution is remarkable, but *A. 4-pustulatus* occurs in Assam, and the genus is a very widely distributed one.

Aulacochilus tetrachus Bedel.

Loc. cit. p. 278.

N. E. Sumatra: Tandjong Morawa, one example (Dr. B. Hagen).

A species very little known.

New genera and species.

I. Subfam. *Encaustides*.

Encaustes Hageni, n. sp.

Elongata, nigro-picea, nitida; verticis maculis tribus, epistomatis lunula, et labro rufis; thorace maculis duabus triramosis flavis, elytris obsolete subsulcatis, sulcis crebre subtiliter punctatis, fasciis tribus aurantiacis, valde dentatis, una basilari humerum, maculamque subrotundatam subcingente, altera mediana valde angulatim undulata, tertiaque subapicali paululum arcuata, apice subrufescente;

Notes from the Leyden Museum, Vol. X.

abdominis segmentis singulis utrinque, femoribusque rufotatis. — Long. 29 millim.

Hab. N. E. Sumatra: Tandjong Morawa, Serdang (Dr. B. Hagen). — A single specimen.

Allied to *E. verticalis*. The head is covered with fine punctures which become thicker upon the epistome, the latter is rufous excepting at the front and very narrowly in the well-impressed line which separates it from the head, the front part of the crown and two spots of not well defined size are also red. The thorax is shaped as in *E. verticalis*, but the punctuation is a little more even, rather close and very fine.

The subsulcate and distinctly punctate elytra at once separate this species from *E. verticalis*. The sulci are filled with small secondary punctures, but under the surface are larger fuscous dots which are very distinct upon the yellow fasciæ. The middle one of these is shaped as in *E. verticalis*, but is narrower and much more deeply indented on both sides. The subapical fascia is narrower and less indented though arcuate; the fuscous dots in the sulci give all the fasciæ a ribbed appearance. Before the apex is a sanguineous spot, ill-defined as to size. Underneath the punctuation is obsolete, but distinct on the abdomen. The prosternum is raised and diamond-shaped, a little pubescent in front, although I believe the specimen to be a female, the femora not being much enlarged and the front tibiae not being denticulate.

Encaustes sulcata, n. sp.

Elongata, niger, subopaca, verticis maculis tribus, epistomate, thoracisque maculis duabus triramosis tenuibus obscure rufis; elytris sulcatis, tenuiter subrugulosis; margine basali, plaga brevi subscutellari, fascia mediana alteraque subapicali arcuata tenuibus, acute per costas denticulatis fulvis. Corpore subtus opaco, femoribus, metasterno abdomineque nitidioribus hoc punctato. — Long. circa 28 millim.

Hab. N. E. Sumatra: Tandjong Morawa, Serdang (Dr. B. Hagen). — One specimen.

The head in this species is opaque, excepting at the base, where motion takes place, here it is shining and with distinct punctures. The ocular sulcus, which is distinct in *E. verticalis* and in *E. Hageni*, is quite obsolete. The three spots on the head are united. The antennae in both this species and *E. Hageni* seem exactly as in *E. verticalis*. The thorax is more quadrate, and has the front angles more produced than in the preceding species, and its opaque surface can hardly be called punctate, but has a carina in the middle, terminating in a small impression in the middle of the base. The sulcate elytra are unlike those of any described species, being less opaque than those of *E. opaca* Crotch, but with costate interstices, the alternate costæ more distinctly raised.

The denticulate markings recall those of some *Triplatomæ*. The specimen is no doubt a female, the prosternum is not raised, but is impressed at the end of the intercoxal process. It is not at all pubescent, but is opaque.

Encaustes ceramensis, n. sp.

Oblonga, postice paululum angustata, nigerrima, nitida; elytris lunula humerum subcingente, maculaque subapicali arcuata sanguineis, tenuiter punctato-striatis. — Long. 16—20 millim.

Hab. Ceram: Wahaai (Moens). — One specimen.

This species and some allied ones are jet-black, with the exception of a blood-red mark near the shoulders, and an apical spot. In *E. ceramensis* the head is punctured very finely, the epistome is only marked by the front being depressed; the ocular stria margins the eye from the antenna to the back where it leaves it, diverging and terminating on a level with the hind-margin of the eye.

The thorax is covered with minute points, the basal sulci indicated by a group of larger points. The front an-

gles acute and prominent, base margined from the hind angles to the punctured fossa. Elytra with seven fine series of small punctures, very smooth and shining, jet-black. The shoulder red spot leaves a square black spot on the callus extending to the shoulder. The subapical mark does not touch the suture or margin, it is arcuate on its apical, and undulate on its basal side. The underside is shining, the abdomen punctured, and with some larger impressions on each segment on each side. The prosternum is compressed, the front raised into a prominent point, the intercoxal process is depressed near the tip, a very little, and wrinkled. Very short metasternal and ventral lines are present.

There is a specimen of this distinct and fine species in Mr. Crotch's collection, which is now before me, bearing the name I have adopted in this writing, but he did not describe it. This specimen is smaller than, but otherwise perfectly agrees with the specimen in the Leyden Museum.

Micrencaustes metallica, n. sp.

Nigra, supra nigro-ænea, nitida, capite parce sat fortiter, prothorace minute, elytris tenuiter striato-punctatis. — Long. 14 millim.

Hab. Sumatra: Soekadana, Lampongs (J. C. van Hasselt). — One specimen.

Head with the epistome very thickly, the crown very finely, and the base deeply though sparingly punctate. Antennæ short, their third joint equal to the three following in length, the maxillary palpi have the apical joint moderately widened (much less as in *M. Dehaani*) and pitchy-red, the ocular striola well defined, but rather coarse, not prolonged further back than the eye. The front of the head above is brassy with a green tint.

The thorax is nearly of the same shape as that of *M. Dehaani* but is more convex, and very shining, the punctures are excessively fine, except a few in the neighbour-

hood of the obsolete basal fossae. The elytra have each six rows of very fine elongate punctures, the seventh row only indicated by a few, and almost obliterated. They are of the same metallic brassy green colour as the thorax, the interstices are quite smooth.

Underneath the head is thickly punctured. The prosternum is somewhat rugose on each side of the elevated middle portion, the latter is triangular, with almost equal sides, compressed and pointed in front, smooth and with its marginal lines almost meeting. There are very fine metasternal and abdominal lines, the latter angulated in the middle. Abdomen very finely punctate. The legs are stout and the femora are incrassate, smooth, doubly carinate on their inner edge, thickened towards the tips, and clothed with brown pubescence. The tarsi are very broad (the specimen being apparently a male) their second joint especially, while the basal joint is small, the surface beneath with thick, scaly, brown, shining pubescence.

This insect can only be compared with *M. Dehaani*, from which however it is very different; it is smaller, more convex, more narrowed towards the apex of the elytra, of a brassy green above, more brilliant, and more finely punctured.

Micrencaustes sexguttata, n. sp.

Oblonga, subparallela, nigro-picea, nitida, elytris perobsolete striatis, maculis duabus subhumeralibus (interiore majori), alteraque magna transversa pone medium flavis. — Long. 14 millim. ♀.

Hab. N. E. Sumatra: Tandjong Morawa, Serdang (Dr. B. Hagen). — One specimen.

Head shining, very finely punctate except in front and towards the base, where scattered and deeper punctures are found, thorax transversely subquadrate, very smooth, almost glabrous, pitchy-black with very indistinct traces of red markings. The marks on the elytra are placed as

in *E. octopustulata*, but are of a luteous yellow. The very indistinct striae are quite obliterated over these yellow spots, the inner one or base spot is oval, just reaching the base itself, the subhumeral spot, much smaller, just touches the margin; the post-medial spot, large, almost touches the suture and margin. Legs pitchy, femora smooth.

Micrencaustes eximia, n. sp.

Oblonga, nigra, nitida; prothorace maculis duabus subrotundatis, elytris singulis maculis duabus magnis subquadratis, nec margines nec suturam attingentibus, sanguineis; epistomate capitisque basi crebre fortius, vertice subtiliter punctatis, elytris tenuiter punctato-striatis, interstitiis obsolete subalutaceis. — Long. 15 millim.

Hab. Borneo: Moeara teweh (Semmeliuk). — Banka (v. d. Bossche). — One specimen from each of the localities.

Shining black and finely punctured, prothorax transverse, narrower in front than behind, extremely finely but very closely sculptured with a stellate and almost alutaceous puncturing, the disk rather convex, with the two large roundish red spots placed near but not touching the front margin. Base sinuate not margined, except near the angles, some distinct punctures indicating the basal foveae and along the base, smaller ones at the hind angles. The elytra have two large spots (recalling those of *Episcapha glabra*), the basal pair not touching the base, and both pairs are narrowly separated by the suture nor do they touch the margins. Underneath, the prosternum is not much compressed but results in an acute point in front, wide and slightly emarginate at the end of the process, the surface of the raised part shining, uneven, with irregular wrinkles running across it. Metasternum with a fine carina from the middle to the abdominal process, also punctured on each side of the carina. Abdomen smooth and shining, punctured very finely, more thickly so at the apex and at its base.

This curious species recalls a little the species I described as *Episcapha octopustulata* (Proc. Zool. Soc. London, 1883, p. 82), which, as well as the present species, must now be referred to *Micrencaustes* Crotch, as the maxillary palpi have the apical joint much widened, and the mentum, labium and its palpi also agreeing therewith.

II. Subfam. *Dacnides*.

Euzostria, n. g.

Corpus elongatum, subcylindricum, modice convexum. Palpi maxillares articulo ultimo parvo, oblongo, apice truncato. Mentum transversum, fortiter marginatum, in medio antice acute productum. Antennae breves, articulo tertio parum elongatum. Epistoma margine antico haud emarginato. Oculi prope antennarum insertionem per canthum incisi. Pronotum subquadratum, angulis anticis acutis, paululum productis; prosternum antice convexum at haud compressum vel elevatum, processu lato apice angulariter exciso, subcanaliculato. Mesosternum subquadratum. Metasternum longum; lineis metasternalibus vel abdominalibus nullis. Femora compressa, haud perlata, intus longe canaliculata, tibiæ simplices, fere lineares. Tarsi articulis tribus primis tenuibus, compressis, articulo apicali, his fere æquali. Elytra longa, subparallela, læviuscula, apicibus rotundatis, nullomodo truncatis.

Euzostria is most nearly allied to Chapuis' genus *Coptengis*. This latter genus has been very fully characterised by its author in his volume XII of the »Suites à Buffon'', Genera des Coléoptères. It had been previously (in February of the same year, 1876) been very briefly noticed by Crotch in his Catalogue of the Erotylidae; but the publication was not issued in time to anticipate M. Chapuis, to whom the definition really belongs of *Coptengis*. Crotch's description is too brief perhaps, and not sufficiently dif-

ferential, the emargination of the eyes by a raised part of its canthus is common to *Triplatoma*, and the elongation of the third joint of the antennæ is a character common to a large portion of the genera of both Erotylidae and allied families. The elongation of the first club-joint does not hold good in *C. multiguttatus*. The antennae are wanting in *C. Wallacii*. In M. Chapuis' description (as in all long generic descriptions) the important differential characters are burried among other generalities which rather belong to the family, no object can be served by the repetition of these in every genus in which they occur, although it is of the highest importance to note the *absence* of any of these family characters in any particular genus. The most important points which *Coptengis* presents are the very cylindrical form, the very strongly raised and angular part of the ocular canthus, on which the basal joint of the antennae rests, the almost immarginate edge of the thorax, the very narrow tarsi, the short metasternum, and the truncate and often submucronate elytra. In these respects it will be seen *Euzostria* differs by the canthus of the eye not being raised, by the thorax not being cylindrical but flatter above and with the front angles prominent, by the elytra not truncate. It also presents important differences in the head being received into the thorax as far as the eyes, the femora are canaliculate, the metasternum is long. The system of coloration of the unique species is very peculiar, and allied to nothing I know in the Erotylidae.

Euzostria aruensis, n. sp.

Elongata, subcylindrica, nitida; capite nigro, crebre fortiter punctato, antennis brevibus, validis, nigris; prothorace rufo-ferruginea, quadrato, parce subtiliter irregulariter punctato; elytris nigris, fascia lata mediana ad suturam paulo constricta late flava, et apice sanguineo; prosterni processu, corpore subtus pedibusque nigris, abdominis segmentis duobus apicalibus sanguineis. — Long. 10½ millim.

Notes from the Leyden Museum, Vol. X.

Hab. Aru islands (von Rosenberg). — One specimen.

Antennae much shorter than in *Coptengis splendidus* Chap., their third joint especially shorter, and those which follow to the eighth not longer than wide, nodiform, club elongate but with the basal joint (the 9th) not much longer than the tenth; all the joints slightly pubescent; gular portion of the head red, quite smooth but each side beneath behind the eyes thickly punctured. The thorax is almost square, of a fine deep red, almost sanguineous, its front angles are acute and a little prominent and depressed; the disk very convex and shining, punctured allover, but with points of two sizes: the smaller ones very minute, the larger sparse and irregular, but still very small; the base gently bisinuate. Prosternum quite evenly rounded in front, red, transversely wrinkled, front edge truncate, narrowly black, metasternum and abdomen finely punctured. Elytra quite smooth, but with lines of piceous dots indicating the obsolete striæ. Legs entirely black.

Of this very curious insect there is only a single example of doubtful sex. From the appearance of the protruding sixth ventral and dorsal segments I should think it is a female. In both form and colour it is quite unlike anything else I have seen in this family.

Episcaphula andamanensis, n. sp.

Elongata, parum convexa, nigra, nitescens; capite prothoraceque crebrius sat profunde punctatis, elytris substriatis, seriebus punctis confusis haud bene discretis, interstitiis creberrime minute punctatis, fasciis duabus interruptis, una basali utrinque dentata, altera subapicali versus suturam constricta rufis. — Long. 7—9 millim.

Hab. Andaman islands (Dr. de Léséleuc). — One example. (Coll. Gorham 5 ex.).

This species resembles *E. interrupta* Lacord. and therefore to some extent *E. difficilis* Gorh. (Proc. Zool. Soc. London, 1883, p. 82), a species also from the Andaman

islands. The former is a West African insect, and can at once be distinguished by the punctuation of the elytra which is quite devoid of seriation or striæ. From *E. difficilis* this species is very easily distinguished by the longer form and duller surface, by the closer punctuation of the thorax, by the elytral series being composed of numerous confused small punctures, with thick but minute interstitial punctuation, and finally by the narrower and more indented red fasciæ, which are contracted as they approach the suture. The antennae are longer than in *E. difficilis*, joints 4—7 being oval, nodiform but longer than wide; 8 squarish, and the three terminal forming a rather laxly jointed club.

I have long had five specimens in my collection, and there are others in other collections obtained at the same time. The African species, although superficially resembling Oriental ones, really belongs to a very different section; the description above given should be taken with that of *E. difficilis* for a complete comprehension of these species.

Episcaphula? corallipes, n. sp.

Oblonga, convexa, glaberrima, nigra; thoracis angulis anticis antennisque picescentibus, elytris macula obliqua humerum subcingente, lunulaque subapicali laete aurantiacis, pedibus rufis. — Long. 13 millim.

Hab. Amboina (Hoedt). — One specimen.

Very close to *Episcaphula obliquesignata* Crotch and *E. sublaevis* Crotch, from both which it differs however in many important respects; the thorax is more transverse and its sides narrow more in front, and the front angles are a little more turned inwards, besides being for some distance lucid and pitchy. The antennæ are shorter, with the fourth to eighth joints not longer than wide, nodiform. The prosternum is keeled as in *E. sublaevis*, but it is much more shining, not thickly punctured on each side

of the keel, and the whole body beneath is finely punctured instead of being smooth. The legs are coral-red.

Both this species and *E. sublaevis* differ from *Episcaphula* in having very narrow tarsi, and a keeled prosternum.

The species described by me as *E. Semperi*, and which *E. corallipes* very nearly resembles, is however not congeneric with them, having dilated maxillary palpi and wide tarsi.

Episcaphula aruensis, n. sp.

Oblonga, convexa, nigra, glaberrima; antennis piceis, clava fusca; elytris macula obliqua, humerum subcingente, fasciæque subapicali, parum arcuata, albido-flavis, pedibus rufis. — Long. 10 millim.

Hab. Aru islands (von Rosenberg). — Three specimens.

Very similar in general form and very nearly allied to *E. corallipes* and *E. obliquesignata* Crotch; much smaller and with pale whitish yellow markings. The head is very finely but distinctly punctate in front, the crown is only seen to be covered with minute points under the quarter of an inch focus. The antennæ are moderately long, the fourth to eighth joints being longer than wide, a little pyriform. The elytra are smooth without any trace of striation. The whitish-yellow markings as in *E. obliquesignata* Crotch, but the hinder one more arcuate. Underside dull, the prosternum not at all compressed or carinate. The prothorax appears to be a little contracted at the base, and hence is very little narrower in front than behind; it is however wider than long. The colour of the elytral markings and its shorter thorax distinguish this species from its near ally *E. obliquesignata*.

There are three specimens captured by Baron von Rosenberg, and there is one in the Cambridge collection (Wallace).

III. Subfam. *Triplacides*.*Palæolybas dorsalis*, n. sp.

Late ovatus, saturate rufus, omnino minute punctatus, elytris nigris, macula magna communi circum-scutellari rufa, antennarum clava fusca. — Long. 8, lat. 4 millim.

Hab. Liberia: Junk-river, six specimens (F. X. Stampfli). — Nyam-Nyam, one specimen (Schlüter).

Head even, more strongly and less thickly punctured than the thorax, entirely rich-red, almost blood-red, antennæ red with the club a little infuscate; thorax transverse, much narrower in front than at the base, with acute and prominent front angles, very finely margined all round, but the sides distinctly margined. Elytra smooth and even, with six extremely fine striæ, formed of minute elongate punctures, and a sutural row almost obliterated; externally there are traces of an eighth series. The whole surface most minutely punctate; black, with a dorsal red roundish spot from the base to about the middle, common to both; scutellum, underside and legs entirely red. Tibiæ punctured with fine elongate punctures; abdomen finely and thickly punctate; breast and episterna very finely punctured, towards the sides alutaceous, metasternal lines plicate, short, enclosing an ill-defined coxal fovea at the margin of which is a second line parallel to the episterna and which borders the entire metasternum; epimera dull and impunctate. Abdominal lines short and evanescent.

There are seven specimens of this very distinct species.

Amblyscelis, g. n.

Eyes coarsely granulate. Mentum subtrigonal, not much pointed in front. Maxillary palpi with their apical joint

but moderately widened. Antennæ short, with their club connate, and the three joints very much wider than those preceeding, and faintly oblique. Tibiæ angularly widened and setose on their outer edge, sometimes (e. g. *A. senegalensis* Lac.) suddenly widened so as to seem dentiform. Metasternal- and abdominal lines not much impressed, the latter sometimes carinate. Femora wide and compressed, deeply grooved for the reception of the tibiæ on their inner edge.

I propose this new genus for the African species which have been placed in *Amblyopus* by Lacordaire and Crotch, and which differ in many respects from the eastern *Amblyopi*, some of the species very much present the appearance of *Triplax*, from having black elytra with red head and thorax.

Amblyscelis Kelleni, n. sp.

Oblongus, subparallelus, ferrugineus, parum nitidus, elytris crebre punctatis, striolatis, nigro-fuscis, callo humerali, margine epipleurali et apice rufescentibus. — Long. 5 millim.

Hab. West Africa: Humpata, one example (P. J. van der Kellen).

Head and thorax thickly punctured; the former with the front prominent, slightly emarginate, labrum distinct; the latter transverse, with the front margin straight, front angles very little produced but deflexed; hardly wider at the base than in front. Elytra densely punctate, rather deeply striate, the striæ with small, irregular, and closely-packed punctures, eight striæ are distinct, the third and fourth unite near the apex, as do the fifth and sixth. Scutellum, underside, antennæ and legs entirely rusty-red. The entire body beneath is strongly punctured. Abdominal lines distinct, plicate, forming a carina nearly across the segment.

Notes from the Leyden Museum, Vol. X.

Amblyscelis pallidus, n. sp.

Oblongus, subparallelus, antice posticeque parum angustatus, pallide ferrugineus, capite thoraceque crebre distincte punctatis, elytris striatis, striis obsolete crenatopunctatis, antennis breviusculis, clava nitente. — Long. 4 millim.

Hab. West Africa: River Congo, two examples (A. A. W. Hubrecht).

Entirely rusty-red; epistome not produced, palpi not widely hatchet-shaped at the apex, antennæ with the two basal joints very stout, third elongate, fourth to eighth very slender and short, the three club-joints strongly widened, forming an abrupt round capitulum. Thorax a little wider than long, with depressed and not prominent but obtuse front angles, the sides distinctly margined and a little sinuate. Elytra rather dull, a little wider than the thorax at the shoulders. Body beneath strongly punctured, abdomen finely pubescent. The tibiae strongly and angularly widened at their apices, which are obliquely truncate; tarsi thin and short, but with a long claw-joint.

Tritoma liberiana, n. sp.

Forma et fere statura *T. bipustulatae*, nigra, nitida, elytris macula parva humerali flava, abdomine tarsisque rufopiceis. — Long. 4½ millim.

Hab. Liberia: Junk-river, one example (F. X. Stampfli).

The head and thorax are thickly and distinctly punctured, the antennae have the two basal joints pitchy-red, the remainder pitchy-black. The elytra are punctate-striate, with minutely impressed interstices. The shoulder spot is on the base, occupying the shoulder, which distinguishes this species from any other known to me. The prosternum is rugose on the sides, smooth on the process. Mesosternum with a few large punctures; metasternum punctured

on the sides, and episterna punctate. Legs black, coxae and tarsi pitchy-red.

This is the only *Tritoma* I have seen from Africa. (*Cyrtotriplax senegalensis* Crotch is an *Amblyopus* which may be re-named *rotundatus*, the latter being a MS. name by which it is known to collectors).

There is a single specimen only.

Pseudotritoma, n. g.

Corpus breviter ovatum fere hemisphæricum, valde convexum. Antennarum clava oblonga, pubescens, triarticulata, articulo octavo transverso, articulis quarto ad septimum parvulis, haud latioribus quam longis, tertio elongato. Oculi subtiliter granulati. Palpis maxillaribus articulo apicali securiformi haud lato. Prosternum medio elevato, apice acuto. Lineæ abdominales et metasternales distinctae, tenues, impressæ. Tibiæ haud multo dilatatae. Tarsi sat longi, haud ampliati, articulo apicali precedentibus subæquali.

Type *Tritomidea* (?) *nigrocruciata* Crotch.

Species such as Crotch's *T. chryospila* and *T. nigrocruciata* cannot be referred to Motschulsky's genus *Tritomidea*, as Mr. Crotch has himself noted (Cist. Ent. Vol. I. p. 469).

The insect I now describe from Sumatra agrees closely generically with the latter, and as it is necessary to employ some generic name for these species, I propose *Pseudotritoma*.

I can only give the characters provisionally, because all the species are unfortunately unique. It is very clear that a series of genera for allied forms will have to be made; and I would desire here to withdraw from *Tritomidea* the insect described by me in Vol. VII, p. 257, of the Notes from the Leyden Museum under the name *T. atripennis*, reserving further critical remarks on the genus till I have been able to examine more specimens of eastern Erotylidae.

Notes from the Leyden Museum, Vol. X.

Pseudotritoma pulchra, n. sp.

Fere hemisphærica, rufo-picea, nitidissima; prothoracis disco utrinque et lateribus indistincte infuscatis, elytris laete rufis, punctato-striatis, humero piceo, puncto communi suturali in medio, trienteque apicali obliquiter nigris. Pedibus rufis. Antennis ad apicem infuscatis. -- Long. vix 4 millim.

Hab. Sumatra: Moeara Laboe, one specimen (Scient. Sumatra-Expedition).

This pretty little beetle is very evenly round, the thorax being as wide at its base as the elytra, and the head deeply received; both are thickly and finely punctured, the former more distinctly so than the head. The elytra are evenly punctate-striate, in this differing from *P. nigrocruciata* Crotch, in which they are rather strongly punctured all over with very little indication of series; the interstices in *P. pulchra* have however numerous minute points.

The pattern of the elytra is singular, and probably varies. In our single specimen the black central spot is round and well defined, the apical black portion is somewhat indefinite, and shades off into a livid yellow at the apex, it extends across the apical third of the elytra obliquely to near the middle of the margin. Underneath the body is rufous with the middle of the breast pitchy.

Phoxogenys, n. g.

Corpus breviter ovatum, convexum. Palpi maxillares articulo ultimo lunato haud perlato; mentum triangulare, antennae tenues breves, clava brevi, debili. Prosternum latum, antice subcompressum, postice truncatum vix emarginatum, valde punctatum, processu intercoxali marginato, lineis haud antice productis. Mesosternum transversale, punctatum. Metasternum lineis obliquis tenuibus utrinque impressis, episterna vix attingentibus.

Lineæ abdominales obsoletiores, breves. Pedes sat longi, femora subcompressa, parum incrassata, tibiæ sublineares, ad apices paulo ampliatae, tarsi modice longi, haud lati. Oculi subtiliter granulati.

This new genus is proposed for a very singular looking Erotylid from Java. Having the short form of *Tritoma* it is not apparently very near allied to it, nor to Crotch's genus *Spondotriplax*. It is more convex than either and somewhat gibbous, the prothorax being more declivous, with a very short prosternum, and its base obliquely truncate on each side. Its system of punctuation is quite different to any *Tritoma*, the elytra being thickly though finely punctured all over, and the striae only faintly and confusedly marked.

Yet to find structural differences, easily defined, will not be possible. As in most of the genera of the Erotylidae, it is the form of the body depending on small modifications, such as the relative length of the sterna, and the greater or less convexity of the upper surface that are most apparent. The system of coloration, so little thought of generally, is in this group one of the best guides. In the present species this recalls nothing I am acquainted with in the East, but is like that of *Brachysphænus*. There being only four specimens, I have not dissected the mouth, but the trophi are sufficiently visible. The labial palpi are of the normal form; indeed they vary very little in the whole family. I confess I do not think the trophi in this group are of much value for classification, although presenting one or two divisional, general modifications.

Phoxogenys Mülleri, n. sp.

Breviter ovatus, antice prorsus, postice gibbosus, convexus, niger, nitidus; capite lunula basali elytrisque flavis, his puncto humerali (quod interdum ab est), plagis duabus,

una discoidali una marginali, et sutura postice, ad apicem latiore nigris. — Long. $4\frac{1}{2}$ —5 millim.

Hab. Java, four specimens (Dr. S. Müller).

Black; head and thorax closely and distinctly punctate, the former with an orange-red transverse spot on the base, second and underside of some succeeding joints of the antennae, and palpi testaceous, basal plate of the mentum triangular. Third joint of antennae as long as the three following it, the four last joints forming an oblong club. Thorax more than twice as wide as long, with declivous and acute front angles, the front margin deeply cut out and almost entirely receiving the head, sides strongly converging, very finely margined. Elytra very thickly and very finely punctured, the striae may be discriminated composed of punctures very little larger than those of the interstices.

IV. Subfam. *Erotylides*.

Aulacochilus crucis-melitæ, n. sp.

Oblongus, parum ovatus, nigro-piceus, nitidus, ore, coxis tarsisque rufo-piceis; elytris læte flavis, callo humerali, margine laterali, sutura, fascia antica, extus abbreviata, altera pone medium integra ad marginem ampliata, maculaque subapicali nigris. Capite prothoraceque parcius, elytris crebrius punctatis, his subtilissime substriatis. — Long. $5\frac{1}{2}$ — $6\frac{1}{2}$ millim.

Hab. Sumatra: Tandjong Morawa, Serdang (Dr. B. Hagen) 7 specimens; Soekadana, Lampongs (J. C. van Hasselt), one specimen. — Andaman islands (coll. Gorham). — Cambodia (coll. Fleutiaux).

Head, thorax and antennæ black and shining, the two former sparsely and deeply punctured, sides of the thorax rounded and distinctly narrowing in front to the rather acute but hardly prominent front angles. If the elytra are described as being black, they have then a bright yellow

basal marking like the Hebrew letter Caph with its open side towards the suture, on each, and a subapical square spot arcuate on its apical edge, neither of them touching the margin or suture.

I have long known this species from the Andaman islands. The specimens from Sumatra hardly differ at all, except that the basal yellow mark is rather broader, while a specimen from Cambodia, sent me by Mr. Fleutiaux, has the same mark excised on its outer edge more deeply.

EXPLANATION

OF

Plate 7.

- Fig. 1. *Encaustes Hageni* Gorh. p. 133.
 » 2. » *sulcata* Gorh. p. 134.
 » 3. » *ceramensis* Gorh. p. 135.
 » 4. *Micrencaustes sexguttata* Gorh. p. 137.
 » 5. » *eximia* Gorh. p. 138.
 » 6. *Euzostria aruensis* Gorh. p. 140.
 » 7. *Episcaphula corallipes* Gorh. p. 142.
 » 8. *Palæolybas dorsalis* Gorh. p. 144.
 » 9. *Pseudotritoma pulchra* Gorh. p. 148.
 » 10. *Phoxogenys Mülleri* Gorh. p. 149.
 » 11. *Aulacochilus crucis-melitæ*. Gorh. p. 150.

NOTE VIII.

A NEW SPECIES OF THE COLEOPTEROUS FAMILY
ENDOMYCHIDAE.

DESCRIBED BY

the Rev. H. S. GORHAM.

Panomoea sumatrensis, n. sp.

Nigra, nitida, prothoracis lateribus elytrisque testaceis, glabris. — Long. $7\frac{1}{2}$ millim.

Hab. East Sumatra: Deli (J. A. N. Schagen van Leeuwen).

Size and form of *P. pardalina*, but at once separated from any known species of this genus by its quite immaculate elytra, and black body, legs, head and antennæ. The mouth and its trophi are pitchy, as are the anterior coxæ and the front of the metasternum. The underside is densely and finely punctured, each ventral segment is however smooth at its base. The elytra appear quite smooth, but under a strong lens are seen to be covered with small and quite distinct punctures, and they are slightly darker in colour along the suture.

I have only seen one example of this species. — Sumatra, Java, Borneo, the Philippines and Ceylon have each now a species known to inhabit them, and Frivaldsky has described one from the Malayan peninsular which also seems to be in Borneo.

NOTE IX.

SOME NEW SPECIES OF PHYTOPHAGOUS COLEOPTERA
FROM BRASIL (COLONY BLUMENAU) ¹).

DESCRIBED BY

MARTIN JACOBY.*Lema nigrilabris*, n. sp.

Rufous; antennæ, labrum and legs black; elytra violaceous blue, strongly punctate-striate anteriorly, the 9th row interrupted, the interstices costate at the apex. — Length 4 lines.

Head impunctate, rufous, with the usual grooves of moderate depth; the labrum black; antennæ half the length of the body, entirely black, the fourth joint one half longer than the third; thorax rufous, not longer than broad, deeply constricted at the middle, the base with a deep transverse sulcation; the disc with a few minute punctures placed longitudinally; scutellum rufous; elytra slightly raised at the basal portion but not transversely depressed below the latter, the shoulders deeply longitudinally sulcate within, the punctuation deep at the anterior half, gradually diminishing posteriorly till it disappears entirely at the apex, where the interstices are costate; the ninth row of punctures is interrupted at the sides and costate, in front of this and close to the lateral margin is another

1) These species belong to the collection of Mr. Neervoort van de Poll and my own.

very deep longitudinal depression; the underside is reddish fulvous, clothed with short silvery pubescence; the legs are black.

This species, although evidently closely allied to *L. violaceipennis* Lac., seems to be distinct from it on account of the entirely black antennæ, labrum and the similarly coloured legs; the elytra are also devoid of a post basalar depression and the interrupted ninth punctured stria is raised in shape of a costa. — Two specimens.

Haltica (Graptodera) modesta, n. sp.

Black; the head, the three basal joints of the antennæ, the thorax and the anterior femora flavous; elytra dark violaceous, extremely finely punctured. — Length $1\frac{1}{2}$ line.

Head impunctate; the frontal tubercles rather flattened, the carina sharp and distinct; labrum and palpi black; antennæ about half the length of the body, the three (or four) lower joints flavous, the rest black, the third and fourth equal, scarcely one half longer than the second joint; thorax convex, twice as broad as long, the sides deflexed anteriorly, the lateral margin nearly straight, the posterior slightly lobed at the middle, the anterior angles oblique, forming an indistinct angle before the middle, the surface with a deep transverse and sinuate groove, which is bounded at the sides by a short perpendicular groove, but continues beyond this, upwards for a little distance, the disc entirely impunctate, rather swollen; elytra convex, slightly widened posteriorly, without any basal elevation, very closely and finely punctured, the punctuation distinct to the apices and arranged in very closely approached semi-regular lines; underside and the legs black, the anterior femora flavous.

This small species forms part of a group described by the late von Harold which differ from the typical forms of *Haltica* by the possession of a small perpendicular groove in addition to the transverse sulcation of the thorax, as

in *Lactica* and *Diphaulaca*, with this difference, that the transverse groove extends upwards along the sides for a little distance. *H. modesta* is closely allied to *H. petulans* Har. and still more closely to *H. parvula* Jac., but differs from the former by the colour of the underside, and from the latter by its larger size and the much more finely punctured elytra. I also possess this species from Para.

Lactica Haroldi, n. sp.

Below piceous; head and the scutellum black, thorax and elytra fulvous, the latter minutely punctured. — Length 1 line.

Head entirely black, with a few deep punctures near the eyes; the frontal tubercles small; palpi obscure fulvous; antennæ rather short, not extending to half the length of the elytra, black, the four lower joints fulvous, the third, one half longer than the second and more slender, the following joints somewhat thickened; thorax transverse, rather more than twice as broad as long, the sides rounded, slightly narrowed towards the apex, the thoracic groove sinuate, moderately deep and bounded at the sides by a perpendicular groove, the surface not visibly punctured; scutellum black; elytra rather convex, extremely finely punctured.

The very small size, the black head, scutellum and underside separates *L. Haroldi* from several nearly similarly coloured species.

Systema bifasciata, n. sp.

Testaceous; thorax finely punctured; elytra closely and finely punctured, the suture and a narrow lateral stripe, abbreviated posteriorly, piceous. — Length 2 lines.

Head scarcely visibly punctured, the frontal tubercles rather obsolete; antennæ short, testaceous, the joints stained with fuscous or entirely of that colour, the third

and fourth elongate, equal; thorax twice as broad as long, the sides nearly straight, the basal groove distinct, the surface finely and rather closely punctured; elytra very closely and distinctly punctured, the suture and a longitudinal stripe at the sides, not extending to the apex, piceous; underside and legs testaceous, the posterior femora with an obscure fuscous spot near the apex.

This species seems closely allied to *S. marginalis* Illig. but differs in the shape of the thorax, which in Illiger's species is described as »scarcely broader than long'', and in the black or fuscous suture of the elytra.

Diabrotica brasiliensis, n. sp.

Black; head, thorax and femora flavous; thorax bifoveolate; elytra bright metallic green, closely punctured. — Length 2 lines.

Head impunctate, flavous, the labrum (in one specimen) black; antennæ two thirds the length of the body, black, the basal joint testaceous below, the third joint twice as long as the second, but shorter than the following joints; thorax twice as broad as long, the margins nearly straight, the surface deeply transversely sulcate, impunctate; scutellum black; elytra bright green, closely and finely punctured, the interstices slightly rugose; tibiæ and tarsi as well as the underside black; femora flavous.

Luperodes brasiliensis, n. sp.

Oblong-ovate, black; the terminal joint of the antennæ yellowish; thorax yellowish-white, with a large black spot; elytra minutely granulate, pale flavous, the sutural and lateral margin and a longitudinal stripe at the sides of each, black; posterior femora whitish at the base. — Length 3 lines.

var. a. Thorax without black spot.

var. b. Thorax and elytra black, the latter with a sub-

sutural longitudinal whitish stripe and a shorter one near the sides.

Head impunctate, black; antennæ half the length of the body, black, the last (in one specimen the two last) joint whitish, its extreme apex black, the second and third joints short, equal; thorax narrowly transverse, more than twice as broad as long, the sides straight, widened towards the base, the posterior margin rounded, the surface exceedingly finely punctured and granulate, with some obsolete depressions, yellowish white, the middle with a large elongate black spot, pointed at its lower extremity; scutellum black; elytra ovate, convex, sculptured like the thorax; if the black is taken for the ground colour, each elytron has a broad longitudinal yellowish band from the base to near the apex, placed near the suture, and another similar band of half the width near the lateral margin, generally abbreviated at some distance from the apex; underside and legs black, the femora, their apices excepted, flavous; the posterior tibiæ with a long spine; the first joint of the posterior tarsi much longer than the three following joints together; claws appendiculate; the anterior coxal cavities open.

In the variety the black occupies nearly the entire sides of the elytra, reducing the lateral flavous band to an extremely narrow and short stripe, the subsutural flavous stripe also varies in width; the thorax is either entirely black or entirely yellowish white in some specimens.

NOTE X.

ON THE GENUS APOLEON, GORH.

BY

the Rev. H. S. GORHAM.

In the Vol. IX of »Notes from the Leyden Museum'' (1887, p. 212) M. Fairmaire has honoured my description of a new genus of Bostrychidae (this Journal, Vol. VII, 1885, p. 51) with a short but attractive notice.

There is no ground for M. Fairmaire's assertion that the genus *Apoleon* Gorham is identical with *Dysides* Perty. The difference of the countries from which they come, Siam and South America, was alone sufficient to raise this presumption. Nor does it belong to the Ptinides (Anobiidae is what M. Fairmaire intends I presume), nor is there any reason to think *Dysides* itself does not belong to the Bostrychidae, where Westwood places it.

The antennae of *Apoleon* are very much more in accord with those of *Polycaon* and *Psoa* than with any of the Anobiidae.

It is therefore to be regretted that M. Fairmaire has given the weight of his name to a statement containing so many errors, and about which he had not sufficient knowledge for criticism.

NOTE XI.

DESCRIPTION OF A NEW SPECIES OF THE
COLEOPTEROUS GENUS LANGURIA.

BY

the Rev. W. W. FOWLER.

Languria Vandepolli, n. sp.

Angusta, elongata, nigro-cyanea, capite prothoraceque supra et subtus rufis, corpore subtus nigro, coxis ferrugineis; capite sat magno, diffuse et subtiliter punctato, antennis nigris ad basim ferrugineis, articulo septimo dilatato, octavo triangulariter dilatato, 9° — 11° majoribus, subaequaliter; prothorace latitudine longiori, distincte marginato, lateribus leviter rotundatis, ante basim sinuatis, angulis posticis acutiusculis, disco diffuse et subtiliter punctato, ad basim depresso, depressione linea longitudinali utrimque instructa; scutello laevi; elytris ad apicem sensim angustatis, apicibus ipsis vix oblique truncatis, sat fortiter punctato-striatis; metasterno fere laevi, abdomine diffuse punctato, lineis coxalibus brevibus, indistinctis; pedibus modicis, nigropiceis, tarsis subtus densius pilosis. — Long. $5\frac{1}{2}$ —6 mm.

Narrow and elongate, nigro-cyaneous, with the head and thorax red, the underside of the rest of the body black, scarcely cyaneous, and the coxae ferruginous; head moderately large, finely and diffusely punctured; antennæ black, ferruginous at base, with a 4-jointed club, the 8th joint however being considerably smaller than the 9th; thorax

longer than broad, with the sides gently rounded, and sinuate before base, diffusely punctured, posterior angles acute, base depressed with a short longitudinal stria on each side of the depression; elytra gradually narrowed to apex, with rows of rather strong punctures; metasternum and abdomen very diffusely punctured, last segment of the latter rather strongly punctured, coxal lines short and more or less obsolete; legs pitchy black, tarsi rather strongly pilose beneath.

Taken in Queensland: Normantown (French); described from the collection of Mr. Neervoort van de Poll.

Together with this species Mr. Neervoort van de Poll sent me a long series of a much larger species, also from Queensland. I believe it to be a new species, but it is closely related to *L. papuana* Crotch, and as von Harold has described a species he names *L. papuensis*, which also appears to be allied to it, and three or four others from Northern Australia and New Guinea, I prefer not to describe it until I have seen the types.

NOTE XII.

ON THE SHREWS FROM THE MALAYAN
ARCHIPELAGO.

BY

Dr. F. A. JENTINK.

April 1888.

It is a great exception if collections made by naturalists having collected in the islands of the Malayan Archipelago contain Shrews. For that reason specimens of this group of Insectivora are very rare in the Musea of Natural History and a very small number of species have been described. In this paper I will try to give a review of the known species and their distribution over the islands of the named Archipelago.

In the 12th edition of his *Systema Naturae*, Linnaeus described the first a Malayan species after a specimen from Java: he named it *Sorex murinus* (*Sorex marinus* apud Gmelin). Notwithstanding Pallas was convinced of the fact that he described Linnaeus' species, he however called it *Sorex myosurus*. S. Müller and Macklot, the zealous and well known members of the scientific staff of the Dutch Commission for natural history investigations in our Archipelago, reported that *Sorex myosurus* P. (*S. murinus* L.) was to be found in Sumatra, Java, Borneo, Celebes and Amboina, but that there is living in Timor another species, which they described under the name of *Sorex tenuis* in the work, entitled »Verhandelingen over de Natuurlijke Geschiedenis, etc. 1839—1841”.

Notes from the Leyden Museum, Vol. X.

Professor Peters described in the »Monatsberichte, 1870'' the following new species: *Crocidura foetida* from Borneo, *Cr. doriae* from Borneo, *Cr. monticola* from Java, and *Pachyura sumatrana* from Sumatra.

Dr. Trouessart created a new species, *Crocidura edwardsiana*, based upon two immature female specimens from the islands in the Soolou-Archipelago (Le Naturaliste, 1880).

Dr. Dobson published in the »Annali del Museo Civico di Genova, 1887'', descriptions of two new species from Sumatra, *Crocidura paradoxura* and *Cr. beccarii*.

Up to this day no other species have been mentioned, as far as I am aware.

Pallas relates nothing as to the origin of his *Sorex myosurus*, but it may be a species from the Malayan Archipelago or not, the species called *S. myosurus* in the »Verhandelingen'' as being found nearly in all the East-Indian Islands is certainly *not* Pallas' species: it has a much shorter tail and is for the rest a much larger animal than *S. myosurus* Pallas. It agrees very well and I believe it identical with *Sorex indicus* Geoffroy, described in the »Annales du Muséum, 1811'' and figured in the »Mémoires du Muséum, 1815''.

In our collection are three specimens of a Shrew under the name *Sorex tenuis* Müller, two stuffed and one in alcohol: they are from Timor. One of the stuffed specimens agrees with the short description in the »Verhandelingen'': the two other specimens differ from *tenuis* as well as from one another in dentition, color and size: they belong to two different species and will be described hereafter.

Other undescribed species in our Museum are from Sumatra, collected by S. Müller, from Java by S. Müller, from Banka procured by Vosmaer, and from Ternate presented by van Musschenbroek. The geographical distribution of the Malayan Shrews is thus as follows:

Sumatra.

Pachyura indica Geoffroy.

» *sumatrana* Peters.

Notes from the Leyden Museum, Vol. X.

- Crocidura neglecta* Jentink.
 » *paradoxura* Dobson.
 » *beccarii* Dobson.
 » *brunnea* Jentink.

Banka.

- Crocidura?* *vosmaeri* Jentink.

Borneo.

- Pachyura indica* Geoffroy.
Crocidura foetida Peters.
 » *doriae* Peters.

Soulou-islands.

- Crocidura edwardsiana* Trouessart.

Java.

- Pachyura indica* Geoffroy.
Crocidura brunnea Jentink.
 » *monticola* Peters.

Timor.

- Crocidura tenuis* Müller.
 » *macklotii* Jentink.
Pachyura mülleri Jentink.

Ternate.

- Pachyura unicolor* Jentink.

Batjan.

- Pachyura indica* Geoffroy.

Amboina.

- Pachyura indica* Geoffroy.

Crocidura tenuis, S. Müller.

Description of the type, an adult specimen (stuffed): base of the hairs slaty colored, upperparts chocolate-brown, underparts lighter; head very elongate; tail with short hairs closely set, so that the scales are invisible; the basal part is behaved like the back, no elongated hairs on the tail as in other species.

Upper jaw: posterior hook of the first incisor of the height of the third unicuspidate tooth, second unicuspi-

date tooth as high as the first molar, fourth unicuspidate somewhat smaller than the third.

Lower jaw: first incisor without denticulations, second tooth flat and not so high as the third unicuspidate.

All the teeth are white.

For measurements see page 167.

Hab. Timor. Collected by Macklot.

Crocidura macklotii, n. sp.

Description of the type, an adult specimen (in alcohol): base of the hairs mouse-color, upperparts and lowerparts of head and body of a light shining brown. Tail hairy, scales invisible; tail and upperparts of feet brown. Muzzle swollen.

Upper jaw: posterior hook of the first incisor of the size of the third unicuspidate tooth, second unicuspidate on the same level with the anterior hook of the first incisor, fourth unicuspidate somewhat larger than the third.

Lower jaw: first incisor without denticulations, second unicuspidate flat, third unicuspidate higher than the second.

All the teeth are white.

For measurements see page 167.

Hab. Timor. From the collections made by Müller and Macklot.

Crocidura brunnea, n. sp.

Description of the type, an adult specimen from Java (stuffed): base of hairs black; upperparts reddish brown, lowerparts somewhat lighter colored. Tail with very short brown hairs, scales visible; basal part of tail with a few longer hairs. Muzzle pointed.

Upper jaw: posterior hook of first incisor of the same height as the third and fourth unicuspidate teeth, anterior hook of first incisor in the same level with the second unicuspidate and the first molar.

Lower jaw: first incisor without denticulations, second unicuspidate very flat, attains half the height of the third unicuspidate, the latter as high as the posterior cusp of the first molar.

All the teeth are white.

For measurements see page 167. The individual (stuffed) from Sumatra is somewhat larger than the Java-specimen.

Hab. Java and Sumatra. Collected by S. Müller.

Crocidura neglecta, n. sp.

Description of the type, an adult female (in alcohol): base of hairs black; hairs of upperparts tipped with brownish red, underparts somewhat yellower. Tail and feet very hairy, brownish red; scales of tail entirely covered by the hairs: a few long fine hairs on the basal part of the tail. Tail much shorter than in the other species. Muzzle pointed.

Upper jaw: posterior hook of first incisor about the height of the second unicuspidate tooth, the latter being on the same level with the first molar; third and fourth unicuspidate teeth of the same size and about half the height of the posterior hook of the first incisor.

Lower jaw: first incisor without denticulations; second unicuspidate flat, as high as the anterior cusp of the first molar; third unicuspidate somewhat higher than the posterior cusp of the first molar.

All the teeth are white.

For measurements see page 167.

Hab. Sumatra. Collected by S. Müller.

Crocidura? vosmaeri, n. sp.

Description of the type, a young specimen (in alcohol): upperparts of a beautiful velvet brownish black; lowerparts of the same color, but the tips of the hairs have a lighter tinge. Tail and feet thickly covered with hairs co-

lored like those of the back: basal part of tail with a few longer fine hairs. Muzzle swollen.

Although this specimen is still young, as the teeth are partly covered by the gums, so that it can not be made out if it belongs to the genus *Crocidura* or to *Pachyura*, I have no doubt as to its specific difference, as no other species shows a system of coloring like it.

The teeth are white.

For measurements see page 167.

Hab. Banka. Presented by Mr. Vosmaer.

Pachyura mülleri, n. sp.

Description of the type, an adult specimen (stuffed): base of the hairs mouse-color, upperparts light brown, underparts yellowish tipped. Scales of tail visible; a few short hairs are widely set on the tail; the basal half with several very long hairs. Muzzle swollen.

Upper jaw: posterior hook of first incisor very small, somewhat more than half the size of the third and fourth unicuspidate teeth, the latter two are of the same size and attain about three quarters of the height of the second unicuspidate: fifth unicuspidate has a circular form, is very small, not to be seen from without, about half the height of the third and fourth teeth.

Lower jaw is wanting, see my Catalogue ostéologique, 1887, p. 250, s. n. *Pachyura tenuis*.

All the teeth are white.

For measurements see page 167.

Hab. Timor. Collected by S. Müller, 1828.

Pachyura unicolor, n. sp.

Description of the type, an adult female (stuffed): all the hairs of a uniform bluish black color, with a soft brownish tinge along the back. Tail with very few hairs, no elongated ones. Muzzle pointed.

Upper jaw: posterior hook of first incisor as high as the third and fourth unicuspidate teeth, the latter being of the same size; second unicuspidate as high as the first molar; fifth unicuspidate has an ovoidal form, is of the height of the cingulum of the fourth tooth and is not to be seen from without.

Lower jaw: first incisor without denticulations; second unicuspidate flat, about half the height of the third unicuspidate; the latter is somewhat higher than the posterior cusp of the first molar.

All the teeth are white.

For measurements see page 167.

Hab. Ternate. Presented by Mr. van Musschenbroek in 1877 and collected by him on January 11, 1875.

Some measurements (in millimeters) of the above described and mentioned species:

	Head a. body	tail	ear	hind- foot
<i>Pachyura indica</i> Geoffroy	130	68	11	21
» <i>sumatrana</i> Peters	109	66	12	19
» <i>mülleri</i> Jentink	95	52	8	18
» <i>unicolor</i> Jentink	104	48	8	16
<i>Crocidura?</i> <i>vosmaeri</i> Jentink	61	37	6	12
<i>Crocidura neglecta</i> Jentink	81	36	7	12
» <i>paradoxura</i> Dobson	66	105	10,5	16
» <i>beccarii</i> Dobson	66	53	7	13
» <i>foetida</i> Peters	64	56	8,5	15
» <i>doriae</i> Peters	80	60	10	16
» <i>edwardsiana</i> Trouessart	84	46	8	18
» <i>brunnea</i> Jentink	75	47	6,5	15
» <i>monticola</i> Peters	55	47	4,5	6,5
» <i>tenuis</i> Müller	78	50	8	14
» <i>macklotii</i> Jentink	84	46	7	15,5

NOTE XIII.

THE SPECIES OF THE RHYNCHOPHOUS GENUS
ECTATORHINUS, LACORD.

ENUMERATED BY

C. RITSEMA Cz.**Ectatorhinus.**Lacordaire. *Genera des Coléoptères*. VII (1866). p. 53.

- magicus* Gerst. *Stett. ent. Zeit.* XXI (1860). Nov. Guinea.
p. 389 (gen. *Ithyporus*). — Lacord.,
Gen. Col. VII (1866) p. 59, note.
- Godefroyi* Fairm. *Naturaliste*. III. Duke of York I.
(1881). p. 389. — id., *Ann. Soc. Ent.*
Belg. XXVII (1883) 2^{de} part. p. 36.
- Wallacei* Lac. *Gen. Col.* VII (1866). p. 54, Borneo.
note 1.
- Adamsi* Pasc. *Journ. Linn. Soc.* XI (1872). Japonia.
p. 478. — Roelofs, *Ann. Soc. Ent.*
Belg. XVIII (1875). p. 155.
- femoratus* Pasc. *Journ. Linn. Soc.* XI (1872). Sarawak.
p. 478; pl. 10, fig. 10.
- Hasselti* Roel. *Notes Leyd. Mus.* II (1880). Sumatra.
p. 232. — id., *Deuts. ent. Zeits.* XXIV.
(1880). p. 140. — id., *Midden-Su-*
matra. Coleoptera. p. 117.
- rugaticollis* Chevrl. *Ann. Soc. Ent. France.* India or.
5^e sér. X (1880). *Bull. Ent.* p. 73.
- frontalis* Chevrl. *Naturaliste*. IV (1882). Andaman I.
p. 133.

Leyden Museum, January 1888.

Notes from the Leyden Museum, Vol. X.

NOTE XIV.

ON THE HABITS AND ANATOMY
OF OPISTHOCOMUS CRISTATUS, ILLIG.

BY

Dr. C. G. YOUNG.

April 10th, 1888.

(Plate 8).

This bird is known also as the stinking pheasant, anna, stinking anna, and van Batenburg's turkey — after a Dutch Governor of years gone by. It gets the name »stinking” from the peculiar smell, like fresh cow-dung, that comes from its crop or stomach or both, for when the skin is preserved it possesses no smell, and the body when the inside has been removed is quite sweet. Notwithstanding the possibility of removing the smell by removing the bowels, it is never used as food; consequently it passes its time in peace and plenty.

It is found in only one place in this country viz. the Berbice River and one of its branches, the Canje Creek, living together in great numbers on the low bushes that border these waters, especially on a „pimpler” (*Dreponocarpus lunatus*) that stretches its branches over the muddy water and rises and falls with the tide. Any day in the year they can be seen sitting side by side like love-birds on the branches of this shrub or on the low trees behind them. They fly from twig to twig and although I have

Notes from the Leyden Museum, Vol. X.

seen these birds every day for the last six years, I have never seen them extend their flight beyond twenty or thirty yards at one time, and never once saw them on the ground. This inactivity is not the result of inability, for their wings are well developed, and their legs and feet are strong. They never leave the river side, and their food is the leaves and seeds of this „pimpler” and of a plant that grows in the water, a kind of gigantic cuckoo pint, called at home „lords and ladies”, in this country called »Mucca-Mucca” (*Caladium arborescens*). I may mention in passing that there is not a puddle of water in the Colony in which this *Caladium* is not found, and *Dreponocarpus lunatus* fringes every river and creek in the country.

In the middle of March and beginning of April they make a flat nest, like that of a sparrow hawk on the top of the low shrubs by placing a few dry sticks together, but so loosely united that one can, when under them, see if they contain eggs or young, by simply looking up through them. They lay two, sometimes three, whitish eggs, spotted all over with light and dark rusty coloured spots, commencing with a blotch at the larger end. The egg is about the size of a small hen-egg.

The young is covered with a light coat of dark brown down. The eyes, bill, feet, claws of feet, and claws on thumb and tip of finger are a dark blue-brown.

The bill is short, thick and conical like that of a sparrow, with a slight bend in the upper mandible. The legs are strong, with large strong toes, three directed forwards and one backwards, and have well developed claws. In the wing the fore-arm is larger than the arm, and the hand is larger than the fore-arm. The thumb is long and well developed, and has a long well developed claw; the point of the wing is developed into a finger, tipped with a claw equal in size to that of the thumb; both the thumb and finger have the power of ab- and ad- duction. As soon as the young escape from the egg they creep about with the assistance of these hands, stretching out their wings

and digging these claws into or hooking on to whatever they meet, the hand taking the form roughly sketched in fig. 1. They have not the power of grasping anything between their finger and thumb. The specimen forwarded with this paper, by means of these claws walked out of a large calabash, which is a basin made out of the skin of a gourd and has a smooth inside.

When the wing is drawn in to the body and in a state of rest the thumb and finger are parallel (fig. 2).

The tongue is short, smooth and spear-shaped; the oesophagus passes down the neck on the right side of the wind-pipe to its root, where it dilates and passes in front of that tube to the left side, where again bending on its self and at the same time gradually getting smaller, it passes into the chest on the right and behind the wind-pipe. The second oesophagus is a little larger than the first. This bend forms the crop (fig. 3). It passes through the chest to the left side and again dilates, passing towards the right side it becomes the stomach, which is thin-walled. There is no gizzard. The duodenum takes its origin on the spinal surface of the stomach one third of its length from its right extremity, thus causing that end to become a bag (fig. 4). The intestinal tube keeps the same diameter until it reaches to within an inch and a half of the anus, where that gut appears to meet it by dividing into two blind sacks (fig. 5), which lie at each side of the bowels.

The whole intestinal canal contained a green pulpy mass like some well pounded vegetable matter, and had the peculiar smell of the adult bird. This green matter was so finely ground down that it was impossible to tell whether it consisted of leaves or seeds.

From the weak state of the jaws of this specimen, and from the food in the crop being of the same consistence as that contained in the stomach, and having as strong a smell as that contained in the crop of an old bird examined at the same time, I am inclined to conclude that

at this stage of its existance the parents feed it by passing the contents of its own crop into that of its young.

When the neck is stretched out, the intestinal tract is four times the length of the bird.

The liver is large and well developed and covers the stomach.

The kidneys have two ducts which enter the cloaca near its outer orifice.

The wind-pipe after it enters the chest gives off on each side one small branch, and passing on terminates into two tubes (fig. 6).

In the adult the crop is one quarter the size of the body. It is covered with a coat of red muscular fibres that pass upwards along the upper oesophagus and downwards along the second oesophagus making the latter alternately contracted and dilated and at the same time giving it a wavy appearance, until it reaches the stomach.

The second oesophagus fills half the cavity of the chest, and keeps the same diameter throughout until it becomes stomach when it contracts. The stomach is small, smaller in diameter than the second oesophagus, and has a thin red muscular cap on its right extremity. In the young fledgling the crop and stomach are the same size, while in the adult the stomach is the size of the intestinal tube, in fact the old bird has no stomach at all.

The liver has two lobes and no gall-bladder.

Both jaws have a row of tubercles on their inner margin that act as teeth. The lachrymals are anchylosed to the nasals. The coracoids, clavicles, and sternum are united into one piece; the sternum is keeled, and bevelled at the expense of the keel forwards, and has two small notches on each side; the two clavicles are united anteriorly and unite with the breast-bone through a long thin plate; their plain is almost parallel with the spine, and so affording a resting place for the enormous crop. The ribs are broad and flat. The head of the fibular assists in the formation of the knee-joint and is not fused with the tibia. The

feet have no spurs. There is an atrophied nail on the top of the thumb and finger.

The length of the bird is about twenty four inches, including the long tail, which is half this length. The bill, dark brown, is broad, short and conical, with the tip of the upper maxilla slightly bent, and with black hairs at the base: the nostrils are round. The eyes, brick-red, have black eye-lashes; the skin round them and on the neck is light blue, and immediately round the eye and on the sides of the head it is almost naked having only black hairs and small feathers here and there. The head is crested with long narrow stiffish feathers that have a fawn coloured base and black tip. The front of neck and top of chest is fawn coloured: the back of neck and back is greenish brown, the feathers on the back of neck having a fawn coloured centre, and those on the back a fawn coloured margin. The wings are rounded, the primaries are nut-brown with a grey tip; the secondaries, tertiaries and wing-covers are greenish brown, the latter having fawn coloured tips, those on the thumb having their outer half fawn colour. The tail is greenish brown, tipped with fawn; the centre feathers being the longest. The rump, thighs and sides of body are a nut-brown. The feet are the same colour as the bill and have long toes and claws.

The voice is only a hiss.

The female is slightly duller in colour than the male.

There is every probability that these birds ruminant.

I have mentioned nothing about the circulation as I have not yet worked it out to my satisfaction.

New Amsterdam, Berbice, British Guyana.

EXPLANATION

OF

Plate 8.

- Fig. 1. Wing when the bird is creeping about.
» 2. » » » » at rest.
» 3. Crop.
» 4. Stomach.
» 5. Rectum: *a.* anus.
» 6. Wind-pipe.
» 7. Egg (natural size).
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NOTE XV.

DESCRIPTION OF A NEW SPECIES OF THE BUPRESTID
GENUS ENDELUS, H. DEYR.

BY

C. RITSEMA Cz.

Mr. J. L. Weyers, the Belgian engineer, has sent me among other very interesting micro-coleoptera, all captured at his residence Tambang-Salida, situated at a distance of about 12 kilometres from Painan (Padang: West Sumatra) in the interior, four species of Buprestids, three of which were well known to me, viz.: *Endelus aethiops* H. Deyr., *Endelus Snellemanni* Rits. and *Trachys lepidoptera* H. Deyr. ¹⁾ Of the fourth, which also belongs to the genus *Endelus*, I have failed to find any description, and I believe it therefore to be new. It has been found by Mr. Weyers, together with *E. Snellemanni* Rits. and *empyreus* H. Deyr. (of the latter I did not receive specimens), feeding on a species of fern; *E. aethiops* H. Deyr. likewise on a fern but of another genus, *Trachys lepidoptera* H. Deyr. however on a small plant of the family of the Melastomaceae. I make mention here of these observations as I believe such notices to be of scientific interest.

I propose to name the new species, which is allied to *E. scintillans* H. Deyr. and *Marseulii* H. Deyr., in honour of my zealous correspondent

Endelus Weyersi, n. sp.

Length $3\frac{1}{2}$ —3 mm., breadth at the shoulders $1\frac{3}{4}$ — $1\frac{1}{2}$ mm. — Head, thorax and scutellum pale bronzy green

1) This species is regarded by Mr. Weyers as a new species of the genus *Endelus* (Comptes-Rendus Soc. Ent. Belge. Sér. III, n° 98, p. 34; 7 Avril 1888), but I have no doubt as to the correctness of my identification.

with faint coppery tinges on the head, the thorax rather dark bronzy at the sides, the elytra uniformly steelish blue (often with tinges of green), without otherwise coloured spots; the antennae and under surface of the body bronzy black, the legs somewhat brighter.

Head wide, slightly hollowed between the eyes which are rounded, covered with some large very shallow punctures or circles, glossy in one, opaque in the other sex.

Prothorax strongly transverse; the frontmargin nearly straight, the front angles slightly produced; the sides rounded, slightly sinuate towards the base, and finely but distinctly margined and crenulate; the base deeply bisinuate, the median lobe broadly truncate and inconspicuously emarginate; on the disk, at one third its length from the front margin, a transverse keel is present which does not extend to the lateral margins; the punctuation (similar to that of the head) is very fine on the middle, strong on the sides and here more or less confluent. The scutellum broadly triangular, impunctate, with acute apex.

The elytra at the base distinctly broader than the base of the thorax; the sides parallel till a little behind the middle, then attenuated in a straight line towards the apices which are conjointly rounded and very minutely serrated; the lateral margins are narrowly thrown up; the shoulders are rounded and very prominent which gives the elytra the appearance of being hollowed at the base between the scutellum and the shoulders, and contracted behind the shoulders; the elytra are uniformly and rather densely covered with elongate shallow punctures, and show along the sides some faint transverse wrinkles, which are however more distinct on the contracted portion behind the shoulders. The undersurface of the thorax shows very fine transverse, that of the abdomen very fine longitudinal lines.

Hab. Tambang-Salida (Padang: West Sumatra). — Feeds on ferns (J. L. Weyers).

NOTE XVI.

ON FIVE NEW AND TWO UNSUFFICIENTLY
KNOWN SPECIES OF THE LONGICORN GENUS
PACHYTERIA.

BY

C. RITSEMA Cz.

Among the *Pachyteria*e of the Brussels Museum, kindly sent to me for examination by Mr. A. Preudhomme de Borre, was a specimen from Java (coll. Du Bus) under the name *Pachyteria bicolor* Parry. As it, however, did not quite agree with Parry's very short description and the accompanying figure¹⁾, which *inter alia* do not agree in every respect with each other, I forwarded a detailed description of it to Mr. Alex. Fry, in London, the present owner of Parry's type specimen, asking him to compare my description carefully with the type. This he did most courteously, and he came to the conclusion that the Brussels specimen, although it must be wonderfully like the *bicolor*, differs in some respects essentially and cannot be the same species, nor do the differences appear to be sexual.

I therefore regard the specimen of the Brussels Museum as belonging to a distinct species, and after having described it under the name *Pachyteria Borrei*, I will reproduce Mr. Fry's detailed description of the type specimen of *Pachyteria bicolor* Parry.

I will now proceed to describe the new species.

1) Transactions of the Entomological Society of London. Vol. V (1849). p. 182; pl. 18, fig. 5.

Pachyteria Borrei, n. sp.

The specimen which, as already is said, originates from Java (coll. Du Bus) is somewhat mutilated: of the right antenna the four basal joints, and the fifth partially, are present, of the left one only the two basal joints, and the third partially; the right tibia and tarsus of the first pair of legs are wanting, and of the abdomen the four basal segments, and the fifth partially, are present.

Length from the front margin of the inter-antennary ridge to the end of the elytra $40\frac{1}{2}$ mm. — Length of the elytra $30\frac{1}{2}$, breadth at the shoulders 12 mm. — Breadth of the thorax from point to point of the spines $9\frac{1}{2}$ mm.

As to the shape it agrees pretty well with the figure of *Pachyteria bicolor* Parry (*l. c.*); so the outline of the thorax quite agrees, but the lateral tubercles, although small, are slender and more acutely pointed. Moreover in the new species, notwithstanding it is of about the same length as the figure (there is only a difference of $\frac{1}{2}$ mm.), the elytra, which *inter alia* are very broadly and conjointly rounded at the apex, are somewhat more elongate, and the costae are but very inconspicuously raised, whereas the scutellum is less elongate, not acutely pointed at the tip.

The anterior margin of the clypeus, the labrum and the frontside of mandibles are light brown, the face and cheeks pitchy brown, the vertex black with tinges of blue and purple; the thorax and scutellum dark steelblue; the basal third of the elytra yellow, the remaining two thirds metallic green, the line of demarkation between these two colours nearly straight; the basal half of all the femora is bright reddish brown, the apical half dark pitchy approaching to black with faint violet tinges, whereas the tibiae and tarsi of all the legs are of the same brownish yellow colour as the antennal joints which are still present; the three apical joints of the tarsi are somewhat darker and the clawhooks dark brown. The whole undersurface (with

the exception of the brown base and sides of the head) is dark steelblue with faint tinges of green and violet.

The head is irregularly covered with strong punctures which are in a great measure confluent; the punctuation on the mandibles, labrum and raised margins of the clypeus is very fine, that on the cheeks sparse; the longitudinal groove between the antennary tubers extends down to the anterior margin of the clypeus (however not without being interrupted at about the middle of the clypeus), is crossed by a well-defined narrow transverse groove at the base of the clypeus, and ends behind the inter-antennary ridge in a small smooth space. The antennae are sparsely punctured, the 3rd joint is not quite as long as the two following joints taken together.

The prothorax at base and apex depressed and constricted, these portions provided with transverse wrinkles; the disk shows minute erect stiffish black hairs and is very closely punctured and irregularly corrugated; the lateral tubercles are smooth; between these tubercles and the front margin of the thorax oblique wrinkles are present; at the base of the disk, in front of the scutellum, a raised elongate triangular space may be observed, the top of which is connected with the frontmargin of the disk by a faint longitudinal impression. The scutellum is triangular, but little longer than broad at the base, with raised sides and narrowly rounded tip, densely punctate and pubescent, and with an impressed line along the middle.

The elytra parallel, broadly and conjointly rounded at the apex, densely and finely punctured, covered with a minute pubescence, and provided each with two faint longitudinal costae, one along the middle, the other midway between this and the suture.

The legs are rather sparsely covered with irregular punctures.

The undersurface of the head below the mouth is transversely wrinkled; the prosternum especially at the sides nearly impunctate, forming a distinct glossy tubercle be-

tween the anterior coxae, to which a V-shaped smooth impression between the intermediate coxae corresponds. The metasternum not very densely covered with large punctures intermixed with much smaller ones; an impressed line runs along the middle; the abdomen punctured in the same way as the metasternum but less densely.

Mr. Fry wrote me the following about the type specimen of

Pachyteria bicolor, Parry.

»I purchased it some years ago (with all his collection of Longicorns) from Major Parry and it is named in Major Parry's handwriting. It is a good specimen as to colour and its only defect is that the last joint (the claw) is missing from each of the anterior feet.

Length from forehead to end of elytra $1\frac{7}{12}$ inch, equal to 40 millimetres. — Length of elytra 29 mill., breadth at shoulders 11 mill., breadth at $\frac{3}{4}$ th of the elytra 10 mill. — Breadth across thorax from point to point of the spines 10 mill.

Parry's figure (n° 5, pl. 18) is a good representation of the insect, its only faults are that the thoracic spines should be a little more pointed and the costae of the elytra look as if they were raised and acute, whereas they are broadly rounded and inconspicuous (like your specimen). The posterior tibiae should be more sinuate.

The colours of your specimen agree with the type with the following slight differences:

The clypeus, labrum, mandibles, face, cheeks agree with your specimen. The upperside of thorax is dull bluish black, velvety in the centre, and only a slight lustre on the raised parts.

The yellow portion of the elytra occupies about $\frac{2}{5}$ th of their length, the remaining $\frac{3}{5}$ th are a bluish black, slightly steely.

The anterior and intermediate femora are red at the base for $\frac{1}{3}$ rd of their length and much less on the poste-

rior femora (about $\frac{1}{10}$ th). The anterior and intermediate tibiae, all the tarsi, the 6 first joints and the base of the 7th joint of the antennae are of a pale ochreous yellow. The posterior tibiae are black with only a slight tinge of brown in the middle.

The underside of the body (except the prosternum in front and sides) is a bright steely blue with violet tinges.

The punctuation of the head agrees with the description of your insect but the underside below the mouth is coarsely punctured and almost corrugated. The longitudinal groove on the forehead is deep with raised margins, and extends from the back of the frontal tuber to the clypeus where it ends in a transverse depression 1 millimetre distant from the anterior margin. There is a small smooth space beyond the posterior end of the groove.

The antennae have the first joint rather coarsely punctured, the 2nd and 3rd joints very slightly and all the others not at all punctured. Their length reaches to $\frac{2}{3}$ rds of the elytra.

Thorax. The black erect short hairs form two velvety patches occupying a great part of the upper surface, they are slightly divided by a smooth line somewhat enlarged at the two extremities, the anterior extremity being concave and the posterior ending in a convex smooth patch. The sides (in front of the lateral spines) and the under surface is pulvinate, finely, evenly and densely punctate (*concinne confertissime punctata*) forming a dull lustreless surface, no oblique wrinkles are visible.

The scutellum is long and triangular (Parry's figure is correct) and it is velvety like the patches of the thorax, it is quite flat (not raised at the sides) and no impressed medial line.

The elytra are broadly rounded and somewhat flattened at the extremity and obliquely truncate at the sutural angle. The whole surface is finely and evenly punctured and so closely as to make it appear coriaceous; very slightly pubescent.

The underside. The prothoracic intercoxal process is plain, arched up nearly as high as the coxae, smooth, shining, punctured near the edges, depressed behind the coxae, the extremity being developed into a very small, flat, slightly dilated process, the posterior edge of which is a little emarginate (no tubercle).

The mesosternum is broad, smooth, shining, very sparsely punctate, transversely depressed in front, raised between the coxae to their level where it becomes flat and cut off square at the end, this hinder part is slightly sericeous and scarcely punctured (there is no V-shaped recess)¹).

The metasternum and abdomen are sparsely and evenly punctate, the sides and front of metasternum are clothed with a delicate grey silky pubescence. The 1st; 2nd and 3rd segments of abdomen have transverse bands of similar pubescence, the band entire on the 1st, interrupted in the middle on the 2nd and 3rd segments. The 5th segment is deeply and roundly emarginate behind. The last segment is small, oval, convex in front where it is ferruginous and scarcely any punctures. — This form seems to indicate a ♂.

I conclude therefore from the peculiar form and punctuation of the underside of the thorax, the differences in form of the pro- and mesosternal processes, and the dif-

1) The form of the prosternum and mesosternum of *P. bicolor* Parry is almost exactly the same in *P. fasciata* Fabr., *tricolor* Newm., *bimaculata* White and *rubripennis* Hope, also in three other species which I have, unnamed. (A. Fry).

Pachyteria Hügeli Dist. is the only species which I know to have the pro- and mesosternum more or less similarly shaped as *P. Borrei* (tubercle and V-shaped impression), though I have, besides *P. Hügeli*, examined no less than two thirds of the described species, viz.: *fasciata* Fabr. (I have not been fortunate enough to have an opportunity to compare Schröter's description and figure of *Cerambyx populneus* which is mentioned in the Munich Catalogue as a synonym of this species), *tricolor* Newm. (= *dimidiata* Guér.), *equestris* Newm., *dimidiata* Westw. (specifically distinct from *fasciata* Fabr. but closely allied to *Scheepmakeri* Rits.), *voluptuosa* Thoms., *Lambii* Pasc., *insignita* Pasc., *ochracea* Waterh., *ruficollis* Waterh. (= *collaris* Har.), *javana* Bates (= *puncticollis* Rits.), *rugosicollis* Rits., *affinis* Rits., *parallela* Rits., and *Scheepmakeri* Rits., as well as the four following new species. (C. Ritsema Cz.).

ferent form of the scutellum, that your insect is not *bicolor* Parry but a new species”.

From Mr. Oliver E. Janson I received for identification two species of *Pachyteria* captured by Mr. W. B. Pryer at Elopura (North Borneo). One of these proved to belong to *P. ochracea* Waterh. (Ann. and Mag. of Nat. Hist. 5th ser. Vol. II (1878) p. 136), the other to an undescribed species, allied, according to the description and figure, to *P. virescens* Pasc. (Proc. Zool. Soc. London. 1866. p. 519; pl. 43, fig. 2) but at once distinguished by the brown coloured basal half of the elytra and by the smooth stripe along the middle of the disk of the pronotum by which the transverse wrinkles are interrupted. I propose to name it after its captor.

Pachyteria Pryeri, n. sp.

Length from the antennary tubers to the end of the elytra 35 mm.; length of the elytra $24\frac{1}{2}$ mm.; breadth at the shoulders 11 mm.; breadth of the thorax from point to point of the lateral teeth 9 mm.

Nearly glabrous. Head bronzy green, with the exception of the labrum and mandibles which are black, the latter however with metallic tinges on the sides at the base. The scape of the antennae is of a darker green colour than the head, the four following joints are dark blue and densely covered with a jet-black pubescence, the six apical joints yellow. The prothorax dark brownish red, bronzy green at the underside. Scutellum glossy green. The elytra with the basal portion (not fully the basal half) light brown, the rest bronzy green; the line of demarcation between these two colours oblique. Body beneath and legs bronzy green; the knees, apex of the femora and metatarsus of the four posterior legs dark blue, the three last joints of these tarsi black; the anterior tarsi black, covered on the upper surface with a yellowish pile intermixed with some black stiffish hairs.

Head coarsely punctured on the vertex, behind the eyes and on the cheeks, the vertex with a small smooth space in which the frontal groove ends; on the antennary tubers, which are slightly pubescent and separated by the narrow and deep frontal groove, the punctuation is extremely fine and dense; the clypeus is hollowed, and has raised margins; it is sparsely punctured and provided with a transverse elevation at the middle of the base and with a very distinct keel along the middle; the labrum is very finely punctured, the mandibles nearly impunctate. The antennae are stout, the two first joints slightly rugose in consequence of a dense punctuation, the 3rd—5th joints densely covered with a jet-black pubescence which gives them a velvety appearance; the scape is rather short, obconical; the 3rd joint twice as long as the fourth; the 4th—7th slightly increasing in length, the 8th—10th on the contrary slightly decreasing, the 11th of the same length as the 7th.

Prothorax distinctly longer than broad at the base. the sides strongly angulated, the angle terminating in a distinct tooth; the anterior and posterior margin strongly upturned, the upper surface and sides transversely and very regularly wrinkled, the intervals provided with a few hair-bearing punctures; along the middle of the raised disk a smooth stripe is present which widens out a little towards the base. The scutellum is elongate triangular, acutely pointed at the tip, smooth and shining with only a few punctures.

The elytra gradually tapering from the base; the apices separately and rather narrowly rounded, slightly dehiscent; each elytron provided with two faintly raised longitudinal lines; the brown basal portion is strongly but not very densely punctured; the green posterior portion (which is covered with a minute black pubescence) very finely and densely punctured, its outer half opaque.

The under surface of the head below the mouth irregularly wrinkled and pubescent; the anterior part (collar) of

the prosternum with faint transverse wrinkles, the middle part smooth, nearly impunctate; the metasternum and legs strongly, the abdomen finely and sparsely punctured; the metasternum shows an impressed line along the middle, and in its angles as well as in the hinder ones of the abdominal segments a spot of greyish-yellow pubescence is present; the hinder margin of the 5th segment is nearly straight (only very faintly and broadly emarginate) and fringed with black hairs.

The intercoxal part of the pro- and mesosternum formed as in the majority of the species, e. g. *fasciata* Fabr. etc. (no tubercle and V-shaped impression).

Hab. North Borneo: Elopura (W. B. Pryer). — A single specimen in the collection of Mr. Pryer.

In the extensive collections of insects presented to the Leyden Museum by Dr. B. Hagen and brought together by him in East Sumatra (district of Serdang) only a single *Pachyteria* was found. This however belongs to a new species to which I have attached the name

Pachyteria Hageni, n. sp.

According to the description and figure this new species is nearly allied to *Pachyteria speciosa* Pasc. (Proc. Zool. Soc. London. 1866. p. 519; pl. 43, fig. 5), but differs from it by the ochraceous (not scarlet) colour of the basal half of the elytra, and by the dark colour of the three basal joints of the antennae.

Length from the frontmargin of the inter-antennary ridge to the apex of the elytra 28¹/₂ mm.; length of the elytra 21 mm.; breadth at the shoulders 9¹/₂ mm.; breadth across the thorax from point to point of the lateral tubercles 7 mm.

Nearly glabrous. Head bronzy green, with an ill-defined red spot on the face above the clypeus and on the vertex;

the frontmargin of the clypeus and the sides of the labrum brown, the mandibles black; the face and interantennary ridge slightly pubescent. The two basal joints of the antennae black, the third light brown, darker towards the base, and with a small black spot at the top on the frontside; the remainder joints yellow. The prothorax dull red, the extreme anterior and posterior margins bronzy green as well as the middle portion of the underside, which is moreover covered with a yellowish pubescence. The scutellum very densely covered with a black pubescence, except at the dark brown tip. The basal half of the elytra ochraceous, with a very faint greenish hue, the rest bronzy green; the line of demarkation between these colours slightly oblique and suddenly directed backwards at a little distance from the lateral margins. Body beneath dark blue; legs black.

Head coarsely punctured on the vertex and behind the eyes, more finely on the cheeks and base of mandibles, very finely and densely on the clypeus and on the interantennary ridge; the frontal groove extends from the vertex down to the base of the clypeus; the clypeus itself is even, provided along its middle with an impressed line and at its base with a transverse elevation which is interrupted in the middle and rather smooth; the labrum is very finely punctured, the mandibles towards the tips nearly impunctate. The antennae are stout; the scape is short, rugose, with a smooth keel along the foreside, the 3rd joint nearly as long as the two following joints taken together, the 4th a little shorter than the 5th, this and the two following of equal size, the 8th—10th slightly decreasing, the apical one distinctly longer.

Prothorax but little longer than broad at the base, the sides slightly angulated, the angles terminating in a small tubercle; the anterior and posterior margin strongly upturned; transversely wrinkled on the upper surface and sides; on the disk these wrinkles are irregularly confluent and the intervals provided with some erect black hairs.

The scutellum triangular, subacute at the apex which is smooth and shining.

The elytra gradually tapering from the base, the apices narrow, obliquely truncate with the outer angle rounded, the sutural one slightly protruding; each elytron provided with two faint longitudinal lines; the ochraceous basal portion is strongly punctured; the green posterior portion finely punctured, shining along the suture, the rest opaque and densely covered with a short black pubescence.

The under surface of the head below the mouth densely covered with a yellow pubescence which hides the sculpture; the middle part of the prosternum finely wrinkled, the metasternum rather smooth along the middle and with an impressed line, becoming opaque towards the sides; the femora coarsely punctured, the tibiae opaque; the abdomen sparsely punctured, the 5th segment deeply notched on each side behind. The under surface of the thorax and the coxae covered with a greyish-yellow pile, with the exception however of a transverse band across the middle of the metasternum and its episterna where the pile is black; the abdominal segments on each side with a transverse spot of greyish-yellow pubescence.

The intercoxal part of the pro- and mesosternum formed as in the foregoing species (no tubercle and V-shaped impression).

Hab. East Sumatra: district of Serdang (Dr. B. Hagen). — A single specimen (♀) in the Leyden Museum.

Dr. Ed. Everts has favoured me with a *Pachyteria* from Deli (East Sumatra) which resembles *P. spinicollis* Pasc. (Proc. Zool. Soc. London. 1866. p. 519; pl. 43, fig. 4) and *insignita* Pasc. (*l. c.* p. 520). No doubt it belongs to an undescribed species which may bear the name

Pachyteria Evertsi, n. sp.

It differs from the quoted species in having the head

and thorax of the same colour as the base of the elytra, whereas the dark colour of the apical portion occupies more than the apical half.

Length from the frontmargin of the inter-antennary ridge to the end of the elytra 43 mm.; length of the elytra 32 mm.; breadth at the shoulders $12\frac{1}{2}$ mm.; breadth across the thorax from point to point of the lateral teeth 10 mm.

Covered with minute erect stiffish hairs. The head, with the seven basal joints of the antennae, the thorax, the smaller basal half of the elytra, the anterior pair of legs, the intermediate tibiae and tarsi as well as the base of the femora, and the posterior tarsi luteous; the four apical joints of the antennae, the extreme anterior margin and the constricted basal portion of the thorax ¹⁾, the scutellum, the intermediate femora (with the exception of the base) and the posterior femora and tibiae black (the posterior tibiae stained with luteous towards the end on the outside); the greater apical half of the elytra dark metallic green; the line of demarkation between the two colours is a curved one with the convexity directed towards the base. Underneath the head, prosternum and mesosternum luteous, the prosternum with an irregular bluish black stripe on each side; the metasternum and abdomen greenish black, the former with a triangular luteous spot on the middle.

Head coarsely punctured on the vertex and behind the eyes, more finely and sparsely on the face, cheeks and sides of mandibles, very finely on the labrum, the front-side of the mandibles impunctate. The frontal groove very narrow and not deep, passing through a smooth space on the face, the clypeus not sharply defined at the base, crossed by a faint curved impression between the insertion of the mandibles. The antennae rather slender; the scape in front rather sparsely, behind very finely and densely

1) The prothorax shows moreover two dark longitudinal bands owing to a black pubescence.

punctured; the 3rd joint one and a half as long as the 4th, the remainder slightly decreasing in length.

Prothorax but little longer than broad at the base, the sides strongly angulated, the angle terminating in a short tooth; the anterior and posterior margin slightly thrown up; the uppersurface rugose in consequence of a dense punctuation, slightly impressed along the middle; the lateral teeth smooth, whereas between them and the frontmargin oblique wrinkles are present. The scutellum rather broadly triangular, pointed at the tip, densely covered with a black pubescence.

The elytra slightly tapering from the base, covered with minute crowded punctures, each with three slightly raised smoother costae; the apices deeply emarginated.

The under surface of the head below the mouth transversely wrinkled, that of the prothorax very faintly so. The metasternum sparsely covered with large punctures intermixed with very minute ones, and with a longitudinal line along the middle. The legs are strongly punctured, the posterior femora much more densely and nearly opaque. The abdomen rather densely covered with punctures which become smaller towards the end; a transverse spot of a greyish pubescence is present on the posterior coxae and in the hinder angles of the four basal segments of the abdomen; the hinder margin of the 4th segment is broadly emarginate, that of the 5th narrowly emarginate.

The intercoxal part of the pro- and mesosternum formed as in the two foregoing species (no tubercle and V-shaped impression).

Hab. East Sumatra: Deli. — A single specimen (♀) in the Leyden Museum, presented by Dr. Ed. Everts.

Mr. René Oberthür, of Rennes, has sent me at my request all his collection of *Pachyteriae* for examination, and no doubt it is one of the finest and most complete series of these beetles that exist. It contains no less than 13 species, four of which are represented by both sexes.

One of these species has proved to be new to science and I propose to call it after my excellent friend

Pachyteria Oberthüri, n. sp.

This species, of which a single female specimen from Siboga (West Sumatra) is in the collection, is very closely allied to *P. dimidiata* Westw.¹⁾ from Assam and *P. Scheepmakeri* Rits.²⁾ from East Java. — Like these species it is greenish black, with the under surface, the legs, and the five basal joints of the antennae dark violet, and the six apical joints of the antennae and a broad transverse band about the middle of the elytra ivory-yellow, whereas the apices of the elytra are also deeply notched. From both it differs however in having thicker antennae, with the third, fourth and fifth joints decidedly shorter, and in having a somewhat shorter clypeus with thickened margins (like in both the quoted species the clypeus has a slightly raised smooth line along the middle); moreover the yellow band across the elytra narrows towards the lateral margins and the punctuation on this band is somewhat finer and less dense. The new species has the broader and more robust shape of *dimidiata* (*Scheepmakeri* is smaller and more slender), but its scutellum is still more acutely pointed, which is caused by the strongly concave lateral margins (in *Scheepmakeri* the scutellum is broader with curvilinear sides). The prothorax is more strongly punctured and shows along the middle of the raised disk a narrow smooth streak, which is also present (though less distinct) in *dimidiata*. The base of the raised disk of the prothorax is straight in *dimidiata*, slightly emarginate in front of the scutellum in *Scheepmakeri* and in the new species.

The hind margin of the 5th ventral segment is straight with rounded lateral angles, whereas it is broadly rounded,

1) The Cabinet of Oriental Entomology. (1848). p. 60; pl. 29, fig. 8.

2) Notes from the Leyden Museum. Vol. III (1881). p. 38.

and inconspicuously emarginate in the middle, in the female sex of *P. Scheepmakeri*. Of *P. dimidiata* Westw. the female sex is unknown to me.

The intercoxal part of the pro- and mesosternum formed as in the majority of the species, e. g. *fasciata* Fabr. etc. (no tubercle and V-shaped impression).

Hab. West Sumatra: Siboga. — A single specimen (♀) in the collection of Mr. René Oberthür.

Together with a new Callichromid from Tjilatjap (South Java), which will be described by me in the following Note, Mr. W. Albarda presented to the Leyden Museum a female specimen of

Pachyteria affinis Rits.,

a species described by me in 1881 in the 3rd volume of this journal (p. 35) from a mutilated specimen in the Leyden Museum, of which moreover the habitat was unknown. I make use of this opportunity to complete my former description of this species, the more so because the male sex is represented in Mr. René Oberthür's magnificent collection of Pachyteriae which at present is in my hands.

The specimens with which I am now acquainted (besides the type *four* in number) are all from Java; of three of them a more precise locality is known, viz.: Tjilatjap, Buitenzorg and Mount Salak.

They agree pretty well with my former description, and the fact that in the type specimen the undersurface of the body is uniformly covered with a silvery pile, which is not restricted to lateral patches on the abdominal segments, proves it to be a male specimen; consequently this is not a specific character.

Of the antennae the two first joints are bright brown, the 3rd—6th (and the extreme base of the 7th) yellow, the 7th—11th black or bluish black.

In the female the 5th abdominal segment shows a broken impressed pro-apical line, preceded by a semilunar impression, whereas its apical margin is notched in the middle.

In the male the 5th and 6th abdominal segments are broadly emarginate, the 6th more deeply than the 5th.

N. B. The form of the apical segments of the abdomen of *Pachyteria affinis* Rits. in both sexes is almost exactly the same as in *P. ruficollis* Waterh. (= *collaris* Har.) and *P. javana* Bates (= *puncticollis* Rits.), and most probably also in *P. equestris* Newm.; of the latter, however, I have only seen the male sex. These four species are also in other respects nearly allied to one another.

Another group of species, in regard to the shape of the apical ventral segments, contains *Pachyteria basalis* Waterh. (= *polychroma* Har.), *P. rugosicollis* Rits. and *P. Hageni* Rits., most probably also *P. speciosa* Pasc., a species which I have not yet seen. In the female of these species the 5th ventral segment is notched on each side behind; in the male the 5th segment is broadly emarginate, the 6th segment very deeply emarginate, the sides of the emargination parallel.

NOTE XVII.

DESCRIPTION OF TWO NEW SPECIES OF THE
LONGICORN GROUP CALLICHROMINI.

BY

C. RITSEMA Cz.

Together with a female specimen of *Pachyteria affinis* Rits. from Tjilatjap (South Java) Mr. W. Albarda presented to the Leyden Museum a Callichromid from the same locality, which is allied to *Callichroma Griffithii* Hope, now ranged under the generic title *Aphrodisium*. As I believe this species to be undescribed I propose to call it

Aphrodisium Albardae, n. sp.

Length from the antennary tubers to the end of the elytra $37\frac{1}{2}$ mm.; length of the elytra 27 mm.; breadth at the shoulders 10 mm.; breadth of the thorax from point to point of the lateral tubercles $8\frac{1}{4}$ mm.

Head and thorax nearly glabrous, elytra very densely covered with a very short pubescence which is black on the dark coloured parts, yellow on the light coloured parts. Head thorax and scutellum black, the labrum brown, the elytra dark green with two transverse yellow bands: one, placed a little before the middle, broad and somewhat prolonged backwards along the lateral margins; the other, not quite midway between the first band and the apex of the elytra, narrow and curved. The four basal joints

Notes from the Leyden Museum, Vol. X.

of the antennae dark piceous above, brown beneath, the remainder joints yellow. The coxae and femora black, the latter with the basal half of the undersurface chestnut-red, the tibiae and tarsi luteous, the claw-hooks dark chestnut. The metasternum and abdomen dark brown, the former approaching to black, the extreme hinder margins of the abdominal segments black.

The head coarsely punctured on the vertex which shows a smooth space at the middle; behind the eyes, on the cheeks and on the face the punctuation is sparse, whereas it is very dense on the antennary tubers which are separated by a narrow but deep groove; the face provided with a \cup -shaped impression. The antennae are slender, the scape is strongly punctured and armed at the top on the outside with an acute spine; the 3rd joint one and a half as long as the 4th, the 4th—7th equal in length to each other, the 8th—11th slightly decreasing.

The prothorax with a curved groove behind the upturned front margin, the raised posterior margin preceded by a narrow smooth groove; the sides are rounded on the anterior half and provided with a blunt tubercle a little behind the middle; between these tubercles and the front margin of the thorax a circular impression is present which is ill-defined on the inside; the raised disk is irregularly punctured, coarsely towards the sides, provided with a few yellowish hairs, and with a blunt tubercle on each side at the base; midway between these tubercles another faint tubercle is present in front of which a shallow longitudinal impression may be observed; the undersurface very densely punctured so as to give it a leathery appearance and this portion as distinctly defined as if it had been a piece led in. The scutellum is triangular, with raised curvilinear sides; it is smooth and shows only a few punctures.

The elytra slightly tapering from the base, covered with a very fine sculpture and with larger punctures, and provided with three faintly raised longitudinal costae; the apices broadly rounded on the outside.

The undersurface of the head below the mouth with a few transverse wrinkles and a few large punctures. The metasternum and abdomen covered with an exceedingly fine sculpture and a few dispersed punctures. The apical margin of the 5th and 6th abdominal segments broadly and deeply emarginate. The femora are finely and very densely punctured on the upperside, beneath the punctures are large and sparsely set; on the tibiae the punctuation is fine, intermixed with a few larger punctures. The legs are elongate, the hind tibiae distinctly sinuate.

The prosternum between the anterior coxae is narrow and provided with a raised keel along the middle.

Hab. South Java: Tjilatjap. — A single specimen (♂) in the Leyden Museum, presented by Mr. W. Albarda, to whom I dedicate this species.

Callichroma chrysogaster, n. sp. ♂.

This species may afterwards prove to be fully entitled to base a new genus upon, and I have only provisionally ranged it under the generic title *Callichroma*.

It shows a remarkable resemblance to *Mecaspis atripennis* Hope, from West Africa, the distribution of the colours being the same: black or greenish black, with the antennæ and legs rusty red, and the undersurface densely covered with a sericeous pubescence. In *Mecaspis* however the prosternum is tuberculate between the anterior coxae, the anterior and intermediate femora are notched at the tip, the mandibles are elongate and the antennae more slender.

Length from the inter-antennary ridge to the end of the elytra 25 mm., length of the elytra 18 mm.; breadth of the thorax from point to point of the lateral spines 6 $\frac{1}{4}$ mm.; breadth of the shoulders 7 mm.

Head nearly glabrous, a few yellowish hairs on the face and cheeks; black with violet tinges, the frontmargin of the clypeus, the labrum, the mandibles, and the palpi

reddish brown, the mandibles black at tip and margins. Antennae ferruginous, covered with a minute yellow pubescence. Prothorax black with violet tinges, above covered with a black, beneath with a golden pubescence. The scutellum and elytra black with greenish blue tinges, densely covered with a minute black pubescence. The legs rusty red, covered with a yellow pubescence. Meso- and metasternum as well as the basal half of the first abdominal segment violaceous black, the rest of the abdomen ferruginous; the whole undersurface covered with a short golden pubescence, whence I have derived the name.

Head rather densely punctured, coarsely on the vertex, irregularly corrugate behind the eyes, with curved wrinkles behind the mouth on the undersurface; behind these wrinkles the head is nearly impunctate. The inter-antennary ridge emarginate, with a narrow longitudinal groove which widens a little and again narrows on the vertex; a transverse impression across the face between the base of the cheeks; the mandibles not elongate. The antennae stout not quite extending to the end of the elytra, resembling those of *Pachyteria*, but the scape not toothed at the top.

Thorax distinctly longer than broad at the base, with an acute tubercle or short spine at about the middle of the sides, opaque in consequence of a very dense punctuation, and with a somewhat smooth line (impressed at the anterior half) along the middle of the disk; below the lateral spines the thorax is impunctate. The prosternum between the anterior coxae is rounded, not tuberculate. The scutellum is triangular, sub-acute at the apex, pubescent, and with a smooth impressed line along the middle.

The elytra are somewhat elongate, very slightly tapering in a concave line to the end, the apices separately rounded; they are opaque in consequence of the dense punctuation and pubescence, with the exception of a narrow sutural edge and a costa extending from the shoulder down to a little before the apex which are destitute of hairs; traces of a somewhat shorter costa may be obser-

ved midway between the humeral costa and the suture.

The anterior and intermediate femora are subpedunculate, not notched at the tip, and rather strongly punctured; the posterior femora reach to the end of the elytra; they are sub-linear and very finely punctate; the posterior tibiae are not fully as long as the femora, compressed, slightly curved inward, their margins straight, not sinuate.

The undersurface of the body is nearly impunctate, the metasternum impressed along the middle; the hind margin of the 5th and 6th abdominal segments broadly emarginate.

Hab. Ceylon. — Presented by Mr. Oliver E. Janson.

NOTE XVIII.

TWO SYNONYMICAL REMARKS ABOUT
LONGICORN COLEOPTERA.

BY

C. RITSEMA Cz.

1. *Pachyteria zonopteroides* Fleutiaux, Annales de la Société Entomologique de France, 1887, p. 66; pl. 4, fig. 6 = *Callichroma Griffithii* Hope, Transactions of the Linnean Society of London. Vol. XVIII (1840) p. 440; tab. 30, fig. 2. (*Aphrodisium Griffithii* Hope in the Munich Catalogue).

2. *Euoplia argenteo-maculata* Aurivillius, Entomologisk Tidskrift. Bd. VIII (1887) p. 196, fig. 3 = *Lamia pulchellator* Westwood, Proceedings of the Zoological Society of London, 1837, p. 128. (*Batocera pulchellator* Westw. in the Munich Catalogue).

I believe Mr. Aurivillius is wrong in placing this beetle in the genus *Euoplia* Hope. It certainly better finds its place in the genus *Psaromaia* Pascoe, where it was ranged in the Leyden Museum by the late Snellen van Vollenhoven (see: Notes from the Leyden Museum. Vol. IX (1887) p. 219, footnote).

NOTE XIX.

ON A NEW SPECIES OF ACCIPITER FROM LIBERIA.

BY

R. BOWDLER SHARPE,*F. L. S., F. Z. S. etc.*

During my recent visit to the Leyden Museum I was much interested in examining the fine series of birds'-skins which had been brought home by Mr. Büttikofer and Mr. Stampfli from their expeditions to Liberia.

Amongst other valuable specimens I was particularly attracted by a small Sparrow-Hawk, of which Mr. Büttikofer had preserved three adults, two females and a male. These are identified by him as *Accipiter hartlaubi* of Verreaux ¹⁾, but I saw at once that they were not the same as the bird I had so named in the Catalogue of Birds (Vol. I, p. 150; pl. 6, fig. 2).

Since my return to England I have looked into the matter and have compared one of Mr. Büttikofer's specimens with the example figured in the »Catalogue'', and I find that they are quite distinct, the white marks on the centre tail-feathers and the rufous thighs distinguishing the Gaboon bird at once. None of Mr. Büttikofer's specimens have any white spots on the tail-feathers and the thighs are in every one of them grey, or grey with whitish vermiculations. It seems to me, therefore, clear that the Liberian Sparrow-Hawk is new to science and I propose to call it after my excellent colleague in the Leyden Museum

1) Notes Leyd. Mus., 1885, p. 153; 1886, p. 246; 1887, p. 64.

Accipiter büttikoferi, sp. n.

Adult male: General colour above greenish black, with a slaty-grey gloss; upper tail-coverts white, forming a band; wing-coverts like the back; quills blackish, externally like the back, the inner secondaries rather more slaty grey externally; all the quills barred with black on the inner web, which is white for the basal half; tail-feathers black, the two centre ones entirely so, the remainder barred with black on the inner web and barred or notched alternately with greyish white, or pure white nearer the base; crown of head, lores, sides of face, ear-coverts, and cheeks black; throat pure white; sides of neck black, remainder of under surface of body white, freckled with delicate blue-grey, in vermiculations on the lower breast and abdomen; sides of chest uniform blue grey; sides of breast clear delicate vinous; thighs grey, freckled with white; under tail-coverts white; under wing-coverts white; axillaries white, with dusky grey bars; quills below ashy, barred with dusky black and white; bill black, cere, feet and iris orange red.

Total length 9 inches; culmen with cere 0.6; wing 5.9; tail 4.1; tarsus 1.7; middle toe (without claw) 1.0; hind toe 0.5; outer toe 0.6.

The adult female is similar to the male but a little larger. Total length 10.8 inches, culmen 0.8, wing 6.6, tail 4.9, tarsus 1.8.

Hab. Liberia: Soforé Place, Hill Town and Schieffelinville.

British Museum (Natural History) May 24, 1888.

NOTE XX.

DESCRIPTION OF THREE NEW SPECIES OF THE
LONGICORN GROUP AGNIINI.

BY

C. RITSEMA Cz.

Omocyrius Jansoni, n. sp. ♀.

Length from antennary tubers to end of elytra $22\frac{1}{2}$ mm.; length of elytra from tip of strongly protruding shoulders to end 15 mm.; breadth across shoulders $7\frac{1}{4}$ mm.

Dark piceous approaching to black; the 2nd and following joints of antennae and the abdomen dark reddish brown. Head and thorax opaque, elytra nitid. Nearly glabrous, but varied with short scattered fulvous hairs and with spots of a fulvous pubescence. The head with four spots and two narrow stripes, viz.: an elongate spot below each eye, a rounded spot on the lower part of the cheeks, and two stripes, diverging backwards, on the vertex behind the antennary tubers. The thorax without stripes or spots but covered with short scattered fulvous hairs. The elytra with short scattered hairs and irregularly placed rounded spots, intermixed with very small ones; the largest of the elytral spots is situated at the base between the strongly protruding shoulders and the scutellum. The under surface of the body densely covered with a fulvous pubescence, which forms small but densely set spots, especially on the abdomen; along the middle the pubescence is sparser; on the middle of the apical ventral segment the pubescence is greyish white. The legs are covered with a delicate greyish white pile. The antennae have the 4th joint at the base and the 5th entirely except at the apex covered with a whitish pile, the rest blackish.

Notes from the Leyden Museum, Vol. X.

The head with a raised smooth line along the middle which is replaced by a longitudinal impression on the occiput; densely punctured all around the antennary cavities and on the vertex; the basal half of the mandibles corrugate, the apical half smooth, the lateral surface deeply hollowed. The antennae not quite extending to the end of the elytra, the three basal joints finely rugose, the scape however somewhat coarser; the 3rd joint slightly thickened at the apex and longer than the scape, the 4th and 5th thickened throughout, and each of them about as long as the 3rd, the 6th and following joints much smaller, slightly decreasing in length.

The thorax distinctly longer than broad at the base, cylindrical, sparsely covered with minute glossy granules on the disk, with an inconspicuous impressed line along the middle and with two faint transverse impressions, the basal one of which is more distinct; at the middle of the sides a very small tubercle is present. The scutellum nitid, covered with a delicate greyish pile; its apex broadly truncate with rounded angles.

The elytra irregularly covered with large and deep punctures which are more densely set on the sides leaving however the strongly protruding shoulders free; moreover each elytron shows three slightly raised lines, one of which runs side by side the suture and disappears towards the base; the elytra slightly taper towards and are conjointly rounded at the apex.

The legs are nitid. The hind margin of the apical ventral segment broadly emarginate.

Hab. Elopura: North Borneo (W. B. Pryer). — A single female specimen from the collection of Mr. Pryer.

I am much pleased in naming this beetle after Mr. Oliver E. Janson, who most kindly sent me this and the following species for identification.

Omocyrius Jansonii Rits. is the second hitherto described species of this genus. It differs from the type (*Omocyrius fulvisparsus* Pascoe, Proc. Zool. Soc. London. 1866. p. 246;

pl. 27, fig. 3, from Penang) by the want of the longitudinal stripes on the thorax, by the different sculpture, etc.

Peribasis albisparsa, n. sp. ♂.

Length from antennary tubers to end of elytra 17 mm.; length of elytra from tip of protruding shoulders to end 12 mm.; breadth across shoulders $6\frac{1}{2}$ mm.

Black, the elytra with a metallic gloss, the outer three fourths of the basal two thirds bright greenish blue. Head and thorax opaque, the elytra sub-nitid on the bright coloured portion. Nearly glabrous but varied with scattered short hairs and spots of a pale fulvous or white pubescence. The head with five pale fulvous spots: two elongate and slightly oblique ones on the face touching the inner orbit, two others on the lower part of the cheeks, the fifth, somewhat heart-shaped, on the vertex. The thorax covered with short scattered pale fulvous hairs. The scutellum densely covered with a pale fulvous pubescence. The elytra with pale fulvous roundish spots on the dark coloured portions, and with clear white spots and confluent vermiculations on the bright coloured streak. The under surface of the body densely covered with a greyish fulvous pubescence, sparser however along the middle. The legs covered with a delicate greyish pile. The antennae are black, brownish black towards the apex, the 5th joint, except at the apex, covered with a greyish white pile.

The head with a smooth line along the middle, the face rather densely punctured, sparsely so behind the eyes; the mandibles deeply hollowed on the lateral surface. The antennae longer than the body, finely rugose, the scape somewhat coarser; the 3rd joint one and a half as long as the scape, the 4th and following joints gradually decreasing in length, the 11th somewhat longer than the 10th.

The thorax slightly transverse, sparsely covered with very minute glossy granules, and armed on the middle of

the sides with an acute tubercle. The scutellum sub-transverse, rounded behind.

The elytra straight at the base between the shoulders which are prominent and truncate; they taper towards and are conjointly rounded at the apex; they are covered with deep punctures which are more or less placed in longitudinal series but disappear towards the end which is opaque in consequence of a dense rugose sculpture; a similar sculpture, though finer and less dense, is present on the intervals between the punctures; on the scutellar region and on the shoulders rather large glossy granules may be observed.

The legs are nitid, sparsely punctate. The apical ventral segment is short and transverse, broadly rounded behind, gently emarginate in the middle, and fringed with rather long black hairs.

Hab. Elopura: North Borneo (W. B. Pryer). — A single male specimen from the collection of Mr. Pryer.

Of the four hitherto described species¹⁾ *Peribasis pubicollis* Pasc. is the nearest ally of the new one, but as its elytra are described as »dark steel-blue spotted with fulvous” I believe Mr. Pryer’s insect to be specifically distinct.

Marmaroglypha sumatrana, n. sp.

Length from antennary tubers to end of elytra $11\frac{1}{2}$ —13 mm.; length of elytra 8— $8\frac{1}{2}$ mm.; breadth at the shoulders $4\frac{3}{4}$ —5 mm.

Dark brown; the seven apical joints of the antennae

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- 1) *Peribasis aspersa* Pascoe, Trans. Ent. Soc. London. 2nd ser. vol. IV. 1856. p. 48 (*Monohammus*). — id., Longicornia Malayana. 1866. p. 230. — Singapore.
 “ *larvata* White, Proc. Zool. Soc. London. 1858. p. 406 (*Monohammus*). — India orient.
 “ *pubicollis* Pascoe, Longicornia Malayana. 1866. p. 231. — Singapore, Sarawak.
 “ *princeps* Pascoe, Ann. & Mag. of Nat. Hist. 5th ser. Vol. II. 1878. p. 373. — Aid Identif. Ins. Vol. I. pl. 44. — Labuan.

yellowish, tinted with black towards the tips. The head with the three basal joints of the antennae and the basal half of the 4th, the thorax, scutellum, under surface of the body and the legs covered with a pale ashy pubescence; on the apical half of the 4th joint of the antennae the pubescence is black; the elytra glabrous but varied with pale ashy spots and white lines. The head with an oblique line of a paler pubescence below the eyes. The thorax with large naked points, and provided on each side with a line of white pubescence, commencing at the front margin and continuing over the elytra at the sides to the middle of their length, where it curves inwards, and joins, though indistinctly in consequence of its being repeatedly interrupted, the scutellum; a narrow line of more closely set ashy hairs is present along the middle of the disk. The scutellum densely covered with ashy hairs, leaving however a mesial line free. The elytra covered with small spots of an ashy pubescence; these spots are elongate, even linear, at the base, but rounded towards the end; besides the continuation of the white prothoracic lines, a slightly curved similar transverse line is present across the middle of the apical half.

The head shows a few dispersed punctures, and a mesial line which is deeply impressed between the antennary tubers. The antennae reach beyond the apex of the elytra; the scape is sub-cylindrical, the 3rd joint twice as long as the scape, the 4th shorter than the 3rd, slightly sinuate, enlarged towards the tip, the 5th and following joints slender, gradually decreasing in length, the 11th however longer than the 10th.

The thorax slightly narrowing towards the front margin, covered with large but shallow naked punctures. The scutellum transverse.

The elytra covered on the basal half with slightly transverse glossy granules, which are gradually replaced by punctures becoming less and less marked towards the apices which are sub-truncate.

The mesosternum is armed with a distinct tubercle between the intermediate coxae. The abdomen shows a few naked punctures, especially at the sides.

Hab. Serdang: East-Sumatra (Dr. B. Hagen). — Two specimens in the Leyden Museum.

This is the second species described as belonging to the genus *Marmaroglypha* Redtenb. The type (*M. nicobarica* Redtenb., Reise der österreichischen Fregatte Novara um die Erde. Coleoptera. 1867. p. 183; pl. 5, fig. 5) originates from Sambelong: Nicobar Isl., and has, according to Redtenbacher *l. c.*, the »Mittelbrust nicht vorragend.»

NOTE XXI.

DESCRIPTION OF A NEW CETONIID.

BY

OLIVER E. JANSON.

Coryphocera versicolor, n. sp.

Bright green, changing to olive-brown and deep red in certain lights; a small spot on the forehead piceous red, thorax with a large triangular discal spot either entirely black, or piceous with the angles red, sometimes with a small green spot on each side at the base; elytra with a large basal spot, partly or entirely divided by a green stripe just within the humeral prominence, and a large oblique spot on the apical half black; antennae, tibiae and outer margin of the posterior coxae red, tarsi black or piceous.

Head rather coarsely but not very closely punctured, a narrow central longitudinal ridge, flattened, slightly dilated and free at its apex; clypeus impressed in front, the apical margin strongly reflexed and slightly notched in the centre. Thorax trisinuous at the base, rounded at the sides with the anterior angles a little produced, very finely and sparingly punctured on the disk, the sides rather coarsely punctured. Scutellum impunctate. Elytra with some rows of fine remote punctures towards the sides and apex and an impressed row of coarse punctures next the suture behind, the lateral margin towards the apex and the apical margin slightly serrate, the suture elevated behind and acute at the apex. Pygidium with coarse remote punctures, the apical margin fringed with yellowish grey hairs. Beneath sparsely punctured, mesosternal process long, obtusely pointed and slightly incurved at the apex; abdomen

Notes from the Leyden Museum, Vol. X.

strongly impressed in the centre, legs sparsely punctured, the femora slightly strigose, anterior tibiae without lateral teeth.

In the female the punctuation is stronger, the central ridge on the head is narrower at its apex, the abdomen is not impressed in the centre, the anterior tibiae are broader and have a small sub-apical tooth, and the intermediate and posterior tibiae have a small tooth on the outer side.

Length 17—19 mm.

Hab. Jolo Island.

This pretty species is smaller and more convex than *C. macleayi* Kirby, and has the clypeus narrower with the lateral margins more strongly raised, the central ridge much narrower and truncate at its apex and the reflexed apical margin more obtuse and much less deeply notched in the centre; the punctuation is also stronger and the colour is of a darker green and differs from that species in having a remarkable deep red and olive reflection in certain lights.

I have received both sexes from Jolo Island and there is a specimen in the National collection from the Sulu Islands.

NOTE XXII.

ON BIRDS FROM THE CONGO AND SOUTH
WESTERN AFRICA.

BY

J. BÜTTIKOFER.

(Plate 9).

The bird-collections, treated of in this paper, have been made by Mr. P. J. van der Kellen ¹⁾ in the region of the Upper Cunene and east of it in the valleys of the Okovango- and Umbella River. Before the collector reached these localities, he had a short stay on the Lower Congo (24 Sept.—22 Oct. 1884) where he happened to collect 13 species, which will be mentioned at the head of the following list.

In the very short reports, sent over together with the collections, nothing is told about the habits of the specimens obtained, and as the birds of this region are very thoroughly and exhaustively treated of by Mr. Sharpe in his second edition of Layard's *Birds of South Africa*, as well as by Prof. Barbosa du Bocage in his »*Ornithologie d'Angola*», there is but little left to say on van der Kellen's South West African collection. This latter contains about 300 specimens, representing 131 different species. Two of the latter are new, while several others are very rare birds. The following are the places and dates, at which Mr. van der Kellen has obtained his specimens.

1) See: Dr. Jentink, on *Mammals from Mossamedes* (N. L. M. 1887, p. 171).

1885.

Mossamedes, 22 December 1884—4 January. N ^o	16—32
Humpata, 8 February—6 November. »	33—90

1886.

Pompenini (Otji Pompenina?), 7—12 January. N ^o	91—96
Quipanhime, 23 January—2 February. »	97—114
Otjipahé (Huilla), 10 February—30 March. »	115—149
Muhino (near Huilla), 31 March—14 April. »	150—189
Calculavar River, 8—9 August »	190—193
Otjipungo, 2—3 September »	194—195
Cunene River, 6—10 September. »	196—198
Horsie River, 15—16 September. »	199—200
Okovango (Cubango) River, 2—6 November. »	201—205
Umbella River, 4—10 December »	206—215
Kasinga River, 11—14 December. »	216—220
Umbella River, 20—28 December. »	221—224

1887.

Kakelle River, 2—14 January »	225—241
Kasinga River, 9—22 February. »	242—251
Umbella River, 27 February. »	252
Kasinga River, 27 February—11 March . . »	253—269
Umbella River, 13 March »	270
Kasinga River, 15 March—10 May. »	271—311

I have given the names of localities unaltered like I found them in van der Kellen's lists; some of them are not mentioned in any map. The collector's head-quarter has been Humpata, the well-known colony of Trek Boers in the mountains behind Mossamedes, and from there excursions have been made to Huilla, and across the Calculavar- and Cunene River eastward to the Okovango- (Cubango-), Umbella- and Kasinga River.

A. Birds from the Congo.

1. *Eurystomus afer* (Lath.). Vista.
2. *Ceryle rudis* (Linn.). Ango Ango.
3. *Halcyon senegalensis* (Linn.). Banana.
4. » *chelicuti* (Stanl.). Boma.
5. *Merops erythropterus* (Gm.), ad. ♀, Banana.

Although this specimen agrees fully with those from Abyssinia and another from the Victoria Nyanza (Coll. Fischer), I prefer to quote it under the head of *M. erythropterus* instead of *cyanostictus* (Cab., v. d. Deck. Reis. III. p. 34 [1869]) or *pusillus cyanostictus* (Shelley, Ibis 1885, p. 398). This eastern form is distinguished from the western, the true *M. erythropterus*, by a broader subterminal black band across the tail and a blue superciliary stripe extending occasionally onto the front. In the South African and South West African birds, *M. pusillus*, the black cross-band is also broader than in the specimens north of the Gaboon, but the blue superciliary band is generally wanting. There are, however, no sharp limits between the typical northwestern form and both eastern and southern, what we might call subspecies, as I found in Liberia several specimens with the blue superciliary streak more or less faintly indicated, and our collection contains a specimen from the Senegal with narrow cross-band on the tail, in which the superciliary stripe is fully developed.

6. *Cinnyris bifasciatus* (Shaw). 2 ad. males, Banana and Ango Ango.

7. *Anthreptes tephrolaema* (Jard. & Fras.).

Nectarinia gabonica, Hartl. J. f. O. 1861, pp. 13, 109. (♀).

Anthreptes tephrolaema, Shelley, Mon. Nect. p. 333, and especially the rectification in the same work, p. XLVI.

An adult female with nest and an egg, 28 September, Banana. The female bird, as well as nest and egg, are perfectly similar to those of *A. rectirostris* I collected in Liberia, and which are mentioned under the head of *Cin-*

nyris venusta (N. L. M. 1885, p. 170) and afterwards as *Stiphronis alboterminata* Reichenow (N. L. M. 1886, p. 245 and 250). *Anthreptes tephrolaema* thus differs from *A. rectirostris*, its northern representative, by the color of the male only, especially by the color of chin and upper throat, which is ashy gray instead of yellow. Dr. Reichenow, whom I sent some time ago one of my Liberian female birds for comparison with his typical *Stiphronis alboterminata*, found it identical with the latter, but the tongue of a spirit-specimen, which I happened afterwards to prepare, shows to evidence that the bird, considered to be a *Stiphronis*, is a true *Anthreptes*, and *St. alboterminata* undoubtedly will be *Anthreptes rectirostris*, the northern form of straight-billed Sun Birds.

8. *Dryoscopus major* (Hartl.), ad. ♂, Banana.
9. *Ploceus cinctus* (Cass.), ad. ♂, Vista.
10. *Pyromelana flammiceps* (Sw.), ♂?, Boma.
11. *Dendropicus cardinalis* (Gm.), ad. ♂, Ango Ango.
12. *Ardea atricapilla*, Afz., ad. ♂, Ango Ango.
13. *Numenius phaeopus* (Linn.), ad. ♂, Banana.

B. *Birds from South West Africa.*

1. *Serpentarius secretarius* (Scop.).

Serpentarius secretarius, Sharpe, Birds S. Afr. p. 8.
Gypogeranus serpentarius, Boc. Orn. d'Ang. p. 6.

An adult male, 27 September, Humpata.

Iris yellowish brown, cere and other naked parts flesh-color, bill black, feet horn-color.

2. *Circus macrurus*, Gm.

Circus macrurus, Sharpe, Birds S. Afr. p. 11.

A young male with fawn-colored under surface, 26 October, Humpata.

Iris brown, bill black, cere and feet lemon-yellow. — Contents of stomach: Mice.

3. *Circus ranivorus* (Daud.).

Circus ranivorus, Sharpe, Birds S. Afr. p. 14; — Boc. Orn. d'Ang. p. 11.

Three full-grown young males, 8 and 11 October, Humpata.

Iris light brown, bill black, cere and feet yellow.

4. *Aquila rapax* (Temm.).

Aquila clanga, Schl. Mus. P.-B. Revue Accip. p. 115.

Aquila rapax, Sharpe, Birds S. Afr. p. 35; — Boc. Orn. d'Ang. p. 26.

An adult female with the same parti-colored plumage as shown in Temminck's Pl. Col. I. pl. 455. It was killed 30 January at Quipanhime.

Iris light brown, bill black, cere and feet yellow.

5. *Melierax gabar* (Daud.).

Melierax gabar, Sharpe, Birds S. Afr. p. 19; — Boc. Orn. d'Ang. p. 15.

Two adult females, one from Otjipahé (16 March), the other from the Kasinga River (18 April).

Iris blood-red, bill black, cere and feet orange-red.

6. *Astur polyzonoides* (Smith).

Nisus badius, Schl. (part.) Mus. P.-B. Astures, p. 48; id. Revue Accip. p. 92.

Astur polyzonoides, Sharpe, Birds S. Afr. p. 22.

Scelopizias polyzonoides, Boc. Orn. d'Ang. p. 19.

An adult male, 3 April, and a young male, 25 March, both from the vicinity of Huilla.

7. *Asturinuula monogrammica* (Temm.).

Asturinuula monogrammica, Sharpe, Birds S. Afr. p. 42; — Boc. Orn. d'Ang. p. 33.

An adult female, 7 March, Huilla.

Iris light red, bill black, cere and feet orange-red.

Notes from the Leyden Museum, Vol. X.

8. *Milvus aegyptius* (Gm.).

Milvus aegyptius, Sharpe, Birds S. Afr. p. 49; — Boc. Orn. d'Ang. p. 43.

An adult female, 28 January, Quipanhime.

Iris brown, bill and feet yellow.

9. *Elanus caeruleus* (Desf.).

Elanus melanopterus, Schl. Mus. P.-B., Milvi, p. 6; id. Revue Accip. p. 130.

Elanus caeruleus, Sharpe, Birds S. Afr. p. 52; — Boc. Orn. d'Ang. p. 44.

A series of adult and young specimens from Humpata and Huilla, collected in all seasons of the year.

Iris in young specimens light brown, in adult blood-red, bill black, cere and feet lemon-yellow. — Contents of stomach: Mice.

10. *Baza verreauxii* (Lafr.).

Baza cuculoides, Schl. Mus. P.-B. Revue Accip. p. 133 (N° 2, from Natal).

Baza verreauxii, Sharpe, Birds S. Afr. p. 54, pl. 1.

A fullgrown young female, shot 4 March on the Kasinga River.

Iris yellow, bill black, cere and feet yellow.

This specimen, the first which is noticed from the western part of South Africa, agrees in size and color with a specimen from Natal in our Museum, which was obtained from Mr. Gurney in 1866 and which was hitherto the only representative of this species in our Museum. The under wing-coverts in both are banded across, though very faintly, with rufous and white, and also in another female from the Gold Coast. This latter is however considerably smaller and has its upper surface darker brown than the former two specimens.

11. *Falco subbuteo*, Linn.

Falco subbuteo, Sharpe, Birds S. Afr. p. 59; — Boc. Orn. d'Ang. p. 48.

An adult female from Otjipahé (Huilla), 17 March.
Iris brown, bill bluish, cere and feet yellow.

12. *Falco rupicola*, Daud.

Cerchneis rupicola, Sharpe, Birds S. Afr. p. 62; — Boc. Orn. d'Ang. p. 49.

Three specimens, an adult male from the Kasinga River, 5 May, an adult female from Humpata, 13 February, and an immature female from the latter locality, 1 October.

Iris brown, bill bluish, cere and feet lemon-yellow. — Contents of stomach: Locusts.

13. *Falco dickinsonii*, Selater.

Cerchneis dickinsonii, Sharpe, Birds S. Afr. pp. 68, 801; — Boc. Orn. d'Ang. p. 53.

Three specimens (a male and two females), March and April, on the Kasinga River.

Iris dark brown, bill black, feet and bare parts of the face lemon-yellow.

14. *Bubo lacteus* (Temm.).

Bubo lacteus, Sharpe, Birds S. Afr. p. 71; — Boc. Orn. d'Ang. p. 56.

Two adult males; one from Otjipahé (Huilla), 23 March, the other from the Kasinga River, 5 November.

Iris brown, bill horny yellow, bluish gray towards the base. — Contents of stomach: Beetles.

15. *Bubo leucotis* (Temm.).

Scops leucotis, Sharpe, Birds S. Afr. p. 74; — Boc. Orn. d'Ang. p. 58.

An adult male from Muhino (Huilla), 14 April.

Iris orange-yellow, bill horny yellow.

16. *Scops capensis*, Smith.

Scops capensis, Sharpe, Birds S. Afr. p. 75; — Boc. Orn. d'Ang. p. 59.

An adult female, 4 November, Okovango.

Iris, bill and feet yellow.

17. *Otus capensis*, Smith.

Asio capensis, Sharpe, Birds S. Afr. p. 78.

Otus capensis, Boc. Orn. d'Ang. p. 61.

An adult female from Humpata, 30 October.

Iris brown, bill black. — Contents of stomach: Insects.

18. *Noctua capensis* (Smith).

Carine capensis, Sharpe, Birds S. Afr. p. 77.

Two males and a female, November and December, from the Umbella- and Kasinga River.

Iris, bill and feet yellow.

19. *Noctua perlata* (Vieill.).

Carine perlata, Sharpe, Birds S. Afr. p. 77.

Glaucidium perlatum, Boc. Orn. d'Ang. p. 60.

Male and female, the first from the Kakelle River, 12 January, the latter from Otjipahé (Huilla), 14 March.

The male is but faintly, the female strongly spotted with white on the whole upper surface.

Iris, bill and toes yellow.

20. *Caprimulgus rufigena*, Smith.

Caprimulgus rufigena, Sharpe, Birds S. Afr. p. 85; — Boc. Orn. d'Ang. p. 154; — Gurney, Ibis 1877, p. 341; id. id. 1880, p. 259.

Eleven specimens, from Pompenini (1), Quipanhome (1), Otjipahé (2), River Husio (1), Kasinga River (6).

There is much difference in size and coloration amongst these specimens. The largest one, a female, has the wing 16,8 cM., the smallest 14,5 cM.

The difference in coloration is certainly due to age, as there are in the series specimens with the cross-bars on the primaries nearly fully developed, others wanting them at all, and between those there are different intermediate stages of development, represented by this series of specimens. Peculiarly enough there is no fully adult specimen,

with pure white tips to the two outermost pairs of tail-feathers amongst them, though all other stages are represented, from the full-sized but dirty white spots until down to the specimens where the white tips are entirely wanting. The white terminal patches seem to get developed, as well as the white cross-bars on the quills, by moulting and grow continually larger until they have reached their full size, but whenever such a feather gets lost, the new one has the white patch in its full extent, as clearly can be demonstrated in some of the specimens before me. The specimens in which the white cross-bar on the four first primaries is wanting, have the latter, with the exception of the terminal part, regularly barred with many rusty-red bands, especially the innermost, while on the third and second the rufous patches on the outer and inner web do not correspond with each other, and the first primary has only the inner web barred. The last cross-bars on the inner web of the three first primaries have very early the tendency of growing larger and continually increase in size, while the next ones become smaller and by and by disappear entirely, giving way for the dark ashy brown ground-color of the quills. The same tendency can be observed on the last spot of the outer web, which, though not as early and rapidly as that on the inner, grows larger until it is developed to a band which afterwards unites with that on the inner web to an oblique cross-bar. The patch across the inner web begins sometimes very early to become white in the centre, which grows continually until the whole spot is pure white. The corresponding spot on the outer web is much slower in changing into white, and the last remainders of the red color will disappear very late. There are, however, perhaps more than in any other species, individual exceptions from the rule. So I have before me, for instance, a specimen in which there is but a faint trace of a rufous spot on the outer web of the second primary — the first has no spot on the outer web — while that on the inner is fully developed and

pure white, and the third and fourth show fully developed cross-bars. Another has only the three first primaries barred with white, and still another (♀) has five quills — including the first — extremely broadly barred with rufous, so that I first held it for *C. fossii*.

21. *Caprimulgus fervidus*, Sharpe.

Caprimulgus fervidus, Sharpe, Birds S. Afr. p. 86.

An adult female (N^o 288) from the Kasinga River, 30 March.

This fine species can easily be distinguished from *C. rufigena* by its somewhat larger size, the extremely broad golden brown collar round the neck, ditto lores, cheeks and chin. The latter, however, is nearly black in two other specimens we have in our collection. Moreover the narrow terminal part of the second, third and fourth quill is longer than in *rufigena*, and reaches up to about halfway on the white or rusty-red cross-bars, while in *rufigena* this narrow part does not reach as high as the latter. As to this character *C. fervidus* agrees with the much darker *C. pectoralis*, this latter, however, has the rusty collar not as broad and the terminal part of the two outermost pairs of tail-feathers white to a greater extent.

Iris dark brown, bill and feet horny.

22. *Caprimulgus fossii*, J. Verr. apud Hartl.

Caprimulgus Fosseii, Boc. Orn. d'Ang. p. 152.

An adult male from Humpata (30 September), a second from Quipanhome (23 January) and a third from the Cunene River (10 September).

Iris brown, bill black, feet flesh-color. — Contents of stomach: Insects.

23. *Merops apiaster*, Linn.

An adult male, 12 February, Humpata.

Notes from the Leyden Museum, Vol. X.

24. *Merops superciliosus*, Linn.

Merops superciliosus, Sharpe, Birds S. Afr. p. 97; — Boc. Orn. d'Ang. p. 87.

An adult female, 4 January, Mossamedes.

Iris red, bill and feet black.

25. *Merops erythropterus*, Gm.

Merops pusillus, Sharpe, Birds S. Afr. p. 100.

Merops erythropterus, Boc. Orn. d'Ang. p. 92.

Three specimens from Humpata (February and July).

Though all three specimens have the blue superciliary streak fully developed and the black subterminal cross-bar on the tail very broad, I cannot adhere to the opinion that these characters are strong enough to allow a specific separation of this species on the reasons already mentioned (vide ante p. 211).

26. *Merops nubicoides*, Des Murs.

Merops nubicoides, Sharpe, Birds S. Afr. p. 99, pl. IV. f. 2.

Two adult males and a female, January, Kakelle River.

Iris dark brown, bill and feet black.

27. *Merops bullockoides*, Smith.

Merops Smithii, Schl. Mus. P.-B. Merops, p. 9.

Merops bullockoides, Sharpe, Birds S. Afr. p. 99, pl. IV. f. 1.

An adult male, 23 March, Otjipahé (Huilla).

Iris dark brown, bill and feet black.

28. *Merops hirundinaceus*, Vieill.

Dicrocercus hirundinaceus, Sharpe, Birds S. Afr. p. 101.

Merops hirundinaceus, Boc. Orn. d'Ang. p. 93.

Two immature females, 9 February, Kasinga River.

Iris red, bill and feet black.

Notes from the Leyden Museum, Vol. X.

29. *Coracias caudata*, Linn.

Coracias caudata, Sharpe, Birds S. Afr. p. 104; — Boc. Orn. d'Ang. p. 84.

Adult male and female, 12 February, Humpata.

Iris light brown, bill black, feet yellow. — Contents of stomach: Insects.

30. *Coracias spatulata*, Trimen.

Coracias spatulata, Boc. Orn. d'Ang. p. 536; — Sharpe, Birds S. Afr. p. 805.

Three specimens, February and March, in a forest near the Kasinga River.

Iris dark brown, bill black, feet yellow.

31. *Corythornis cyanostigma* (Rüpp.).

Corythornis cyanostigma, Sharpe, Birds S. Afr. p. 108; — Boc. Orn. d'Ang. p. 96.

Two specimens, Mossamedes and Humpata.

32. *Halcyon orientalis*, Peters.

Halcyon orientalis, Sharpe, Birds S. Afr. p. 116; — Boc. Orn. d'Ang. p. 538.

An adult female, 6 April, Muhino (Huilla).

Iris dark brown, bill red, black-tipped, feet red.

33. *Halcyon chelicutensis* (Stanley).

Halcyon chelicutensis, Sharpe, Birds S. Afr. p. 117; — Boc. Orn. d'Ang. p. 101.

Three females, two of which from the Kasinga River, 16 April, and one from the Umbella River, 10 December.

34. *Halcyon cyanoleuca* (Vieill.).

Halcyon cyanoleuca, Sharpe, Birds' S. Afr. p. 120; — Boc. Orn. d'Ang. p. 100.

Notes from the Leyden Museum, Vol. X.

An adult male, 9 December, on the banks of the Kasinga River.

Iris brown, feet black.

35. *Tockus pallidirostris* (Finsch & Hartl.).

Tockus melanoleucus (part.), Sharpe, Birds S. Afr. p. 128.

Tockus pallidirostris, Boc. Orn. d'Ang. p. 117.

Two adult males and one female, 9, 16 and 18 February, Kasinga River.

Iris brown, bill entirely horny white, feet brown.

36. *Tockus erythrorhynchus* (Temm.).

Tockus erythrorhynchus, Sharpe, Birds S. Afr. p. 131; — Boc. Orn. d'Ang. p. 120.

An adult female, 24 January, Quipanhime.

Iris brown, bill red, feet bluish gray.

37. *Tockus nasutus* (Linn.).

Buceros nasutus et *poecilorhynchus*, Schl. Mus. P.-B. Buceros, p. 14.

Tockus nasutus, Sharpe, Birds S. Afr. pp. 133, 808; — Boc. Orn. d'Ang. p. 118.

An adult male with a strongly developed ridge on the upper mandible, 15 March, Otjipahé (Huilla); a nearly adult female, with the fore part of the bill red, 9 March, same locality, and a nearly adult male with the ridge less developed than in the adult male, 7 May, Kasinga River.

Iris brown, bill in male black with a white elongated triangular area at the base of the upper mandible, and several oblique narrow lines of the same color on the lower. The female has the forepart of the bill red, the white area extending over the whole basal half of the upper mandible, the basal half of the lower mandible like in the male; feet brown.

38. *Upupa africana*, Bechst.

Upupa africana, Sharpe, Birds S. Afr. p. 134; — Boc. Orn. d'Ang. p. 124.

Notes from the Leyden Museum, Vol. X.

An adult male, 14 February, Humpata.

Iris brown, bill and feet black. — Contents of stomach:
Insects.

39. *Irrisor erythrorhynchus* (Lath.).

Irrisor erythrorhynchus, Sharpe, Birds S. Afr. p. 137; — Boc. Orn. d'Ang. p. 126.

Six specimens, viz. two adult males and two females from Muhino, collected in April, with entirely red bills, and male (14 Febr.) and female (18 March) in transitional stage, from the Kasinga River. In the latter male the parts which are beautifully metallic green in the adult bird, are blackish with a faint steelblue and purplish gloss, the throat is dull brown, the bill entirely black.

The immature female is in many points more advanced towards the adult stage. It has the bill almost entirely red and the metallic colors are fully assumed, but most of the quills and wing-coverts are dull brown, and the tail-feathers show the same color on the terminal part.

The bill in both females is considerably smaller than in the males.

Iris in all specimens dark brown, feet red.

40. *Irrisor cyanomelas* (Vieill.).

Rhinopomastes cyanomelas, Sharpe, Birds S. Afr. p. 138.
Irrisor cyanomelas, Boc. Orn. d'Ang. p. 127.

An adult male, 10 May, Kasinga River.

Iris dark brown, bill and feet black.

41. *Corythaix livingstonii* (G. R. Gray).

Corythaix livingstonii, Sharpe, Birds S. Afr. p. 143; — Boc. Orn. d'Ang. p. 132.

An adult female, 1 April, Muhino (Huilla).

Iris light brown, bill blood-red, above and behind the eye orange-red, feet black.

42. *Schizorhis concolor* (Smith).

Schizorhis concolor, Sharpe, Birds S. Afr. pp. 144, 809; — Boc. Orn. d'Ang. p. 134.

An adult male, 23 June, Humpata, and adult male and female, 4 and 7 May, Kasinga River.

43. *Cuculus gularis*, Steph.

Cuculus gularis, Sharpe, Birds S. Afr. pp. 148, 809; — Boc. Orn. d'Ang. p. 139.

An adult female, 7 March, Otjipahé (Huilla).

Iris brown, bill black, yellow at the base, feet yellow.

44. *Coccytes glandarius* (Linn.).

Coccytes glandarius, Sharpe, Birds S. Afr. p. 157; — Boc. Orn. d'Ang. p. 145.

Adult male, 5 December, Umbella River.

Iris brown, bill horny brown, feet gray.

45. *Coccytes cafer* (Licht.).

Coccytes cafer, Sharpe, Birds S. Afr. p. 158.

Coccytes afer, Boc. Orn. d'Ang. p. 542.

Two adult males, 14 March, Otjipahé (Huilla) and 28 December, Umbella River.

Iris dark brown, bill black, feet bluish gray.

46. *Coccytes jacobinus* (Bodd.).

Coccytes jacobinus, Sharpe, Birds S. Afr. p. 158; — Boc. Orn. d'Ang. p. 146.

An adult male, 13 February, Humpata.

47. *Centropus nigrorufus* (Cuv.).

Centropus nigrorufus, Sharpe, Birds S. Afr. p. 165; — Boc. Orn. d'Ang. p. 543.

An adult female, 30 March, Kasinga River.

No cross-bars on any part of the plumage.

Iris dark brown, bill and feet black.

48. *Indicator sparrmannii* (Steph.).

Indicator sparrmannii, Sharpe, Birds S. Afr. p. 166; — Boc. Orn. d'Ang. p. 135.

An adult female, 6 September, Cunene River.

49. *Indicator major*, Steph.

Indicator major, Sharpe, Birds S. Afr. p. 168; — Boc. Orn. d'Ang. p. 136.

An adult male, 7 January, Kakelle River.
Iris dark brown, bill black, feet horn-color.

50. *Indicator minor*, Steph.

Indicator minor, Sharpe, Birds S. Afr. p. 169; — Boc. Orn. d'Ang. p. 137.

An adult male, 14 April, Muhino (Huilla).
Iris brown, bill black, feet olive.

51. *Pogonorhynchus torquatus* (Dumont).

Pogonorhynchus torquatus, Sharpe, Birds S. Afr. p. 172; — Boc. Orn. d'Ang. p. 106.

Three specimens: adult ♂ and ♀, 7 October, Hum-pata, and an adult female, 2 April, Muhino (Huilla).

Iris red, bill and feet black.

52. *Megalaema chrysocoma* (Temm.).

Barbatula chrysocoma, Boc. Orn. d'Ang. p. 109.

An adult male, 14 April, Muhino (Huilla), and an adult female, 30 January, Quipanhime.

Iris yellow, bill and feet black.

53. *Trachyphonus cafer* (Vieill.).

Trachyphonus cafer, Sharpe, Birds S. Afr. p. 178; — Boc. Orn. d'Ang. p. 109.

Five specimens, four of which from the Kasinga River and one (♂) from Okovango.

The specimens were collected in November, March and April. Two of them, one collected in November the other in April, are in a transitional stage of plumage, the dark parts being brown instead of black.

Iris reddish brown, bill horny yellow, feet black.

54. *Campothera bennettii* (Smith).

Campothera bennetti, Sharpe, Birds S. Afr. p. 181; — Boc. Orn. d'Ang. p. 80 (part.).

Adult male, 9 August, Calculavar, and adult female, 11 March, Kasinga River.

Iris red, bill grayish black, feet olive-green.

Another specimen, collected 12 January on the Kakelle River, and (perhaps wrongly) labelled as a female, differs from the adult male in having the malar stripe black instead of red, the black feathers are however interspersed with some red ones, and the same is the case with the anterior half of the crown, which is also black, with faint whitish tips (no spots at all) to the feathers of the front. There is no brown stripe along the sides of the head; chin and throat are whitish, with a fulvous or rather vinaceous tinge, which covers the whole under surface and is very plainly represented on the centre of abdomen and on the under tail-coverts. The rump is barred like in above mentioned species. The size, however, is slightly smaller, the wing measuring 12 cM. instead of 12,5.

Iris red, bill blackish olive, feet olive-green.

55. *Campothera smithii* (Malh.).

Campothera smithii, Sharpe, Birds S. Afr. p. 184.

Campothera Brucei, Boc. Orn. d'Ang. p. 79.

Adult male and female, 2 April, Muhino.

Iris red, bill black, feet olive-green.

56. *Mesopicus namaquus* (Licht.).

Mesopicus namaquus, Sharpe, Birds S. Afr. p. 188.

Dendrobates namaquus, Boc. Orn. d'Ang. p. 75.

Notes from the Leyden Museum, Vol. X.

An adult female, 29 January, Quipanhime.
Iris red, bill and feet black.

57. *Dendropicus cardinalis* (Gm.).

Dendropicus cardinalis, Sharpe, Birds S. Afr. p. 290.

Dendrobates cardinalis, Boc. Orn. d'Ang. p. 76.

An adult male and two females, Cunene, Muhino (Huilla) and Kasinga River.

Iris red, bill grayish, feet olive.

58. *Psittacus meyeri* (Rüpp.).

Psittacus meyeri, Sharpe, Birds S. Afr. p. 195.

Pionias meyeri, Boc. Orn. d'Ang. p. 68.

Three males and one female, Quipanhime and Kasinga River.

Iris brown, bill and feet black.

59. *Turdus litsitsirupa*, Smith.

Conf. Seebohm, Cat. Birds Br. Mus. V. p. 182 (1881).

Four male specimens, collected 9 January on the Kakelle River. Three of the specimens are strongly, the fourth but faintly washed on front, fore-part of the crown, the sides of chin, abdomen, under tail-coverts and especially the tibiae with rich salmon-red, of which in two specimens a slight hue is spread over the whole lower surface. This peculiar salmon tinge may not be identified with the vinaceous buff of the lower surface of the north eastern species *T. simensis*, but rather compared with that of our Merganser, and finding no trace of it in our Museum specimens I suppose that it disappears under the influence of light.

Iris brown, bill brown, the lower mandible yellowish with the tip brown, feet horny yellow.

The nearly allied north eastern form, *T. simensis* Rüpp., as von Heuglin already observed, is easily distinguished by the much smaller and more circular dark spots on the sides of the abdomen, while these spots are larger and more

pyriform on the corresponding parts in *litsitsirupa*. I find that this character holds still better than the buff tinge on the lower surface, which is almost wanting in one of our Abyssinian specimens. A true specimen of *T. simensis* in our collection, very strongly tinged with buff underneath, and having belonged to the former Cabinet of Temminck, is said to come from Caffraria.

60. *Cossypha subrufescens*, Bocage.

Cossypha heuglini, Sharpe, Birds S. Afr. pp. 227, 817; — Boc. Orn. d'Ang. p. 258.

Cossypha subrufescens, Boc. Orn. d'Ang. p. 552; — Sharpe Cat. Birds Br. Mus. VII, p. 41; id., Birds S. Afr. p. 817.

Two adult males, 1 April, Muhino, and 3 Sept., Otjipahé. Iris dark brown, bill black, feet sooty brown.

61. *Thamnolaea arnotti*, Tristram.

Saxicola arnotti, Sharpe, Birds S. Afr. p. 245; — Boc. Orn. d'Ang. p. 269.

An adult male, 5 December, Umbella River. Iris brown, bill and feet black.

62. *Saxicola leucomelaena*, Burch.

Saxicola leucomelaena, Sharpe, Birds S. Afr. p. 247; — Boc. Orn. d'Ang. p. 271.

Immature male and female, 5 January, Mossamedes. Iris brown, bill and feet black. — Contents of stomach: Seeds.

63. *Pratincola torquata* (Linn.).

Pratincola torquata, Sharpe, Birds S. Afr. p. 250; — Boc. Orn. d'Ang. p. 274.

Three adult males and one female, September and October, Humpata.

Iris dark brown, bill and feet black.

64. *Pycnonotus layardi*, Gurney.

Pycnonotus tricolor, Sharpe, Birds S. Afr. p. 208.

Pycnonotus nigricans, Boc. Orn. d'Ang. p. 242.

Pycnonotus layardi, Sharpe, Cat. Birds Br. Mus. VI, p. 132.

An adult female, 14 April, Muhino (Huilla).

Iris dark brown, bill and feet black, wattle round the eye in skin black.

65. *Pycnonotus nigricans* (Vieill.).

Pycnonotus capensis (part.), Sharpe, Birds S. Afr. p. 207.

Pycnonotus nigricans, Boc. Orn. d'Ang. p. 242; — Sharpe, Cat. Birds Br. Mus. VI, p. 134.

One specimen (♀), 24 December, Mossamedes.

Iris red, eyelids in fresh birds orange, bill and feet black.

66. *Chlorocichla occidentalis*, Sharpe.

Criniger flaviventris, Boc. Orn. d'Ang. p. 245.

Chlorocichla occidentalis, Sharpe, Cat. Birds Br. Mus. VI, p. 113, pl. 8; id., Birds S. Afr. p. 814.

An adult specimen, sex not mentioned, 8 April, Muhino (Huilla).

Iris dark brown, bill and feet bluish gray.

67. *Prinia flavicans* (Bonnat. et Vieill.).

Drymoeca flavicans, Sharpe, Birds S. Afr. p. 254, pl. 8.

A probably adult male, 8 February, Humpata.

Whole upper surface uniform earthy gray; sides of face and throat whitish; a narrow stripe through the eye, beginning at the base of the bill, pale rusty brown; a distinct dark pectoral band; breast and abdomen yellowish; tail-feathers broadly tipped with whitish, with a dark sub-terminal spot.

Iris dark brown, bill black, feet yellowish brown.

68. *Crateropus jardinei*, Smith.

Crateropus jardinei, Sharpe, Birds S. Afr. p. 212; — Boc. Orn. d'Ang. p. 250.

An adult female, 13 March, Otjipahé (Huilla).
Iris orange, bill black, feet gray.

69. *Crateropus hartlaubi*, Bocage.

Crateropus hartlaubi, Sharpe, Birds S. Afr. p. 214; — Boc. Orn. d'Ang. p. 252; pl. 1, f. 1.

Adult male and female, April, Muhino, and adult male, 29 June, Humpata.

Iris red, bill black, feet brown.

70. *Neocichla Kelleni*, n. sp.

(Pl. 9, fig. 1).

A male specimen with unworn plumage, collected 8 December, in a forest near the Umbella River.

This species is a yellow-billed *Neocichla*, closely allied to *N. gutturalis*, but with some resemblance in plumage to *Crateropus hartlaubi*.

Front and crown blackish with a narrow terminal edge of white to each feather, giving the crown a somewhat scaly appearance. The feathers of the whole neck, cheeks, chin and throat are silvery gray, each with a dark central spot. A narrow moustachial streak at the base of the lower mandible and lores black. The hind neck, axillaries, mantle and back are dark brown, each feather broadly edged all around with pale fulvous, the rump and upper tail-coverts pale fulvous with somewhat darker centres. The two median tail-feathers are dark olive-brown, the other black with a tinge of the same brown near the tip, and all are broadly tipped with dirty white. The wings are exactly like in *N. gutturalis*, the first primary very short and narrow, the second nearly as long as the third and fourth, which are the longest, third till seventh primary emarginate on the outer edge of the terminal part, the last one

very faintly so, the outer web of the primaries from off the base to the narrowed terminal part of the quills velvety black, the latter as well as the whole inner web dark earthy brown, the innermost primaries edged with white near the base. Basal half of secondaries pure white, continued down the outer edge of the whole feather and forming together a broad longitudinal white bar and a large space of white on the inner surface of the wing. The inner secondaries dark brown, with a broad fulvous edging round the whole feather. Primary-coverts pure black, glossed with steel-blue on the outer web. Wing-coverts dark brown and narrowly tipped with white, the outer ones also edged with steel-blue. Under wing-coverts and axillaries lively fulvous, edge of wing whitish. Entire chest and breast, flanks, thighs, sides of abdomen and under tail-coverts of the same color as the under wing-coverts; the feathers on chest, breast and flanks with a large pyriform blackish central spot and with isabel edgings, centre of abdomen white.

Iris gray, bill entirely yellow, feet brown.

Total length 210 mM., culmen 21, wing 112, tail 86, tarsus 30. — The bill is laterally compressed, much more so than in *N. gutturalis*.

71. *Neocichla gutturalis* (Boc.).

Neocichla gutturalis, Sharpe, Birds S. Afr. p. 215; — Boc. Orn. d'Ang. p. 253; pl. 1, f. 2.

Adult female, 27 February, Kasinga River.

Iris yellow, bill black, feet brown.

72. *Cinnyris gutturalis* (Linn.).

Cinnyris gutturalis, Sharpe, Birds S. Afr. p. 311; — Boc. Orn. d'Ang. p. 164.

Three adult males, in brushwood about Humpata.

Iris brown, bill and feet black.

73. *Cinnyris amethystinus* (Shaw).

Cinnyris amethystinus, Sharpe, Birds S. Afr. p. 315; — Boc. Orn. d'Ang. p. 163.

An adult male, 10 January, Kakelle River.

Iris brown, bill and feet black.

74. *Cinnyris chalceus* (Hartl.).

Nectarinia chalcea, Boc. Orn. d'Ang. p. 174.

An adult male, 11 February, Humpata.

Notwithstanding Mr. Gadow's assertion, that the type of this species shows not the least difference from that of the nearly allied *C. cupreus*, I consider this species to be sufficiently distinct by the golden green upper surface of the head, without any tinge of purplish red.

Iris dark brown, bill and feet black.

75. *Cinnyris bifasciatus* (Shaw).

Nectarinia bifasciata, Boc. Orn. d'Ang. p. 168.

An adult male, 24 December, Mossamedes.

Iris dark brown, bill and feet black.

76. *Cinnyris oustaleti* (Boc.).

Nectarinia Oustaleti, Boc. Orn. d'Ang. p. 545.

A nearly adult male, 18 July, Humpata.

Iris dark brown, bill and feet black.

77. *Parus niger*, Vieill.

Parus niger, Sharpe, Birds S. Afr. p. 331; — Boc. Orn. d'Ang. p. 285.

An adult and an immature male, obtained in March on the Kasinga River. — The immature male is somewhat duller in color than the adult.

Iris in both dark brown, bill and feet black.

Notes from the Leyden Museum, Vol. X.

78. *Salpornis salvadorii* (Boc.).

Mylypsornis salvadori, Boc. Orn. d'Ang. p. 289, pl. 10, f. 2.

Salpornis salvadorii, Sharpe, Birds S. Afr. p. 335.

An adult female, Kasinga River.

Iris dark brown, bill horny brown, lower mandible paler towards the base, feet brown.

79. *Batis pririt* (Vieill.).

Batis (Pachyprora) pririt, Sharpe, Birds S. Afr. p. 138; — Boc.

Orn. d'Ang. p. 199.

Two adult males; 2 January, Kakelle River, and 7 April, Muhino.

Iris dark brown, bill and feet black.

80. *Lanioturdus torquatus*, Waterhouse.

Lanioturdus torquatus, Sharpe, Birds S. Afr. p. 351; — Boc. Orn.

d'Ang. p. 197.

An adult male, 24 September, Humpata.

Iris yellow, bill and feet black.

81. *Terpsiphone cristata* (Linn.).

Terpsiphone cristata, Sharpe, Birds S. Afr. p. 352; — Boc. Orn.

d'Ang. p. 191.

A male with fully developed long tail-feathers, but the head still bluish gray, 12 December, Kasinga River, and an adult female, same date and locality.

82. *Hirundo puella*, Temm.

Hirundo puella, Boc. Orn. d'Ang. p. 184; — Sharpe, Birds S. Afr.

p. 373.

Two adult females, 13 February, Humpata.

Iris brown, bill and feet black.

83. *Lanius minor*, Gm.

Lanius minor, Boc. Orn. d'Ang. p. 214; — Sharpe, Birds S. Afr.

p. 374.

Notes from the Leyden Museum, Vol. X.

Two adult males, Kasinga- and Okovango River.
Iris dark brown, bill and feet black.

84. *Lanius collaris*, Linn.

Lanius collaris, Sharpe, Birds S. Afr. p. 374.

Fiscus collaris, Boc. Orn. d'Ang. p. 215.

A female in transitional stage, 13 March, Otjipahé (Huilla), and two young males, 29 March, Kasinga River.

Iris brown, bill black, more flesh-colored in the young, feet gray.

85. *Lanius collurio*, Linn.

Ennecoctonus collurio, Sharpe, Birds S. Afr. p. 378; — Boc. Orn. d'Ang. p. 213.

An adult male, 3 March, Kasinga River.

Iris dark brown, bill horn-color, feet black.

86. *Urolestes melanoleucus* (Jard. & Selby).

Urolestes melanoleucus, Sharpe, Birds S. Afr. p. 380; — Boc. Orn. d'Ang. p. 219.

Two adult males; 14 January, Kakelle River, and 24 January, Quipanhime.

Iris dark brown, bill and feet black.

87. *Laniarius sulphureipectus* (Less.).

Laniarius sulphureipectus, Sharpe, Birds S. Afr. p. 384.

Chlorophoneus sulphureipectus, Boc. Orn. d'Ang. p. 231.

An adult female, 24 March, Otjipahé (Huilla).

Iris dark brown, bill black, feet pale bluish gray.

88. *Laniarius bakbakiri* (Levaill.).

Laniarius gutturalis, Sharpe, Birds S. Afr. p. 385.

Chlorophoneus bacbakiri, Boc. Orn. d'Ang. p. 232.

An adult male, 22 December, Mossamedes.

Iris brown, bill black, feet bluish gray.

89. *Laniarius poliocephalus* (Licht.).

Laniarius poliocephalus, Sharpe, Birds S. Afr. p. 387.

Meristes olivaceus, Boc. Orn. d'Ang. p. 235.

An adult female, 13 April, Muhino (Huilla).

Iris red, bill black, feet pale bluish gray.

90. *Laniarius atrococcineus* (Burch.).

Laniarius atrococcineus, Sharpe, Birds S. Afr. p. 389; — Boc. Orn. d'Ang. p. 226.

Two adult females; 16 March, Otjipahé, 8 August, Calculavar.

Iris dark brown (in one specimen gray!), bill and feet black.

91. *Dryoscopus guttatus*, Hartl.

Dryoscopus guttatus, Sharpe, Birds S. Afr. p. 391.

Dryoscopus neglectus, Boc. Orn. d'Ang. p. 230.

Two adult males, collected in February and May, on the Kasinga River.

Both specimens have the whole lower surface pure white and no white tips to the tail-feathers. In the latter specimen the white longitudinal band on the wing is formed by only two white-edged secondaries, while in the first there is a third secondary, though only on the basal half, edged with white.

Iris dark brown, bill and feet black.

92. *Dryoscopus cubla* (Levaill.).

Laniarius cubla, Sharpe, Birds S. Afr. p. 392.

Dryoscopus cubla, Boc. Orn. d'Ang. p. 227.

Six specimens, adult and young males and females, collected from December to May, on the Kasinga- and Umbella Rivers, and at Otjipahé near Huilla. A young male, collected in February, has the general color on the upper surface brown, a superciliary band from front to above the eye white, varied with blackish, a loreal patch brown, the feathers of the crown largely tipped with white, hind

neck and down the centre of the mantle very much varied with white, scapularies and lesser wing-coverts more uniform brown; fluffy feathers on lower back and rump ashy gray, with very large white subterminal spots and dark brown tips, upper tail-coverts black, quills (especially the secondaries) edged and tipped with white or pale fulvous; greater and second series of wing-coverts and primary-coverts very broadly edged and tipped with pale fulvous and white, lower surface of the wing uniform pale fulvous; tail black, each feather, except the central ones, with the outer web and tip white, the dark parts barred across with pale brown. Entire under surface of body white, with faint blackish longitudinal striolations, especially on chest and sides of breast. The young female, which was collected in May, has the lower surface much more mottled with black; the superciliary streak is pure white, the tips to the feathers on the crown are almost entirely gone and the white edgings to the tail-feathers are much reduced, leaving only the outer web of the outermost pair pure white. The pale brown bars across the tail-feathers have also disappeared. There is no transitional stage between these two and the adult.

Iris in adult and young dark brown, in one of the first, however, it is said by the collector to be orange, in another blood-red; bill black, feet bluish gray.

93. *Telephonus senegalus* (Linn.).

Laniarius senegalus, Sharpe, Birds S. Afr. p. 394.

Telephonus erythropterus, Boc. Orn. d'Ang. p. 223.

An adult female, 23 March, Kasinga River.

Iris brown, bill black, feet bluish gray.

94. *Graucalus pectoralis*, Jard. & Selby.

Graucalus pectoralis, Sharpe, Birds S. Afr. p. 843.

Cebblepyris pectoralis, Boc. Orn. d'Ang. p. 205.

Two, probably immature, though full-grown males, are totally resembling the adult female of this species in plu-

mage; one of them has arrow-shaped or rather cordiform dark spots near the tips of some of the under tail-coverts, the other some few faint spots of the same shape on the breast.

Iris dark brown, bill and feet black.

Both specimens are collected on the Kasinga River, 22 February and 3 March.

95. *Eurocephalus anguitemens*, Smith.

Eurocephalus anguitemens, Sharpe, Birds S. Afr. p. 400; — Boc. Orn. d'Ang. p. 218.

Two adult males and one female, both the first collected in March, the latter in May, on the Kasinga River.

Iris dark brown, bill and feet black.

96. *Bradyornis oatesii*, Sharpe.

Bradyornis oatesii, Sharpe, in Oates' Matabela Land, App. p. 314, pl. B; — id., Birds S. Afr. p. 402.

An adult male, 31 March, Muhino, and another specimen, sex not mentioned, 11 March, Kasinga River.

Iris dark brown, bill and feet black.

97. *Prionops talacoma*, Smith.

Prionops talacoma, Sharpe, Birds S. Afr. p. 406; — Boc. Orn. d'Ang. p. 221.

Two adult males and a young female, differing from the adult by having the crown earthy brown, the glossy greenish feathers on the back intermixed with some brown ones, and the feathers on the chin scarcely tipped with gray. All three specimens were obtained in the vicinity of Huilla, in the month of August.

98. *Sigmodus retzii* (Wahlb.).

Sigmodus retzii, Sharpe, Birds S. Afr. p. 407.

Prionops Retzii, Boc. Orn. d'Ang. p. 222.

Three adult, one of which a female, and a young fe-

male, from the Kasinga- and Kakelle River. — The young male, which is all over ashy brown, the white vent and under tail-coverts excepted, was killed 11 March.

Iris in adult and young yellow, bill red with yellowish hook, in the young more brownish, feet pale red.

99. *Dicrurus assimilis* (Bechst.).

Buchanga assimilis, Sharpe, Birds S. Afr. p. 408.

Dicrurus divaricatus, Boc. Orn. d'Ang. p. 211.

An adult male, 25 January, Quipanhime.

Iris red, bill and feet black.

100. *Oriolus notatus*, Peters.

Oriolus notatus, Sharpe, Birds S. Afr. p. 412; — Boc. Orn. d'Ang. p. 236.

Adult male, December, Umbella River, and nearly adult female, January, Quipanhime.

Iris red, bill in male cherry-red, in female black, feet in both bluish gray.

101. *Oriolus larvatus*, Licht.

Oriolus larvatus, Sharpe, Birds S. Afr. p. 413; — Boc. Orn. d'Ang. p. 238.

Adult male, 10 March, Otjipahé, and immature male, 14 January, Kakelle River. This latter is similar to the adult, but has the feathers on chin, throat and chest broadly edged with greenish yellow in stead of pure black, and also, though in a lesser degree, the front and crown. The feathers on scapularies and mantle show very narrow dark shaft-streaks, and the greater and median series of wing-coverts are broadly edged with sulphur-yellow.

Adult male: iris red, bill cherry-red, feet bluish gray; young: iris brown, bill black, feet bluish gray.

102. *Corvus scapulatus*, Daud.

Corvus scapulatus, Sharpe, Birds S. Afr. p. 416; — Boc. Orn. d'Ang. p. 300.

Adult female, 26 September, Humpata.
Iris dark brown, bill and feet black.

103. *Dilophus carunculatus* (Gm.).

Dilophus carunculatus, Sharpe, Birds S. Afr. p. 421; — Boc. Orn. d'Ang. p. 302.

Immature male with only the malar streak naked, 7 November, Okovango.

Iris brown, bill horn-colour, feet black.

104. *Lamprocolius sycobius* (Licht.).

Lamprocolius sycobius, Sharpe, Birds S. Afr. p. 426; — Boc. Orn. d'Ang. p. 308.

Adult male, 29 June, and adult female, 13 February, both from Humpata. The female is considerably smaller than the male.

Iris pale orange, bill and feet black.

105. *Plocepasser mahali*, Smith.

Plocepasser mahali, Sharpe, Birds S. Afr. p. 447; — Boc. Orn. d'Ang. p. 318.

An adult male, 14 December, Kasinga River.
Iris brown, bill and feet reddish horn-colour.

106. *Plocepasser rufoscapulatus*, n. sp.

(Pl. 9, fig. 2).

Crown and sides of head and occiput grayish buff, front black, and also a double, broad band, running from the front along the crown and uniting on the occiput, leaving the centre and sides of the crown grayish buff. Lores of the latter color, each feather tipped with black; a broad, ill-defined black streak running from the lores along the lower margin of the eye and above the ear-coverts to the sides of the neck. Moustachial streak, cheeks and ear-coverts somewhat paler than the gray parts of the crown and separated from chin and throat by a nar-

row but distinct black line, beginning at the inner angle of the lower mandible in front of the chin and running to the sides of the fore-neck. Mantle, scapulars and lesser wing-coverts rufous, each feather broadly edged and tipped with chestnut, lower back, rump and upper tail-coverts sandy buff, tail entirely sandy brown, showing slight undulations under certain lights. Quills dark grayish brown, the primaries narrowly edged with dirty white, the secondaries and tertiaries broadly margined on the outer web with isabel, inclining to fulvous; greater and second series margined and very broadly tipped with white, especially the second series, forming a narrow and a broad oblique white bar across the wing. Under wing-coverts silvery gray, somewhat tinged with fawn-color, the feathers along the edge of the wing streaked with dark brown. Chin silvery white, throat and chest gray, streaked with fulvous, and with some faint blackish centres to the feathers; breast, abdomen, thighs, flanks and under tail-coverts ashy gray, somewhat paler on the centre of breast and abdomen.

Iris dark brown, bill pale horn-color, feet and claws yellowish horn-color. Total length 150 mM., wing 95, tail 68, tarsus 20, culmen 18.

This species differs from the black-crowned congeners especially by the pale streak in the centre of the crown, by the red mantle and by the rump and upper tail-coverts being gray instead of white.

An adult male, 27 February, on the banks of the Kasinga River.

107. *Vidua paradisea* (Linn.).

Vidua verreauxii, Sharpe, Birds S. Afr. p. 452.

Vidua paradisea, Boc. Orn. d'Ang. p. 346; — Shelley, Ibis 1886, p. 342.

Two males with the hind neck paler than the western form, but darker than *V. verreauxii*. — Collected 3 and 4 April, Kasinga River.

Iris dark brown, bill and feet black.

108. *Coliopasser progne* (Bodd.).

Chera progne, Sharpe, Birds S. Afr. p. 458; — Boc. Orn. d'Ang. p. 347.

An adult male, 8 October, Humpata.

Iris brown, bill and feet black.

109. *Pyromelana oryx* (Linn.).

Pyromelana oryx, Sharpe, Birds S. Afr. p. 462.

Euplectes oryx, Boc. Orn. d'Ang. p. 335.

Four adult males in breeding plumage, one from Mossamedes (December) and three from Humpata (February).

Iris dark brown, bill black, feet flesh-color.

110. *Estrellda astrild* (Linn.).

Estrellda astrild, Sharpe, Birds S. Afr. p. 470; — Boc. Orn. d'Ang. p. 358.

An adult female, 24 December, Mossamedes.

111. *Passer arcuatus* (Gm.).

Passer arcuatus, Sharpe, Birds S. Afr. p. 478; — Boc. Orn. d'Ang. p. 363.

Adult male and female, 29 December, Mossamedes.

112. *Serinus sulphuratus* (Linn.).

Crithagra sulphurata, Sharpe, Birds S. Afr. p. 486.

Two adult females, 12 and 15 February, Humpata.

Iris dark brown, bill and feet horn-color.

113. *Mirafra africana*, Smith.

Mirafra africana, Sharpe, Birds S. Afr. p. 519; — Boc. Orn. d'Ang. p. 374.

An adult male, 6 April, Muhino (Huilla).

Iris dark brown, bill and feet flesh-color.

114. *Tephrocorys cinerea* (Gm.).

Tephrocorys cinerea, Sharpe, Birds S. Afr. p. 511.

Calandritis cinerea, Boc. Orn. d'Ang. p. 373.

An adult female, 7 October, Humpata.

Iris pale brown, bill and feet horn-color.

115. *Anthus bocagii*, Nicholson.

Anthus pallescens, Boc. Orn. d'Ang. p. 294, pl. 8, fig. 2; — Sharpe, Birds S. Afr. p. 536.

An adult specimen in much worn plumage, 22 December, Mossamedes.

Iris brown, upper mandible brown, lower pale horny, feet flesh-color.

116. *Treron calva*, Temm.

Treron calva, Sharpe, Birds S. Afr. p. 557; — Boc. Orn. d'Ang. p. 378.

An adult male, 11 February, Kasinga River, and another, 12 July, Humpata. In both specimens the bare space on the base of the bill proceeds far up to the forehead. One of them has the tail-feathers entirely gray, while in the other they are edged with greenish yellow on the terminal half of the outer webs.

Iris bluish gray, ring round the eye red, bill bluish, basal part red, feet wax-yellow.

117. *Columba phaeonota*, Gray.

Columba phaeonota, Sharpe, Birds S. Afr. p. 559.

Columba guineensis, Boc. Orn. d'Ang. p. 381 (*conf.* Shelley, on the Columbidae of the Ethiopian Region, Ibis 1883, p. 279).

An immature male with many feathers on the crown broadly tipped with rusty brown, killed 4 January, Mossamedes.

Iris yellow, bare space round the eye red, bill black, feet red.

118. *Stictoenas arquatrix* (Temm.).

Columba arquatrix, Boc. Orn. d'Ang. p. 382.

Palumbus arquatrix, Sharpe, Birds S. Afr. p. 561.

An adult female, 23 October, Humpata.

Iris gray, bare space round the eye, bill and feet lemon-yellow.

119. *Turtur capicola* (Sundev.).

Turtur damarensis, Boc. Orn. d'Ang. p. 385; — Sharpe, Birds S. Afr. p. 567.

An adult male, 9 February, Humpata.

Iris dark brown, bill black, feet red.

120. *Turtur senegalensis* (Linn.).

Turtur senegalensis, Boc. Orn. d'Ang. p. 388; — Sharpe, Birds S. Afr. p. 568.

An adult male, 4 January, Mossamedes.

Iris brown, round the eye coral-red, bill black, feet red.

121. *Chalcopelia afra* (Linn.).

Chalcopelia afra, Boc. Orn. d'Ang. p. 389; — Sharpe, Birds S. Afr. p. 570.

An adult female, 4 January, Mossamedes.

Iris brown, bill black, feet red.

122. *Oena capensis* (Linn.).

Oena capensis, Boc. Orn. d'Ang. p. 392; — Sharpe, Birds S. Afr. p. 572.

An adult female, 4 January, Mossamedes.

Iris brown, bill black, feet red.

123. *Francolinus subtorquatus*, Smith.

Francolinus subtorquatus, Sharpe, Birds S. Afr. p. 600.

An adult male, 30 June, Humpata.

Iris dark brown, bill gray, flesh-color at the base, feet yellow.

124. *Otis ruficrista*, Smith.

Otis ruficrista, Sharpe, Birds S. Afr. p. 639.

An adult male, 11 January, Pompenini.

Iris pale yellow, bill and feet grayish green.

125. *Oedienemus capensis*, Licht.

Oedienemus capensis, Sharpe, Birds S. Afr. p. 645; — Boc. Orn. d'Ang. p. 424.

Adult male and female, 6 November, Humpata.

Iris brown, bill greenish yellow, tip black, feet yellow, tarsi anteriorly green.

126. *Cursorius senegalensis*, Licht.

Cursorius senegalensis, Sharpe, Birds S. Afr. p. 654; — Boc. Orn. d'Ang. p. 419.

An adult male, 24 April, Kasinga River.

Iris brown, bill dark horn-gray, base of lower mandible yellow, feet white.

127. *Aegialitis tricollaris* (Vieill.).

Aegialitis tricollaris, Sharpe, Birds S. Afr. p. 664; — Boc. Orn. d'Ang. p. 433.

An adult male, 25 March, Otjipahé (Huilla).

128. *Lobivanellus senegalus* (Linn.).

Lobivanellus senegalus, Sharpe, Birds S. Afr. p. 666.

Lobivanellus lateralis, Boc. Orn. d'Ang. p. 428.

Nearly adult male, 12 February, Humpata, nearly adult female, the frontal patch intermixed with black feathers, and abdomen, thighs and under tail-coverts isabelline, 27 June, Humpata, and a fully adult male, 2 September, Otjipungo.

Iris in the two first specimens pale yellow, in the adult male brown, bill black, yellow at the base, wattles on

the upper parts orange, on the lower parts paler yellow, feet yellow. — Contents of stomach: Beetles.

129. *Actitis hypoleucos* (Linn.).

Tringoides hypoleucos, Sharpe, Birds S. Afr. p. 686.

Actitis hypoleucos, Boc. Orn. d'Ang. p. 468.

Adult male, 24 December, Mossamedes.

130. *Totanus glareola*, Linn.

Totanus glareola, Sharpe, Birds S. Afr. p. 690; — Boc. Orn. d'Ang. p. 467.

Adult female, 23 December, Umbella River.

131. *Scopus umbretta*, Gm.

Scopus umbretta, Sharpe, Birds S. Afr. p. 725; — Boc. Orn. d'Ang. p. 457.

Adult female, 26 October, Humpata, on the border of a swamp.

Iris dark brown, bill and feet black.

132. *Ciconia abdimii*, Licht.

Ciconia abdimii, Sharpe, Birds S. Afr. p. 730; — Boc. Orn. d'Ang. p. 451.

Adult female, 2 March, Kasinga River.

Iris brown, bill and feet red.

NOTE XXIII.

ZOOLOGICAL RESEARCHES IN LIBERIA.

LIST OF MOLLUSCA,

with descriptions of new species.

BY

M. M. SCHEPMAN.

(Plate 10).

The following paper contains a complete list of the Mollusks, collected during the travels of Messrs. Büttikofer and Sala (1879—1882), of Mr. Stampfli, sent out by Mr. Büttikofer after his return from Liberia (1884—1885), and of a second visit to that country by Büttikofer and Stampfli (1886—1887). As the principal intention of the mentioned travellers was to collect vertebrated animals, there was not much time left to bestow upon Mollusks, most of which were collected by Mr. Büttikofer in the country of Grand Cape Mount, where especially all the marine forms were obtained. Full explanations as to the visited localities are given in the introductions to the lists of Birds by Büttikofer (see: Notes Leyd. Mus. 1885, p. 129 & ff. with map; 1886, pp. 243—245, and 1888, p. 59—63 with map).

The learned Dr. H. Dohrn of Stettin, who obtained ample collections of Liberian Mollusks from his collector Mr. Schweitzer, who explored about the same localities, has kindly assisted me in the determination of some doubtful species, while Dr. A. Brot found three new species amongst the specimens of the genus *Melania*.

Notes from the Leyden Museum, Vol. X.

a. Land- and freshwater Mollusks.

1. *Vaginula pleuroprocta* v. Marts. — A few specimens from Schieffelinsville.

2. *Streptaxis Monroviana* Rang. — One specimen, without exact locality and probably collected by Mr. Büttikofer, belongs to the form figured in Pfeiffer's *Novitates Conchologicae*, Pl. 142, fig. 5; a few others, collected by Mr. Stampfli, belong to the same variety and to the var. *rimata* Pfr. Several young specimens and an adult one of the var. *Recluziana* Petit, are found by Büttikofer at Schieffelinsville.

I have availed myself of this opportunity, to examine the radula of a young specimen of this species. The juvenile state was ranged by Rang in the genus *Helix* (*Ann. des Sciences nat.* 1831) till Pfeiffer in his *Monographia Heliceorum*, III, p. 81, and Prof. von Martens (*Malak. Blätter*, 1866, p. 104) supposed it to be the young of *Streptaxis nobilis* Gray = *Monroviana* Rang. Dr. Dohrn, after a comparison of a great number of specimens, came to the same conclusion (*Malak. Blätter*, 1866, p. 136), the correctness of which has been fully confirmed by the examination of the radula.

The length of the radula of a snail removed from a shell which measures 12 mm. in its greatest diameter, is about 14 mm., the breadth is scarcely 2 mm. The numerous teeth converge towards the median line at a rather acute angle. The number of transverse rows of teeth or spines goes from 65 to 70, the longitudinal rows amount to about 57 on each side, and consequently a transverse row is composed of about 115 rows. It is however difficult to ascertain the precise number of teeth, especially in consequence of the many small particles of food which adhere to the teeth and which can only partially be removed by repeated washings. The teeth are simple and ensiform; the central ones are the longest and they decrease in length towards the margin of the radula. The dis-

position and form of the teeth indicate decidedly that this species ought to be ranged among the Streptaxidae.

3. *Limicolaria turbinata* Lea; Reeve, Conch. Iconica, *Bullimus*, fig. 605. — From Grand Cape Mount. At the same locality many specimens of *L. tenebrica* Rve and *spectralis* Rve are found, which, according to Dr. Dohrn, should be considered merely as varieties of *turbinata* Lea, the oldest name of the species. A few specimens from the Junk River are collected by Stampfli.

4. *Perideris torrida* Gould. — One specimen from Millsburg on the St. Paul's River; a few others without exact locality and from the Junk River, those from the Junk River collected by Stampfli.

5. *Perideris interstincta* Gould. — From Hill-town. It is the variety figured by Pfeiffer in his *Novitates Conchologicae*, Pl. 137, fig. 3.

6. *Achatina variegata* Col. — Several specimens from Soforé place and the St. Paul's River.

7. *Achatina purpurea* Chemn. — Many very fine specimens and a few still very immature ones from Schieffelinsville.

8. *Achatina Knorri* Jonas = *prunum* Rve.

9. *Stenogyra involuta* Gould. — Many specimens of the ordinary dimensions, figured by Pfeiffer, Philippi and Reeve, from Schieffelinsville. A specimen from Hill-town, decollated or broken, is much larger, and belongs, according to Dr. Dohrn, to a var. major = *bacilliformis* Jonas.

10. *Stenogyra striata* Lea. — Many specimens from Schieffelinsville, living in the trunks of hollow palmtrees.

11. *Ennea Liberiana* Lea. — From Schieffelinsville.

12. *Paludina Liberiana*, n. sp. — Shell ovately turbinated, imperforate, of a dark olive colour; the spire is eroded, the number of persisting whorls is 3, they are but little convex; the whole shell is covered with very small granules, which are arranged spirally, moreover the whorls show several lines of growth, some of which are darker coloured. The suture is not very deep for the genus, last

whorl rounded, with only a slight indication of an angle. Aperture nearly semicircular, a little effused beneath. Columella nearly straight, forming an obtuse angle with the under margin. Interior of the aperture bluish white, with a black margin all around.

Alt. 24, lat. 19; alt. of aperture 15, lat. 10 mill.

Found on rocks in the St. Paul's River near Bavia.

Of this shell there is only one good specimen, the others are more or less bleached or broken. They give however a good idea of the species, which is remarkable by the angle of the under part of the aperture.

13. *Melania nigritina* Mor. — A few specimens of a rather small form, with the spiral striae not much developed, but sufficiently visible, after having been well cleaned, to distinguish it from the allied *Guineensis* Reeve. — Found near Hill-town.

14. *Melania Sancti-Pauli*, n. sp. — Shell cylindrically turreted, with numerous lines of growth decussated by spiral ridges which vary much in number (from 1—6 on the penultimate whorl), nearly wanting in some specimens; the upper whorls obscurely carinated, and the shell often a little granulated; colour dark olive green, with a brownish tint and in some specimens with a dark band. Spire much decollated, persisting whorls about 4, much inflated, but little increasing in height and breadth, suture deep, last whorl still more inflated, rounded. Aperture small, ovately oblong, angular above, effused beneath. Columella arched; interior of the aperture bluish white, outer margin, in the adult, with a black rim. Operculum paucispiral.

Alt. 22, lat. $9\frac{1}{2}$; alt. of aperture 7, lat. 5 mill.

Found on rocks in the St. Paul's River near Bavia.

This species differs from the following and from *M. nigritina* Mor. chiefly by the inflated whorls and the cylindrical shape, from *M. decollata* by the effused aperture.

15. *Melania Liberiensis*, n. sp. — Shell oblong, conical, sculpture and colour very similar to that of the preceding

species, but little decollated, whorls rather flat, sloping, sometimes a little scalariform; suture, except in the last case, not deep; the whorls are more or less carinated, their number amounts to 7, last whorl a little inflated, obscurely carinated. Aperture elongate ovate, angular above, effused beneath. Interior of the aperture bluish white, outer margin, in the adult, with a black rim. Columella arched. Operculum paucispiral.

Alt. 25, lat. $9\frac{1}{2}$; alt. of apert. 8, lat. 5 mill.

On rocks in the St. Paul's River near Bavia.

Allied to the preceding species, but recognisable by the conical shape and flatter whorls. It may be distinguished from *decollata* and *nigritina* by the shape of the aperture.

16. *Melania Büttikoferi*, n. sp. — Shell small, rather shortly conical, decollated, colour yellowish olive, with a broad blackish band at the periphery and another round the base, (one specimen, larger than the others but rather defect, is blackish), sculpture: numerous thread-like lines of growth and spiral cords, of which there are about 10 on the last whorl and 4 on the penultimate one, these cords are all or partially darker than the rest; whorls about 3 in number, rather inflated, with a well marked suture. Aperture ovately oblong, angular above, more or less effused beneath. Columella tortile. Interior of the aperture bluish white.

Alt. 13, lat. 8; alt. of aperture 7, lat. $4\frac{3}{4}$ mill.; of the large specimen 12 : $9\frac{1}{2}$; 8 : $5\frac{1}{2}$.

On rocks in the St. Paul's River near Bavia.

Easily distinguished from the two preceding species, by the short, conical shape and the regular spiral cords.

It is on the authority of Dr. Brot, that I have ventured to describe these three forms as new.

17. *Claviger auritus* Müll. — One specimen without exact locality, and another collected by Stampfli on the Junk River.

18. *Claviger Matoni* Gray, var. *loricata* Reeve. — Several specimens from Grand Cape Mount.

19. *Claviger Byronensis* Gray. — Fine specimens from the St. Paul's River near Clay Ashland.

20. *Ampullaria balanoidea* Gould. — Many specimens from Grand Cape Mount and a few from the rocks in the St. Paul's River near Bavia, one of which has the spire not eroded.

21. *Ampullaria vitrea* Born. — A good number of this species, which formerly was very rare and the generic relation of which was still misunderstood by Pfeiffer, has been collected at Grand Cape Mount.

22. *Neritina rubricata* Mor. — A few specimens from the Junk River, collected by Stampfli.

23. *Neritina Adansoniana* Recl. — A single specimen collected at Grand Cape Mount.

24. *Neritina Oweniana* Gray. — One specimen without exact locality, with the columellar plain blackish. There are a few other specimens, from the St. John's River, agreeing in most respects with the description of *N. Hessei* Böttg.; Dr. Dohrn thinks, that these are merely very old specimens from rapid streaming water.

25. *Cyrenoides Dupontiae* Joannis. — To this species Dr. Dohrn brings a single valve of a shell found in the St. John's River.

26. *Aetheria plumbea* Fer. — One small specimen, which is moreover in a bad state of preservation, from rocks in the St. Paul's River near Bavia.

27. *Dreissena africana* Van Beneden. — Many specimens from the Fishermanlake near Bendo. All the specimens are more or less eroded, and the two rows of minute scales, described and figured by Van Beneden, are wanting.

b. Marine Mollusks.

1. *Pyrula morio* Linn. — A specimen from Grand Cape Mount has the tubercles obsolete; two tuberculate specimens and an intermediate one are collected by Stampfli on the Junk River.

2. *Purpura haemastoma* Linn. — Many specimens from Grand Cape Mount.

3. *Purpura neritoides* Linn. — Many specimens from Grand Cape Mount.

4. *Triton tranquebaricus* Lam. — One specimen from the Junk River, collected by Stampfli.

5. *Cypraea stercoraria* Linn. — A few specimens from the same origin as the preceding species.

6. *Littorina punctata* Gmel. — Together with the next species.

7. *Littorina striata* King, var. *granosa* Phil. — From Grand Cape Mount; varying in the form of the spire, which is more or less elevated, as well as in the disposition and number of the granules.

8. *Tympanotonus fuscatus* Linn. — Two specimens without exact locality.

9. *Siphonaria grisea* Gmel. = *venosa* Rve. — Many specimens from Grand Cape Mount.

10. *Gadinia afra* Gray. — Many specimens from Grand Cape Mount.

11. *Nerita atrata* Chemn. — Many specimens from Grand Cape Mount.

12. *Fissurella* sp. aff. *obtusae* Sow. — A few specimens from the same locality as N^o 9—11.

13. *Cytherea* (*Tivela*) *trippla* Linn. — One small specimen without exact locality.

14. *Mytilus senegalensis* Lam., var. *semistriata* Krauss. — A few specimens from Grand Cape Mount.

15. *Mytilus perna* Lam. — Rather numerous; from Grand Cape Mount.

16. *Mytilus* sp. — One specimen, radiately grooved, resembling *M. senegalensis* Lam. = *variabilis* Krauss (Süd-Afr. Mollusken, Pl. IV, fig. 5) but differing in some respects; from Grand Cape Mount.

17. *Ostrea* sp. — Two specimens, too much eroded to be discriminated with certainty, from the same locality as the preceding species.

E X P L A N A T I O N

OF

Plate 10.

- Fig. 1. *Paludina Liberiana* Schepm.
a. ventral view.
b. dorsal view.
- » 2. *Melania Sancti-Pauli* Schepm.
a. ventral view.
b. dorsal view.
c. another specimen to show the variability.
- » 3. *Melania Liberiensis* Schepm.
a. ventral view.
b. dorsal view.
- » 4. *Melania Liberiensis* Schepm.
(another specimen to show the variability).
a. ventral view.
b. dorsal view.
- » 5. *Melania Büttikoferi* Schepm.
a. ventral view.
b. dorsal view.
c. a larger specimen (defect).
-

NOTE XXIV.

DESCRIPTION OF A NEW SPECIES OF THE LONGICORN
GENUS BACCHISA, PASCOE ¹⁾.

BY

C. RITSEMA Cz.

Bacchisa singularis, n. sp. ♂.

Length from the forehead to the end of the elytra 9 mm., breadth at the shoulders $3\frac{1}{2}$ mm.; length of the antennae $9\frac{1}{2}$ mm. — Rather dull testaceous-yellow; the mandibles (except at the base on the outside), the eyes and the claws dark brown, the seven apical joints of the antennae blackish, the apex of the elytra bluish black; covered with rather long erect pale coloured hairs, the elytra moreover with a greyish slightly sericeous pile, the bluish black apical portion, however, excepted.

The head is armed on the middle of the face with a strongly compressed projection or horn, which has, when seen sideways, the shape of a shoe, the frontmargin of

1) I believe it not unworthy of being noticed again that Mr. Pascoe's genera *Bacchisa* and *Momisis* (Longicornia Malayana, p. 342 and p. 361) are based on the opposite sexes of two species which no doubt belong to one and the same genus of the subfamily Astathinae. The following species are as yet described:

coronata Pasc. l. c. p. 342; pl. 15, f. 11. ♂ (*type* of the gen. *Bacchisa*). Flores.
aegrota Pasc. l. c. p. 362; pl. 16, f. 4. ♀ (*type* of the gen. *Momisis*). Flores.
nigriventris Rits. Notes Leyd. Mus. III. p. 7. ♂ Sumbawa.
apicalis Rits. l. c. p. 8. ♀ Sumbawa.
singularis Rits. ♂ (in this Note) Sumatra.

which (the sole) is fringed with two rows of diverging long fulvous hairs, which are very densely set and form a tuft on the enlarged upper extremity (the toes); the face is concave on each side of this projection, very glossy and impunctate; the cheeks are finely punctate; the vertex shows, besides a dark coloured line along the middle, a few large punctures. The antennae are of about the same length as the body, slightly hairy; the four basal joints glossy though densely punctured, the seven apical ones opaque; the scape is a little longer than the 2nd and 3rd joint taken together, the 2nd, 3rd and 4th joint slightly swollen at the tip, the 5th and following joints cylindrical, gradually decreasing in length, the apical joint the shortest and pointed at the tip.

The prothorax slightly transverse, constricted anteriorly and posteriorly, and with four obsolete gibbosities arranged in a row across the middle, the innermost pair being by far the smallest; the pronotum sparsely provided with large punctures which leave, however, a streak along the middle free. The scutellum transverse, broadly truncate at the tip.

The elytra parallel, conjointly rounded at the apex, each of them provided with three slightly raised longitudinal costae, and with large punctures which become smaller and less deep towards the end; moreover the elytra have a very fine and dense punctuation all over.

The under surface and legs are very finely and densely punctured. The apex of the last ventral segment subtruncate with rounded angles.

Hab. Serdang: East-Sumatra (Dr. B. Hagen). — A single male specimen.

NOTE XXV.

COLÉOPTÈRES NOUVEAUX DE L'AFRIQUE
DU MUSÉE DE LEYDE.

DÉCRITS PAR

L. FAIRMAIRE.*Elateridae.**Dicronychus lamellicornis*, n. sp.

Long. 22 à 25 mill. — Elongatus, convexus, fuscus aut brunneo-castaneus, modice nitidus, fulvo-pubescens; capite dense punctato, inter oculos sat late impresso, antice declivi, margine obtuse rotundato; antennis fuscis, medium corporis attingentibus, articulo 1° punctato, 2° minuto, 3° vix majore, acute producto, ceteris elongatis, compresso-laminatis, lamina apice latiore, truncato, ultimis angustioribus, articulo ultimo gracili; prothorace elytris angustiore, sed angulis posticis oblique porrectis, basin elytrorum amplectantibus, anticis valde obtusis, dorso dense fortiter punctato, postice medio sulco breviter impresso, lateribus utrinque antice sulculo transverso, intus profundiore signato, margine postico anguste polito, ad scutellum emarginato et fere bidentato; scutello ovato, apice obtuso, paulo depresso, dense punctato; elytris elongatis, post medium attenuatis, apice acuminatis, spinosis, fortiter punctato-striatis, intervallis convexis, aspero-punctatis, basi transversim depressa; subtus nitidior, dense sat subtiliter rugulosus, prosterno fortius punctato, abdomine lateribus impresso; ♀ major, castanescens, antennis simplicibus, brevioribus.

Hab. Congo (A. A. W. Hubrecht).

Notes from the Leyden Museum, Vol. X.

Ressemble au *D. senegalensis*, mais beaucoup plus grand et distinct par les lamelles des antennes larges et tronquées; ressemble davantage au *D. bifidicornis* Fairm. dont il se distingue par le même caractère des lamelles antennaires, la taille un peu moindre, le corselet un peu plus étroit et la tête plus largement impressionnée.

Tenebrionidae.

Stenocara compacta, n. sp.

Long. 7 à 9 $\frac{1}{2}$ mill. — Breviter ovata, gibbula, elytris ampliato-rotundatis, nigra, subopaca, rugis et costis nitidis; capite rugosulo, inter antennis leviter biimpresso, antennis gracilibus; prothorace transverso, trapeziformi, antice angustato, lateribus fere rectis, angulis anticis paulo productis, posticis acutis, basi recta, dorso carioso-punctato, linea media et utrinque plagula sat irregularibus nitidis; elytris gibbosulis, postice valde declivibus, lateribus rotundatis, apice obtuse acuminatis, sutura et utrinque costis 3 elevatis, intervallis transversim plicatulis, paulo reticulatis, interstitiis inæqualibus et punctis sat grossis sparsutis, costa externa obtuse crenulata, parte reflexa transversim paulo inæquali, rugosula, grosse punctata; subtus rugosa, abdomine plicatulo, prosterno inter coxas sat lato, obsolete impresso; pedibus gracilibus elongatis.

Hab. Humpata (D. D. Veth et P. J. van der Kellen).

Ressemble beaucoup au *S. globulum* Haag, en diffère par les élytres à côtes moins nettes et moins tranchantes avec les intervalles réticulés, inégaux, ponctués, et la partie réfléchie très grossièrement ponctuée au lieu d'être lisse; le dessous du corps est plus rugueux et plus ponctué et les pattes sont moins longues.

La description du *S. verrucilifera* Haag (Deuts. Ent. Zeitschr. 1879, p. 296) lui conviendrait bien; mais la tête, chez ce dernier, est grossièrement et densément ponctuée, le corselet a tous les angles pointus, les côtes discoidales des élytres s'effacent après le milieu, tandis qu'ici l'externe at-

teint presque l'extrémité et que les côtes se rejoignent par des rides aussi saillantes qu'elles-mêmes, réticulées irrégulièrement, limitant des impressions avec de gros points peu enfoncés. La taille est aussi bien plus faible.

Metriopus perforatus, n. sp.

Long. 10 mill. — Breviter ovatus, medio ampliatus, niger, sat nitidus; capite strigoso-rugoso, oculis angustis, integris, antennis brevibus, basin prothoracis parum superantibus, sat gracilibus, articulis ultimis paulo crassioribus; prothorace transverso, lateribus a basi antice arcuatim angustato, margine postico fere recto, dorso punctis foveolatis sat dense perforato, utrinque medio transversim impresso; elytris brevibus, medio ampliato-rotundatis, apice obtuse acuminatis, dorso dense irregulariter foveatis, sutura et utrinque costis discoidalibus 2 paulo elevatis, costa externa basi distinguenda, sed mox confusa, duabus postice obsoletis, costa externa vix perspicue indicata, parte reflexa similiter foveolata; subtus parce fortiter punctatus, ad latera densius, abdomine plicatulo, prosterno inter coxas planato et medio valde sulcato; pedibus parum elongatis, scabroso-punctatis, femoribus posticis apicem elytrorum parum superantibus.

Hab. Benguella (D. D. Veth et P. J. van der Kellen).

Cette espèce a une certaine ressemblance avec le *M. Hoffmannseggi* Sol., mais les élytres sont assez fortement arrondies, très obtusément acuminées, couvertes de fossettes irrégulières avec des côtes peu saillantes, le corselet est bien plus rétréci en avant, trapézoïdal, avec le bord antérieur un peu échancré de chaque côté derrière les yeux, et le prosternum, entre les hanches, est à peine ponctué, sillonné au milieu.

Psammodes pedator, n. sp.

Long. 16 à 21 mill. — Oblongo-ovatus, convexus, nigrofuscus, nitidus, antennis, palpis pedibusque castaneo-

rufis; capite densissime punctato, fere rugosulo, labro plus minusve rufescente; prothorace transverso, lateribus rotundato, valde convexo, stria marginali insuper haud visibili, basi subtiliter marginato, dorso dense sat subtiliter punctato; elytris ovatis, a medio postice attenuatis, subtiliter laxe punctatis, epipleuris lævibus, apice paulo concavis; prosterno lateribus lævi, medio asperulo-rugosulo, apice arcuato, mesosterno sat punctato, medio rugosulo, metasterno parce punctulato, pedibus fortiter ac rugose punctatis; ♂ prosterno et metasterno inter coxas rufo-villosis, abdomine subtiliter coriaceo, segmentis 3 primis (3° obsolete) medio rufo-velutinis; ♀ abdomine fere lævi, segmento 1° subtiliter striolato.

Hab. Humpata (P. J. van der Kellen).

D'après le tableau des espèces dressé par Haag (Coleopt. Hefte, VI, p. 60), celle-ci, chez laquelle le 1^{er} article des tarsi postérieurs est plus court que le dernier et le bord postérieur du corselet marginé, avec la saillie sternale fortement recourbée, viendrait se placer près du *P. ovulum* et du *P. semiscaber* Haag. Elle diffère du premier par la forme de la saillie sternale et du second par la tête qui est fortement ponctuée, mais non ridée longitudinalement, ni fortement granulée. La coloration des pattes est aussi assez remarquable; elle rappelle celle du *P. rufipes* Har., mais ce dernier est bien plus grand, la tête présente un profond sillon transversal, le corselet n'est pas densément ponctué et le 1^{er} article des tarsi postérieurs est aussi long que le dernier.

Chez un individu ♀ les pattes sont presque aussi foncées que le reste du corps.

Psammodes misolampoides, n. sp.

Long. 12 mill. — Oblongus, valde convexus, niger, nitidus, capite prothoraceque minus nitidis; capite dense punctato, rugosulo, antice transversim impresso, epistomate dense rufo-villoso, palpis testaceis, antennis medium pro-

thoracis paulo superantibus, testaceis, articulis ultimis paulo brevioribus; prothorace amplo, parum transverso, valde convexo, lateribus rotundato, angulis anticis sat obtusis, dorso dense paulo confluentim punctato, subtiliter rugosulo, margine laterali supra haud distinguendo; elytris breviter ovatis, apice obtusis, dorso fere lævibus; subtus fere lævis, pectore medio subtiliter asperulo; ♂ abdomine segmentis 3 primis late rufo-pubescentibus, femoribus 2 anticis crassioribus.

Hab. Humpata (P. J. van der Kellen).

Remarquable par son corselet à peine plus large que long, densément ponctué, un peu mat, à rebord latéral très fin, invisible en dessus; sa place serait près des *P. granulatus* et *graniferus* avec lesquels il n'a guère de ressemblance. Ressemble assez au *sansibaricus* Haag, mais plus brillant, à corselet plus ample et plus arrondi sur les côtés et les élytres bien plus courtes.

Psammodes cardiopterus, n. sp.

Long. 15 à 20 mill. — Ovatus, sat fortiter convexus, niger, nitidus, tarsis, antennis palpisque interdum piceo-testaceis; capite dense sat fortiter punctato, fere rugosulo, inter antennis transversim impresso, labro lævi, piceo; antennis brevibus, basin prothoracis haud attingentibus, sat gracilibus, articulo 3^o duobus sequentibus conjunctis fere æquali, ultimis 2 ceteris valde brevioribus, dilutioribus; prothorace transverso, elytris angustiore, lateribus fortiter rotundato, antice et basi æqualiter angustato, angulis anticis sat acutis, posticis obtusis, dorso dense sat tenuiter punctato, lateribus subtiliter marginato et interdum obsolete crenulato, margine postice insuper haud distinguendo; elytris brevibus, fere cordatis, lateribus rotundatis, postice attenuatis, subtiliter sat laxè punctulatis, parte epipleurali, lævi, nitida, interdum paulo concava; subtus laxè punctato-asperulus, prosterno medio et lateribus fere lævi, coxis anticis rufo-pubescentibus; tarsis

posticis articulo 1^o quarto æquali; ♂ abdomine segmentis 3 primis et interdum metasterno medio rufo-pubescentibus.

Hab. Humpata (P. J. van der Kellen).

Cette espèce devrait se ranger près du *tristis*, à cause de son corselet dont le bord latéral, très étroit, n'est visible qu'en avant, avec une ponctuation simple, non confluyente, sans teinte soyeuse; mais la forme générale est différente, les élytres sont presque en forme de cœur, ayant leur plus grande largeur en avant, à peu près comme chez le *cordiformis*, mais elles sont bien moins prolongées en arrière, presque arrondies. La taille varie beaucoup.

Dichtha acutecostata, n. sp.

Long. 17 à 19 mill. — Ovata, supra planata, piceo-fusca, nitida, elytris vage rufo-piceo tinctis; capite rugoso-punctato, margine antico incrassato, læviore; antennis gracilibus; prothoracis basin paulo superantibus, rufopiceis, apicem versus dilutioribus; prothorace convexo, subquadrato, lateribus rotundato, margine antico rotundato, utrinque leviter sinuato, angulis anticis obtuse productis, posticis sat obtusis, dorso dense punctato, subrugosulo, linea media lævi vage indicata; elytris amplis, planatis, postice declivibus, lateribus acute carinato-marginatis, carina paulo ante apicem abbreviata, dorso sat fortiter sat dense punctatis, longitudinaliter subcostulatis et sat irregulariter impressis, ad suturam lævioribus, parte epipleurali sat dense punctata, inæquali; subtus subtiliter coriaceo-punctata, prosterno medio antice plicatulo et asperato; ♂ segmento ventrali 2^o medio impressione subrotunda, breviter ac tenuiter rufo-pubescente signato, segmento 1^o obsoletissime ac vix perspicue rufo-pubescente.

Hab. Benguella et Humpata (D. D. Veth et P. J. van der Kellen).

Cet insecte est encore plus déprimé sur les élytres que le *D. inflata* et la carène marginale est bien plus tranchante. Ces deux espèces ont une ressemblance dans la

coloration, leurs élytres étant un peu teintées de rougeâtre, mais bien plus nettement chez l'*inflata*. Chez notre espèce les élytres présentent de faibles côtes ou plutôt des sillons longitudinaux peu profonds, formés par des impressions peu régulières et peu marquées. La plupart des individus que j'ai examinés sont presque transparents; sont-ils un peu immatures? C'est assez probable, vu le peu de résistance de leurs téguments, du moins pour les élytres.

Tynthlobia, n. g.

Novum genus *Trachynotis* affine, sed corpore magis ovato, latiore, clypeo antice late sinuato, oculis angustis transversis, antennis brevibus, sat crassis, compressis, palpis maxillaribus sat elongatis, articulo ultimo oblongo-triangulari, oblique truncato, prothorace transverso, basi bisinuato, scutello late aperto, medio obtuse angulato, elytris brevibus, extus carinatis; prosterno valde arcuato, apice fere truncato, processu intercoxali sat lato, obtuse truncato, pedibus sat gracilibus, tibiis apice acute calcaratis, tarsis posterioribus articulo 1^o ceteris conjunctis fere æquali.

Ce nouveau genre, qui ressemble un peu au *Thalpophila abbreviata*, paraît devoir être rangé près des *Trachynotus*, dont quelques espèces larges et courtes, comme *vestitus*, *Kraatzi*, ont une certaine ressemblance avec notre insecte; mais il diffère essentiellement par ses antennes comprimées, son corselet trisinué au bord postérieur avec les angles arrondis, ses yeux très étroits et son épistôme sinué.

Tynthlobia quadricostata, n. sp.

Long. 13 mill. — Ovata, parum convexa, sed longitudinaliter arcuata, nigro-fusca, opaca, capite prothoraceque setulis pallidis sparsuta, elytris setulis similibus aggregatis minute maculosis, antennis basi pedibusque dense pallido-setulosis; capite convexo, dense subtiliter rugosulo-punctato, antice transversim impresso, clypeo truncato aut potius late

sinuato, mandibulis apice acutis; antennis basin prothoracis haud superantibus, ab articulo 4° compressis; prothorace valde transverso, medio elytris vix angustiore, sed postice et antice valde angustato, lateribus anguste marginato, medio fortiter sat obtuse angulato, basi late sinuato, angulis valde rotundatis, dorso subtiliter dense rugosulopunctato; scutello rugoso; elytris ovatis, basi truncatis, apice declivibus et obtusis, dorso lævibus, impunctatis, sed sparsim impressiusculis, his impressionibus setuliferis et prope scutellum evidentioribus, utrinque extus sat acute bicostatis, costa externa subtus fere duplicata; subtus paulo nitidior, haud setulosus, pectore pedibusque sat subtiliter, abdomine subtilissime dense punctato-rugosulis.

Hab. Benguella (D. D. Veth et P. J. van der Kellen).

Sepidium transversum, n. sp.

Long. 12 mill. — Oblongum, convexum, fuscum; capite inter antennis impresso, his sat brevibus, apicem versus haud crassioribus, articulis 2 ultimis brevibus; prothorace lateribus medio angulatim dilatato, postice angustato, post angulum lateralem leviter sinuato, antice similiter angustato et leviter bisinuato, dorso punctato, setoso, medio elevato et utrinque costa crenata, setosula signato, intervallo fere planato, antice supra caput obtuse producto; elytris oblongo-ovatis, transversim fortiter plicatis, plicis dentatis et setosis, basi utrinque breviter bicristatis, lateribus crenulatis et postice dentibus magnis obtusis signatis, intervallis inæqualibus, asperatis, parte reflexa asperata; pedibus validis.

Hab. Humpata (P. J. van der Kellen).

Ce *Sepidium* se distingue de ses congénères par le corselet ayant, sur la partie élevée du disque, une espèce de canal assez large bordé de chaque côté par une côte crénelée un peu interrompue antérieurement avant la saillie tuberculeuse qui s'avance au dessus de la tête et est aussi dentée ou tuberculée sur les bords; les élytres ont

de forts plis transversaux, assez peu réguliers avec les intervalles très inégaux et à la base elles présentent de chaque côté quatre crêtes assez courtes, dont l'externe au dessus de l'épaule; les plis transversaux deviennent plus obliques et plus confondues sur les côtés et le bord externe est denticulé vers la base, avec des dents plus grosses et tronquées vers l'extrémité.

Gonopus amplipennis, n. sp.

Long. 20 à 22 mill. — Brevissime ovatus, elytris subrotundatis, niger, sat nitidus; capite brevi, clypeo antice paulo angustato, sutura clypeali parum impressa, margine antico sinuato, subtiliter punctulato; antennis brevibus, articulo 3° elongato; prothorace transverso, elytrorum medio dimidio angustiore, medio longitudinæ duplo latiore, antice et postice sat fortiter angustato, antice magis lateribus medio valde rotundatis, basi obsolete sinuatis, margine postico medio obtusissime angulato, angulis posticis acute rectis, anticis valde acutis, dorso fere lævi, basi utrinque obsolete impresso, undique marginato; scutello brevi, valde obtuso, basi transversim elevato; elytris fere rotundatis, ad humeros dente obtuso signatis, apice obtusis, dorso punctato-striatis, intervallis paulo convèxis, leviter transversim cicatricosis, extus et postice magis convexis, seriatim asperatis, crenulatis, costa externa a basi crenulata; pectore lævi, prosterno medio late sulcato, utrinque costulato, postice incurvo et apice sat acute angulato, abdomine longitudinaliter striolato, pedibus punctato-asperis, tibiis anticis quadridentatis, dentibus 3 magnis, superiore minore, fere obsolete, tibiis 4 posticis acute denticulatis, posterioribus setulosis.

Hab. Humpata (P. J. van der Kellen).

Cette espèce est remarquable par ses élytres larges, fortement arrondies, qui lui donnent une certaine ressemblance avec le genre *Agrestis*, mais chez ce dernier les élytres sont déprimées, plus sillonnées, avec les intervalles tuber-

culés et granulés, tandis que dans notre espèce ils sont peu convexes, à fines aspérités le long des stries, un peu rugueux au milieu; en outre le corselet est lisse, le prosternum n'est pas bicaréné au milieu et les pattes postérieures sont peu ciliées.

Anomalipus signaticollis, n. sp.

Long. 22 mill. — Ovatus, sat convexus, nigrofuscus, indumento ferrugineo dense vestitus; capite dense punctato-rugosula, antice fortiter emarginato; prothorace transverso, medio longitudine duplo latiore, lateribus valde rotundatis, basi breviter sat fortiter sinuatis, angulis posticis rectis, dorso dense sat subtiliter rugosulo-punctato, medio areis 2 parvis lævibus; elytris ovatis, apice fortiter declivibus, parum dense sat minute granulatis, utrinque striis 3 latis vix impressis, intervallis vix convexiusculis, margine externo acuto, arcuato, ad humeros rotundato; prosterno planato, medio longitudinaliter biplicato, postice paulo latiore, apice fere trilobo, lobo medio producto, abdomine longitudinaliter plicatulo, segmento ultimo punctato, medio lævi; pedibus rugosis, tibiis anticis fere medio dente sat acuto munitis, intermediis medio obtuse angulatis.

Hab. Humpata (P. J. van der Kellen).

La description de l'*A. asperulatus* Har. (Coleopt. Hefte, XVI, p. 117) conviendrait bien à cet insecte, mais elle indique le corps comme aussi déprimé que chez l'*heraldicus* tandis qu'ici il est assez convexe, comme garni de petites soies squamiformes, ce qui n'existe pas ici, le corselet ayant les angles postérieurs saillants en une forte dent, tandis qu'ici ils sont droits, les élytres ayant les côtés droits tandis qu'ici ils sont arrondis; la forme du prosternum et celle de l'abdomen sont aussi différentes.

Cyptus minor, n. sp.

Long. 4 à 5 mill. — Ovatus, sat convexus, fuscus, sat nitidus; subtus opacus, antennis pedibusque piceo-rufis,

illis apice dilutioribus; capite inæquali, punctulato, antice transversim impressiusculo, clypeo emarginato; antennis brevibus, latitudine capitis paulo brevioribus, apicem versus crassioribus, articulis ultimis transversis; prothorace elytris haud angustiore, longitudine plus duplo latiore, antice paulo angustato, lateribus rotundato, margine postico utrinque late sinuato, angulis posticis rectis, dorso impressiusculo, punctato, lateribus densius, punctis setulis minutis repletis; scutello obtusissimo; elytris apice obtusis, extus subtiliter ciliatis, dorso striatis, striis punctulatis, integris, intervallis fere planis, asperulo-plicatulis, ♂ alternatim paulo convexis; subtus subtiliter asperulus, fulvo-setulosus, tibiis anticis extus bidentatis, dente apicali magno, obtuse triangulari, ceteris extus setosis.

Hab. Congo (A. A. W. Hubrecht).

Ressemble, en beaucoup plus petit, au *C. scabrosus* Gerst., type du genre; en diffère en outre par le corselet un peu ponctué, et non couvert d'aspérités serrées, l'écusson moins court, les élytres moins profondément striées avec les intervalles moins plats, non couverts d'aspérités serrées mais d'une ponctuation finement coriacée, et par les tibias antérieurs n'ayant que deux larges dents, plus pointues, la dent basilaire n'existant pas; les fémurs antérieurs sont simples et ne présentent pas les deux très petites dents du *scabrosus*.

Endustomus parallelogrammus, n. sp.

Long. 16½ mill. — Oblongus, parallelus, antice et apice abrupte rotundatus, lateribus reflexus, dilute brunneus, fere opacus; prothorace amplo, subquadrato, antice abrupte rotundato, margine postico medio et utrinque obsolete sinuato, angulis posticis fere rectis, dorso medio basi brunneo et utrinque plicatulo, antice sat breviter carinulato, lateribus brunneo punctatis; elytris medio convexis, ad humeros sat acutis; parte dorsali oblongo-ovata et sat acute limitata, sat subtiliter ruguloso-punctata, parte foliacea vage brunneo punctata; subtus magis brunneo, pedibus

obscurioribus, antennis fusco-brunneis, sat brevibus, articulis ultimis brevibus, transversis.

Hab. Humpata (D. D. Veth et P. J. van der Kellen).

Ressemble beaucoup au *magnicollis* Fairm., de Zanzibar, mais le corselet est plus arrondi en avant, les côtés sont droits vers la base avec les angles postérieurs presque droits, les élytres sont plus allongées, plus parallèles, nullement déhiscentes à l'extrémité; en dessous, les angles antérieurs du prosternum sont plus pointus, la saillie intercoxale du prosternum est plus étroite et les antennes sont plus courtes.

Aspidosternum violaceum, n. sp.

Long. 15 mill. — Oblongum, postice vix ampliatum, modice convexum, æneum, metallicum, nitidum, elytris purpureo-violaceis, subtus cum pedibus fusco-cærulescens; capite grosse punctato, rugosulo, inter antennis fortiter biimpresso, labro subtilius densius punctato, rufociliato, antennis fusco-cærulescentibus, paulo compressis, basin prothoracis attingentibus, articulo 3^o duobus sequentibus conjunctis æquali, ultimo fusco, opaco, oblique truncato, duobus præcedentibus conjunctis æquali; prothorace vix transverso, elytris valde angustiore, lateribus antice leviter arcuatis, angulis anticis rotundatis, posticis acute rectis, dorso grosse punctato, paulo inæquali, medio leviter sulcato; scutello fere triangulari, apice impresso; elytris oblongis, ad humeros angulatis, apice obtuse acuminatis, dorso anguste costulatis, costulis (basi præsertim) paulo undulatis, intervallis punctis grossis irregulariter biseriatis impressis; subtus fere lævis, tarsis subtus rufo-pilosis.

Hab. Congo (P. Kamerman).

Cette jolie espèce est bien plus petite que l'*A. metallicum*, bien moins élargie en arrière, la tête est moins rugueuse, biimpressionnée entre les antennes, le corselet est bien moins large, les élytres sont un peu moins convexes en arrière et présentent des côtes distinctes avec les intervalles marqués de très gros points formant une double série assez irrégulière, les intervalles un peu saillants.

*Cistelidae.**Cylindrothorus rufulus*, n. sp.

Long. 8 mill. — Elongatus, convexus, omnino castaneorufus, mandibulis nigris, nitidus, pilis griseis adpressis sat dense vestitus; capite prothoraceque densissime subtiliter punctulatis, illo inter antennis transversim sat fortiter impresso; antennis gracilibus, medium corporis attingentibus, apicem versus haud crassioribus; prothorace latitudine parum longiore, elytrorum medio dimidio angustiore, antice et postice fere æqualiter attenuato, lateribus vix arcuatis, angulis omnibus obtusis; scutello late triangulari, punctulato; elytris ovato-elongatis, fere ellipticis, dense minus subtiliter punctatis, subtiliter rugosulis, obsoletissime costulatis; pedibus gracilibus.

Hab. Benguella (D. D. Veth et P. J. van der Kellen).

Cette espèce se distingue de ses congénères par sa coloration, par sa fine sculpture uniforme, sans points tuberculeux et par sa vestiture également uniforme, sans poils redressés et sans soies éparses.

Le genre *Cylindrothorus* Sol. est le même que le genre *Othelecta* Pasc.

Allecula cruralis, n. sp.

Long. 7 à 8 mill. — Elongata, sat convexa, squalide testaceo-rufa, nitida, capite prothoraceque subopacis, pedibus dilutioribus, femoribus apice late fuscis, antennis dilutis, apice infuscatis; articulis 3^o, 4^o, 5^o, 6^oque apice fuscis, aut fuscis, basi flavescens; capite subtilissime vix perspicue dense punctulato, oculis sat magnis, parum distantibus, palpis maxillaribus articulo ultimo fusco, paulo oblique truncato; antennis gracilibus, medium corporis haud attingentibus, articulo 2^o brevi, ceteris fere æqualibus; prothorace transverso, elytris angustiore, antice sat fortiter angustato, lateribus a basi rotundatis, margine postico utrinque leviter sinuato, angulis posticis obtuse rectis,

dorso subtilissime densissime punctulato-rugoso, basi medio et utrinque leviter impresso; scutello sat lato, obtuse rotundato, subtiliter dense punctulato, linea media tenuiter elevata; elytris elongatis, apice tantum angustatis, sat fortiter crenato-striatis, intervallis subtiliter coriaceis, convexiusculis, basi planioribus; pectore punctato, prosterno inter coxas angusto, abdomine subtiliter punctulato, pedibus gracilibus, tarsis anticis articulis 3^o, 4^oque paulo lamellatis, tarsis posterioribus articulo 3^o lamellato, articulo 1^o ceteris conjunctis longiore.

Hab. Humpata (P. J. van der Kellen).

Cette *Allecula* est remarquable par sa forme étroite et allongée qui lui donne de la ressemblance avec les *Chromomæa* d'Australie.

Cteniopus gracillimus, n. sp.

Long. 6½ mill. — Elongatus, gracilis, rufus, nitidus, elytris abdomineque flavido-fulvis, pectore cærulescente; capite subtiliter punctulato, inter antennis transversim profunde sulcato, antennis palpisque obscure rufescentibus, illis elongatis, articulo 3^o quarto subæquali, ultimo apice oblique truncato; prothorace parum transverso, elytris vix angustiore, antice attenuato, lateribus subtiliter marginato, angulis omnibus obtusatis, dorso subtilissime sat dense punctulato, margine postico subtiliter marginato et utrinque obsolete sinuato; scutello subtilissime punctulato, apice obtuse rotundato; elytris elongatis, apice angustatis, dorso punctato-striatulis, striis 5^a 6^aque basi confusis, stria communi profundiore, intervallis vix convexiusculis, parce vix distincte punctulatis; femoribus punctatis, unguibus subtilissime denticulatis.

Hab. Congo (A. A. W. Hubrecht).

Cette espèce est remarquable par sa forme étroite et allongée, qui lui donne une certaine ressemblance avec le genre *Eutrapela*; la tête est un peu moins allongée, mais les yeux sont gros et rapprochés.

*Cantharidae.**Horia cephalogona*, n. sp.

Long. 36 mill. — Cette nouvelle espèce ressemble beaucoup à l'*H. macrognatha*, c'est la même forme et la même coloration, seulement les mandibules et les pattes sont entièrement d'un brun noir, comme les antennes et les palpes; la tête est également renflée, en carré transversal, mais les angles de la base sont prolongés en dessous en un angle obtusément saillant et tombant, les dents au dessous de la base des mandibules sont assez courtes et coniques, la partie antérieure de la tête est impressionnée de chaque côté, le chaperon est tronqué, très légèrement sinué à son bord supérieur, brièvement et plus fortement à l'inférieur; les antennes, un peu comprimées, sont plus étroites vers l'extrémité, le 2^e article est un peu plus long que le 3^e et beaucoup plus large, seulement un peu plus étroit que le premier; le corselet paraît semblable avec les angles antérieurs plus arrondis; l'écusson est brusquement arrondi à l'extrémité; les élytres ne sont pas plus fortement marginées à la base; le dessous du corps présente des poils roux, plus longs sur la poitrine, l'abdomen est un peu obscur, le dessous de la tête est concave, ayant de chaque côté de fortes stries transversalement ondulées; un seul ♂.

Hab. Congo (A. A. W. Hubrecht).

Cantharis metasternalis, n. sp.

Long. 22 mill. — Elongata, parallela, cærulescens, nitida, elytris violaceis, opacis, metasterno medio vitta longitudinali impressa, nitida, rufa signato; capite densissime punctato, ad antennarum basin prope oculos area polita signato, antennis sat brevibus, sat crassis, haud compressis, apicem versus attenuatis, articulo 3^o ceteris paulo longiore, nigris, opacis, articulis 3 basalibus paulo cærulescentibus et nitidioribus; prothorace antice angustato,

densissime punctata, fere rugosulo, medio linea longitudinali tenuiter impressa, basi late foveato; elytris postice haud ampliatis, densissime subtiliter rugosulis, utrinque lineis 3 subtiliter elevatis; subtus nitidior, abdomine et metapleuris paulo virescentibus.

Hab. Humpata (P. J. van der Kellen).

Se rapproche singulièrement de *Lytta episcopalis* Har., mais la description ne parle pas de la bande lisse et rougeâtre que présente le milieu du métasternum, ni de la grande impression au milieu de la base du corselet; en outre, dans notre espèce le 3^e article des antennes n'est pas plus épais que les autres, qui ne diminuent pas d'une manière appréciable pour la longueur ni surtout pour l'épaisseur; enfin les élytres sont parallèles et non élargies en arrière et leur couleur est plutôt d'un bleu azur foncé que violette.

Cantharis laminicornis, n. sp.

Long. 13 à 17 mill. — Elongata, cyanea, sat nitida, elytris paulo minus nitidis, vage virescentibus, subtus cum pedibus paulo nitidior, macula magna pectorali rhomboidali rufa; capite valde convexo, prothorace majore, dense punctato, leviter rugosulo, ad oculos prope antennis utrinque plagula elevata haud nitida, antennis valde compressis, gracilibus, obscure caerulescentibus, articulo 3^o sequenti paulo longiore; prothorace brevi, longitudine paulo latiore, postice vix attenuato, antice valde angustato, dense punctato, medio subtiliter sulcatulo, basi medio impresso; elytris parallelis, subtiliter dense rugosulis, lineis elevatis vix perspicuis; subtus punctulata; ♂ major, antennis medium corporis fere superantibus, capite magis convexo.

Hab. Humpata (P. J. van der Kellen).

Parait voisine de la *subcoriacea* Mäkl., mais cette dernière est beaucoup plus grande, la tête présente un fin sillon longitudinal et le corselet une large et profonde impression au milieu de la base; ce dernier est plus brillant sur les côtés qui sont aussi moins ponctués.

Zonitis geniculata, n. sp.

Long. $12\frac{1}{2}$ mill. — Elongata, convexa, pallide fulva, sat nitida, elytris fulvo-hirtulis, capite prothorace pedibusque rufoflavis, nitidioribus, antennis, palpis, genibus tarsisque infuscatis; capite sat brevi, summo convexo, utrinque rotundatim angulato, antice punctato, inter oculos impressiusculo, sutura clypeali profunde arcuata, epistomate sat dense punctato, labro subtilius punctulato, apice sinuato, mandibulis apice fuscis; antennis parum gracilibus, articulo 1° rufescente, articulis 3° 4°que æqualibus; prothorace elytris angustiore, latitudine paulo longiore, antice valde angustato, basi marginato, dorso laxè punctato, medio baseos impresso, antice transversim depresso et utrinque impresso; scutello dense punctulato, pubescente, apice truncato; elytris elongatis, apice fere oblique truncatis, subtiliter coriaceo-punctulatis, basi magis coriaceis; subtus magis rufescens, fulvo-villosa; ♂ antennis elytris paulo brevioribus, capite magis punctato, vertice medio sulcatulo, abdomine infuscato, apice rufo; ♀ antennis brevioribus, abdomine magis rufo.

Hab. Congo (A. A. W. Hubrecht).

RECTIFICATION.

J'ai décrit dans les Notes from the Leyden Museum, 1887, p. 197, un insecte de l'Afrique australe dont je faisais un nouveau genre sous le nom de *Mutilloides albidofasciatus*. Le faciès assez extraordinaire de cet insecte m'a porté à le ranger parmi les Clérides tétramères, mais j'ai reconnu que c'est une Chrysomélide, le *Pæcilomorpha mutillaria* Clark.

NOTE XXVI.

ON THE MALE SEX OF *LAMIA GRISATOR*, FABR.

BY

C. RITSEMA Cz.

This species, which inhabits India (Tranquebar) ¹⁾, is the type of de Castelnau's genus *Sthenias*, but, according to the description of the mandibles and antennae, only the female sex was known to that Author, and even to Lacordaire at the time he wrote the 2nd part of the 9th volume of his »Genera des Coléoptères,» published in 1872.

In the Leyden Museum are two male specimens of this species from Tranquebar (from the collection of Mr. Raye van Breukelerwaard), and these have the outer margin of the basal half of the mandibles thrown up and prolonged, so as to form a tooth-like, nearly perpendicular, appendage. The antennae reach a little beyond the apex of the elytra and are fringed all along their under surface. The scape is shorter than the 3rd joint, the 3rd to 10th joint gradually decrease in length, the 11th however one and a half as long as the 10th, slightly curved, the apex pointed, not hooked. The hind margin of the last ventral segment rounded, gently emarginate in the middle.

The Sumatran specimen regarded by Pascoe (*Longicornia Malayana*, p. 160) as belonging to *Sthenias grisator* F. is quite distinct from it. I propose to call this species, of which the Leyden Museum possesses two male specimens from Serdang: East Sumatra (Dr. B. Hagen), *Sthenias Pascoei*. The mandibles in this species as well as in *Sthenias franciscanus* Thoms. (from Java and Sumatra) are simple in the male sex.

1) The African *Lamia cylindratör* Fabr. is specifically distinct from it. — I believe that *Xylorhiza hieroglyphica* Redtb. (Reis. Novara. Coleopt. p. 178; pl. 5, f. 2) from Java, also belongs to the genus *Sthenias*.

INDEX.

A.

- abbreviata (Thalophila) 261.
abdimii (Ciconia) 244.
Acanthodrilus, 123, 124 126, 127.
Accipiter 199, 200.
Achatina 247.
Actitis 244.
acutecostata (Dichtha) 260.
adamsi (Ectatorhinus) 168.
adansoniana (Neritina) 250.
Aegialitis 61, 243.
aegrota (Momis) 253.
aegyptius (Milvus) 65, 214.
Aethria 250.
aethiops (Endelus) 175.
afer (Coccyzus) 223.
" (Eurystomus) 69, 211.
" (Lasiomys) 43.
" (Lophuromys) 43.
affinis (Pachyteria) 182, 191, 192,
193.
afra (Chalcopelia) 242.
" (Gadinia) 251.
" (Peristera) 98.
africana (Atherura) 45, 58.
" (Dreissena) 250.
" (Kerivoula) 56, 58.
" (Mirafra) 240.
" (Upupa) 221.
africanus (Elephas) 33, 58.
" (Graculus) 106.
Agapornis 61.
Agelastes 98.
Agrestis 263.
ahantensis (Francolinus) 99.
alba (Ardea) 100.
albardae (Aphrodisium) 193.
albella (Stalagmosoma) 108, 109.
albicollis (Merops) 71.
albidofasciatus (Mutilloides) 271.
albisparsa (Peribasis) 203.
albo cristatus (Buceros) 93.
alboterminata (Stiphornis) 212.
albovirgatus (Tragelaphus) 23.
albovittatus (Tragelaphus) 23.
Alcedo 70, 71.
Alethe 76.
alexandrinus (Mus) 43, 58.
Allecula 267.
Allorhina 118, 119, 120.
Amblyopus 132, 145, 147.
Amblyscelis 133, 144, 145, 146.
amboinensis (Episcaphula) 132.
amethystinus (Cinnyris) 231.
amphibius (Hippopotamus) 29, 30,
31, 32.
amplipennis (Gonopus) 263.
Ampullaria 250.
andamanensis (Episcaphula) 141.
Andropadus 80, 81, 82.
angolensis (Haliaetus) 66.
" (Pitta) 75.
anguitimens (Eurocephalus) 236.
Anobiidae 158.
anomala (Argyripa) 118.
Anomalipus 264.
Anomalurus 34, 35, 58.
Anthreptes 73, 211, 212.
Anthus 75, 241.
Antilope 22, 23, 61.
Aonyx 17, 18, 57.
Aphrodisium 193, 198.
apiaster (Merops) 218.
apicalis (Bacchisa) 253.
Apoleon 158.
aquaticus (Hyaemoschus) 26, 58.
Aquila 213.

arcuatus (Passer) 240.
 Ardea 100, 101, 212.
 argenteo-maculata (Euoplia) 198.
 Argyripa 118.
 arnotti (Saxicola) 227.
 " (Thamnolaea) 227.
 arquatrix (Columba) 242.
 " (Palumbus) 242.
 " (Stictoenas) 242.
 aruensis (Episcaphula) 143.
 " (Euzostria) 140, 151.
 Asio 216.
 aspersa (Peribasis) 204.
 asperulatus (Anomalipus) 264.
 Aspidosternum 266.
 assarius (Polyplastus) 115.
 assimilis (Buchanga) 237.
 " (Dicrurus) 237.
 Astathcinae 253.
 astrild (Estrela) 240.
 Astur 213.
 Asturinula 213.
 Atherura 45, 58.
 atrata (Nerita) 251.
 atratus (Buceros) 93.
 atricapilla (Ardea) 101, 212.
 atripennis (Crateropus) 76.
 " (Dicrurus) 86.
 " (Mecaspis) 195.
 " (Pseudotritoma) 147.
 " (Tritomidea) 147.
 atrochalybea (Terpsiphone) 84.
 atrococcineus (Laniarius) 234.
 atrolava (Barbatula) 95.
 " (Megalaelma) 63, 95.
 " (Megalaima) 95.
 atrolavus (Bucco) 95.
 attenuata (Triplatorna) 131.
 aubinnii (Sciurus) 36, 58.
 Aulacochilus 133, 150, 151.
 Aulacodus 45, 58.
 aurantius (Ploceus) 88.
 aurata (Felis) 15.
 auritus (Claviger) 249.
 australis (Episcaphula) 132.

B.

Bacchisa 253.
 bacilliformis (Stenogyra) 247.
 baebakiri (Chlorophoneus) 233.
 badia (Halcyon) 69.
 badius (Nisus) 213.
 baebakiri (Laniarius) 233.
 balanoidea (Ampullaria) 250.
 baliola (Stalagmosoma) 108.

barbarus (Mus) 44, 58.
 Barbatula 94, 95, 224.
 barbatus (Criniger) 79.
 " (Pycnonotus) 83.
 " (Trichophorus) 78.
 basalis (Pachyteria) 192.
 Batis 232.
 Batocera 198.
 Baza 66, 214.
 beccarii (Crocidura) 162, 163, 167.
 beddardi (Acanthodrilus) 123, 124,
 128.
 beccroftii (Anomalurus) 34, 35, 58.
 bellicosus (Spizaetus) 63.
 bennettii (Campethera) 225.
 " (Campothera) 225.
 Bessonornis 75.
 bicolor (Pachyteria) 177, 178, 180,
 182, 183.
 bicolor (Spermestes) 92.
 bifasciata (Nectarinia) 231.
 " (Systema) 155.
 bifasciatus (Cinnyris) 211, 231.
 bifidicornis (Dicrorychus) 256.
 bimaculata (Pachyteria) 182.
 binotata (Nandinia) 16, 57.
 bipustulata (Tritoma) 146.
 birmanicus (Aulacochilus) 133.
 bizonata (Triplatorna) 132.
 bocagii (Anthus) 241.
 borrei (Pachyteria) 177, 178, 182.
 Bostrychidae 158.
 Botaurus 101.
 brachyceros (Bubalus) 18, 25, 57.
 brachyrhynchus (Oriolus) 88.
 Brachysphaenus 149.
 Bradyornis 236.
 brasiliensis (Diabrotica) 156.
 " (Luperodes) 156.
 brucei (Campethera) 225.
 brunnea (Crocidura) 163, 164, 167.
 Bruta 58.
 Bubalus 18, 25, 57.
 Bubo 63, 66, 67, 215.
 Bucco 94, 95.
 Buceros 61, 92, 93, 221.
 Buchanga 237.
 Bulimus 247.
 bullockoides (Merops) 219.
 Butalis 84.
 büttikoferi (Acanthodrilus) 123,
 127.
 büttikoferi (Accipiter) 200.
 " (Cercopithecus) 10, 57.
 " (Crocidura) 47, 58.
 " (Leiponyx) 53, 58.

büttikoferi (Melania) 249, 252.
byronensis (Claviger) 250.

C.

- caeruleus (Elanus) 214.
cafer (Coccystes) 223.
" (Trachyphonus) 224.
Calandritis 241.
Callichroma 193, 195, 198.
callitrichus (Cercopithecus) 8, 57.
calva (Treron) 97, 241.
calvus (Gymnobucco) 95.
campbellii (Cercopithecus) 9, 10, 57.
Campothera 96, 225.
camurus (Buceros) 93.
canescens (Totanus) 102.
canicapilla (Nigrita) 90.
" (Xenocichla) 79.
caniceps (Sigmodus) 86.
Cantharidae 269.
Cantharis 269, 270.
cantiaca (Sterna) 106.
capensis (Asio) 216.
" (Carine) 216.
" (Graphiurus) 39, 40.
" (Noctua) 216.
" (Oedinemus) 243.
" (Oena) 242.
" (Otus) 216.
" (Pycnonotus) 228.
" (Scops) 215.
capicola (Turtur) 242.
Caprimulgus 216, 218.
cardinalis (Dendrobates) 226.
" (Dendropicus) 212, 226.
cardiopterus (Psammodes) 259.
Carine 216.
Carnivora 57.
caroli (Campothera) 96.
carunculatus (Dilophus) 238.
Cassinia 63, 86.
castanea (Diaphorophyia) 63, 85.
" (Platistira) 85.
castaneofuscus (Ploceus) 88.
caudata (Coracias) 220.
Cebilepyris 235.
celidogaster (Felis) 15, 57.
Centropus 96, 223.
cephalogona (Horia) 269.
Cephalophus 20, 21, 58, 61.
cephus (Stercorarius) 106.
Cerambyx 182.
ceramensis (Encaustes) 135, 151.
Cerchneis 215.
Cercocobus 13, 57.
Cercopithecus 6, 8, 9, 10, 11,
12, 57.
Ceryle 70, 211.
Cetoniidae 107.
chalcea (Nectarinia) 231.
chalcus (Cinnyris) 231.
Chalcopelia 242.
Chamaetylas 77.
Charadronota 110.
chelicutensis (Halcyon) 220.
chelicuti (Halcyon) 211.
Chera 240.
Chiroptera 58.
chloris (Nicator) 87.
Chlorocichla 228.
Chloropeta 73.
Chlorophoneus 233.
chloropygius (Cinnyris) 72.
Choeropsis 29, 58, 61.
Chromomaca 268.
Chrysococcyx 63, 82, 96.
chrysocoma (Barbatula) 224.
" (Megalaema) 224.
chrysogaster (Callichroma) 195.
chrysoptila (Tritomidea) 147.
chrysothrix (Felis) 15.
Ciconia 101, 244.
cinctus (Ploceus) 212.
cinerascens (Bubo) 63, 66.
" (Fraseria) 86.
cinerea (Calandritis) 241.
" (Tephrocorys) 241.
Cinnyris 63, 72, 211, 230, 231.
Circus 212, 213.
Cistelidae 267.
civetta (Viverra) 15, 57.
claasii (Chrysococcyx) 96.
clanga (Aquila) 213.
Claviger 249, 250.
Claviglis 41, 42, 58.
cleaveri (Drymocataphus) 63, 77.
coccineus (Pyrenestes) 91.
Coccystes 223.
coffinii (Trachyphonus) 95.
Coliopasser 240.
Coliuspasser 91.
collaris (Fiscus) 233.
" (Lanius) 233.
" (Pachyteria) 182, 192.
collurio (Enneoctonus) 233.
" (Lanius) 233.
Colobus 4, 5, 6, 7, 8, 57.
Columba 61, 97, 241, 242.
compacta (Stenocara) 256.
concolor (Schizorhis) 223.
Coptengis 139, 140, 141.

- Coracias 220.
 corallipes (Episcaphula) 142, 143,
 151.
 cordiformis (Psammodes) 260.
 Corethrura 63, 102.
 coronata (Bacchisa) 253.
 coronatus (Falco) 63.
 " (Spizaetus) 63.
 Corvus 87, 237.
 Coryphocera 207.
 Corythaix 92, 222.
 Corythornis 70, 220.
 Cossypha 63, 75, 227.
 coupeii (Graphiurus) 41.
 crassicaudatus (Claviglis) 41, 58.
 Crateropus 76, 229.
 Crex 102.
 Cricetomys 42, 58.
 Criniger 78, 79, 80, 228.
 cristata (Hystrix) 46, 58.
 " (Numidia) 98.
 " (Terpsiphone) 232.
 cristatus (Opisthocomus) 169.
 " (Turacus) 92.
 Crithagra 240.
 Crocidura 46, 47, 58, 162—167.
 Crossarchus 17, 57.
 cruciata (Episcaphula) 132.
 crucis-melitae (Aulacochilus) 150,
 151.
 cruralis (Allecula) 267.
 Cteniopus 268.
 cubla (Dryoscopus) 234.
 cubla (Laniarius) 234.
 cucullatus (Ploceus) 88, 89.
 cuculoides (Baza) 66, 214.
 Cuculus 96, 223.
 cupreus (Cinnyris) 231.
 Cursorius 243.
 curvata (Charadronota) 110.
 curvirostris (Andropadus) 81, 83.
 cyanocampter (Bessonornis) 75.
 " (Cossypha) 63, 75.
 cyanolaemus (Cinnyris) 72.
 cyanoleuca (Halcyon) 220.
 cyanomelas (Irisor) 222.
 " (Rhinopomastes) 222.
 cyanostictus (Merops) 211.
 cyanostigma (Alcedo) 70.
 " (Corythornis) 70, 220.
 cylindrator (Lamia) 272.
 cylindricus (Buceros) 93.
 Cylindrothorus 267.
 Cynonycteris 52, 53, 58.
 Cypraca 251.
 Cypus 264.
 Cyrenoides 250.
 Cyrtotriplax 147.
 Cytherca 251.
- D.**
- Daenides 131, 139.
 damarensis (Turtur) 242.
 decollata (Melania) 248, 249.
 decumanus (Mus) 43, 58.
 dehaani (Mierencaustes) 136, 137.
 demidoffi (Galago) 14, 57.
 Dendrobates 225.
 Dendrohyrax 26, 58, 85.
 Dendropicus 212, 226.
 Desicasta 120.
 Diabrotica 156.
 diademata (Althe) 76.
 diana (Cercopithecus) 12, 57.
 Diaphorophya 63, 85.
 Dichtha 260.
 dickinsonii (Cerehnis) 215.
 " (Falco) 215.
 Dierocereus 219.
 Dieronychus 255.
 Dierurus 86, 237.
 difficilis (Episcaphula) 141, 142.
 Dilophus 238.
 dimidiata (Pachyteria) 182, 190,
 191.
 Diphaulaca 155.
 Dipus 40.
 divaricatus (Dierurus) 237.
 doria (Antilope) 22, 23, 61.
 " (Cephalophus) 21, 58, 61.
 doriae (Crocidura) 162, 163, 167.
 dorsalis (Cephalophus) 20, 58.
 " (Dendrohyrax¹⁾) 26, 58, 85.
 " (Hyrax) 26, 58, 61.
 " (Mus) 44, 58.
 " (Palaeolybas) 144, 151.
 Dreissena 250.
 dupontia (Cyrenoides) 250.
 Drymocataphus 63, 77.
 Drymoeca 228.
 Dryoscopus 212, 234.

1) Correction: the *Hyrax*-species represented on Plate 4 is not *Dendrohyrax dorsalis* Fraser as is erroneously indicated on page 26, but *Dendrohyrax stampflii* Jentink.

Dryotriorchis 65.
Dysides 158.

E.

Echinorhynchus 56.
Ectatorhinus 168.
edwardsiana (Crocidura) 162, 163, 167.
Elanus 214.
Elateridae 255.
elatus (Buceros) 92.
Elephas 33, 58.
elongatula (Megalodaene) 131.
emiliae (Nigrita) 90.
empyreus (Endelus) 175.
Encaustes 130, 133, 134, 135, 151.
Encaustides 130, 133.
Endelus 175.
Endomychidae 152.
Endustomus 265.
Ennea 247.
Enneoctonus 233.
Episcapha 132, 138.
Episcaphula 132, 141, 142, 143, 151.
episcopalis (Lytta) 270.
episcopus (Ciconia) 101.
Epomophorus 49, 50, 51, 53, 58
equestris (Pachyteria) 182, 192.
Erotylidae 129, 130.
Erotylides 133, 150.
erythacus (Psittacus) 94.
erythopus (Xerus) 37, 58.
erythrobronchus (Graphiurus) 41.
erythrops (Ploceus) 89.
" (Quelea) 89.
erythropterus (Andropadus) 82.
" (Merops) 71, 211, 219.
erythropterus (Telephonus) 235.
erythrorhynchus (Irrisor) 222.
" (Tockus) 221.
erythrothorax (Stiphornis) 63, 74.
Estrela 240.
Euoplia 198.
Euplectes 240.
Eurocephalus 236.
Euryceros 23, 58.
euryceros (Antilope) 61.
" (Euryceros) 23, 58.
" (Tragelaphus) 24.
Eurystomus 69, 211.
Eutrapela 268.
Euxestus 129.
Euzostria 139, 140, 151.

evertsi (Pachyteria) 187.
eximia (Micre-naustes) 138, 151.
" (Xenocichla) 79.
eximius (Criniger) 78.

F.

Falco 63, 214, 215.
fasciata (Pachyteria) 182, 185, 191.
Felis 14, 15, 57.
femoratus (Ectatorhinus) 168.
ferrugineus (Colobus) 6, 7, 57.
fervidus (Caprimulgus) 218.
finschii (Cassinia) 63, 86.
Fiscus 233.
Fissurella 251.
fistulator (Buceros) 93.
flammiceps (Pyromelana) 89, 212.
flava (Motacilla) 74.
flavicans (Drymoeca) 228.
" (Prinia) 228.
flaviventris (Criniger) 228.
foetida (Crocidura) 162, 163, 167.
forbesi (Aegialitis) 61.
fosci (Caprimulgus) 218.
fossii (Caprimulgus) 218.
franciscanus (Sthenias) 272.
francisci (Centropus) 96.
Francolinus 75, 99, 242.
franki (Leucocelis) 109.
franqueti (Epomophorus) 50, 58.
fraseri (Anomalurus) 34, 35, 58.
Fraseria 86.
fringilloides (Spermestes) 91.
frontalis (Ectatorhinus) 168.
fuliginosa (Phyllorhina) 54, 58.
fuliginosus (Cercocebus) 13, 57.
" (Cinnyris) 72.
fulva (Zythonia) 132.
fulvescens (Turdinus) 63, 77.
" (Turdirostris) 77.
fulvisparsus (Omocyrus) 202.
fuscatus (Tympanotonus) 251.

G.

gabar (Melierax) 213.
gabonica (Nectarinia) 211.
Gadinia 251.
Galago 14, 57.
Gallinula 102.
gambianus (Cricetomys) 42, 58.
" (Epomophorus) 50, 58.
Genetta 16, 57.
geniculata (Zonitis) 271.
Geocichla 63, 77.

gestroi (*Triplatoma*) 131.
 gigantea (*Manis*) 56, 58.
 glabra (*Episcapha*) 138.
 glandarius (*Coccytes*) 223.
 Glareola 61, 99.
 glareola (*Totanus*) 244.
 Glaucidium 216.
 glis (*Myoxus*) 17.
 globulum (*Stenocara*) 256.
 godefroyi (*Ectatorhinus*) 168.
 Gonopus 263.
 gracilis (*Herpestes*) 17, 57.
 gracillimus (*Cteniopus*) 268.
 Graculus 106.
 grandis (*Nycteris*) 54, 58.
 graniferus (*Psammodes*) 259.
 granosa (*Littorina*) 251.
 granulatus (*Psammodes*) 259.
 Graphiurus 38, 39, 40, 41, 58.
 Graptodera 154.
 Graucalus 235.
 griffithii (*Aphrodisium*) 193, 198.
 " (*Callichroma*) 193, 198.
 grisator (*Lamia*) 272.
 " (*Sthenias*) 272.
 grisea (*Siphonaria*) 251.
 grisola (*Muscicapa*) 84.
 guereza (*Colobus*) 5, 7.
 guerini (*Smaragdesthes*) 107.
 guineensis (*Columba*) 241.
 " (*Melania*) 248.
 gularis (*Ardea*) 100.
 " (*Cuculus*) 223.
 " (*Eurystomus*) 69.
 " (*Merops*) 71.
 " (*Trichophorus*) 79.
 " (*Turdinus*) 77.
 guttata (*Spermospiza*) 91.
 guttatus (*Dryoscopus*) 234.
 " (*Ixonotus*) 63, 83.
 gutturalis (*Cinnyris*) 230.
 " (*Laniarius*) 233.
 " (*Neocichla*) 229, 230.
 Gymnobucco 95.
 Gypogeranus 212.

H.

haemastoma (*Purpura*) 251.
 haematina (*Spermospiza*) 91.
 haematopus (*Himantornis*) 103.
 hageni (*Encaustes*) 133, 135, 151.
 " (*Pachyteria*) 185, 192.
 Halcyon 69, 70, 71, 211, 220.
 Haliaetus 66.
 Haltica 154.

haroldi (*Lactica*) 155.
 hartlaubi (*Accipiter*) 199.
 " (*Crateropus*) 229.
 " (*Nisus*) 64.
 " (*Querquedula*) 105.
 hasselti (*Ectatorhinus*) 168.
 Heliornis 103.
 Helix 246.
 heraldicus (*Anomalipus*) 264.
 Herpestes 16, 17, 57.
 hessei (*Neritina*) 250.
 heuglini (*Cossypha*) 227.
 hieroglyphica (*Xylorhiza*) 272.
 Himantornis 103.
 Hippopotamus 29, 30, 31, 32.
 hirsutus (*Pogonorhynchus*) 94.
 hirundinaceus (*Dicrocerus*) 219.
 " (*Merops*) 219.
 Hirundo 69, 232.
 hispida (*Nycteris*) 54, 58.
 Hister 122.
 hoffmannseggi (*Metriopus*) 257.
 Hololepta 121.
 Horia 269.
 hueti (*Graphiurus*) 38, 39, 41.
 hügelii (*Pachyteria*) 182.
 humeralis (*Encaustes*) 130.
 Hyaemoschus 26, 58.
 Hydrochelidon 196.
 Hydrogale 18, 57.
 Hylia 63, 73.
 Hylypsornis 232.
 Hyphantornis 88.
 Hypodacne 129.
 hypoleucos (*Actitis*) 244.
 " (*Totanus*) 102.
 " (*Tringoides*) 244.
 Hyrax 26, 58, 61.
 Hystrix 46, 58.

I.

Ibis 101.
 iceterinus (*Trichophorus*) 80.
 Inca 115.
 Incala 113.
 indica (*Pachyura*) 162, 163, 167.
 Indicator 96, 224.
 indicator (*Criniger*) 80.
 " (*Xenocichla*) 78.
 indicus (*Sorex*) 162.
 inflata (*Dichtha*) 260, 261.
 inornatus (*Vanellus*) 100.
 Insectivora 58.
 insignis (*Allorhina*) 119.
 insignita (*Pachyteria*) 182, 187.

interrupta (Episcaphula) 141.
 interstincta (Perideris) 247.
 inunguis (Aonyx) 17, 18, 57.
 involuta (Stenogyra) 247.
 iriditorques (Columba) 97.
 Irrisor 222.
 Ispidina 63, 71.
 Ithyporus 168.
 Ixonotus 63, 83.

J.

jacobinus (Coccyzus) 223.
 jansoni (Omocyrus) 201, 202.
 jardiinci (Crateropus) 229.
 javana (Pachyteria) 182, 192.

K.

kelleni (Amblyseclis) 145.
 " (Neocichla) 229.
 Kerivoula 56, 58.
 klaasii (Chrysococcyx) 63, 96.
 " (Cuculus) 96.
 knorri (Achatina) 247.
 kraatzi (Trachynotus) 261.

L.

lacteus (Bubo) 215.
 Lactica 155.
 lambii (Pachyteria) 182.
 lamellicornis (Dicronychus) 255.
 Lamia 198, 272.
 laminicornis (Cantharis) 270.
 Lamprocolius 238.
 Languria 159.
 Laniarius 63, 86, 87, 233—235.
 laniger (Anomalurus) 35.
 Lanioturdus 232.
 Lanius 232, 233.
 lansbergei (Argyripa) 118, 119.
 larvata (Peribasis) 204.
 larvatus (Oriolus) 237.
 Lasiomys 43.
 lateralis (Lobivanellus) 243.
 lathamii (Francolinus) 75, 99.
 latirostris (Andropadus) 80, 81.
 layardi (Acanthodrilus) 126.
 " (Pycnonotus) 228.
 Leiponyx 53, 58.
 Lema 153.
 lepidoptera (Trachys) 175.
 leseleuci (Hister) 122.
 Leucocelis 109.
 leucogaster (Haleyon) 71.

leucogastra (Ispidina) 63, 71.
 leucolacma (Megalacma) 94.
 leucolaima (Megalaima) 94, 95.
 leucolophus (Botaurus) 101.
 leucomelaena (Saxicola) 227.
 leucopleura (Xenocichla) 78.
 leucopleurus (Criniger) 80.
 leucopygialis (Platystira) 85.
 leucosticta (Cossypha) 63, 75.
 leucostictus (Bubo) 63, 66, 67.
 leucotis (Bubo) 215.
 " (Scops) 215.
 levaillantii (Plotus) 106.
 liberiana (Ennea) 247.
 " (Paludina) 247, 252.
 " (Tritoma) 146.
 liberiensis (Choeropsis) 29, 32, 58,
 61.
 " (Hippopotamus) 29, 30,
 32.
 " (Melania) 248, 252.
 Limicolaria 247.
 lineola (Incala) 114.
 litsitsirupa (Turdus) 226, 227.
 Littorina 251.
 livingstonii (Corythaix) 222.
 Lobivanellus 243.
 longicauda (Scotornis) 68.
 longicaudata (Manis) 56, 58.
 longiceps (Terpone) 19, 57.
 Lophuromys 42, 43, 58.
 lorica (Claviger) 249.
 luctuosa (Stalagmosoma) 108.
 ludio (Cercopithecus) 11.
 lugens (Butalis) 84.
 " (Muscicapa) 63, 84.
 Lumbricus 126.
 lunulata (Micrencaustes) 130, 131.
 Luperodes 156.
 lupio (Cercopithecus) 11.
 luteoguttata (Megalodacne) 131.
 Lytta 270.

M.

macklotii (Crocidura) 163, 164, 167.
 macleayi (Coryphocera) 208.
 " (Triplatomia) 131.
 macrognatha (Horia) 269.
 Maeroma 112.
 macrorhynchus (Corythaix) 92.
 macroseelides (Nisus) 63.
 macrotis (Nycteris) 54.
 macrourus (Circus) 212.
 " (Coliusspasser) 91.
 macrurus (Circus) 212.

- maculicollis* (Hydrogale) 18, 57.
maculosus (Bubo) 66, 67.
magicus (Ectatorhinus) 168.
 " (Ithyporus) 168.
magnicollis (Endustomus) 266.
mahali (Plocepasser) 238.
major (Dryoscopus) 212.
 " (Indicator) 224.
malayana (Encaustes) 130.
malimbica (Haleyon) 70.
malimbicus (Malimbus) 90.
Malimbus 90.
Manatus 33, 34, 58.
Manis 56, 57, 58.
marginalis (Systema) 156.
marinus (Sorex) 161.
Marmaroglypha 204, 206.
marseulii (Endelus) 175.
matoni (Claviger) 249.
maxima (Ceryle) 70.
maxwellii (Cephalophus) 21, 58.
Mecaspis 195.
mechowi (Hister) 122.
Megalaema 63, 94, 95, 224.
Megalaema 94, 95.
Megalodacne 131.
Megaloglossus 53, 58.
megalura (Pachyura) 48, 58.
megapoda (Glareola) 61, 99.
melamprosopus (Laniarius) 87.
Melania 245, 248, 249, 252.
melanogenys (Cercopithecus) 10, 11,
 12.
melanolencus (Tockus) 221.
 " (Urolestes) 233.
melanopterus (Elanus) 214.
meleagrides (Agelastes) 98.
Melicrax 213.
Meristes 234.
Merops 71, 211, 218, 219.
Mesopicus 96, 225.
metallica (Desicasta) 120.
 " (Micreneaustes) 136.
metallicum (Aspidosternum) 266.
metasternalis (Cantharis) 269.
Metriopus 257.
meyeri (Pionias) 226.
 " (Psittacus) 226.
Micreneaustus 130, 136, 137, 138,
 139, 151.
Milvus 65, 214.
minor (Andropadus) 83.
 " (Cyptus) 264.
 " (Euxestus) 129.
 " (Indicator) 224.
 " (Lanius) 232.
minutus (Vesperus) 54, 58.
mirabilis (Macroma) 112, 113.
Mirafra 240.
misolanpoides (Psammodes) 258.
modesta (Graptodera) 154.
 " (Haltica) 154, 155.
modestus (Dicrurus) 86.
Momisis 253.
monogrammica (Asturinula) 213.
Monohammus 204.
monrovia (Streptaxis) 246.
monstrosus (Epomophorus) 49, 58.
monticola (Crocidura) 162, 163, 167.
mordax (Termes) 75.
morio (Pyrrula) 250.
Motacilla 61, 74.
mülleri (Pachyura) 163, 166, 167.
 " (Phoxogenys) 149, 151.
multicolor (Laniarius) 63, 86, 87.
multiguttatus (Coptengis) 140.
multiopus (Acanthodrilus) 126.
murinus (Graphiurus) 41.
 " (Sorex) 161.
murrayi (Amblyopus) 132.
Mus 43, 44, 58.
Muscardinus 41.
Muscicapa 63, 84.
musculoides (Mus) 44, 58.
mutillaria (Poecilomorpha) 271.
Mutilloides 271.
Myoderma 115.
myosurus (Sorex) 161, 162.
Myoxidae 41.
Myoxus 17, 40.
mystacea (Prinia) 73.
Mytilus 251.
- N.**
- nachtglasii* (Graphiurus) 38, 39, 41,
 58.
namaquus (Dendrobates) 225.
 " (Mesopicus) 225.
Nandinia 16, 57.
nanus (Vesperugo) 55, 58.
nasutus (Buceros) 221.
 " (Tockus) 221.
Nectarinia 211, 231.
neglecta (Crocidura) 163, 165, 167.
neglectus (Dryoscopus) 234.
Neocichla 229, 230.
Nerita 251.
Neritina 250.
neritoides (Purpura) 251.
Nicator 87.
nicobarica (Marmaroglypha) 206.

nictitans (*Cercopithecus*) 12.
 niger (*Cephalophus*) 20, 58.
 " (*Parus*) 231.
 nigerrimus (*Ploceus*) 63, 88.
 " (*Syobius*) 88.
 nigra (*Hydrochelidon*) 106.
 nigricans (*Pycnonotus*) 228.
 nigricauda (*Mus*) 43, 58.
 nigriceps (*Terpsiphone*) 83.
 nigrilabris (*Lema*) 153.
 nigrimitrata (*Terpsiphone*) 84.
 Nigrita 90.
 nigrita (*Waldenia*) 68.
 nigratina (*Melania*) 248, 249.
 nigriventris (*Bacchisa*) 253.
 nigrocruciata (*Pseudotritoma*) 148.
 " (*Tritonidea*) 147.
 nigrorufus (*Centropus*) 223.
 Nisus 63, 64, 65, 213.
 nitens (*Malimbus*) 90.
 " (*Trochocercus*) 63, 83.
 nobilis (*Streptaxis*) 246.
 Noctua 216.
 notatus (*Oriolus*) 237.
 nubicooides (*Merops*) 219.
 nuchale (*Syrnium*) 67.
 Numenius 102, 212.
 Numida 98.
 Nycteris 49, 54, 58.
 Nycticebus 13, 57.

O.

oatesii (*Bradyornis*) 236.
 oberthüri (*Maeroma*) 112, 113.
 " (*Pachyteria*) 190.
 obliquesignata (*Episcaphula*) 142,
 143.
 obscurus (*Cinnyris*) 72.
 " (*Crossarchus*) 17, 57.
 obtusa (*Fissurella*) 251.
 occidentalis (*Chlorocichla*) 228.
 ochracea (*Pachyteria*) 182, 183.
 octopustulata (*Episcapha*) 138, 139.
 oclea (*Gallinula*) 102.
 " (*Rallina*) 63, 102.
 ocleus (*Rallus*) 102.
 Oedienemus 243.
 Oena 242.
 ogilbyi (*Cephalophus*) 20, 58.
 olivacea (*Ibis*) 101.
 olivaceus (*Meristes*) 234.
 Omocyrius 201.
 opaca (*Encaustes*) 135.
 Opisthocornis 169.
 orientalis (*Haleyon*) 220.

Oriolus 88, 237.
Ortygometra 102.
 oryx (*Euplectes*) 240.
 " (*Pyromelana*) 240.
Osmoderma 115.
Ostrea 251.
Othelecta 267.
Otis 243.
Otus 216.
 oustaleti (*Cinnyris*) 231.
 " (*Nectarinia*) 231.
 ovulum (*Psammodes*) 258.
 oweniana (*Neritina*) 250.

P.

Pachydermata 58.
Pachyprora 232.
Pachyteria 177, 178, 180, 183, 185,
 187, 190, 191, 193, 196, 198.
Pachyura 48, 58, 162, 163, 166, 167.
Palaeolybas 144, 151.
 pallescens (*Anthus*) 241.
 pallidirostris (*Toekus*) 221.
 pallidus (*Amblyscelis*) 146.
Paludina 247, 252.
Panomoea 152.
Pantolia 115.
 papuana (*Languria*) 160.
 papuensis (*Languria*) 160.
 paradisea (*Vidua*) 239.
 paradoxura (*Crocidura*) 162, 163,
 167.
 parallela (*Pachyteria*) 182.
 parallelogrammus (*Endustomus*) 265.
 pardalina (*Panomoea*) 152.
 pardina (*Genetta*) 16, 57.
 pardus (*Felis*) 14, 57.
Parus 231.
 parvifossa (*Hololepta*) 121, 122.
 parvula (*Haltica*) 155.
 paseoei (*Sthenias*) 272.
Passer 240.
 pectoralis (*Caprimulgus*) 218.
 " (*Ceblepyris*) 235.
 " (*Graucalus*) 235.
 pedator (*Psammodes*) 257.
 pelii (*Anomalurus*) 34, 35.
 penicillatus (*Potamochoerus*) 29, 58.
 perforatus (*Metriopus*) 257.
Peribasis 203.
Periehaeta 127.
Perideris 247.
Peristera 97, 98.
 perlata (*Carine*) 216.
 " (*Noctua*) 216.

- perlatum (Glaucidium) 216.
 perna (Mytilus) 251.
 personatus (Pyrenestes) 91.
 petersi (Heliornis) 103, 105.
 petulans (Haltia) 155.
 phaeonota (Columba) 241.
 phaeopus (Numenius) 102, 212.
 Phoxogenys 148, 151.
 Phyllorhina 54, 58.
 piciventris (Episcaphula) 132.
 picta (Alcedo) 71.
 " (Ispidina) 71.
 " (Triplatomia) 131.
 Pionias 226.
 Pitta 75.
 Platygenia 115.
 Platistira 85.
 Platystira 85.
 pleuroprocta (Vaginula) 246.
 Plocepasser 238.
 Ploceus 63, 88, 89, 212.
 Plotus 106.
 plumbea (Aetheria) 250.
 pluto (Herpestes) 16, 57.
 Poeilomorpha 271.
 poecilorhynchus (Buceros) 221.
 poënsis (Cossypha) 75.
 " (Sciurus) 37, 58.
 Pogonorhynchus 94, 224.
 poliocephala (Alethe) 76.
 poliocephalus (Laniarius) 234.
 Polyboroides 63, 65.
 Polyeaon 158.
 polychroma (Pachyteria) 192.
 polycomos (Colobus) 5.
 Polyplastus 114.
 polyzonoides (Astur) 213.
 " (Scelopizias) 213.
 populneus (Cerambyx) 182.
 Potamochoerus 29, 58.
 potto (Nycticebus) 13, 57.
 prasina (Hylia) 63, 73.
 " (Sylvia) 73.
 Pratincola 227.
 princei (Chamaetylas) 77.
 " (Geocichla) 63, 77.
 princeps (Peribasis) 204.
 principalis (Vidua) 91.
 Prinia 73, 228.
 Prionops 236.
 pririt (Batis) 232.
 " (Pachyprora) 232.
 progne (Chera) 240.
 " (Coliopasser) 240.
 prunum (Achatina) 247.
 pryeri (Pachyteria) 183¹⁾.
 Psammodes 257—259.
 Psaromaia 198.
 Pseudotritoma 147, 148, 151.
 Psittaenula 94.
 Psittacus 94, 226.
 Psoa 158.
 Ptinides 158.
 pubicollis (Peribasis) 204.
 puella (Hirundo) 232.
 " (Peristera) 97.
 pulchellator (Batocera) 198.
 " (Lamia) 198.
 pulehra (Corethrura) 63, 102.
 " (Crex) 102.
 " (Ortygometra) 102.
 " (Pseudotritoma) 148, 151.
 punctata (Hypodacne) 129.
 " (Littorina) 251.
 punctatus (Sciurus) 36, 58.
 puncticollis (Pachyteria) 182, 192.
 Purpura 251.
 purpurea (Achatina) 247.
 pusillus (Epomophorus) 51, 52, 58.
 " (Merops) 211, 219.
 " cyanostictus (Merops) 211.
 Pyenonotus 83, 228.
 Pyrenestes 91.
 Pyromelana 89, 212, 240.
 pyrrhogaster (Mesopicus) 96.
 pyrrhonotus (Anthus) 75.
 pyrropus (Sciurus) 37, 58.
 Pyrula 250.
 Pytilia 91.
- Q.**
- quadribrachys (Alcedo) 71.
 quadricostata (Tynthlobia) 261.
 quadripustulatus (Aulacochilus) 133.
 quadrisignata (Charadronota) 111.
 Quelea 89.
 Querquedula 105.
- R.**
- radiatus (Nisus) 65.
 Rallina 63, 102.
 Rallus 102.

1) Correction: p. 183, line 5 (from bottom), for „the knees, apex of the femora and” read „the knees, apex of the tibiae, and”.

ranivorus (Circus) 213.
 rapax (Aquila) 213.
 rattus (Mus) 43, 47, 58.
 recluziana (Streptaxis) 246.
 rectesignata (Episcaphula) 132.
 rectirostris (Anthreptes) 73, 211,
 212.
 retzii (Prionops) 236.
 " (Sigmodus) 236.
 Rhinopomastes 222.
 rimata (Streptaxis) 246.
 Rodentia 58.
 rotundatus (Amblyopus) 147.
 rubricata (Neritina) 250.
 rubricollis (Sycobius) 90.
 rubripennis (Pachyteria) 182.
 rubripes (Tritomidea) 129.
 rudis (Ceryle) 70, 211.
 ruficollis (Pachyteria) 182, 192.
 ruficrista (Otis) 243.
 rufigena (Caprimulgus) 216, 218.
 rufilateralis (Smithornis) 63, 85.
 rufinus (Mus) 43, 58.
 rufipes (Psammodes) 258.
 rufo-brachiatus (Sciurus) 36, 58.
 rufoscapulatus (Plocepasser) 238.
 rufulus (Cylindrothorus) 267.
 rugaticollis (Ectatorhinus) 168.
 rugosicollis (Pachyteria) 182, 192.
 Ruminantia 57.
 rupicola (Cerchneis) 215.
 " (Falco) 215.
 rustica (Hirundo) 69.
 Rutelidac 115.

S.

Salpornis 232.
 salvadorii (Hylpsornis) 232.
 " (Salpornis) 232.
 sancti-pauli (Melania) 248, 252.
 sansibariensis (Psammodes) 259.
 satanas (Colobus) 5.
 Saxicola 227.
 scabrosus (Cyptus) 265.
 scapulatus (Corvus) 87, 237.
 Sceloporzias 213.
 scheepmakeri (Pachyteria) 182, 190,
 191.
 Schizorhis 223.
 schlegeli (Pytilia) 91.
 schweitzeri (Crocidura) 46, 47, 58.
 scintillans (Endelus) 175.
 Sciurus 34, 35, 36, 37, 58.
 scolopacea (Megalaema) 95.
 Scops 215.

Scopus 244.
 Scotornis 68.
 scriptus (Tragelaphus) 25, 58.
 scutatus (Malimbus) 90.
 secretarius (Serpentarius) 212.
 semicoerulea (Halcyon) 70.
 semifasciatus (Buceros) 61, 93.
 semiscaber (Psammodes) 258.
 semistriata (Mytilus) 251.
 semperi (Episcaphula) 143.
 senegalensis (Amblyopus) 145, 147.
 " (Amblyscelis) 145.
 " (Centropus) 96.
 " (Cursorius) 243.
 " (Cyrtotriplax) 147.
 " (Dieronychus) 256.
 " (Halcyon) 70, 211.
 " (Heliornis) 103, 104,
 105.
 " (Manatus) 33, 34, 58.
 " (Mytilus) 251.
 " (Turtur) 242.
 senegalus (Laniarius) 235.
 " (Lobivanellus) 243.
 " (Telephonus) 235.
 Scpidium 262.
 Serinus 240.
 Serpentarius 212.
 serpentarius (Gypogeranus) 212.
 serval (Felis) 14, 57.
 sexguttata (Micreneaustes) 137, 151.
 Sigmodus 86, 236.
 signaticollis (Anomalipus) 264.
 sikapusi (Lophuromys) 42, 58.
 " (Mus) 43.
 simensis (Turdus) 226, 227.
 Simia 2, 57.
 Simiac 57.
 simplex (Criniger) 80.
 " (Trichophorus) 80.
 " (Xenocichla) 78, 80.
 singularis (Bacchisa) 253.
 sinuata (Micreneaustes) 130.
 Siphonaria 251.
 Sirenia 58.
 Smaragdesthes 107.
 smithii (Campethera) 225.
 " (Campothera) 225.
 " (Mcrops) 219.
 Smithornis 63, 85.
 snellemanni (Endelus) 175.
 Sorex 161, 162.
 sparrmannii (Indicator) 224.
 spatulata (Coracias) 220.
 speciosa (Pachyteria) 185, 192.
 spectabilis (Dryotriorchis) 65.

- spectralis (*Limicolaria*) 247.
Spermestes 91, 92.
Spermospiza 91.
spinicollis (*Pachyteria*) 187.
Spizactus 63.
splendidus (*Coptengis*) 141.
Spondotriplax 149.
Stalagmopygus 109.
Stalagmosoma 108, 109.
stampflii (*Cercopithecus*) 10, 12, 57.
 " (*Crocidura*) 47, 58.
 " (*Dendrohyrax*)¹ 26, 58.
 " (*Hyrax*) 26, 58.
 " (*Incala*) 113.
 " (*Vesperugo*) 54, 58.
stangeri (*Sciurus*) 35, 58.
Stenocara 256.
Stenogyra 247.
stercoraria (*Cypraca*) 251.
Stercorarius 106.
Sterna 106.
sternincisa (*Hololepta*) 121, 122.
Sthenias 272.
Stictoenas 242.
Stiphornis 63, 73, 74, 212.
straminea (*Cynonycteris*) 52, 58.
Streptaxis 246.
striata (*Littorina*) 251.
 " (*Stenogyra*) 247.
Stringophorus 115.
striolatus (*Hister*) 122.
subarquata (*Tringa*) 102.
subbuteo (*Falco*) 214.
subcoriacea (*Cantharis*) 270.
subfasciata (*Argyripa*) 118.
sublaevis (*Episcaphula*) 142, 143.
subrufescens (*Cossypha*) 227.
subsulcata (*Triplatomia*) 131.
subsulfurea (*Barbatula*) 94.
subsulphurea (*Megalaema*) 94.
 " (*Megalaima*) 94, 95.
subsulphureus (*Bucco*) 94.
subtorquatus (*Francolinus*) 242.
sulcata (*Encaustes*) 134, 151.
sulfureipectus (*Laniarius*) 63, 87.
sulfureopectus (*Tschagra*) 87.
sulphurata (*Crithagra*) 240.
sulphuratus (*Serinus*) 240.
sulphureipectus (*Chlorophoneus*) 233.
 " (*Laniarius*) 233.
sumatrana (*Marmaroglypha*) 204.
 " (*Pachyura*) 162, 167.
sumatrensis (*Panomoea*) 152.
superciliaris (*Chloropeta*) 73.
 " (*Stiphornis*) 73.
superciliosus (*Laniarius*) 87.
 " (*Merops*) 219.
suturalis (*Smaragdesthes*) 107.
swinderenianus (*Aulacodus*) 45.
swinderenii (*Aulacodus*) 45.
swinderianus (*Aulacodus*) 45, 58.
swinderniana (*Agapornis*) 61.
 " (*Psittacula*) 94.
Sycobius 88, 90.
sycobius (*Lamprocolius*) 238.
sylvestris (*Hyrax*) 26.
Sylvia 73.
sylvicultrix (*Antilope*) 61.
 " (*Cephalophus*) 20, 58.
syndactyla (*Xenocichla*) 78, 80.
Syrnium 67.
Systema 155.

T.

- talacoma* (*Prionops*) 236.
Telephonus 235.
tenebrica (*Limicolaria*) 247.
Tenebrionidae 256.
tenuipinnis (*Vesperus*) 54, 58.
tenuis (*Crocidura*) 163, 167.
 " (*Pachyura*) 166.
 " (*Sorex*) 161, 162.
Tephrocorys 241.
tephrolaema (*Anthreptes*) 211, 212.
Termes 75.
Terpone 19, 57.
Terpsiphone 83, 84, 232.
tetraphacus (*Aulacochilus*) 133.
textor (*Hyphantornis*) 88.
Thalpophila 261.
Thamnolaea 227.
timneh (*Psittacus*) 94.
Tivela 251.
Tockus 221.
torquata (*Cynonycteris*) 52, 53, 58.
 " (*Pratincola*) 227.
torquatus (*Lanioturdus*) 232.
 " (*Pogonorhynchus*) 224.
torrida (*Perideris*) 247.
Totanus 102, 244.
Trachynotus 261.
Trachyphonus 95, 224.
Trachys 175.
Tragelaphus 23, 24, 25, 58.
tranquebaricus (*Triton*) 251.
translucida (*Tritomidea*) 129.

1) Correction: the *Hyrax*-species represented on Plate 4 is *Dendrohyrax stampflii* Jentink, not *Dendrohyrax dorsalis* Fraser as is erroneously indicated on page 26.

transversum (Sepidium) 262.
 Treron 97, 241.
 Trichophorus 78, 79, 80.
 tricolor (Aegialites) 61.
 " (Aegialitis) 243.
 tricolor (Criniger) 80.
 " (Hyphantornis) 88.
 " (Pachyteria) 182.
 " (Ploccus) 88.
 " (Pyenonotus) 228.
 " (Trichophorus) 80.
 tricuspis (Manis) 57, 58.
 triliturata (Leucocelis) 110.
 Tringa 102.
 Tringoides 244.
 tripla (Cytherea) 251.
 " (Tivela) 251.
 Triplacides 132, 144.
 Triplatoma 131, 132, 135, 140.
 Triplax 145.
 tristis (Psammodes) 260.
 Tritoma 146, 147, 149.
 Tritomidea 129, 147.
 Triton 251.
 trivirgatus (Mus) 44, 58.
 Trochocercus 63, 83.
 Troglodytes 4.
 troglodytes (Simia) 2, 57.
 tropicalis (Hister) 122.
 Tschagra 87.
 Turacus 92.
 turbinata (Limicolaria) 247.
 Turdinus 63, 77.
 Turdirostris 77.
 Turdus 226.
 Turtur 242.
 tympanistria (Peristera) 98.
 tympanotonus 251.
 Tynthlobia 261.
 typicus (Polyboroides) 63, 65.

U.

umbretta (Scopus) 244.
 unguatus (Acanthodrilus) 126.
 uncineta (Columba) 61, 97.
 unicolor (Hister) 122.
 " (Pachyura) 163, 166, 167.
 Upupa 221.
 Urolestes 233.
 ursinus (Colobus) 6, 7, 57.

V.

Vaginula 246.
 vandepolli (Languria) 159.

Vanellus 100.
 variabilis (Mytilus) 251.
 variegata (Achatina) 247.
 variegatus (Indicator) 96.
 veldkampii (Epomophorus) 51, 52, 58.
 vellerosus (Colobus) 7.
 " (Troglodytes) 4.
 venosa (Siphonaria) 251.
 venusta (Cinnyris) 212.
 venustus (Cinnyris) 72.
 verreauxii (Baza) 214.
 " (Criniger) 79.
 " (Vidua) 239.
 verrucilifera (Stenocara) 256.
 versicolor (Coryphocera) 207.
 verticalis (Encaustes) 134, 135.
 verus (Colobus) 6, 7, 8, 57.
 Vespertilio 49.
 Vesperugo 54, 55, 58.
 Vesperus 54, 58.
 vestitus (Trachynotus) 261.
 Vidua 91, 239.
 vidua (Motacilla) 61, 74.
 violaceipennis (Lema) 154.
 violaceum (Aspidosternum) 266.
 virens (Andropadus) 81, 82, 83.
 virescens (Pachyteria) 183.
 vitrea (Ampullaria) 250.
 Viverra 15, 57.
 voluptuosa (Pachyteria) 182.
 vosmaeri (Crocidura) 163, 165, 167.

W.

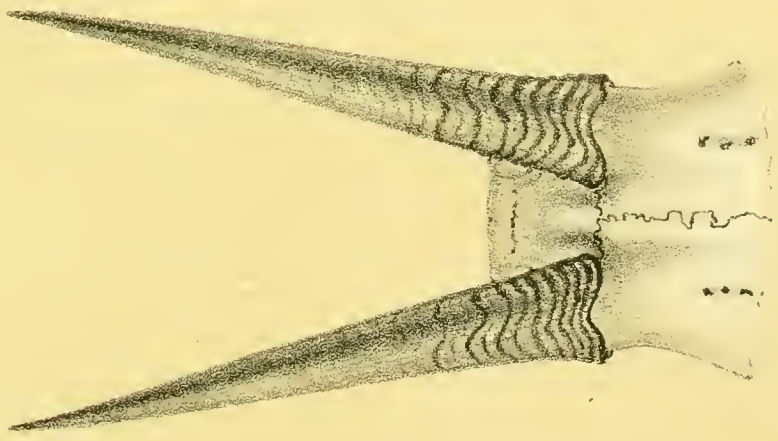
Waldenia 68.
 wallacei (Ectatorhinus) 168.
 wallacii (Coptengis) 140.
 weyersi (Endelus) 175.
 woermannii (Megaloglossus) 53, 58.

X.

xanthorina (Macroma) 112, 113.
 Xenocichla 78, 79.
 Xerus 37, 58.
 Xylorhiza 272.

Z.

zebra (Antilope) 22.
 Zonitis 271.
 zonopteroides (Pachyteria) 198.
 Zythonia 132.



113.



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P. W. M. Trap impr.

Terpone longiceps Gray.

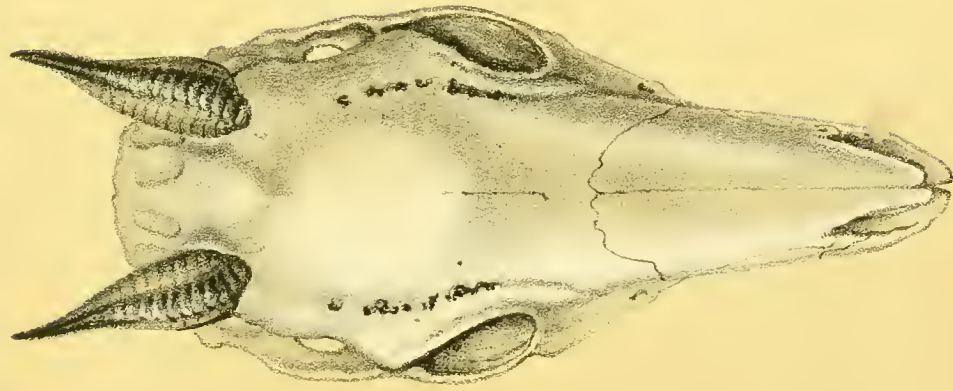


A. J. J. Wendel ad nat. del. et lith.

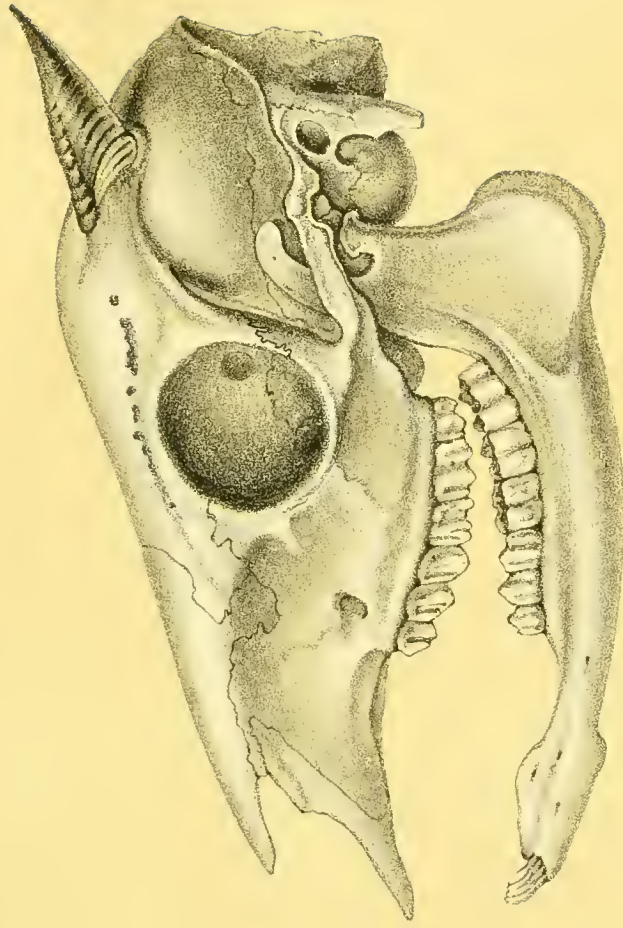
P. W. M. Trap impr.

Cephalophus doria Ogilby.





1/2.



A. J. J. Wendel ad nat. del. et lith.

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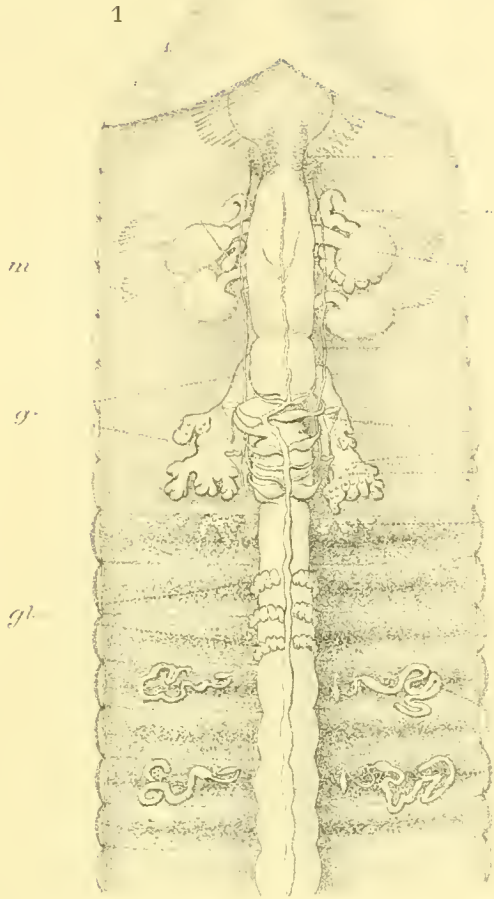
Cephalophus doria Ogilby.



A. J. J. Wendel ad nat. del. et lith.

P. W. M. Trap impr.

Hyrax (*Dendrohyrax*) *Stampflii* *Jentink*.



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3



Dr. R. Horst ad nat. del.

A. J. J. Wendel lith.

P. W. M. Trap impr.

Acanthodrilus Beddardi Horst.

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11.



7.



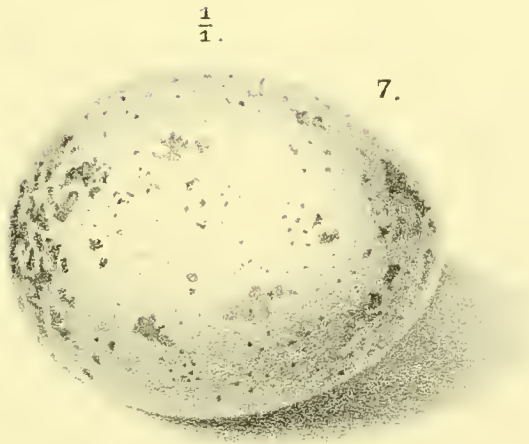
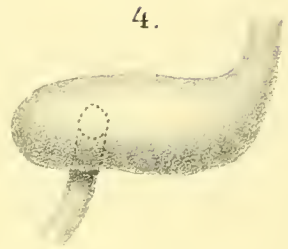
8.



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P.W.M. Trap impr.

Exotic Erotylidae.



A. J. J. Wendel lith.

P.W.M. Trap impr.

Opisthocomus cristatus Illig.
Anatomy of young, and egg.



A. J. J. Wendel ad nat. del. et lith.

P.W.M. Trap impr.

1. *Neocichla kelleni* *Büttikofer*.
2. *Plocepasser rufoscapulatus* *Büttikofer*.



2.

5.



fontainei

fontainei

1.



3.

4.



liberianus

liberianus

A. J. J. Wendel ad nat. del. et lith.

P.W.M. Trap impr.

Liberian Molluscs.

NOTES

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EDITED

BY

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Director of the Museum.

VOL. X.

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N<sup>o</sup>. 1 and 2. January and April 1888.  
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E. J. BRILL.

Published 1st April 1888.

LIST OF CONTENTS.

PART I and II.—1888.

	Page
Note I. Zoological researches in Liberia. A list of Mammals, collected by J. Büttikofer, C. F. Sala and F. X. Stampfli, with biological observations. By Dr. F. A. JENTINK. (Plate 1—4).	1.
Note II. Zoological researches in Liberia. A list of Birds, collected by the Author and Mr. F. X. Stampfli during their last sojourn in Liberia. By J. BÜTTIKOFER. (Plate 5).	59.
Note III. Descriptions of new Cetoniidae. By OLIVER E. JANSON.	107.
Note IV. On the male sex of <i>Argyripa subfasciata</i> Rits., and description of a new species of the Cetoniid genus <i>Allorhina</i> . By OLIVER E. JANSON. (With two woodcuts)	118.
Note V. Bemerkung über zwei Histeriden. Von JOH. SCHMIDT.	121.
Note VI. Descriptions of Earthworms. By Dr. R. HORST. IV. (Plate 6)	123.

213.7 -

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~~~~~  
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~~~~~

LEYDEN
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LIST OF CONTENTS.

PART III.—1888.

	Page
Note VII. On Erotylidae of the Leyden Museum. By the Rev. H. S. GORHAM. (Plate 7)	129.
Note VIII. A new species of the Colcoptrous family Endomychidae. Described by the Rev. H. S. GORHAM.	152.
Note IX. Some new species of Phytophagous Coleoptera from Brasil (Colony Blumenau). Described by MARTIN JACOBY.	153.
Note X. On the genus <i>Apoleon</i> Gorh. By the Rev. H. S. GORHAM	158.
Note XI. Description of a new species of the Coleopterous genus <i>Languria</i> . By the Rev. W. W. FOWLER.	159.
Note XII. On the Shrews from the Malayan Archipelago. By Dr. F. A. JENTINK.	161.
Note XIII. The species of the Rhynchophorous genus <i>Ectatorhinus</i> Lacord. Enumerated by C. RITSEMA Cz.	168.
Note XIV. On the habits and anatomy of <i>Opisthocomus cristatus</i> Illig. By Dr. C. G. YOUNG. (Plate 8)	169.
Note XV. Description of a new species of the Buprestid genus <i>Endelus</i> H. Deyr. By C. RITSEMA Cz.	175.
Note XVI. On five new and two unsufficiently known species of the Longicorn genus <i>Pachyteria</i> . By C. RITSEMA Cz.	177.
Note XVII. Description of two new species of the Longicorn group Callichromini. By C. RITSEMA Cz.	193.
Note XVIII. Two synonymical remarks about Longicorn Coleoptera. By C. RITSEMA Cz.	198.
Note XIX. On a new species of <i>Accipiter</i> from Liberia. By R. BOWDLER SHARPE	199.
Note XX. Description of three new species of the Longicorn group Agniini. By C. RITSEMA Cz.	201.
Note XXI. Description of a new Cetoniid. By OLIVER E. JANSON	207.
Note XXII. On Birds from the Congo and South Western Africa. By J. BÜTTIKOFER. (Plate 9)	209.

N.B. Plate 7 and 9 will be published in the October-number.

213.7

3

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~~~~~

LEYDEN
E. J. BRILL.

LIST OF CONTENTS.

PART IV—1888.

	Page
Note XXIII. Zoological researches in Liberia. List of Mollusca, with descriptions of new species. By M. M. SCHEPMAN (Plate 10).	245.
Note XXIV. Description of a new species of the Longicorn genus <i>Bacchisa</i> Pascoe. By C. RITSEMA Cz.	253.
Note XXV. Coléoptères nouveaux de l'Afrique du Musée de Leyde. Décrits par L. FAIRMAIRE	255.
Note XXVI. On the male sex of <i>Lamia grisator</i> Fabr. By C. RITSEMA Cz.	272.



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