THE NATURAL HISTORY OF BRITISH INSECTS;

EXPLAINING THEM

IN THEIR SEVERAL STATES,

WITH THE PERIODS OF THEIR TRANSFORMATIONS, THEIR FOOD, ECONOMY, &c.

TOGETHER WITH THE

HISTORY OF SUCH MINUTE INSECTS

AS REQUIRE INVESTIGATION BY THE MICROSCOPE.

THE WHOLE ILLUSTRATED BY

COLOURED FIGURES,

DESIGNED AND EXECUTED FROM LIVING SPECIMENS.

By E. DONOVAN.

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M DC C XCIX.

THE

NATURAL HISTORY

OF

BRITISH INSECTS.

PLATE CCLIII.

PHALÆNA PAVONIA, *minor. fem.*

EMPEROR MOTH, *female.*

THE male of this fine ſpecies of Phalæna has been given in the firſt number of this Work, with a promiſe that the female ſhould be added in a future Plate. The larva and pupa is repreſented with the male Inſect; but we have alſo introduced other caterpillars of the ſame ſpecies with the annexed figure, to ſhew the different ſtages of their growth. When young they are yellowiſh: the tubercles black, with a ſtripe of the ſame on the ſegments of the joints. After this, the yellow bands become orange, and the tranſverſe black ſtripes appear interrupted with longitudinal bands of pale green. Some are entirely green, except the tubercles, which are yellow, and a ſmall black ſpeck on each joint; and others are green, checquered with black,

black, and marked on the ſide with a row of ſemilunar ſpots. In the winged ſtate, we find more permanent and characteriſtic diſtinctions.

Linnæus, and after him Fabricius, deſcribes three varieties of Phalæna Pavonia, α minor β media and γ major, The firſt is the ſpecies found in this country, and in the north of Europe. The exiſtence of the ſecond was formerly diſputed by ſome naturaliſts; and the laſt is ſo extremely different, at leaſt in point of magnitude, that we may almoſt venture to remove it from the two preceding.

The difference between the male and female of the common Emperor Moth is ſtrikingly obvious; the male is ſmaller than the female, and the colours in general darker; the poſterior wings alſo are orange in the male, and not ſo in the female; and finally, the two ſexes may be determined by the ſtructure of the antennæ: thoſe of the male being nearly oval, and very deeply feathered, or pectinated, and thoſe of the female being alſo pectinated, but ſo ſlightly as to appear ſetaceous. The Phalæna Pavonia *media* is a moſt extraordinary variety, for both the male and female ſo perfectly reſemble the *female Emperor Moth*, P. P. media, which we have figured, that it may be miſtaken for the ſame ſpecies: the female differs in no reſpect from it; and the male only in the form of the antennæ. We have received this remarkable inſect from Italy and Germany. It is figured by *Eſper*, *Phal. 3. tab. 3*; and is thus deſcribed by Linnæus and Fabricius, β media: "ſingularis ob fœminam mari ſimilimam." The third, P. Pavonia major, can by no means be confounded with the preceding: our ſpecimen of it is ſix inches in breadth, and is alſo very bulky: it is found in the *Pays de vaud*. Roeſel has given a figure of both ſexes with the larva and pupa. The winged inſect is of a dingy brown, the marks ſomewhat ſimilar to thoſe of the common kind. The larva is large, with the head ſmall in proportion. The whole is of a citron green, furniſhed

furniſhed with elevated tubercles, whoſe ſummits diverge into rays like a ſtar, and are of an azure blue colour: it is alſo beſet with a number of long filaments or threads, each of which terminates in a little capitulum ſimilar to the antennæ of a Butterfly.


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PLATE CCLIV.

FIG. I. I.

PAPILIO PANISCUS.

GENERIC CHARACTER.

Antennæ clavated at the tip: wings in general erect when at rest. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, divaricated; dark brown with fulvous spots.

HESPERIA PANISCUS: alis integerrimis divaricatis: posticis utrinque fuscis fulvo maculatis. *Fab. Ent. Syst. T. 3. p.* 1. 328. 242.

Papilio Brontes. *Wien. Verz.* 160. 6.

Papilio Palemon. *Pall. Itin.* 1. *App. Nr.* 63.

β Papilio Silvius. *Esp. pap. tab.* 80. *fig.* 5, 6.

P. Panifcus is defcribed by Fabricius as a native of Germany, and has been lately added to the lift of Britifh Papiliones. In this country it feems a very local fpecies. It is deemed a rare Infect by Entomologifts.

FIG. II.

PAPILIO SYLVANUS.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings divaricated, brown, with ſquare ſpots, yellow on the upper ſurface, on the lower whitiſh.

HESPERIA SYLVANUS: alis divaricatis fuſcis: maculis quadratis ſupra flavis ſubtus albis. *Fab. Ent. Syſt. T. 3. p.* 1. 326. 237.

Fabricius has no reference to any author for a figure of this ſpecies, nor is it deſcribed by Linnæus: this is the more remarkable, as the ſpecies is found in great abundance in the months of May and June in this country, and is not uncommon in Sweden and Germany.


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PLATE CCLV.

FIG. I.

SCARABÆUS NUTANS.

GENERIC CHARACTER.

Antennæ terminate in a kind of club, longitudinally divided into lamina, two, three, or ſeven in number: ſecond joint of the anterior, or foremoſt legs, armed with ſpines.

SPECIFIC CHARACTER

AND

SYNONYMS.

Black: without ſcutel: anterior part of the thorax impreſſed: back of the head armed with an erect ſpine, bent at the apex.

SCARABÆUS NUTANS: exſcutellatus thorace antice impreſſo, occipite ſpina erecta apice nutante, corpore nigro. *Fab. Ent. Syſt. T.* 1. *p.* 59. 194.

Scarabæus nutans. *Oliv. Inſ.* 1. 3. 145. 176. *tab.* 21. *fig.* 188.

A local ſpecies. It is ſeldom found in this country. Fabricius notes it as a Saxon Inſect.

FIG.

FIG. II.

SCARABÆUS NUCHICORNIS.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax roundiſh: back of the head armed with an erect ſpine.

SCARABÆUS NUCHICORNIS: thorace rotundato, occipite ſpina erecta armato. *Linn. Syſt. Nat.*

SCARABÆUS NUCHICORNIS: exſcutellatus, thorace rotundato mutico, occipite ſpina erecta armato, clypeo marginato. *Fab. Ent. Syſt. T.* 1. 192. *p.* 58.

Not uncommon in ſeveral places near London.

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PLATE CCLVI.

BUPRESTIS MINUTA.

MINUTE BUPRESTIS, or COW BURNER.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ ſetaceous, length of the thorax: head half retracted within the thorax.

SPECIFIC CHARACTER

AND

SYNONYMS.

Ovate: wing-caſes entire, bronzed, rugged, and tranſverſely undulated with ſtreaks of fine whitiſh hairs: thorax ſomewhat trilobate, and ſmooth.

BUPRESTIS MINUTA: elytris integris tranſverſe rugoſis, thorace ſubtrilobo lævi, corpore ovato nigro. *Linn. Syſt. Nat.* 2. 663. 24.—*Fn. Sv.* 760.—*Fab. Ent. Syſt.* 1. *p.* 2. 212. *ſp.* 111.

Cucujus fuſco cupreus triangularis: faſciis undulatis villoſa albidis. *Geoff. Inſ.* 1. 128. 6.

The natural ſize is repreſented at figure 1.

This pretty ſpecies is found on the nut tree in May and June.

PLATE

PLATE CCLVII.

PHALÆNA VERBASCI.

WATER BETONY MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax crested: wings deflected and deeply serrated at the margins: posterior edge of the first wings with a dark brown streak.

PHALÆNA VERBASCI: cristata alis deflexis dentato erosis: margine laterali fusco immaculato. *Linn. Syst. Nat.* 2. 850.
Fn. Sv. 118.
Fab. Ent. Syst. Nat. T. 3. *p.* 2. 120. *Sp.* 363.
Wien. Verz. 73. 8.
Raj. Inf. 168. 25.
Geoffr. Inf. 2. 158. 96.
Sulz. Hist. Inf. tab. 22. *fig.* 7.
Reaum. Inf. 1. *tab.* 43. *fig.* 9. 11.
Frisch. Inf. 6. *tab.* 9.
Merian. Europ. 3. *tab.* 29.

The Water Betony Moth is a very abundant species; the larva feeds on the Moth Mullien, or Water Betony plant, as its name implies. It is in the larva state in July, becomes a pupa, and the fly is produced in April.

PLATE CCLVIII.

PAPILIO GALATHEA.

MARBLED BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clavated at the tip: wings erect when at reſt. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings dentated, varied with black and white: beneath an ocellar ſpot on the anterior wings, and five on the poſterior ones.

PAPILIO GALATHEA: alis dentatis albo nigroque variis: ſubtus anticis ocello unico, poſticis quinque. *Linn. Syſt. Nat.* 2. 772. 147.
Fab. Ent. Syſt. T. 3. *p.* 1. 239. 745.
Schæff. Icon. tab. 98. *fig.* 7, 8, 9.
Roeſ. Inſ. 3. *tab.* 37. *fig.* 1. 2.
Eſp. pap. 1. *tab.* 7. *fig.* 3.—*Tab.* 25. *fig.* 1.
Ernſt. Inſ. Europ. 1. *tab.* 30.
Petiv. Muſ. 4. 3. *tab.* 1. *fig.* 1.

This Infect is very common in the fly ſtate in the month of June. It frequents meadows, and is ſuppoſed to feed in the larva ſtate on graſs. The larva is very ſeldom met with. It is thus deſcribed by ſome authors: *Larva* depreſſed, or flattiſh, of a yellowiſh colour, marked with an obſcure line down the back and ſides. The *Pupa* blue, with a red tail *.

The light colour in the wings varies in different inſects, ſome being almoſt white, and others pale yellow.

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* *Naturf.* 14. *tab.* 2. *fig.* 1.—*Fab. Ent. Syſt. &c.*

PLATE CCLIX.

PAPILIO SEMELE.

Black-eyed marbled Butterfly.

Lepidoptera.

GENERIC CHARACTER.

Antennæ clavated at the tip: wings erect when at rest. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings dentated, dark brown, with fulvous spots next to the exterior margin: two black rings, or eyes, on the anterior, and one on the posterior wings.

Papilio Semele: alis dentatis: fascia maeulari fulva ocellisque duobus: anticis subtus disco baseos. *Linn. Syst. Nat.* 2. 772. 148.—*Fn. Sv.* 1051.
Fab. Ent. Syst. T. 3. *p.* 1. 232. 725.
Esp. pap. 1. *tab.* 8. *fig.* 1.
Schæff. Icon. tab. 207. *fig.* 3, 4.
Sulz. Hist. Ins. tab. 17. *fig.* 5, 6.

This species lives chiefly in the woods. It appears in the winged state in July. The larva is not clearly ascertained by any author.

PLATE

PLATE CCLX.

PAPILIO ATALANTA.

Red admirable Butterfly.

Lepidoptera.

GENERIC CHARACTER.

Antennæ clubbed at the ends: wings erect when at reſt. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings dentated, black with white ſpots: a red ſtripe acroſs the anterior wings, and another along the poſterior margin of the lower wings.

Papilio Atalanta: alis dentatis nigris albo maculatis: faſcia communi purpurea anticarum utrinque poſticarum marginali. *Linn. Syſt. Nat.* 2. 779. 175.—*Fn. Sv.* 1060.—*Fab. Ent. Syſt. T.* 3. *p.* 1. 118. 362.
Albin. Inſ. 3. *fig.* 4.
Degeer. Inſ. 1. *tab.* 22. *fig.* 5.
Roeſ. Inſ. 1. *pap.* 1. *tab.* 6.
Sepp. Inſ. 1. *tab.* 1.
Schæff. Icon. tab. 148. *fig.* 1, 2.
Ernſt. Inſ. Europ. 1. *tab.* 6.
Geoff. Inſ. 2. 40. 6.
Ammer. Inſ. tab. 24.

The

The red admirable Butterfly is certainly a very common ſpecies, but as one of the moſt beautiful of this country produces is entitled to our particular conſideration.

The Caterpillars are of ſeveral kinds, according to the different ſtages of growth. In the laſt ſkin they are green, with a yellow ſtripe on each ſide of the belly, and beſet with curiouſly ramified, or branching ſpines: ſometimes they are black, with a yellow belly, or black, variegated with red, brown, and yellow. The Chryſalis is of a dark colour, ornamented with ſeveral ſpots of ſhining gold. The Caterpillars are found on the nettle in June and July: it remains in Chryſalis twenty-one days, and the Butterfly appears in Auguſt. There are two broods of this ſpecies in general every ſeaſon.

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PLATE CCLXI.

FIG. I. I.

HIPPOBOSCA EQUINA.

HORSE, OR SPIDER FLY.

DIPTERA.

GENERIC CHARACTER.

Roſtrum bivalve, wavering: feet armed with many nails.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings obtuſe: thorax varied with white: feet armed with three crotchets or claws.

HIPPOBOSCA EQUINA, alis obtuſis, thorace albo variegato, pedibus tetradactylis. *Linn. Syſt. Nat.* 2. 1010. 1. *Fn. Sv.* 1921.—*Fab. Ent. Syſt. Vol.* 4. *p.* 415. 1.
Degeer. Inſ. 6. 257. 1. *tab.* 16. *fig.* 1.
Reaum. Inſ. 2. *tab.* 179. *fig.* 8, 9.

Few ſpecies of Hippoboſcæ have hitherto been diſcovered. Four kinds were known to Linnæus, and Fabricius has not encreaſed

 that

that number in either of his Entomological Syſtems. A fifth ſpecies is deſcribed by Gmelin in the laſt edition of the Syſtema Naturæ, under the name of Uralenſis *. The ſpecies in the Entomologia Syſtematica of Fabricius, are *Equina*, *Avicularia*, *Hirundinis*, and *Lovina*. The firſt is rather larger than the others, and is well known by the common name of Horſe Fly, becauſe it frequently moleſts thoſe animals, and attaching itſelf to their bodies, penetrates the ſkin, and ſucks their blood. The three other ſpecies are alſo natives of this country, and like the H. equina, ſubſiſt on the blood of certain animals. The H. avicularia is found chiefly on the bodies of birds, and H. hirudinis more eſpecially on ſwallows. Theſe creatures are all of a diſguſting form, flat, and hard: they adhere very tenaciouſly by means of the nails or crotchets of their talons, which in this genus are numerous; and are not eaſily killed by preſſure. The H. equina has three ſharp incurvated nails to each foot, and H. hirundinis is furniſhed with twice that number on each.

FIG. II.

HIPPOBOSCA AVICULARIA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings obtuſe: Thorax of one colour.

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* Hippoboſca Uralenſis: atra hirſuta dorſo ordinibus tribus veſicularum albarum nitentium. Lepechin it. 1. t. 19. f. 9. *habitat in deſerto Uralenſi.*

HIPPOBOSCA

HIPPOBOSCA AVICULARIA, alis obtusis, thorace unicolore. *Linn. Syst. Nat.* 2. 1010. 2.—*Fn. Sv.* 1922. *Fab. Ent. Syst.* 4. *p.* 415. 2.

The figure of Hippobosca avicularia in the works of Sulzer nearly agrees with our insect, except in colour; it is of a dull brown, with less of the green cast.


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PLATE CCLXII.

FIG. I. I.

PHALÆNA ATRIPLICIS.

WILD ARRACH MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe: wings in general deflected when at reſt. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax creſted, anterior wings, brown, clouded and marked with undulated ſtreaks, and a bifid yellow mark in the middle.

PHALÆNA ATRIPLICIS, criſtata alis deflexis: anticis fuſco nebuloſis: litura media flava bifida. *Lin. Syſt. Nat.* 2. 854. 173. *Fab. Ent. Syſt. T.* 3. *p.* 95. *ſp.* 282. *Roeſ. Inſ.* 1. *phal.* 2. *tab.* 31.

This ſpecies is noticed by Harris and Berkenhout, as a native of Great Britain, under the trivial name of *Wild Arrach Moth*; we have ever conſidered it a local ſpecies It is found in Cambridgeſhire,

the

the Caterpillar in Auguſt, the Fly in September. The wil orach and common dock are its favourite food.

FIG. II. II.

PHALÆNA UMBRATICA.

SHARK MOTH.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax creſted: wings lanceolate, greyiſh, ſtriated longitudinally with pale black: a central ferruginous ſpot and two black dots.

PHALÆNA UMBRATICA: criſtata alis deflexis ſtriatis lanceolatis canis; macula centrali ferruginea; punctis duobus nigris. *Linn. Syſt. Nat.* 849. 150. *Fn. Sv.* 1184.— *Fab. Ent. Syſt. T.* 3. *p.* 122. 368.

Noctua lucifuga. *Wien. Verz.* 312. 11?
Roeſ. Inſ. 1. *phal.* 2. *tab.* 25.

The larva of Phalæna Umbratica is ſometimes of a dirty brown, with ſpots of clay colour; it feeds on the ſow thiſtle; changes into the Chryſalis ſtate in May, and the Moth appear in June.

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PLATE CCLXIII.

FIG. I.

PHALÆNA PINETELLA.

PEARL VENEER MOTH.

GENERIC CHARACTER.

Antennæ, taper from the bafe: wings in general deflected when at reft. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Firft wings yellowifh brown, with two large whitifh, or pearl-like fpots, the anterior one oblong, pofterior ovate.

TINEA PINETELLA: alis anticis flavis: maculis duabus albiffimis, anteriore oblonga, pofteriora ovata. *Linn. Syft. Nat.* 2. 886. 356.—*Fn. Sv.* 1368. *Fab. Ent. Syft. T.* 3. *p.* 2. 294.
Clerk. phal. tab. 4. *fig.* 7.
Panz. Faun. Germ. 6. *tab.* 22.
Wien. Werz. 134. 7.

We met with a fpecimen of this beautiful little Moth, in June 1798, in Norwood. It is certainly a rare and interefting Britifh

 fpecies;

ſpecies; though long ſince known to collectors of Inſects by the trivial Engliſh name above adopted. It may not be improper to add, that this ſpecimen was found in a willow tree, as thoſe continental Authors who have noticed it, ſay it inhabits pine trees.

FIG. II.

PHALÆNA COLONELLA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Firſt wings oblong, greyiſh, with two black ſpots in the middle: a faint undulated bar acroſs the interior, and another near the exterior part of each wing.

TINEA COLONELLA: alis oblongis cinereis: punctis duabus atris ante ſtrigam curvam undulatam obſoletam. *Linn. Syſt. Nat.* 2. 883. 346.—*Fn. Sv.* 1358.—*Fab. Ent. Syſt. T.* 3. *p.* 2. *p.* 288. 5.

Found on the alder in July.—*Combe wood, Surrey.*

PLATE


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PLATE CCLXIV.

FIG. I.

LUCANUS PARALELEPIPEDUS.

SMALL BLACK STAG BEETLE.

GENERIC CHARACTER.

Antennæ clavate, the club compreſſed and divided into ſhort pectinate leaves, or lamina: jaws toothed, projecting beyond the head and reſembling horns: under the lip two palpigerous tufts.

SPECIFIC CHARACTER

AND

SYNONYMS.

Black: body depreſſed: maxillæ furniſhed with a large elevated tooth on the interior ſide.

LUCANUS PARALELEPIPEDUS: mandibulis dente laterali elevato, corpore depreſſo. *Linn. Syſt. Nat.* 2. 561. 6. *Fab. Ent. Syſt. T.* 1. *p.* 2. 239. 11.

Platycerus niger, elytris lævibus, capitis puncto duplici prominente. *Geoff. Inſ.* 1. 62. 3.
Degeer. Inſ. 4. *tab.* 12. *fig.* 9.
Schæff. Icon. tab. 63. *fig.* 7.
—— *Elem. tab.* 101. *fig.* 1.

Three

Three ſpecies of Lucani are found in this country. The largeſt is Lucanus Cervus, of which a figure has been given in the early part of this Work. The preſent ſpecies and L. caraboides complete the liſt of Britiſh Lucani.

The firſt kind is known to live in the larva ſtate in decayed wood, and it is ſuppoſed the ſame habits of life belong to others of this tribe. Lucanus Paralelepipedus ranks among the rareſt Coleopterous inſects of this country; in Denmark and Germany it is not uncommon.

FIG. II.

SCARABÆUS MELOLONTHA.

TREE BEETLE, or COCKCHAFER.

GENERIC CHARACTER.

Antennæ clavate, the club lamellate: feelers four: the ſhanks of the fore-legs generally denticulated.

SPECIFIC CHARACTER

AND

SYNONYMS.

Scutellate, brown: thorax hairy: tail bent or inflected, a triangular white ſpot at each inciſure of the abdomen.

SCARABÆUS MELOLONTHA: ſcutellatus muticus teſtaceus, thorace villoſa, cauda inflexa, inciſuris abdominis albis. *Linn. Syſt. Nat.* 2. 554. 60.—*Fn. Sv.* 392.

Melolontha

Melolontha vulgaris. *Roef. Inf.* 2. *Scarab.* 1. *tab.* 1.
Melolontha vulgaris. *Fab. Spec. Inf.* 1. *p.* 35. 3.—*Syft. Ent. T.* 1. *p.* 2. *p.* 155. 3.
Degeer. Inf. 4. *tab.* 10. *fig.* 14.
Voet. Scarab. tab. 6. *fig.* 45. 46.

The Cockchafer is found in the greateft abundance throughout Europe, and in fome countries are infinitely more detrimental to agriculture than in England. In the larva ftate, it lies buried beneath the furface of the earth, where it does incredible mifchief by devouring the roots of plants. After remaining three years in the larva ftate it becomes a winged Infect, and leaving its fubterranean habitation, is not lefs detrimental to the corn and other kinds of grain, and alfo to trees; particularly the Oak. In fome feafons, when thefe infects are numerous, we find the Oak ftripped of its leaves, and otherwife much injured by thefe voracious creatures. About noon the Cockchafers collect in confiderable multitudes among the leaves of the lower boughs of the Oak, when they may be eafily taken, by fhaking or beating them into bafkets, &c. placed beneath to receive them.

Several varieties of this fpecies are mentioned by authors; particularly one with a red thorax, by Roefel.

FIG. III.

SCARABÆUS STERCORARIUS.

Common Dor, or Clock Beetle.

SPECIFIC CHARACTER
AND
SYNONYMS.

Scutellate, unarmed, deep black: fhield of the head rhombic, with a fmall prominence on the crown: wing-cafes furrowed.

Scarabæus

SCARABÆUS STERCORARIUS: ſcutellatus muticus ater, clypeo rhombeo, vertice, prominulo, elytris ſulcatis. *Linn. Syſt. Nat.* 2. 551. 42.
Fn. Sv. 388.
Fab. Syſt. Ent. 17. 60.
Spec. Inſ. 1. *p.* 18. 74.
Schæf. Icon. tab. 23. *fig.* 9.

Like the preceding ſpecies, this Beetle lives in the larva ſtate in the earth. The winged inſect occurs in the dung of animals, carrion, &c. Few inſects are more numerous or generally diffuſed throughout Europe than this ſpecies. The colour is black, with very livid gloſſes of ſhining blue, green, and purple, in different ſpecimens; and we have a variety of it from the ſouth of Europe that is entirely of a dull reddiſh colour.


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PLATE CCLXV.

PHALÆNA JOTA.

GOLDEN *i* MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax crested: anterior wings ferruginous grey, with an inverted golden *i* in the centre.

PHALÆNA IOTA: cristata alis deflexis, anticis ferrugineo griseis I resupinato aureo inscriptis. *Fab. Syst. Ent.* 608. 76. —*Sp. Inf. T. 2. p.* 228. 98.—*Ent. Syst. T. 3. p.* 81. *Sp.* 237.

PHALÆNA IOTA: alis primoribus ferrugineo-griseis, I resupinato aureo inscriptis. *Gmel. Syst. Nat.*—*Ent. p.* 2557. 130. *Roes. Inf.* 1. *phal.* 3. *tab.* 5.

Linnæus very accurately described this Insect under the specific name *Iota* in the early edition of the Systema Naturæ. It is given as a native of Germany, and without a reference to any figure. Fabricius has followed the same description throughout all his works,

 without

without noticing any figure of it alſo, until the Entomologia Syſtematica appeared, when a reference is given to *tab. 5. Phal. 3. Vol.* I. of Roeſel's Inſects. This is however erroneous, for Linnæus includes that reference among the Synonyms of his *Phalæna Gamma*, and *Gmelin*, his lateſt editor, continues the ſame amongſt the Synonyms of Gamma likewiſe. Klemann, who reviſed the laſt edition of Roeſel's work, is decidedly of opinion, that the figure is that of Gamma, and aſſigns the Linnæan ſpecific name to it accordingly. Whatever reaſon influenced the opinion of Fabricius, that the figure in queſtion was the true Phalæna Iota of Linnæus, when that author himſelf ſays otherwiſe, is not mentioned by Fabricius, and is by no means clear to us: but one circumſtance cannot eſcape obſervation: Fabricius has in no inſtance referred to the figure in Roeſel's plate before the publication of his laſt work, though all the other Synonyms of *Phalæna Gamma* are the ſame in every edition of the Fabrician ſyſtems as in thoſe of his predeceſſor, Linnæus.

This Inſect is very beautiful, and far more uncommon than the following ſpecies. It is found on the common, and white dead nettles, or archangel. The larva has twelve feet; is without hairs, green; and ſpotted with white. The Moth appears in June.

FIG. II.

PHALÆNA GAMMA.

COMMOM γ MOTH.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax creſted: anterior wings dentated, with a golden γ in the centre.

PHALÆNA

PHALÆNA GAMMA: criſtata alis deflexis dentatis: anticis fuſcis γ aureo inſcriptis. *Linn. Syſt. Nat.* 2. 843. *p.* 127. *Fab. Ent. Syſt. T.* 3. *p.* 79. *ſp.* 228.

PHALÆNA GAMMA: alis primoribus fuſcis γ aureo inſcriptis. *Gmel. Linn. Syſt. Nat.—Ent.* 2555. *ſp.* 127. *Geoff. Inſ.* 2. 156. 92. *Goed. Inſ.* 2. *t.* 21. *Rag. Inſ. p.* 163. *n.* 16. *Petiv. Gazoph.* 4. 6. *Schæff. Icon. tab.* 84. *fig.* 5. *Friſch. Inſ.* 5. 15. *Reaum. Inſ.* 2. *tab.* 26. *fig.* 5. *Albin. Inſ. tab.* 79. *fig. G. H.* *Sepp. Inſ.* 5. *tab.* 1. 61.

Phalæna Gamma is one of thoſe ſpecies which feed indifferently on many kinds of plants. It is often found amongſt nettles and other low herbage, or in gardens amongſt cabbages, &c. It is of a green colour, with pale or whitiſh longitudinal ſtripes on the back, and the ſides yellow. The Moth is found in Auguſt and September.


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PLATE CCLXVI.

FIG. I. II.

PHALÆNA LEMNATA.

SMALL WHITE CHINA MARK MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night:

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ setaceous; wings snowy white: a black streak next the posterior margin of the lower pair, inclosing four white spots.

PHALÆNA LEMNATA: seticornis alis niveis: posticis fascia terminali nigra; punctis quatuor albis. *Linn. Syst. Nat.* 2. 874. 278.—*Fn. Sv.* 1301.—*Fab. Ent. Syst. T.* 3. *p.* 2. *p.* 215. *sp.* 319.
Raj. Inf. 205. 102.
Reaum. Inf. 2. *tab.* 12. *fig.* 14, 15.

Linnæus and Fabricius describe only the male of this species; the female is rather larger, the colour pale brown, with markings similar

ſimilar to thoſe of the other ſex, but of a reddiſh colour. The characteriſtic black line, with white ſpots on the poſterior wing, is the ſame as in the male inſect.

This Moth derives its ſpecific name, Lemnata, from the food of its Caterpillar, or larva, which is uſually ſome ſpecies of *lemna*, (duckweed) or other aquatic plant. In the winged ſtate it is a very common Inſect, particularly in marſhy ground, and the ſides of ponds and ditches. In general we find two broods of them in the ſummer; the firſt appears in May, the ſecond in July or Auguſt.

FIG. III.

PHALÆNA DECUSSATA.

Pretty Widow Moth.

Geometra.

SPECIFIC CHARACTER.

Antennæ ſetaceous: wings cinereous, with four black ſtreaks, the two middle ones flexuous and decuſſating each other, and little waved lines and ſpecks of black.

Phalæna Decussata: ſeticornis, alis cinereis; ſtrigis quatuor, mediis decuſſatim flexuoſis, lineolis undulatis atomiſque nigris.

A rare and curious ſpecies. It has been taken at Faverſham by Mr. Crewe, and trivially named the Pretty Widow Moth.

FIG.

FIG. IV.

PHALÆNA ATRALIS.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings black, with two ſnowy ſpots on each.

PHALÆNA ATRALIS: alis atris: maculis duabus niveis. *Linn. Mant.* 540.—*Fab. Syſt. Ent. T.* 3. *p.* 2. 241. *ſp.* 422.
Phalæna funera. *Myll. Zool. Dan.* 132. 1524.
Phalæna guttalis. *Wien. Verz.* 124. 45.
Phalæna funebris. *Act. Nidroſ.* 4. *tab.* 16. *fig.* 17.

Taken in June, on Epping Foreſt.


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PLATE CCLXVII.

FIG. I. II.

PHALÆNA DEGEERELLA.

Long-Horned Japanned Moth.

Lepidoptera.

GENERIC CHARACTER.

Antennæ, taper from the base: wings in general deflected when at rest. Fly by night.

Tinea.

SPECIFIC CHARACTER

AND

SYNONYMS.

Black, glossed with golden: anterior pair with a yellow band: antennæ very long.

Phalæna Degeerella: alis atro aureis: fascia flava, antennis longis. *Linn. Syst. Nat. 2.* 895. 426.—*Fn. Sv.* 1393.
Alucita Degeerella. *Fab. Ent. Syst. T.* 3. *p.* 2. *p.* 341. 40.

The two sexes of this beautiful and extraordinary little Insect has been described as distinct species. They differ principally in the form and size of the antennæ; in the female these are entirely setaceous, or like a fine hair, and three times the length of the body: the antennæ in the male are shorter, and thick in the middle, not very unlike those of some kinds of Sphinges. It is not an uncommon insect in hedges in May and June.

FIG. III. III.

PHALÆNA PODAELLA.

SCARCE JAPANNED MOTH.

LEPIDOPTERA.

TINEA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ very long: wings golden black. A narrow gilt line of equal breadth acrofs the anterior wings.

PHALÆNA PODELLA: antennis longiffimis, alis nigro-æneis, anticis fafciâ equali angufta aurea.

PHALÆNA PODELLA: antennis mediocribus alis nigris fafcia albida. *Linn. Syft. Nat.* 896. 428.

Alucita Podaella. *Fab. Ent. Syft. 3. p. 2.* 341. *n.* 42.

Like the preceding fpecies, the two fexes of PHALÆNA PODAELLA are diftinguifhed by the form of the antennæ; and Linnæus has evidently defcribed only the male, or he would not have defined it—"*Antennis mediocribus*," for the antennæ of the female are remarkably long.

The

The reference made by Fabricius to *Geoff. Inf.* 2. 194. 32. for this Infect, is certainly erroneus; for the Infect therein defcribed is ftated to have a white band acrofs the four wings, a white point near the exterior margin of the upper wings, and a fmall tranfverfe white mark towards the bafe. Linnæus does not quote *Geoffroy* for this Infect; and it is evident, Fabricius has confined his reading to the Latin fpecific defcription, which certainly agrees with the Linnæan defcription of Podaella in *Syft. Nat.*

The natural fize and magnified appearance is fhewn at Fig. III. III.

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PLATE CCLXVIII.

FIG I.

HIPPOBOSCA HIRUNDINIS.

GENERIC CHARACTER.

Roſtrum bivalve, wavering: feet armed with many nails.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings tapering from the baſe to a point ſix claws on each foot.

HIPPOBOSCA HIRUNDINIS: alis ſubulatis, pedibus hexadactylis.
Linn. Syſt. Nat. 2. 1010. 3. *Fn. Sv.* 1923.
Geoff. Inſ. 2. 547. 2.—*Panz-Faun. Inſ. Germ.*

Found adhering to the bodies of the Swallows, and is not unfrequently obſerved in the neſts of thoſe birds.

The ſmalleſt figure denotes the natural ſize.

FIG. II.

HIPPOBOSCA OVINA.

SPECIFIC CHARACTER

Without wings.

HIPPOBOSCA OVINA: alis nullis. *Linn. Syſt. Nat.* 2. 1011. 4.
Fn. Sv. 1924.
Friſch. Inſ. 5. *tab.* 18.

This and the preceding, with the two ſpecies included in plate 261, are the only deſcribed examples of the Hippoboſca genus found in Britain.

PLATE CCLXIX.

SPHINX OCELLATA.

Eyed Hawk Moth.

GENERIC CHARACTER.

Antennæ thickeſt in the middle: wings deflected when at reſt. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings angulated: poſterior pair red, with a large blue eye in the middle of each.

Sphinx Ocellata: alis angulatis, poſticis rufis ocello cœruleo. *Fab. Syſt. Ent.* 536. 1.

Sphinx Ocellata, alis repandis, poſticis ocellatis. *Linn. Syſt. Nat.* 2. 796. 1.—*Fn. Sv.* 1083.

Phalæna alis inferioribus macula opthalmoide inſignibus. *Alb. Inſ. tab.* 8. *fig.* 2.
Drury Inſ. 2. *tab.* 25. *fig.* 2. 3.
Roeſ. Inſ. phal. 1. *tab.* 1.
Schæff. Icon. tab. 99. *fig.* 5. 6.
Merian Europ. 2. *tab.* 87.

The Sphinges are only, in a few inſtances, remarkable for that gaiety and ſplendour of colours, which render the Butterfly tribe ſo

 pleaſing

pleaſing and intereſting to general obſervers. There is, however, a peculiar grace and elegance of form throughout the Sphinges, which immediately diſtinguiſh them from the Phalænæ, or third tribe of Lepidopterous Inſects; and their colours, though chaſte or obſcure, are, for the moſt part, very prettily diverſified. The Sphinges of Great Britain are not numerous; and, in general, the more beautiful kinds are rare. The Sphinx Ocellata is certainly an exception to this for we have not a more gay or abundant ſpecies of the tribe in this country. It is alſo common in other countries of Europe: and few authors, who have treated on the Entomology of any part of the continent have neglected to give it a place in their works.

The larva of the Sphinx Ocellata is found on the willow, in May, June, and July, about which latter time it becomes a pupa, and remains in the earth till June following when it quits its ſubterranean retreat and comes forth in the perfect ſtate.

PLATE CCLXX.

GRYLLUS MIGRATORIUS.

Migratory Locust.

GENERIC CHARACTER.

Head inflected, armed with jaws: feelers filiform: antennæ ſetaceous: wings four, deflected, convolute; the lower ones plaited: hind legs formed for leeping: claws double on all the feet.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax of one ſegment, and ſomewhat carinated in the middle; mandibules blue.

Gryllus Migratorius: thorace ſubcarinato: ſegmento unico, mandibulis cœruleis. *Linn. Syſt. Nat.* 2. 700. 41.—
Fn. Sv. 871.
Roeſ. Inſ. 2. *Gryll. tab.* 24.
Edw. birds. 208. *tab.* 208.
Degeer. Inſ. 3. 446. 1. *tab.* 23. *fig.* 1.
Seb. Muſ. S. *tab.* 65. *fig.* 21.

The Gryllus Migratorius, or Migratory Locuſt, has long ſince been claſſed amongſt the Inſects of this country, though on local, if not uncertain authority. It certainly viſited Great Britain in the year 1748, and ſeveral ſmall flocks of them were ſeen in the environs of London, where they cauſed no ſmall degree of conſternation, according to the authors

authors of that time. Mr. Edwards in particular, gave a figure, and a ſhort account of it in his Hiſtory of Birds, [Plate 208] under the name of Great Brown Locuſt. It is not only very evident that they have appeared, at leaſt in conſiderable abundance in this country, ſince that period: and it is probable, if any ſpecimens of thoſe which viſited the country at that time were preſerved by the curious, they are now irretrievably loſt, for we have not hitherto been able to aſcertain preciſely an Engliſh ſpecimen of it in any cabinet.

In the month of September, 1799, LADY AYLESFORD moſt obligingly communicated a living ſpecimen of this ſpecies to us, and we deem ourſelves particularly fortunate in the opportunity it affords us to aſcertain the difference, however inconſiderable, between the variety found in England and thoſe of warmer countries. This acceptable acquiſition is repreſented in the annexed plate, both in a reſting poſition and with the wings expanded. The ſpecimen was found in a barley field near Packington in Warwickſhire. It lived ſeveral days after its arrival in London, and would probably have ſurvived much longer had it not been injured in the journey, and weakened by long confinement. We ſupplied the inſect ſeveral times with tufts of freſh graſs, and this it ſeemed to prefer to ſome other plants incloſed alſo in the cage. It is not unworthy of remark, that in feeding it conſtantly cut the ſtalk of the graſs aſunder in the middle, or near the root, and tearing off the leaves, eat only the pith; aud this may, in ſome meaſure, account for the great miſchief and depredation theſe creatures commit, when they ſettle in vaſt numbers on any tract of cultivated land.

Though we regard the Gryllus Migratorius as an object of curioſity in this country, in many others the ſpecies is the terror of the inhabitants. We are not, perhaps, to admit implicitly the relations of all authors, but in thoſe of credibility and information, we find abundant reaſon to hope it may ever remain, as at preſent, rare in Britain. It is ſaid to be very numerous in Tartary, from whence at certain periods it migrates weſtward, and viſits the ſouth of Europe in incredible quantities. Of all the authors who have treated on the hiſtory of this Inſect, none are more ſatisfactory than Roeſel; his remarks

remarks are given in detail, and being the refult of actual obfervation, cannot but be deemed important: neither can they be confidered irrelevant to our prefent purpofe, as they relate efpecially to thofe legions of locufts that overran the continent of Europe in the year 1748, the memorable period in which, as before obferved, thofe rapacious creatures appeared, though in no very confiderable numbers, in our own country.

* "I have already," fays Roefel, "given particulars of thofe dangerous guefts in the beginning of the year 1749, and at the fame time added figures of them †. I fhall now only obferve, that in the courfe of the fame year they not only appeared in Poland, Hungary, Auftria, Bohemia, Silefia, Bavaria, but alfo in Franconia, and confequently in the environs of our city. Thanks be to God, they have not been numerous about our city, but from Windfheim we have intelligence of the third of September, that they had frightened the inhabitants with their legions, but they departed again on the fourth; fince then, a much refpected patron has kindly fent me, the IMPERIAL AND ROYAL HUNGARIAN EDICT of the prefent year 1749, together with a printed defcription of the Infect, and proper inftructions to the imperial fubjects, how to extirpate them, and I thought it neneffary, as they contain much good and ufeful matter, to infert them." Then he proceeds with *Befchreibung Deren Anno* 1747, &c. &c. or a defcription of the Locuft, as given in the Imperial Edict, &c. In the courfe of which, and the defcription in page 145, we are informed that this Locuft lives three years. The female depofits her eggs in a kind of bag; the eggs are about a quarter of an inch in length: of a flender oblong form, and placed within the bag lengthwife, fo as to form four or five tiers. It is moft advifed to dig for them in this ftate, and burn them; or if they fhould alight in the winged ftate, as it is known that the noife of bells, &c. will allure them to any particular fpot, it is recommended to form deep ditches, and decoy, drive, or beat them into the water in multitudes.

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* Under the fection *Der Heufchrecken und Grillenfammlung*, &c. &c. Vol. II. p. 103.

† Referring to his plate 24, of LOCUSTA GERMANICA and defcription of the Infects annexed.

PLATE

PLATE CCLXXI.

PAPILIO HYPERANTHUS.

Ringlet Butterfly.

GENERIC CHARACTER.

Antènnæ clavated at the tip: wings erect, when at rest. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, brown: beneath, three eyes or rings on the anterior, and five on the posterior wings.

Papilio Hyperanthus: alis integerrimis fuscis subtus anticis ocellis tribus, posticis duobus tribusque. *Linn. Syst. Nat.* 2. 768. 127.—*Fn. Sv.* 1043.—*Fab. Ent. Syst. T.* 3. *p.* 1. *p.* 216. *sp.* 677.
Degeer. Ins. 2 *tab.* 2. *fig.* 9. 10.
Schæff. Icon. tab. 127. *fig.* 1. 2.
Esp. pap. 1. *tab.* 5. *fig.* 1.
Naturf. 8. *tab.* 3. *fig. D.*

The larva of this Butterfly is very rarely met with; it feeds on the roots of grass; is hairy, of an ash colour, with a black line down the side, and the tail forked. The pupa is gibbous, brown, and spotted with yellow.

Papilio

Papilio Hyperanthus is found in the winged ſtate in June and July. It frequents lanes, and hedges on dry and elevated banks, ſuch as are common in the ſandy and chalky ſoils of Kent, and where it appears in great plenty.

PLATE CCLXXII.

PHALÆNA FURCULA.

KITTEN MOTH.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

BOMBYX.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax variegated: anterior wings grey, sprinkled with black: base and apex white, with black spots: posterior wings white, with a marginal row of black points.

PHALÆNA FURCULA: thorace variegato, alis griseis basi apiceque albis nigro punctatis. *Linn. Syst. Nat.* 2. 823. 51.—*Fn. Sv.* 1122.—*Fab. Ent. Syst. T.* 3. *p.* 1. 475. *sp.* 213. *Panz. Faun. Inf. Germ.* 4. *tab.* 20. *Wilks pap.* 13. *tab.* 1. *fig.* 1. *Sepp. Inf.* 4, 29. *tab.* 6.

Phalæna Furcula is a neat and interesting British Insect. Except in size it is very similar to Phalæna Vinula; and the Aurelians, from this similarity, and a fanciful reference to the brindled appearance of

of the anterior wings have whimſically given it the name of kitten-moth. Phalæna Vinula is called the puſs-moth. Our preſent inſect is rare, the other very common.

The larva is found on the willow in July. It remains in the pupa ſtate the whole winter; the Moth comes forth in May.

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PLATE CCLXXIII.

CHRYSOMELA NITIDULA.

GENERIC CHARACTER.

Antennæ moniliform: becoming larger towards the extremity: feelers ſix: thorax marginate: wing-caſes immarginate: body generally oval.

SPECIFIC CHARACTER

AND

SYNONYMS.

Feet formed for leaping: wing-caſes blue: head and thorax golden: legs ferruginous.

CHRYSOMELA NITIDULA: ſaltatoria, elytris cœruleis, capite thoraceque aureo. *Faun. Suec.* 542

GALLERUCA NITIDULA, ſaltatoria viridis nitens, capite thoraceque aureis, pedibus ferrugineis. *Fab. Ent. Syſt.* 1. 30. *ſp.* 81.

This beautiful little ſpecies is ſometimes found on the willow and alder. The ſmalleſt figure denotes the natural ſize.


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PLATE CCLXXIV.

FIG. I. II.

PHALÆNA HUMULI.

GHOST MOTH.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Female yellow, with fulvous marks. Male snowy white.

PHALÆNA HUMULI: alis flavis fulvo striatis maris niveis. *Linn. Syst. Nat.* 2. 833. 84.—*Fn. Sv.* 1147.

HEPIALUS HUMULI: *Fab. Ent. Syst. T.* 3. *p.* 2. 5. *sp.* 1.
Degeer. Inf. 1. *tab.* 7. *fig.* 5, 6.
Sulz. Hist. Inf. tab. 22. *fig.* 1.

The male and female of *Phalæna Humuli* are very dissimilar, and may easily be mistaken for distinct species. The male is perfectly white, with a gloss like satin, the abdomen, antennæ, and margin of the wings excepted, for these are reddish brown. The female is of a fine yellow colour, with several fulvous or orange marks; and is somewhat larger than the other sex.

The larva lives in the earth, at the roots of the Burdock and hop. It is of a very pale or whitish colour, with a brown head, and has sixteen feet.

FIG. III.

PHALÆNA HECTA.

GOLDEN SWIFT MOTH.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings yellow, the anterior pair with two yellow bands of interrupted dots.

PHALÆNA HECTA: lutea, alis deflexis: primoribus fasciis duabus albidis obliquis punctata interruptis. *Fn. Sv.* 1148.— *Gmel. Linn. Syst. Nat. Ent. p.* 2617. *sp.* 85.

HEPIALUS HECTUS. *Fab. Ent. Syst. T.* 3. *p.* 2. *p.* 6. *Sp.* 4. *Degeer. Ins.* 1. *tab.* 7. *fig.* 11.

This species is common in the skirts of woods in May and June. The colours in the male Insect are more vivid than the female, and the spots on the anterior wings in particular are of such a beautiful yellow, that English collectors have termed this kind the Golden Swift Moth.

It commences its flight earlier in the evening than any other of the nocturnal lepidopterous insects. Its manner of flying is very singular, and attracted the notice of Linnæus, who aptly compares it to the motion of the pendulum of a clock.

The larva is unknown: it is supposed to feed on the roots of plants under ground.

PLATE

PLATE CCLXXV.

PHALÆNA ALNIARIA.

GENERIC CHARACTER.

Antennæ, taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ pectinated: wings yellow, speckled with brown, marked with two transverse streaks and deeply scalloped.

PHALÆNA ALNIARIA: pectinicornis alis erosis flavis fusco pulverulentis: strigis duabus fuscis. *Linn. Syst. Nat. 2. 860. 205.—Fn. Sv. 1230. Fab. Ent. Syst. T. 3. p. 2. p. 136. Sp. 24. Schæf. Icon. tab. 135. fig. 1. 2.*

This Insect is analogous to several other species of British Phalænæ, known amongst collectors by the indefinite term of *Thorn Moths*. It is remarkable only in the larva state, when, from its similarity in form and colour to a twig of the tree on which it feeds, it is supposed to escape the notice of its enemies. It is a dull creature, and will often remain in an oblique, or erect position, without motion, or appearance of life, for several hours together.

It is found on fruit-trees, in the state of larva, in May: the Moth appears in August or September.

PLATE

PLATE CCLXXVI.

CHRYSOMELA TENEBRICOSA.

GENERIC CHARACTER.

Antennæ moniliform, becoming larger towards the extremity: feelers ſix: thorax marginate; wing-caſes immarginate: body generally oval.

SPECIFIC CHARACTER

AND

SYNONYMS.

Apterous, ovate, deep black: antennæ and legs violet.

CHRYSOMELA TENEBRICOSA: aptera ovata, atra antennis pedibuſque violaceis. *Fab. Ent. Syſt.* 1. 308. 3.

TENEBRIO LÆVIGATUS, apterus niger lævis, elytris lævibus thorace lunato, ſubtus cœruleis. *Linn. Syſt. Nat.* 678. 29.

Chryſomela Tenebrioides. *Gmel. Linn. Syſt. Nat.* 1667. 1.

This creature is entirely of a black colour, gloſſed, in ſome ſpecimens, with a ſhining blue; in others, with purple. Thoſe colours are particularly vivid on the legs and underſide of the Infect. It is very common during moſt part of the ſummer.

PLATE

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PLATE CCLXXVII.

FIG. I.

PHRYGANEA VARIA.

NEUROPTERA.

GENERIC CHARACTER.

Mouth furnifhed with fhort, arched, acute, horny mandibules: jaws membranaceous: feelers four: ftemmata three: antennæ fetaceous, and longer than the thorax: wings incumbent, pofterior pair folded.

SPECIFIC CHARACTER.

Wings cinereous, variegated with black, and marked in the middle with a diftinct white fpot: antennæ black.

PHRYGANEA VARIA: alis cinereo, nigroque variis; puncto medio diftincto niveo, antennis nigris. *Fab. Ent. Syft. T. 2. p.* 77. 103.?

The *Phryganea Varia* of Fabricius has not been figured by any author; but is, we fufpect, no other than a fmall variety of P. Grandis, and which Linnæus defcribes as "*alis cinereo teftaceis, "lineolis duabus longitudinalibus nigris, puncto albo.*" Fabricius has altered this definition to "*alis teftaceis cinereo maculatis,*" in the *Entomologia Syftematica,* and erroneoufly attributes the latter to Linnæus.

We cannot avoid, in fupport of our opinion, noticing the ftriking diffimilarity between the feveral figures of Phryganea Grandis, in our copies of the works quoted by Linnæus and Fabricius. *Roefel* has two figures, one of a blueifh grey, the other

 vellowifh

yellowiſh brown; both vary in the markings, and are nearly twice the ſize of our ſpecimen. In *Sulzer*, the wings are ſhorter and more pointed than in the preceding work; and are rather pellucid and tinged with yellow: the marking totally different from thoſe in *Roeſel*. Thoſe in *Schæffer* are moſt like one of our ſpecimens in form and reddiſh colour, but ſtill with markings as different from it as from either of the preceding figures. We may hence conclude the marks are inconſtant, and the colours extremely variable; and that in point of ſize, the preſent ſpecies may be the *Varia* of Fabricius, ſince he notices its affinity to the P. Grandis; and adds, it is rather ſmaller.—" Nimis Affinis P. Grandis at paullo minor." *Fab. Ent. Syſt.*

FIG. II.

HEMEROBIUS PERLA.

Golden Eye.

GENERIC CHARACTER.

Mouth with ſhort horny mandibules: jaws cylindrical, ſtraight: lip advanced and entire: feelers four, projecting, unequal, and filiform: no ſtemmata: wings deflected, and not folded: antennæ ſetaceous and advanced forward.

SPECIFIC CHARACTER

AND

SYNONYMS.

Yellow green: wings tranſparent with greeniſh baſe: eyes golden.

Hemerobius Perla: luteo viridis, alis hyalinis: baſis viridibus. *Linn. Syſt. Nat.* 2. 911. 2.—*Fn. Suec.* 1504.

Extremely

Extremely common in orchards and gardens during the ſummer. It is a very delicate little creature, of a greeniſh colour, with wings moſt elegantly reticulated, perfectly tranſparent, and beautifully gloſſed with priſmatic tints of colour. The eyes are large and globular, and have the brilliant aſpect of burniſhed gold, whence the Engliſh name of Golden Eye. They are ſaid to ſtink juſt before a thunder ſtorm.

PLATE CCLXXVIII.

PAPILIO POLYCHLOROS.

WOOD TORTOISESHELL BUTTERFLY.

GENERIC CHARACTER.

Antennæ clavated at the tip: wings erect when at reſt. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings angulated, fulvous, ſpotted with black.

PAPILIO POLYCHLOROS: alis angulatis fulvis nigro maculatis: anticis ſupra punctis quatuor nigris. *Linn. Syſt. Nat.* 2. 777. 166.—*Fn. Sv.* 1057.—*Fab. Syſt. Ent. t.* 3. *p.* 1. 121. *ſp.* 372.
Merian Europ. tab. 1.
Roeſ. Inſ. 1. *pap.* 1. *tab.* 2.
Schæff. Icon. tab. 146. *fig.* 1, 2.
Ammir. tab. 15.
Friſch. Inſ. 6. *tab.* 3.
Wilks. pap. 56. *tab.* 3. *a.* 5.

There is a ſtriking ſimilarity in form and colour between this ſpecies and Papilio Urticæ, already figured in this work. Collectors have hence denominated the two ſpecies the Tortoiſeſhell Butterflies;

Butterflies; they differ, however, materially in ſize, as well as manner of life. The ſmalleſt kind is very common, and its larva feeds on the Nettle; the preſent ſpecies is found on the Elm, inhabits woods, and is very ſcarce.

The larva is found in June; it becomes a pupa in the ſame month; and after remaining in that ſtate twenty-one days, the winged Inſect is produced.

PLATE CCLXXIX.

PAPILIO MEGÆRA.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clavated at the tip: wings in general deflected when at reſt. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings dentated, yellowiſh, with fuſcous bands: an ocellar ſpot on the anterior wings: poſterior pair with five above and ſix beneath.

PAPILIO MEGÆRA: alis dentatis luteis fuſco faſciatis: anticis ocello, poſticis ſupraquinis, ſubtus ſex. *Linn. Syſt. Nat.* 2. 771. 142.—*Fab. Ent. Syſt. T.* 3. *p.* 1. *p.* 94. 292.—*Schæff. Icon. tab.* 148. *fig.* 3, 4.

This Butterfly is common in meadows in July. The larva is green, and hairy, with a bifid tail; it feeds on graſs, and changes to the pupa ſtate in June.

PLATE


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PLATE CCLXXX.

FIG. I.

PAPILIO NAPI.

GREEN-VEINED WHITE BUTTERFLY.

GENERIC CHARACTER.

Antennæ terminating in a club: tongue ſpiral: wings in general erect when at reſt. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, white: beneath marked with broad veins of greeniſh.

PAPILIO NAPI: alis integerrimis albis: ſubtus venis dilatis vireſcentibus. *Linn. Syſt. Nat. 2.* 760. 77.—*Fn. Sv.* 1037. —*Fab. Ent. Syſt. T. 3. p.* 1. 187. 576. *Geoff. Inſ. 2.* 70. 42. *Merian Europ. 2. tab.* 39. *Albin Inſ. tab.* 52. *fig. F. G.*

Frequent in gardens in May. The larva feeds on the cabbage.

FIG. II.

PAPILIO SINAPIS.

WOOD LADY, or WOOD WHITE BUTTERFLY.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings rounded, entire, white: apex brown.

PAPILIO NAPI: alis rotundatis integerrimis albis: apicibus fuſcis.
Linn. Syſt. Nat. 2. 760. 79.—*Fn. Sv.* 1038.—*Fab. Ent. Syſt. T.* 3. *p.* 1. *p.* 187. *ſp.* 577.
Schæff. Icon. tab. 97. *fig.* 8, 9, 10, 11.
Degeer. Inſ. 2. 183. 4. *tab.* 1. *fig.* 1.
Raj. Inſ. 116. 8.

Found in woods in May; a ſecond brood appears in Auguſt.

PLATE CCLXXXI.

PHALÆNA FAGANA.

Common Silver-line Moth.

GENERIC CHARACTER.

Antennæ, taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Anterior wings green, with three oblique white, or silvery stripes across each. Antennæ and feet fulvous.

Pyralis Fagana: alis viridibus: strigis tribus obliquis albis, antennis pedibusque fulvis. *Fab. Ent. Syst. 3. p. 2. 243. 5.*

Phalæna Fagana. *Wien. Werz.* 125. 2.
Roes. Ins. 4. *tab.* 22.
Petiv. Gazoph. tab. 7. *fig.* 11.
Ammiral Ins. tab. 2. *fig.* 1.
Alb. Ins. tab. 31.
Wilks. pap. 1. *tab.* 1. *a.* 13.

This species of Phalæna is not uncommon, but deserves particular attention for its singular and very beautiful appearance. The larva is found on the Oak in August and September: in the beginning of

 October,

October, it ſpins a very extrordinary kind of covering on a leaf of the oak, and becomes a pupa within. This covering ſomewhat reſembles a tent, or rather an inverted boat, being ſhuttle formed, and having a keel, or longitudinal ridge along the upper part: its colour is yellowiſh brown; the pupa is purple. The Moth appears in the winged ſtate in May.

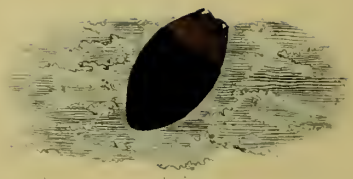

PLATE CCLXXXII.

BUPRESTIS PYGMEA.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ ſetaceous and the length of the thorax: head half retracted, or drawn within the thorax.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wing-caſes entire blue: head and thorax brown, bronzed, and gloſſy.

BUPRESTIS PYGMEA: elytris integris cyaneis, capite thoraceque æneis nitidis. *Fab. Ent. Syſt.* 1. *p.* 2. *p.* 211. *Sp.* 110.

The diſcovery of this minute but rare ſpecies of Bupreſtis in this country is due to Alexander M'Leay, Eſq.——It was found in a puddle, on the road ſide, near Coombe Wood, in the month of May laſt. The ſpecimen is repreſented in the annexed plate; the ſmalleſt figure denotes the natural ſize.

PLATE

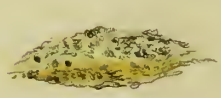

PLATE CCLXXXIII.

PHALÆNA MELONELLA.

Honey Moth.

GENERIC CHARACTER.

Antennæ taper towards the apex: wings in general deflected when at reſt. Fly by night.

Tinea.

SPECIFIC CHARACTER

AND

SYNONYMS.

Anterior wings grey, behind purple with a white ſtreak: ſcutel black, with the tip white.

P. Tinea Mellonella: alis canis poſticis purpuraſcentibus: ſtriga alba, ſcutello nigro apice candido. *Linn. Syſt. Nat.* 2. 888. 375.—*Fn. Sv.* 1383.—*Fab. Ent. Syſt.* 3. *p.* 2. 305. *Sp.* 79.
Reaum. Inſ. 3. *tab.* 19. *fig.* 79.

The larva of this ſpecies is ſometimes found in bee-hives: it inſinuates itſelf amongſt the cells of thoſe Inſects, and ſubſiſts on the honey. It remains in the pupa ſtate in a long cylindrical channel or paſſage it forms in the larva ſtate; the winged Inſect comes forth in Auguſt.

PLATE

PLATE CCLXXXIV.

SPHINX LIGUSTRI.

PRIVET SPHINX, or HAWK MOTH.

GENERIC CHARACTER.

Antennæ ſomewhat priſm-form and thickeſt in the middle: wings in general deflected when at reſt. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire: poſterior pair red, with three black bars acroſs: abdomen red, with black belts.

SPHINX LIGUSTRI: alis integris poſticis rufis; faſciis tribus nigris, abdomine rubro: cingulis nigris. *Linn. Syſt. Nat.* 2. 799 8. *Fn. Sv.* 1087.

Sphinx Liguſtri: *Fab. Ent. Syſt. T.* 3. *p.* 1. 374. 55
Roeſ. Inſ. 3. *tab.* 5.
Degeer Inſ. 1. *tab.* 1. *fig.* 6
Schæff. Elen. tab. 116. *fig.* 2.
Albin. Inſ. tab. 7. *fig.* 10.
Eſp. Inſ. 2. *tab.* 6.
Reaum. Inſ. 2. *tab.* 20. *fig.* 1—4.

The larva of this beautiful ſpecies is found very frequently on the Privet in the months of July and Auguſt. It buries itſelf in the earth preparatory to its becoming a pupa, and comes forth in the fly ſtate in June following.

PLATE CCLXXXV.

CASSIDA MACULATA.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ nearly filiform, but encreaſing in bulk towards the extremity. Margin of the elytra broad. Head concealed under the thorax.

SPECIFIC CHARACTER

AND

SYNONYMS.

Greeniſh, variegated with ſpots of black on the elytra, particularly along the ſuture of the back.

CASSIDA MACULATA: viridibus elytris rarius, ſutura dorſali confertius nigro maculatis. *Linn. Syſt. Nat.* 2. 575. 6. *Fab. Syſt. Ent.* 88. 2.

Caſſida viridis maculis nigris variegata. *Geoff. Inſ.* 1. 314. 5. *tab.* 5. *fig.* 6.

Has been ſuppoſed only a variety of Caſſida viridis, but is evidently a diſtinct ſpecies, and is very uncommon in England.

Fig, I. The natural ſize.

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PLATE CCLXXXVI.

FIG. I.

CHRYSOMELA MARSHAMI.

GENERIC CHARACTER.

Antennæ articulated, larger towards the end. Thorax and elytra without margin.

SPECIFIC CHARACTER.

Thorax greeniſh gold. Wing-caſes coppery, irregularly punctated.

CHRYSOMELA MARSHAMI: thorace viridi æneo, elytris cupreis vagè punctatis.

As the Britiſh Coleoptera are in few inſtances remarkable for that ſplendid glow and gaiety of colours which diſtinguiſh thoſe of warmer climates, we are more inclined to admire the beauty of this recently diſcovered ſpecies of Chryſomela. It appears not to have been noticed by any preceding author: and as it remains with us to deſignate ſome ſpecific appellation, we have named it *Marſhami*, in compliment to that eminent entomologiſt T. Marſham, Eſq.—a name, perhaps, the more appropriate, as it is known among that gentleman's ſcientific friends, the world will ſoon be favoured with his invaluable papers on Britiſh Coleoptera.

This Inſect is nearly allied to C. Faſtuoſa and C. Hypericum.—Found in Norwood laſt May.

FIG.

FIG. II.

CHRYSOMELA GOETTINGENSIS.

SPECIFIC CHARACTER.

Oval black, gloſſed with purple. Legs purple. Tarſi reddiſh.

CHRYSOMELA GOETTINGENSIS: ovata atra pedibus violaceis: plantis rufis. *Linn. Syſt. Nat.* 2. 586. 4.—*Fn. Sv.* 506. *Fab. Ent. Syſt. T.* 1. *p.* 309. *Degeer. Inſ.* 5. 298. 8.

A rare ſpecies in this country; very common in Germany.


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PLATE CCLXXXVII.

FIG. I.

PHALÆNA PAPILIONARIA.

LARGE EMERALD MOTH.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

SPECIFIC CHARACTER.

Antennæ feathered. Wings green: a continued streak of whitish semicircular marks across the middle of each, and an interrupted or half streak of the same colour below it.

PHALÆNA PAPILIONARIA: pectinicornis alis subrepandis viridibus: striga sesquialtera repanda. *Linn. Syst. Nat.* 2. 864. 225.—*Fn. Sv.* 1247.
Wien. Verz. 96. 1.
Roes. Ins. 4. *tab.* 18. *fig.* 3.

A rare and very elegant British species. The larva is green, with about ten incurvated spines or hooks along the back. It is found in this state on the Birch and Alder in June, changes to the pupa the latter end of the same month, and appears on the wing fourteen days after.

The pupa is green variegated with yellow.

FIG. II.

PHALÆNA PENNARIA.

SPECIFIC CHARACTER.

Antennæ feathered; Wings indented reddiſh: two dark ſtreaks acroſs the anterior pair, and a diſtinct white ſpot near the apex.

PHALÆNA PENNARIA: pectinicornis alis ſubdentatis rufeſcentibus: ſtrigis duabus fuſcis punctoque apicis albo.
Linn. Syſt. Nat. 2. 861. 209.—*Fab. Ent. Syſt.* 3. *p.* 2. 132. 14.

The larva ſmooth reddiſh brown; found on Fruit-trees

FIG. III.

PHALÆNA BILINEATA.

SPECIFIC CHARACTER.

Antennæ ſetaceous, Wings yellow undulated with brown ſtreaks, and a broad wave acroſs the anterior pair.

PHALÆNA BILINEATA: ſeticornis alis luteis teſtaceo undatis: faſcia repanda, margine fuſco. *Linn. Syſt. Nat.* 2. 868. 245.—*Fn. Sv.* 1284.
Clerk. Icon. tab. 6. *fig.* 13.

Very abundant in White-thorn hedges during moſt part of the Summer.

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PLATE CCLXXXVIII.

FIG. I. I.

CICADA NITIDULA.

GENERIC CHARACTER.

Roſtrum bent inwards. Antennæ ſetaceous. Wings membranaceous declining along the ſides of the body.

SPECIFIC CHARACTER.

Yellow. Wing-caſes tranſparent, whitiſh, with two dark tranſverſe bars.

CICADA NITIDULA; flava, elytris hyalino albis, faciis duabus nigris. *Fab. Ent. Syſt*, 4. *p*. 46. *n*. 87.

This minute ſpecies is repreſented in the natural ſize at Fig. I. The upper figure exhibits its magnified appearance.

FIG.

FIG. II.

CICADA FLAVOSTRIATA.

SPECIFIC CHARACTER.

Black. Head and Thorax tranſverſely ſtreaked with yellow; ſtreaks on the wing-caſes of the ſame colour, diſpoſed longitudinally.

CICADA FLAVOSTRIATA: nigra, capite thoraceque tranſverſe elytriſque longitudinaliter flavo-ſtriatis.

This Inſect has been confounded with the Cicada ſtriata of *Linnæus*, *Faun. Suec.* 887, and *Syſt. Nat.* 709. *n.* 30. in general; but it is certainly not that ſpecies. Linnæus refers to *Geoff.* 1. *p.* 424 *n.* 20. for *C. ſtriata*, wherein it is thus deſcribed: "Head pale green, with two black points in front, and four near the baſe; Thorax of the ſame colour, marked with ſeveral leſs diſtinct black ſpots alſo." We therefore conſider our C. flavoſtriata as a new ſpecies.

LINNÆAN INDEX

TO

VOL. VIII.

COLEOPTERA.

HEMIPTERA.

INDEX.

LEPIDOPTERA.

NEUROPTERA.

I N D E X.

NEUROPTERA.

ALPHABETICAL INDEX

TO

VOL. VIII.

Marshami,

INDEX.