

THE
NATURAL HISTORY
OF
BRITISH INSECTS;
EXPLAINING THEM
IN THEIR SEVERAL STATES,
WITH THE PERIODS OF THEIR TRANSFORMATIONS,
THEIR FOOD, OECONOMY, &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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THE
NATURAL HISTORY
OF
BRITISH INSECTS.

PLATE CLXXXI.

PHALÆNA SYRINGARIA.

LEPIDOPTERA.

GENERIC CHARACTER.

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

GEOMETRA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings angulated, indented, fine light grey, with shades of flesh colour and brown: a brown mark across the Wings, which in an expanded Insect forms a festoon.

PHALÆNA SYRINGARIA: pectinicornis, alis suberosis, omnibus griseo flavescens, strigis repandis fuscis albisque.
Fab. Syst. Ent. 622. 13.—*Spec. Inf.* 2. 244. 17.—
Linn. Syst. Nat. 2. 860. 206.

Phalena pectinicornis, alis margine sinuatus, fulvo, nigro, fusco
 roseoque marmoratis, singulis subtus puncto nigro,
 superioribus extremo dilatato, recurvis. *Geoff. Inf.*
 2. 126. 32.

Rœf. Inf. 1. phal. 3. tab. 10.

The English name has been given to this Moth by some collectors, on account of its being found a local species, and most frequent in Richmond park.

The Larva of this Insect has a very singular appearance, to which the hook on the back greatly contributes when it is nearly full fed and going into the pupa state. It feeds on the Jasmine and Lilac, and does not thrive well on any other plants. It is in the Caterpillar state in April, changes to chrysalis in May: the Fly comes forth in June.



2



P L A T E CLXXXII.

MELŒ MONOCEROS.

HORNED MELŒ.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ globular, last globule oval. Thorax roundish. Elytra soft. Head gibbous.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax pointed like a horn over the head. Shells brown, with a longitudinal streak and spot on each.

MELŒ MONOCEROS: *Linn. Syst. Nat.* 2. 681. 14.

NOTOXUS MONOCEROS: thorace in cornu supra caput protenso, elytris puncto fasciaque nigris. *Fab. Syst. Ent. Tom.* 1. 211. 6.

Notoxus. *Geoff. Inf.* 1. 356. tab. 6. fig. 8.

Attelabus Monoceros. *Lin. Fn. Sv.* 638.

Schæff. Icon. tab. 188. fig. 3.

Linnæus seems to have found much difficulty in determining the genus of this insect; once placing it amongst the Attelabi of his system, and thence removing it to the Melœ tribe. Geoffroy has another general name, *notoxus*, and this Fabricius has adopted in his last work.

This

This is certainly a most singular Insect, and altogether unlike any other we know of in England. We cannot say whether it feeds on any particular food, or what are its peculiarities, for we have only seen one specimen besides that from which the annexed drawing is taken; and the only information we receive from the authors above quoted is, that it is a native of Europe; and is found on umbelliferous plants. It was taken in May.

Fig. 1. the natural size. Fig. 2. magnified.







P L A T E CLXXXIII.

PHALÆNA CAMELINA.

DARK PROMINENT MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

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

Bombyx.

SPECIFIC CHARACTER

AND

SYNONYMS.

First wings fine rust colour, with two oblique waves across: indented edges: posterior margin, with one large and one small tuft prominent on the upper part of the Insect when at rest.

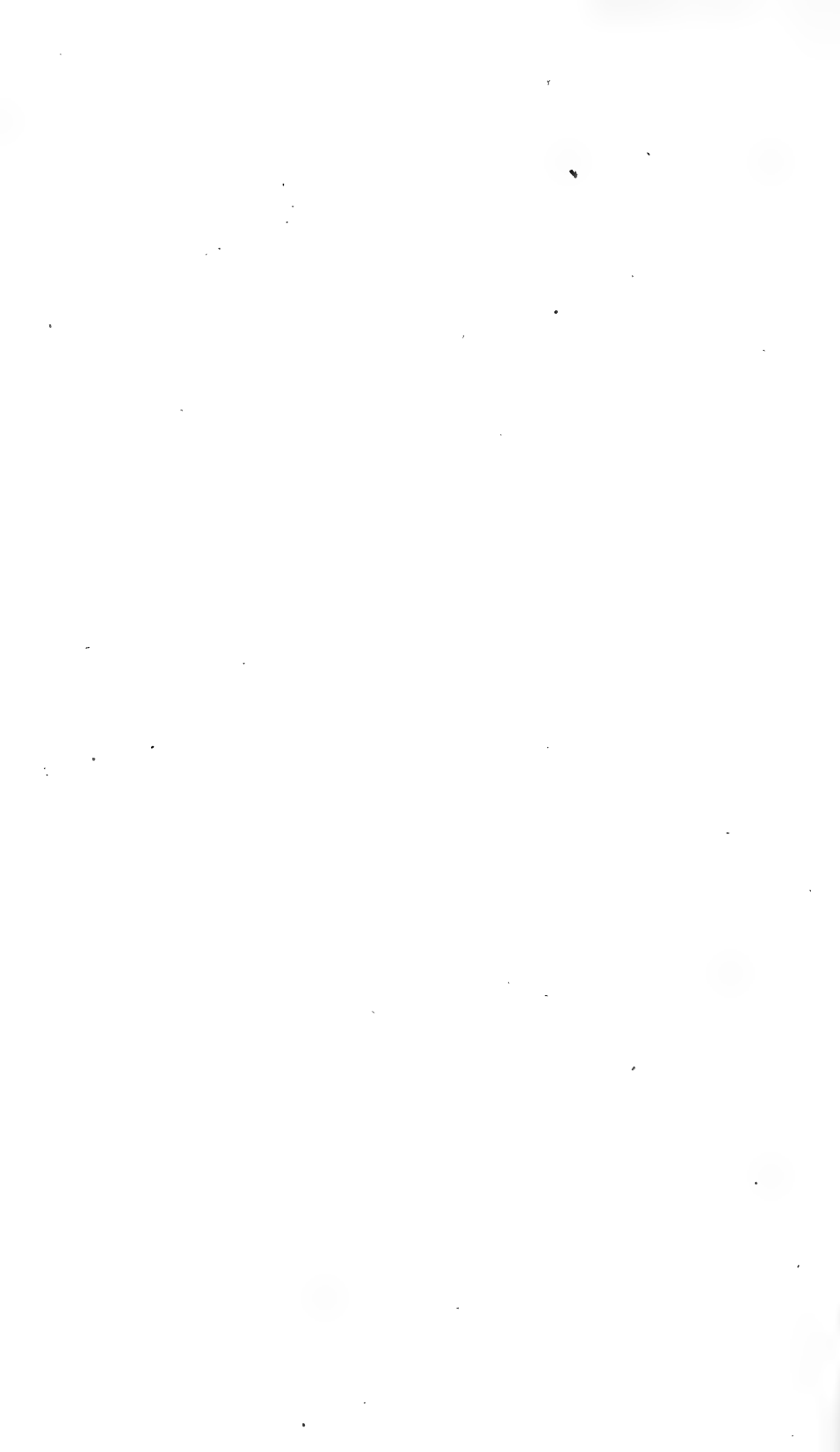
PHALÆNA CAMELINA: alis deflexis denticulatis brunneis: omnibus denticulo dorsali. *Linn. Syst. Nat.* 2. 832. 80.—*Fn. Sv.* 1145.

Fab. Ent. Syst. 3. p. 450. 133.

Wien. Verz. 63. 3.

Roef. Inf. 1. *phal.* 2. tab. 28.

The Caterpillar of this Moth is found in August, on the leaves of the Oak, Willow, Lime, &c. The Moth comes forth late in May, or early in June.





P L A T E CLXXXIV.

P A P I L I O A R I O N .

MAZARINE BLUE BUTTERFLY.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R .

Antennæ clubbed. Wings when at rest, erect. Fly by day.

S P E C I F I C C H A R A C T E R

A N D

S T R O N G M S .

Above brown, disk of the wings fine blue, with black spots. Beneath grey, with a number of small eyes.

PAPILIO ARION: alis supra fuscus: disco cœruleo; maculis atris, subtus canis: punctis ocellaribus. *Lin. Syst. Nat.* 2. 789. 230.—*En. Sv.* 1073.

Hesperia Arion. *Fab. Ent. Syst.* 3. 293. 118.

Rocf. Inf. 3. tab. 45. fig. 3. 4.

Schæff. Icon. tab. 98. fig. 5. 6.

Esp. pap. 1. tab. 20. fig. 2.

Papilio Arion is a very scarce Insect in this country; and it does not appear to be much more common in any other part of Europe. The authors quoted above have given figures or descriptions of it, but are entirely ignorant of its larva, or pupa; and Fabricius, who has selected the observations of all the preceding authors who have described it, says only, *Habitat in Europæ Pratis.*

Mr. Lemon, a collector of eminence some years since, met with it in England. We have a specimen which was taken by him, as appears from a note with it. Roefel's figure is of a finer blue than any we have seen ; but we have no doubt of its being a most brilliant Insect in a recent state.



1



1



2

2



P L A T E CLXXXV.

F I G. I.

CHRYSOMELA CALMARIENSIS.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ knotted, enlarging towards the ends. Corfelet margined.

SPECIFIC CHARACTER

AND

SYNONYMS.

Oblong: yellow: a longitudinal streak of black down each shell.

CHRYSOMELA CALMARIENSIS: oblongiuscula ferruginea, elytris macula longitudinali nigricante. *Linn. Syst. Nat.* 2. 600. 101.

Crioceris Calmariensis: ovata cinerea, elytris vitta lineolaque baseos nigris. *Fab. Syst. Ent.* 119. 4.—*Spec. Inf.* 1. 150. 6.

Galleruca pallida, thorace nigro variegato, elytris fasciis duabus longitudinalibus nigris. *Geoff. Inf.* 1. 253. 3.—*Sulz. Roem. Inf. tab.* 3. fig. 16.

Fabricius says, this Insect lives on the Willow and Alder. It is found in every part of Europe, but is scarce in England.

It is a very pretty species. The underfide has rather a bronze appearance: above, in recent specimens, the light colour is very

fine yellow, but turns brown afterwards: the stripes down the elytra are not deep black, but have a greenish tint.—Taken in May. Length a quarter of an inch.

F I G. II.

MYCETOPHAGUS QUADRIMACULATUS.

FUNGUS BEETLE WITH FOUR SPOTS.

COLEOPTERA.

GENERIC CHARACTER.

Palpi four, unequal. *Maxilla* membranaceous, with a tooth or spine. Lip round, entire. *Antennæ* gradually enlarge towards the end. *Fab. Gen. Inf.*

SPECIFIC CHARACTER

Entirely black, except one large yellow brown spot on the base of the elytra, and another near their extremities.

MYCETOPHAGUS QUADRIMACULATUS: rufus thorace elytrisque nigris, his maculis duabus rufis. *Fab. Ent. Syst. t. 2. n. 1. p. 497.*

Ips Maculata. *Fab. Mant. Inf. 1. n. 8. p. 45.*

Tritoma. *Geoffr. Inf. t. 1. p. 335. tab. 6. fig. 2. c. f.*

Silphoides boleti. *Herbst. Archiv. 4 tes. Heft. 2. 11. p. 41. tab. 21. fig. 51.*

Der Viergefleckte Pfifferkäfer. *Panz.-Faun. Inf. Germ.*

Three specimens of this rare species were found together, concealed in the porous part of the Honey-comb Boletus*. According to *Herbst. Archiv.* it is usually found on plants of this genus. It is not scarce in Germany.

* Boletus Cellulosus.

The vast addition of new species of Insects that *Fabricius* has made in his latter works, renders it difficult, and in some instances impossible, to refer them to the system of *Linnaeus*; and though we would at all times more willingly refer any new kind to that system, and quote the Fabrician account amongst the synonyms, than adopt the new generic distinctions of *Fabricius*, or any other author, we must not sacrifice propriety to predilection. If *Linnaeus* himself had noticed many of the newly discovered kinds, he must have altered and improved his system to admit them; which is a great excuse for *Fabricius* having made so many genera.

The little Insect before us may be referred to the *Silpha* genus of *Linnaeus*; but as his definition of the *Silphæ* has been subjected to so many objections and amendments of later authors, we forbear placing it amongst them. *Linnaeus* has made no distinction between such species as have perfoliated antennæ, and those with antennæ increasing in bulk from the base to the end †, thereby including *S. Vespillo* with *S. thoracica* and *S. obscura*, though in an early edition of the *Fauna Suecica*, *S. Vespillo* was amongst the *Scarabæi*, and the two last with the *Cassidæ*.

Schæffer divided the *Silphæ* of *Linnaeus* into two genera, *Silpha* and *Peltis*. *Geoffroy* arranged some of them amongst his *Dermestides*, and formed his genus *Peltis* of such as have the thorax and elytra strongly margined, and perfoliated antennæ. *Geoffroy* described our present subject under the name *Tritoma*. *Fabricius* afterwards, in his *Mantissa*, arranged it under *Ips*, a new genus, formed from part of the *Silphæ* of *Linnaeus* and *Dermestides* of *Geoffroy*. In the *Entomologia Systematica*, he has again separated the *Ips*, and made *Mycetophagus* a new genus of fifteen species, in which he includes this Insect.

† *Silpha* Antennæ extrorsum crassiores. Elytra marginata. Caput prominens. Thorax planiusculus, marginatus. *Linn. Gen. Inf.*

To those who have adopted the system of Fabricius, it is unnecessary to say, that the fundamental part of his arrangement is taken from the mouth of the Insect, which certainly is objectionable, because that part is dry, and very frequently injured or destroyed in Insects that have been long in a cabinet, and is very small in most kinds when alive; so that, though we have followed his arrangement in the generic definition, we have been less prolix than a full elucidation of it might require.

The figures in the annexed plate 2. 2. represent the natural size and magnified appearance.



P L A T E CLXXXVI.

P A P I L I O H E R O .

SCARCE MEADOW-BROWN BUTTERFLY.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R .

Antennæ clubbed. Wings, when at rest, erect. Fly by day.

S P E C I F I C C H A R A C T E R

AND

S Y N O N Y M S .

Wings entire : brown above. Beneath, a large black eye near the anterior margin of the first wings : six smaller eyes on the second Wings.

PAPILIO HERO: alis integerrimis fulvis: fubtus anticis ocello, porticis fenis. *Linn. Syst. Nat.* 2. 793. 253.—*Fn. Sv.* 1047.—*Fab. Ent. Syst.* 3. p. 222. 695.

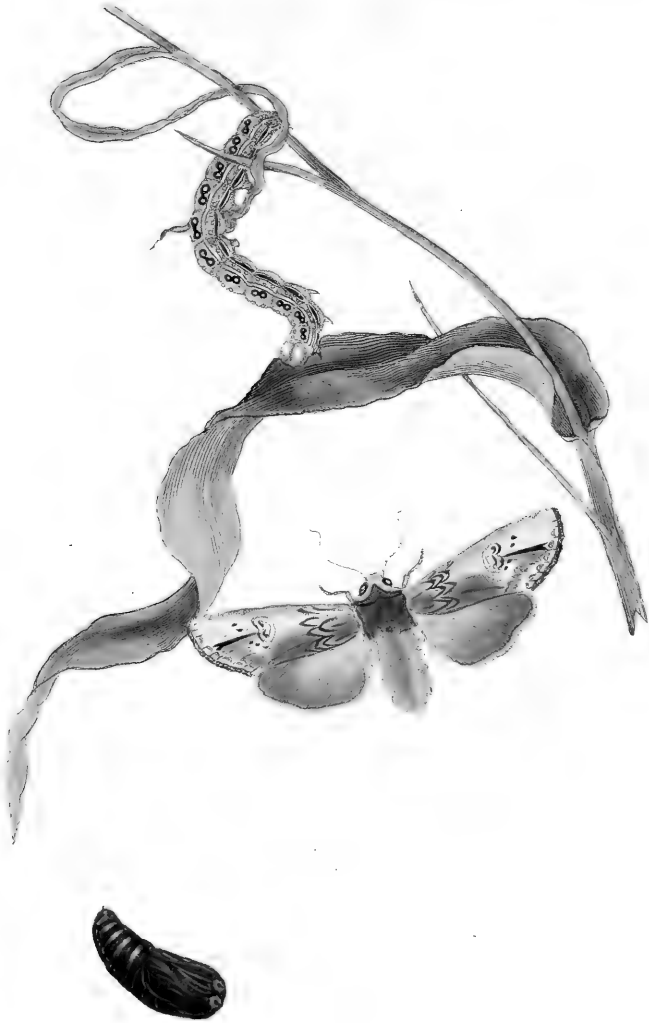
Papilio Hero. *Wien. Verz.* 168. 13.

Papilio Typhon. *Esp. pap. tab.* 35. fig. 3. 4.

This is a local species : it is very abundant in some marshy parts of Lancashire ; but we have not learnt that it has been taken in any other part of the kingdom. Many of the curious in London are particularly indebted to Mr. Phillips, of Manchester, for enriching their cabinets with *Papilio Hero* ; for, though it is a plain Insect, it is esteemed for its rarity, few Entomologists having travelled into that part of the country to collect Insects.

P L A T E





P L A T E CLXXXVII.

PHALÆNA EXOLETA.

SWORD GRASS MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

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

Noctua.

Antennæ in both sexes, like a bristle.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax crested. Wings lance-shaped, varied with grey and brown, a kidney-shaped spot in the middle: four white spots on the anterior margin.

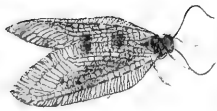
PHALÆNA EXOLETA: cristata, alis lanceolatis convolutis fusco cinereoque nebulosis, punctis quatuor marginalibus albis. *Fab. Syst. Ent.* 617. 116.—*Spec. Inf.* 2. 239. 144.

The beautiful Caterpillar of this Moth is found on Sword Grass in August. Though its trivial name implies that it is peculiar to this

this plant, several others are mentioned by authors as proper food for it, amongst these are the Bell flower*, Orach †, and common Pea. The Moth appears in May: frequents marshy places.

* Campanulae

† Atriplex.



P L A T E CLXXXVIII.

HEMEROBIUS CHRYSOPS.

NEUROPTERA.

Wings four, transparent, reticulated. Tail without a sting.

GENERIC CHARACTER.

Mouth armed with two teeth and four palpi. Wings deflected. Antennæ fetaceous. Thorax convex.

GENERIC CHARACTER

AND

SYNONYMS.

Greenish. Wings transparent, reticulated, with dark spots.

HEMEROBIUS CHRYSOPS: viridi nigroque varius, alis hyalinis: venis viridibus; lineolis nigris reticulatis. *Linn. Syst.*

Nat. 2. 912. 4.—*Fn. Sv.* 1505.

Geoff. Inf. 2. 254. 2.

Fab. Ent. Syst. t. 2. 83. f. 6.

Frisch. Inf. 4. 40. tab. 23.

Roef. Inf. 3. tab. 21. fig. 4.

Sulz. Hist. Inf. tab. 25. fig. 1.

This Insect was formerly held in great esteem amongst the English collectors, on account of its rarity; and has been purchased for their cabinets at a considerable price*. The late Mr. Bentley, who

* Half a guinea was the usual price for a pair of them.

had been more than twenty years endeavouring to make his cabinet the most complete in England, never met with it.

About three years since, they were taken in great plenty near London, both at Battersea and Highgate; and have been met with in other places since that time. Like the Ephemera, and other gauze-winged Insects, it delights in moist places, particularly among the reeds. The larva is unknown, but we suppose that it lives in that state in the water; and which most likely it does not leave till it becomes a winged creature. The larva of some species of this genus feed on the smaller kinds of Insects.

The wings are the most pleasing objects for the microscope that can be imagined: the reticulations and feathered edges are so transparent, that they may be examined with the deepest magnifiers, which is an advantage few objects of such a size possess. The magnified figure is given, with the natural size in the annexed plate.

Fabricius has erroneously quoted the seventh and eighth figure of the fifth plate of *Schæffer's Icones*, which is certainly no other than the common kind, *Hemorobius perla*, and which is so often found in gardens with a fine golden eye. The figure quoted in *Sulzer* and *Roefel* agree with our specimen.



P L A T E CLXXXIX.

P H A L Æ N A M E N T H R A S T I R I .

SPOTTED WHITE MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R .

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

Bombyx.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S .

White with black spots. Abdomen orange, with black spots.

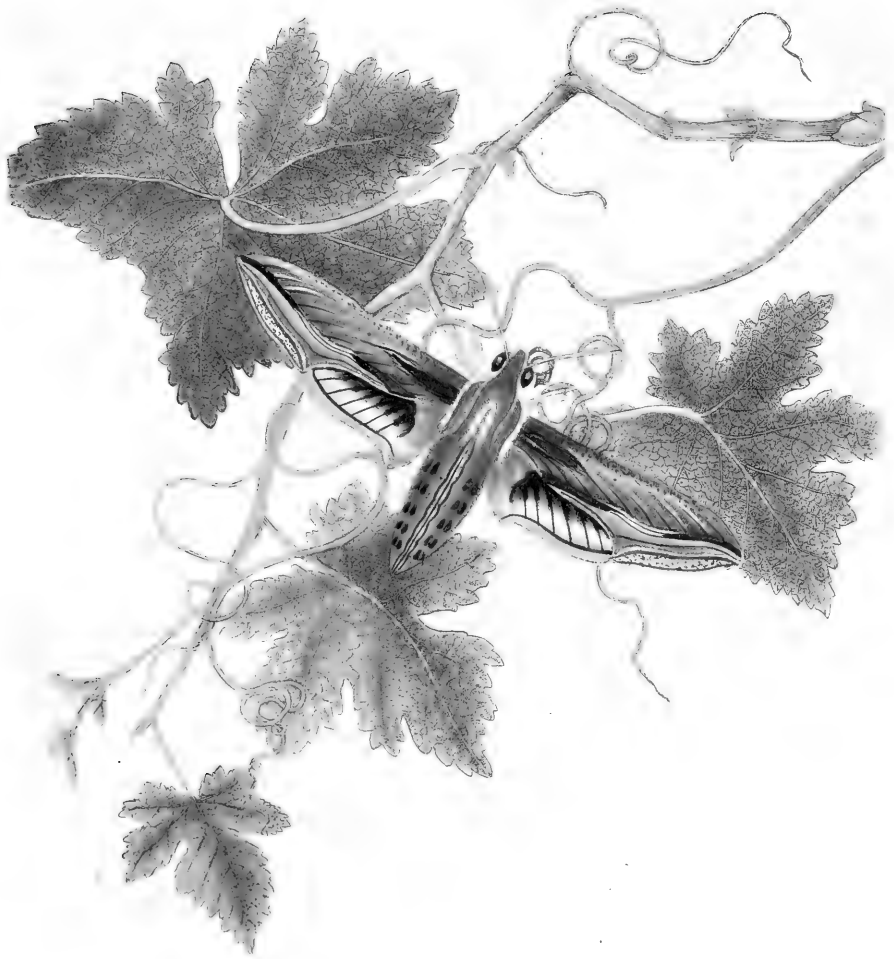
P H A L Æ N A M E N T H R A S T R I : alis deflexis albis nigro subpunctatis, abdominis dorso fulvo nigro punctato, femoribus anticis luteis. *Fab. Ent. Syst. T. 3. p. 1. 452. 140.*

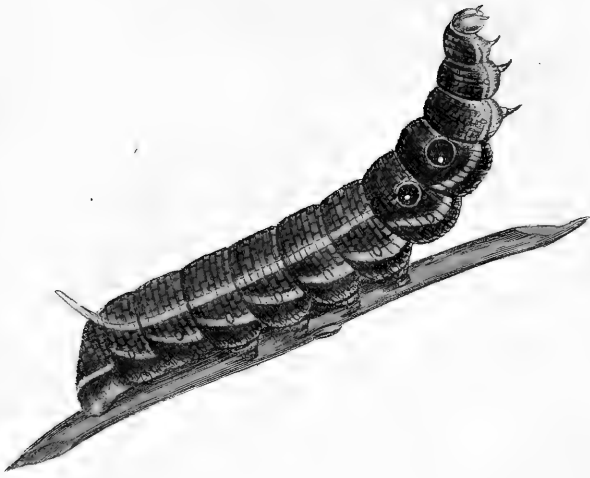
Bombyx Menthrastri. Wien. Verz 54. 2.—Roef. Inf. 1 Phal. 2. t. 46. Knoch. Beytr. 3. tab. 2. fig. 5. 13.

This Insect has been confounded with *Phalæna lubricipeda* by Linnæus; he makes it the variety β after De Geer. In this he has been followed by many other authors; and though Roefel, by giving the larva and pupa of each, in two distinct plates, evidently thought them different species, his observations had no weight with other Naturalists; even Fabricius, in his *Species Insectorum*, gives them
under

under one specific name. In his last work, *Entomologia Systematica*, he has divided them, leaving the *P. lubricipeda* under its former name, and giving the specific name *Menthrastri* to the white sort, as had been done in *Wien. Verz.* 54. 2. Fabricius mentions it as a native of Germany, but from the figure of Roefel no doubt can be entertained of its being precisely the same as our English species.

The Caterpillars of both sorts are very general feeders; they will eat, oak, fruit trees, and wild plants of almost every kind. They are common in the summer, change to chrysalis about August, and appear in the winged state in May and June; but, there is more than one brood of them in the course of the year, so that the time of their appearance is uncertain. The Caterpillars change their skins often; and change their colours at the same time. Those of *Phalæna Menthrastri* when small are a very light transparent brown: then brown with dark stripes. It is not black till it is in the last skin; and then, in many, the colour inclines to brown.





P L A T E C X C . C X C I .

S P H I N X C E L E R I O .

SILVER-STRIPE HAWK MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R .

Antennæ thickest in the middle. Wings, in general deflexed when at rest. Fly slow. Morning and evening only.

S P E C I F I C C H A R A C T E R

AND

S Y N O N Y M S .

First wings brown, with a broad oblique band of silver white extending from the posterior margin to the tip of the wing. Lower wings black, with six large red spots on each.

Sphinx Celerio: alis integris griseis: striis albis, posticis fuscus: maculis sex rubris. *Linn. Syst. Nat.* 2. 800. 12.

Fab. Ent. Syst. T. p. 1. 370. 43.

Roes. Inf. 3. tab. 8.

Frisch. Inf. 13. tab. 1. fig. 2.

Cram. Inf. 3. tab. 25. B.

The Sphinx Celerio stands pre-eminent in the list of the Insects of this country, whether we consider its rarity, or uncommon beauty. Indeed, amongst the Insects of this tribe that are brought from remote countries, even from Asia, which boasts the most splendid species, the varieties of Sphinx Celerio are often the most beautiful; it must however be owned, that, in countries where the

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climate,

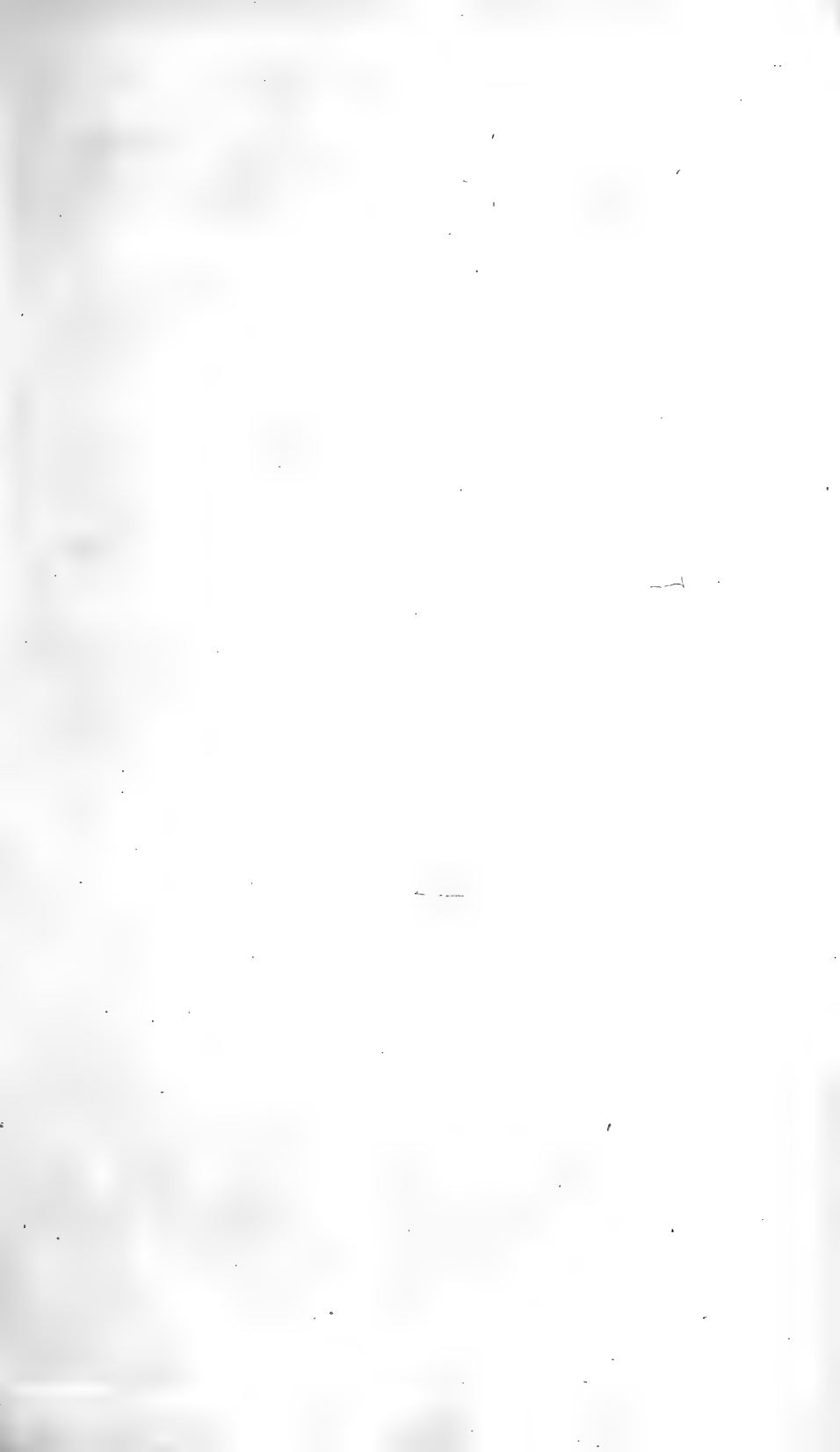
climate, and luxuriance of the soil contribute to enrich the juices of the plants on which the Insects are nourished, they are larger, and their colours more vivid than any of the same kind produced in the northern countries of Europe.

Several years since, Mr. Francillon, of Norfolk-street in the Strand, had a living specimen of this Insect brought to him: it was taken in Bunhill-fields burying-ground. It is still preserved in his cabinet.

We have heard of other specimens being taken in this country; but the only instance we can quote with confidence is, that Mr. Latham, formerly of Dartford, and well known for his scientific researches in natural history, has a specimen which was taken at Eltham, in Kent. Few collections of consequence are without this Insect, but they are in general natives of Germany.

Roefel has given a figure of this Sphinx, with its larva and pupa; and, as we could never reasonably expect to meet with it in these states in England, correct copies of his figures are given in Plate 191. The works of Roefel are not in the hands of many; and, we are convinced, that Plate will be acceptable to most of our readers.

Sphinx Celerio is found on the vine.





P L A T E CXCII.

PHALÆNA HEXAPTERATA.

SERAPHIM MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

First wings varied with brown and grey. Second pair white, with an appendage at the base of each, resembling a small wing.

PHALÆNA HEXAPTERA: feticornis alis fusco griseoque variis: posticis albis basi duplicatis. *Fab. Ent. Syst. Tom. 3. p. 2. 193. 233.*

Phalæna Hexapterata. *Wien. Verz. 109. 10.*

Fabricius has given an accurate description* of this extraordinary Insect; but he makes no reference to any work that contains a figure of it. The nineteenth plate of Kleman's Continuation of Roessel's *Insecten-Belustigungen*, entitled *Insecten-Geschichte*, certainly

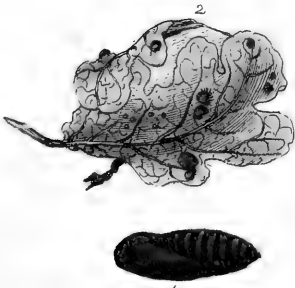
* Media. Alæ anticæ griseæ, fusco undatæ imprimis basi apiceque, in medio parum dilutiores lunula fusca. Posticæ albæ ad basin ala notha, rotundatæ, albæ, immaculatæ. Subtus omnes cineræ purisimo medio, fusco.—*Fab.*

escaped his notice; for in that plate we find both sexes, Figures *a*, *b*: from this account we learn that *Phalæna Hexapterata* is a native of Germany. The female has four wings: the male appears at first sight to have six, which is more than any tribe of Insects are furnished with; a small appendage very much resembling a wing, and of the same texture, arises from the base of the second pair of wings next the abdomen. The nerves of the true wing ramify into this appendage; which when the Insect is expanded, give it most singular appearance. In the annexed plate this appendage is magnified, to enable us more accurately to exhibit its true form and tendons.

Our specimen was taken on Epping Forest in 1795. It is very rare in England. Fabricius says it feeds on the Beech*.

* Habitat in *Fago Sylvatica*.





P L A T E CXCIII.

PHALÆNA PYRAMIDEA.

COPPER-UNDERWING MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

First wings dark brown, with three waved stripes of yellowish colour across the upper wings. Second wings ferruginous brown.

PHALÆNA PYRAMIDEA. *Noctua cristata*, alis fuscis, strigis tribus undatis flavescens repandis, posticis ferrugineis. *Linn. Syst. Nat.* 2. 856. 181.—*Fab. Spec. Inf.* 2. 232. 119.—*Ent. Syst.* I. 3. p. 2. 98. 290.

Phalæna feticornis spirilinguis, alis deflexis, superioribus fuscis, lineis transversis undulatis nigris, inferioribus ferrugineis. *Geoff. Inf.* 2. 160. 99.

Phalæna media, alis longis angustis, exterioribus linealis et areolis nigris, albis atro rubentibus transversis pulcre depictis, interioribus obscure rubris. *Raj. Inf.* 159. 9.

The singular pyramidal protuberance on the posterior part of the Caterpillar has furnished an excellent specific name for the perfect Insect. It is found on the Oak, Sallow, and Blackthorn in May ;

changes to the pupa state the first week in June; the Moth comes forth in July. The Caterpillar spins a fine white filken web between two or three leaves in the manner represented in the plate at Fig. 1. Fig. 2. the chrysalis, which the web envelopes. *Phalæna pyramidea* is not a common species in this country.



P L A T E CXCIV.

CHRYSOMELA FASTUOSA.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ like a necklace of beads, encreasing in bulk towards the ends. No margin round the elytra or thorax.

SPECIFIC CHARACTER

AND

SYNONYMS.

Oval, shining like gold, with three longitudinal stripes of blue on the shells.

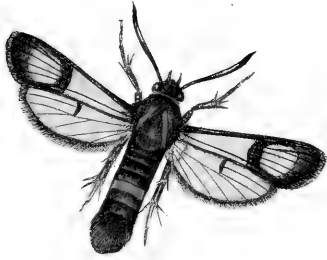
CHRYSOMELA FASTUOSA; ovata aurea, coleoptris lineis tribus coeruleis. *Fab. Syst. Ent.* 101. 36.—*Spec. Inf.* 1. 124. 48.—*Linn. Syst. Nat.* 2. 588. 18.

Chrysomela viridis nitida, thorace antice excavato, fasciis elytrorum longitudinalibus coeruleis. *Geoff. Inf.* 1. 261. 11.

Coccinella fastuosa. *Scop. Ent. carn.* 232.

This beautiful Insect is rarely taken in England: we sometimes receive it from Germany, where it is more common; a variety of it is also a native of North America.

The natural size is shewn at Fig. 1. In some specimens blue is the predominant colour, in others a fine bronze or golden hue; the sexes are distinguished by the colours in many instances.



P L A T E C X C V .

S P H I N X Z O N A T A .

RED-BELTED SPHINX.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R .

Antennæ thickest in the middle. Wings when at rest deflexed, Fly flow, morning and evening only.

S P E C I F I C C H A R A C T E R .

Wings transparent, veined, margined with a band, or streak of black. Abdomen bearded at the extremity, black; with one segment in the middle, red.

This is clearly an undescribed Insect. It bears the strongest affinity to the *Sphinx Tipuliformis* of Linnæus; but as the zone or belt of red colour is an unerring distinction of our Insect, it cannot belong to that species. Fabricius having separated the Linnæan sphinges into three new genera, *Sphinx*, *Sesia*, and *Zygaena*, this Insect must be included under the genus *Sesia* of his system; two of the species he has described under that head, *S. culiciformis* and *Anthrediniformis* bear some resemblance to our *Sphinx Zonata*, but are certainly distinct species.

Sphinx Zonata is rare in England; the natural size is shewn at Fig. I. of the annexed plate. The fine purple appearance of the body disappears in specimens that have been kept long in a cabinet.

1901

1892 - 1894

1895 - 1897

1898 - 1900

1901 - 1903

1904 - 1906

1907 - 1909

1910 - 1912

1913 - 1915

1916 - 1918

1919 - 1921

1922 - 1924

1925 - 1927

1928 - 1930

1931 - 1933

1934 - 1936



P L A T E C X C V I .

P H A L Æ N A W A U A R I A .

L, or GOOSEBERRY MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R .

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

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S .

Wings grey: four black, irregular stripes on the interior part of the upper wings; one resembling letter L.

PHALÆNA WAUARIA: pectinicornis, alis cinereis, anticis fasciis quatuor nigris abbreviatis inæqualibus. *Linn. Syst. Nat.* 2. 863. 219.—*Fn. Sv.* 1248.—*Fab. Spec. Inf.* 2. 249. 43.

Phalæna minor, alis amplis cinereo albicantibus 4 in exteriorum margine maculis linearibus e rufo nigricantibus. *Raj. Inf.* 179.

Merian Europ. I. tab. 25. fig. 151.

Frisch. Inf. 3. tab. 3. fig. 1.

Roef. Inf. 1. phal. 3. tab. 4.

Wilks Pap. 52. tab. 2. a. 2.

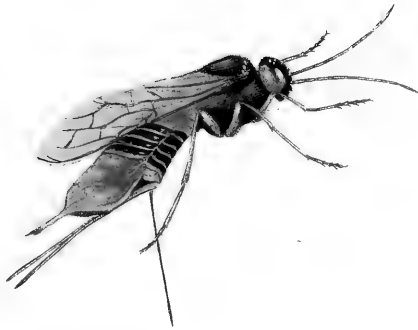
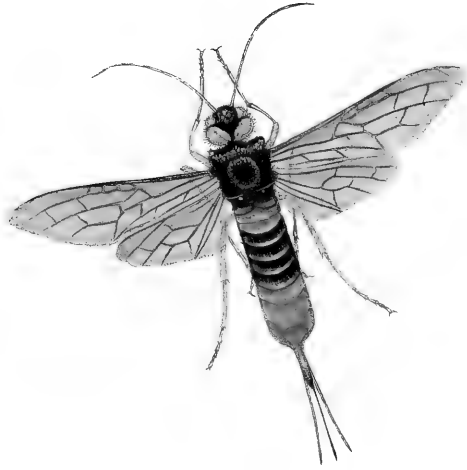
Ammiral. Inf. tab. 13. fig. 2. 3.

Except

Except *Phalena Grossulariata**, figured in the early part of this work, few species are more common than this, on the smaller kinds of fruit trees, but particularly the Gooseberry. Harris calls it the L Moth from a supposed resemblance of that letter in some of the dark marks on the upper wings.

The young Caterpillars appear almost as early as the leaves, and change to chrysalis late in may; in this state they remain about twenty days before the Moth is produced.

* Currant Moth.



P L A T E C X C V I I .

S I R E X G I G A S .

L A R G E S T T A I L E D W A S P .

H Y M E N O P T E R A .

G E N E R I C C H A R A C T E R .

Two strong jaws. Palpi two. Antennæ filiform, of about twenty-four joints. Sting projected, ferrated like a saw. Abdomen terminate in a spine. Wings lance-shaped.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S .

Abdomen of nine segments; the 3, 4, 5, 6, black; the others yellow. Thorax hairy.

SIREX GIGAS abdomine ferrugineo: segmentis. 3. 4. 5. 6 nigris, thorace villoso. *Linn. Syst. Nat.* 2. 928. 1.—

Fn. Sv. 1573.

Fab. Ent. Syst. 2. p. 124. 139.

Roes. Inf. 2. *Vesp. tab.* 8. 9.

Sulz. Inf. tab. 18. *fig.* 114.

Schæff. Icon tab. 1. *fig.* 2. 3.

Reaum. Inf. 6. *tab.* 31. *fig.* 1. 2.

Degeer Inf. 1. *tab.* 36. *fig.* 1. 2.

Seb. Mus. 4. *tab.* 53. *fig.* 15.

The *Sirex* genus, as it stands in the *Entomologia Systematica* of Fabricius, includes only twenty-six species; these are chiefly European Insects; but very few are natives of this country. The *Sirex Gigas* is found in the north of Europe; it has been taken in England, but very rarely: Yeats and Berkenhout mention it as a British species, and we have been informed that it is sometimes taken in Scotland. It is likely to be met with in Pine forests, as the female seems to prefer that wood to deposit her eggs in. As no English Entomologist has attempted to describe the peculiar habits of this tribe of Insects, and especially of *Sirex Gigas*, the following particulars may be satisfactory to our readers.

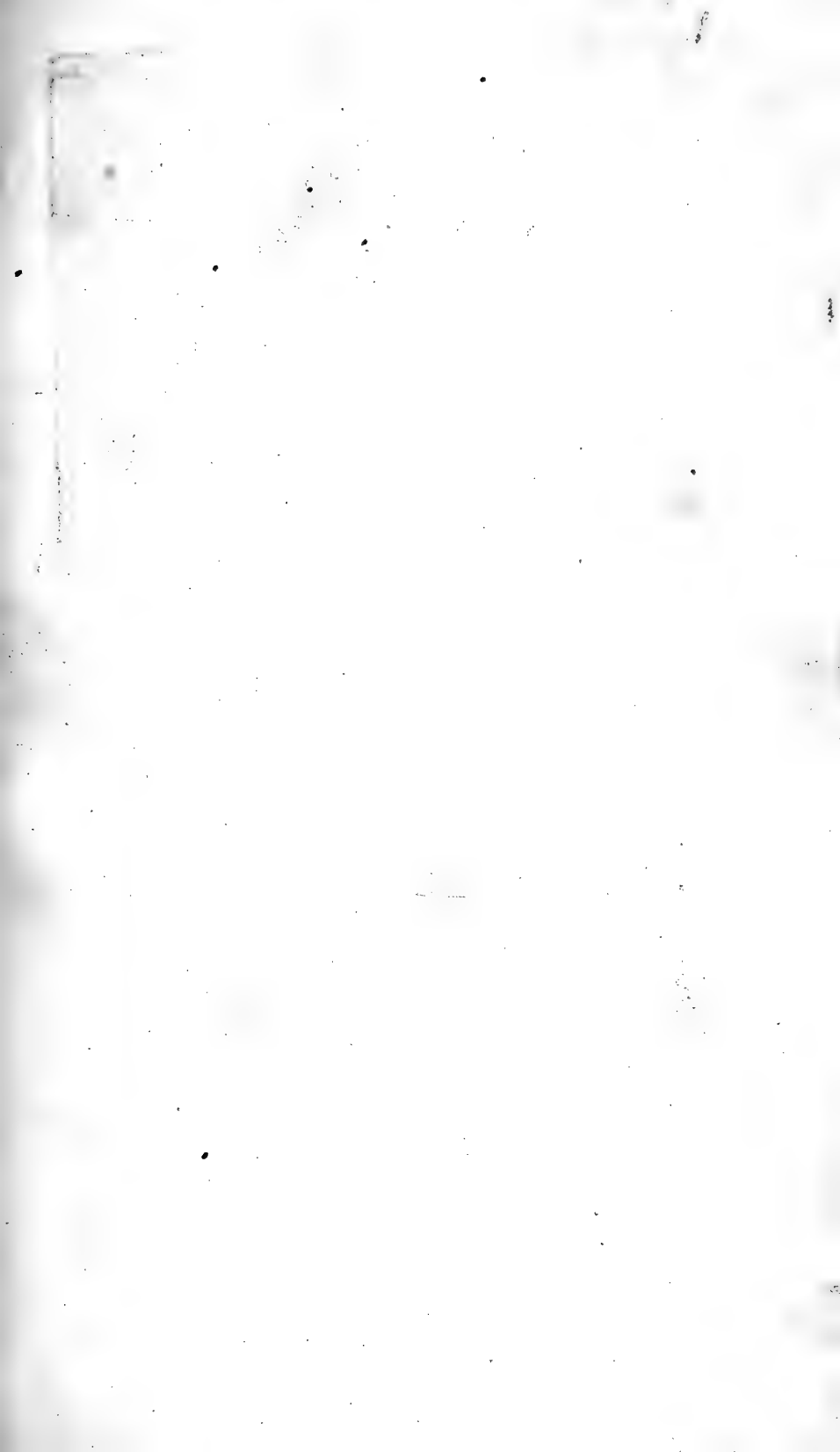
The extensive forests of Germany furnished the accurate Roefel with many opportunities of finding and observing the metamorphosis of Insects that are rarely to be found in other parts of Europe; and this enabled him to favour the world with a particular description and series of figures of all the changes of *Sirex Gigas*, in the *Bombyliorum et Vesparum* of his *Insecten Belustigung*. His figure of the female Insect agrees with that we have given; the male is considerably smaller, and has no sting*. The sting of the female consists of three parts, a sheath which divides into two parts or valves, and a fine instrument somewhat resembling a needle; it is with this instrument it wounds its enemies, and the sting is said to cause an excruciating pain. The microscope discovers this part to be beset with a number of very minute teeth, like the edge of a saw: with this sting the creature can pierce the wood of sound trees; for we suspect, it does not always deposit its eggs in such as are decayed, but rather in such as will supply the larva with nourishment when it is hatched. The eggs are laid in clusters of two or three hundred together; they are of a pale yellow colour, about the thirtieth part of an inch in length, and shaped like a weaver's shuttle. The larva lives in the body of the tree, enlarging its habitation as it increases in size, for it never leaves the tree till it becomes a winged creature.

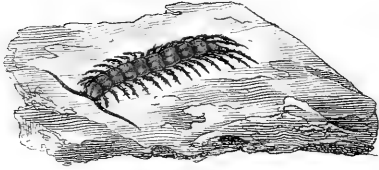
* This is a generical distinction.

The larva when full grown is about an inch and a quarter in length, and as thick as a goose quill. It is a heavy sluggish creature, almost cylindrical, the head very small, and the whole of an uniform pellucid yellowish colour. It has a small spine at the end of the body like those by which the larva of some spingies are distinguished: this spine is also a striking character in the perfect Sirex. In the pupa the form of the winged creature is more visible than in the larva state; it is of a browner colour than the larva, and the rudiment of the wing and legs are very visible.

In the early editions of the *Systema Naturæ* of Linnæus, the sirices are arranged with the ichneumons in one genus; but later observations induced Linnæus to make two genera of them in his last works. *Geoffroy* and *Schæffer* have added some particulars to the Linnæan generic character; these principally relate to the number of joints in the tarsi.







P L A T E C X C V I I I .

SCOLOPENDRA FORFICATA.

APTERA.

WITHOUT WINGS.

GENERIC CHARACTER.

The same number of feet as segments of the body. Antennæ fetaceous. Palpi two, jointed. Body depressed or flat.

SPECIFIC CHARACTER

AND

SYNONYMS.

Feet fifteen on each side.

- SCOLOPENDRA FORFICATA : pedibus utrinque 15. *Linn. Syst. Nat.*
 2. 1062. 3.—*Fn. Sv.* 2064.—*Geoffr. Inf.* 2. 674. 1.
 —*Fab. Spec. Inf.* 2. 532. 3.—*Ent. Syst.* 2. 390. 4.
Scolopendra rufo fusca, pedibus utrinque 15. *Degeer Inf.* 7. 557. 1.
tab. 35. *fig.* 12.
Sulz. Inf. tab. 24. *fig.* 155.
Schæff. I. pl. 46. 12.
-

This singular creature not only changes its skin several times ; but, as it advances in age the segments of which the body is composed increase in number : the Insect when full grown has nine such segments. Linnæus mentions it as a native of America : in many

parts of Europe it is not uncommon: in England it is found under loose stones in damp places, and runs swiftly.

Fabricius has made a false quotation under this species to the *Fundamenta Entomologica* of *Schæffer*; as errors will occur in the most accurate works, we should not deem it necessary to notice this circumstance, if he had not continued the same mistake from his *Species Insectorum* published in 1781 to his last work *Entomologia Systematica, emenda et aucta, &c.* published in 1793.—his reference is *Schæff. Elem. tab. 3. fig. 1.*—On examining that part of *Schæffer's* works, we find the figure he quotes is a spider! *Scolopendra forficata* is given in the 46th plate of Vol. I. of that author's *Icones Insectorum circa Rastibonam indigenorum, &c.* as quoted amongst the synonyms above.

The *Scolopendra forficata* is, we believe, the largest of the genus found in this country. In many parts of the world, some kinds are found of a frightful size and aspect; the *Scolopendra Morfitans* of the East-Indies, is about five inches in length, and as thick as a goose quill. Sir G. Staunton, in his *Historical Account of the Embassy to China*, mentions the *Scolopendras* and scorpions of that country: we have one species of the former from China that exceeds in magnitude every one of the genus we have seen from other parts of the world, and is perhaps the largest known; it is near one foot in length, and is about one inch and an half round the girth of the body; the colour is of a fine shining chestnut brown, the legs inclining to yellow. The most singular Insect of this kind in England is the *Scolopendra electrica*, which sometimes emits a spark or flash of light in the dark.

Fig. I. represents the underside of the head and antennæ, magnified.



P L A T E C X C I X .

P A P I L I O C. *album*.

COMMA BUTTERFLY.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R .

Antennæ terminate in a club. Wings, when at rest, erect. Fly by day.

S P E C I F I C C H A R A C T E R

AND

S Y N O N Y M S .

Wings deeply scalloped, angulated, reddish brown, with black spots. Beneath, a white spot resembling letter C on the under wings.

PAPILIO C. *album*: alis angulatis fulvis nigro maculatis, posticis subtus. C. albo notatis. *Lin. Syst. Nat.* 2. 778. 168.—*Fn. Sv.* 1059.—*Fab. Spec. Inf.* 2. 93. 409.

Robert. Icon. tab. 23.

Merian. Europ. tab. 14. fig. 1.

Reaum. Inf. 1. tab. 27. fig. 9. 10.

Harris Aurel. tab. 1. fig. a—d.

Roes. Inf. 1. pap. 1. tab. 5.

Esp. pap. 1. tab. 13. fig. 3.

Bergstræff. Inf. 2. tab. 38. fig. 1—5.

Seb. Musf. 4. tab. 1. fig. G.

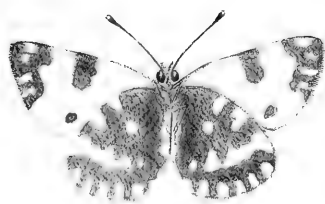
In colours and markings the Comma Butterfly seems at first sight allied to *Papilio Urticæ* (*Tortoiseshell Butterfly*), but the elegant scallops of the margins of the wings sufficiently distinguishes it

F

from

from every other British species: indeed wings indented in this remarkable manner are rarely seen in any Insects, those from foreign countries not excepted. *Papilio Gaureum*, a native of Asia according to Fabricius, and figured amongst the Insects found in North America, by *Abbot*, approaches nearer to it than any distinct species we are acquainted with. The larva is known by a broad white space on the back that extends from the posterior extremity to the eighth joint of the body: it has one peculiarity that must not be omitted; when it is suspended by the tail from a small twig or leaf, the head is bent upwards, and the whole creature perfectly resembles hook.

There is more than one brood of this species in a year: the Butterflies are generally found in June, the second brood late in August. The Caterpillars are sometimes found in February, but oftener in July; they remain about a fortnight in chrysalis.



P L A T E C C.

PAPILIO DAPLIDICE.

BATH-WHITE BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ terminate in a club. Wings erect when at rest. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings round, white. Margin brown, underside marked with yellow, green, and white spots.

PAPILIO DAPLIDICE : alis integris rotundatis albis, margine fuscis, subtus luteo griseis albo maculatis. *Lin. Syst. Nat.* 2. 760. 81. *Papilio Daplidice. Pall Spicil. fasc. 9. tab. 2.*

Cramer Inf. 15. tab. 171. fig. C. D.

Seb. Mus. 4. tab. 23. fig. 11. 12. 15. 16.

Schæff. Icon. tab. 79. fig. 2. 3.

Petiv. Gazoph. tab. 1. fig. 7.

In a former description we have noticed the locality of one species of the Butterfly tribe (*Pap. Hero*) in this country; of the *Pap. Daplidice* we have also to observe, that it is only found in the environs of Bath. We have been informed that it is found in some part

part of Scotland, but our information does not fully authorize us to give it as a native of that part of the British empire. If it is any where common, it is in Germany and in Hungary. It is found in Africa, and we have also a variety of it from North America. Fabricius does not mention it as a native of England; and it is so scarce with us that few English cabinets have a specimen of it. The trivial appellation *Bath-White* Butterfly has been given to it by some English Entomologists. The small number of foreign authors who have figured this species sufficiently notes its scarcity in Europe, and we are not acquainted with the works of any English author that has a figure of it.



P L A T E C C I.

PANORPA COMMUNIS.

NEUROPTERA.

GENERIC CHARACTER.

Beak horny, cylindrical. Palpi 2.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings, equal length, spotted with black.

PANORPA COMMUNIS: alis æqualibus nigro maculatis. *Lin. Syst.*

Nat. 2. 915. 1.

Fn. Sv. 15. 16.

Geoff. Inf. 2. 260. 1. *tab.* 14. *fig.* 2.

Degeer. Inf. 2. 2. 86. *tab.* 24. *fig.* 3. 4.

Reaum. Inf. 4. *tab.* 8. *fig.* 9.

Sulz. Hist. Inf. *tab.* 25. *fig.* 5, 6.

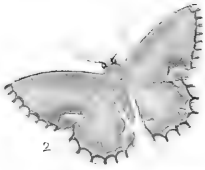
Schæff. Icon. *tab.* 88. *fig.* 7.

The *Panorpa communis* is very common in fields in the summer. Its metamorphosis is entirely unknown.

The tail of the male is armed with a weapon, somewhat resembling the sting of a scorpion. The tail of the female has an appendage, but very different in its structure. Those parts of both sexes are represented in our plate, of the natural size, and magnified.

THE UNIVERSITY OF CHICAGO





P L A T E C C I I .

FIG. I.

P H A L Æ N A D I T A R I A .

MAID OF HONOR MOTH*.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R .

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

S P E C I F I C C H A R A C T E R

AND

S Y N O N Y M S .

Antennæ feathered. Wings green, with brown spots near the margins.

P H A L Æ N A D I T A R I A : pectinicornis alis viridibus: maculis marginalibus ferrugineis. *Fab. Ent. Syst.* 3. p. 2. 152. 82.

Phalæna bajularia: *Wien. Verz.* 97. 6.

This appears to be a local species. It has been found for many years past in the month of June, near the Oak of Honor, by Peckham. We have never heard that it has been taken in any other place in England.

* *Harris's Catal.* 31. 218.

Fabricius refers only to one author for this species. He says it feeds on the oak. We are uncertain whether it has ever been figured in any work before.

FIG. II.

PHALÆNA ALBICILLATA.

CLIFDEN BEAUTY.

LEPIDOPTERA.

PHALÆNA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ fetaceous. Wings whitish in the disk, with a broad margin of pale black. A large dark spot on the interior part of the upper wings.

PHALÆNA ALBICILLATA: feticornis alis omnibus nigricantibus: fascia lata alba immaculata. *Linn. Syst. Nat.* 2. 870. 255.—*Fn. Sv.* 1278.—*Fab. Ent. Syst.* 3. 182. 190. *Clerk. Icon. tab.* 1. fig. 12. *Knoch. Beytr.* 1. 40. 1. tab. 2. fig. 8.

The trivial appellation, *Clifden Beauty*, has been given to this Insect by some early English entomologists, who had not met with it in any other part of the country. It has since been taken in several other parts of the kingdom; but in Kent particularly. Clerk deemed it worthy of a place among his rarities; and it is still considered an exceeding scarce and fine species. Our specimen was taken in June, 1797, in Darent Wood, Dartford.

F I G . I I I .

P H A L Æ N A P O R C E L L A T A .

C L I F D E N B E A U T Y L I K E N E S S .

L E P I D O P T E R A .

P H A L Æ N A .

S P E C I F I C C H A R A C T E R

A N D

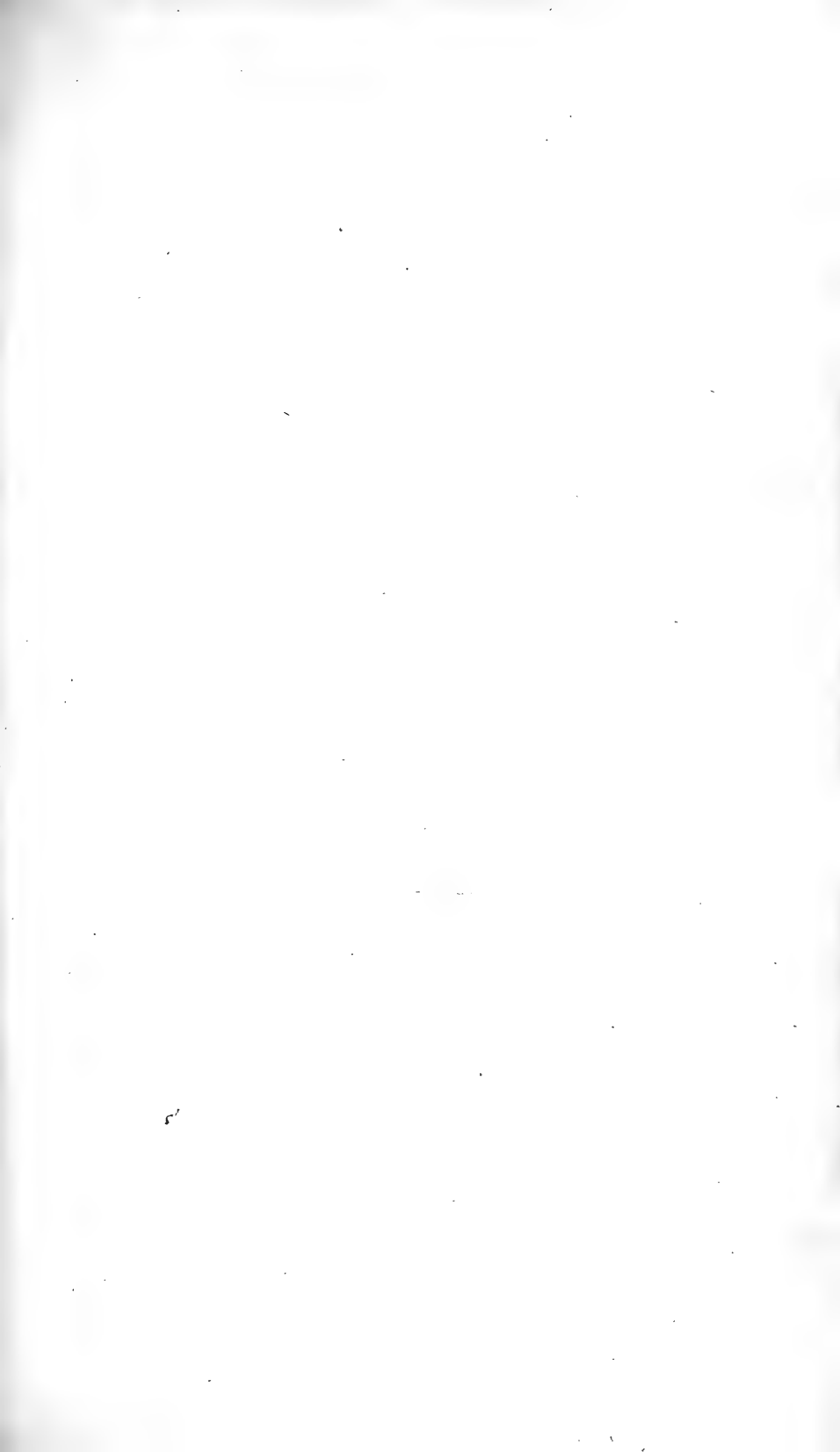
S Y N O N Y M S .

Antennæ fetaceous. First wings white, with three brown bands, a white spot on the exterior one. Second wings white, with a brown margin.

P H A L Æ N A P O R C E L L A T A : feticornis alis anticis albis: fasciis tribus fuscus; media dimidiata, postica marginali: macula alba. *Fab. Ent. Syst.* 3. 185. 201.

Phalæna Porcellata. *Wien. Verz.* 114. 1.

The similarity of this to the foregoing species, induced us to figure both on the same Plate. Phalæna Porcellata is very common in summer. It appears in the winged state about the latter end of May. Linnæus has not described this Insect. Fabricius has given its specific character, above quoted. We suspect that it has not been figured by any author.





P L A T E C C I I I .

F U L G O R A E U R O P Æ A .

EUROPEAN LANTERN CARRIER.

HEMIPTERA.

G E N E R I C C H A R A C T E R .

Forehead elongated. Antennæ below the eyes, consist of two articulations. Beak or rostrum bent inwards under the body.

S P E C I F I C C H A R A C T E R

AND

S Y N O N Y M S .

Fore part of the head conic, body green. Wings transparent, reticulated.

FULGORA EUROPEA: fronte conica, corpore viridi alis hyalinis reticulatis. *Linn. Syst. Nat.* 2. 704. 9.
Fab. Ent. Syst. 4. p. 6. 19.
Sulz. Hist. Inf. tab. 9. fig. 5.
Stoll. Cicad. 1. tab. II. fig. 51.

Simple as this little creature may appear to the general reader, the Entomologists of this country esteem it a rarity; for it was not imagined that England produced any species of its singular genus till lately.

Mr. Yeats, in his *Institutions of Entomology*, mentions two species of it that have been caught in this country; one by Mr. *Hudson*, author of the *Flora Anglica*, the other by Mr. *Grey*. It is to be lamented, that he does not inform us precisely what were the species. We learn that *Fulgora Europæa* was the Insect taken by Mr. *Hudson*; the other seems undetermined.

The *Fulgora Europæa* very much resembles some of the *Cicadæ* in form and size, and have, therefore, been probably overlooked by English collectors of Insects. *Fabricius* describes it as a native of France and Germany; but it is very scarce in cabinets of foreign Insects also. Perhaps it is not common in any country.

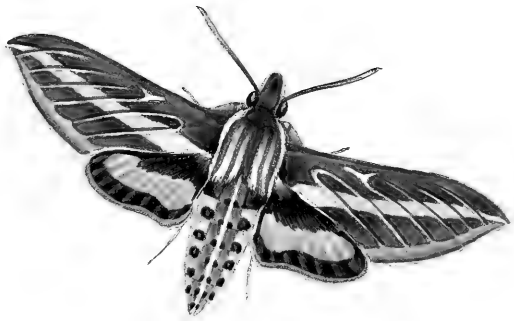
This species does not exhibit any prominent features of its singular genus; it has only a small conic hollow projection, or lantern, on the fore-part of the head, instead of the large projection that characterise most of the exotic *Fulgoræ*. It is not unlikely, however, that it may possess, though in a small degree, the astonishing property of diffusing a radiance of light, which particularly distinguish *F. Lanternaria* of South America, *F. Candelaria* of China, and several other species. The light of some of these Insects, according to the reports of Naturalists, and travellers in foreign countries, is sufficiently vivid and constant to answer many purposes. Some of the Catholic missionaries assert, that they could see distinctly to read and write by the light of one of them; and that several of them being fastened together, serve to light the Indians when they travel in the night.

The rostrum, or beak, through which the *Fulgoræ Europæa* (like others of the same genus) sucks its nutriment, seems to form a part of the hollow projection in the front of the head; the tube lays close to the belly, between the six legs. To explain the singular structure of this tube or rostrum, we have given a front and a profile view of it as it appeared under the lens of a microscope.

Our specimen is altogether green, except the wings; the reticulations of which are also of the same colour; and as in Sulzer's figure, the clear parts of the wings were strongly tinged with green also.



2



1

P L A T E C C I V .

FIG. I.

SPHINX LINEATA.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ thickest in the middle. Fly slow morning and evening only.

SPECIFIC CHARACTER

AND

SYNONYMS.

First wings greenish, or olive colour, with bands and streaks of white. Second wings black with a broad red band on each.

SPHINX LINEATA: alis virescentibus: fascia striisque albis, posticis nigris; fascia rubra. *Fab. Ent. Syst. t. 3. p. 1. 368. 39.*

Sphinx Daucus Cram. Inf. II, tab. 125. fig. D.

Sphinx Koechlini. *Fuess. Arch. 1. tab. 4.*

This fine Insect is a native of Europe and America. It has a place in every cabinet of English Insects; but on what authority it will be difficult now to determine. It is highly probable, that the testimony of its discovery in England is now forgotten, like that of *Papilio Podalirius*, figured in another part of this work.

The following description of its Caterpillar, which we have seen preserved, and in foreign drawings, will enable the curious in Insects to search after it with, at least, a distant chance of success. The

general colour of the Caterpillar is green, varied with yellow; and some streaks and spots of red down the back; it has also a large black spot on each side every segment; the head is black; and it has a spine, or tail. This is the appearance of it in one skin; it casts its skin several times, and will therefore vary in some degree from this account.—The pupa is yellowish brown, speckled with black. It feeds on *Ladies Bed-straw*, *Madder*, *Goose-grass*, &c.

FIG. II.

PHALÆNA STATICES.

FORRESTER.

LEPIDOPTERA.

SPHINX.

SPECIFIC CHARACTER.

First wings green blue; second brown.

SPHINX STATICES: *Linn. Syst. Nat.* 2. 808. 470.—*En. Sv.* 1098.ZYGONA STATICES: viridi cœrulea alis posticis fuscus. *Fab. Ent.**Syst. T.* 3. p. 1.406. 68.*Geoff. Inf.* 2. 129. 40.*Robert. Icon. tab.* 30. fig. 1.*Petiv. Mus.* 35. 329.*Schæff. Icon. tab.* 1. fig. 9.*Esp. Inf.* 2. tab. 18. fig. 2.

Found in the winged state in May.—Frequents meadows. The larva is described of a very deep black, with a line of white down the back, and some lunar spots of the same colour in different parts. It feeds on docks.



P L A T E CCV.

FIG. 1. 1.

CURCULIO LAPATHI.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ clavated, elbowed in the middle, and fixed in the snout, which is prominent.

SPECIFIC CHARACTER

AND

SYNONYMS.

Snout long, two teeth on the thighs. White and black varied. Thorax and wing cases rough with prickles.

CURCULIO LAPATHI: longirostris femoribus bidentatis albo nigroque variis, thorace elytrisque muricatis.—*Linn. Syst. Nat.* 608. 20.—*Fn. Sv.* 591.

Fab. Ent. Syst. 1. 429.

Curculio Lapathi: *Oliv. Inf.* 83. fig. 69. 6.

Degeer Inf. 5. 223. 16. tab. 7. fig. 1. 2.

Found on the Willow in May.

The figures 1. 1. exhibit the natural size and magnified appearance.

FIG.

FIG. 2. 2.

CURCULIO HORTULANUS.

COLEOPTERA.

CURCULIO.

SPECIFIC CHARACTER

AND

SYNONYMS.

Nearly globular. Ash colour, with two black spots on the longitudinal future of the wing cases.

CURCULIO HORTULANUS: subglobosus cinereus, punctis duobus nigro futuræ longitudinalis coleoptorum.—*Geoff. I.* 298. 48.

Villers. I. 202. 118.

Fabricius has omitted this species in his works, though Geoffroy and Villers have both described it. It is found on plants of the scrophularia genus (figwort.)

FIG.

FIG. 3. 3.

CURCULIO AVELLANÆ.

COLEOPTERA.

CURCULIO.

SPECIFIC CHARACTER.

Black. A lunated, oblique, whitish mark near the base, and a white spot near the apex of each wing case.

CURCULIO AVELLANÆ: nigra elytris basi interne lunula fasciaque ante apicem albis.

This minute Insect seems to form an intermediate species between *Salicis* and *C. Caprea*. It is an undescribed Insect. In the MS. of T. Marsham, esq; it stands under the specific name *Avellanæ*.— Was found on the Willow in June.



P L A T E CCVI.

PAPILIO IO.

PEACOCK BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clubbed at the end. Wings erect when at rest. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings angulated, indented. Bright brown, with spots of black. A large blue eye on each wing.

PAPILIO IO: alis angulato dentatis fulvis nigro maculatis: singulis ocello coeruleo.—*Linn. Syst. Nat.* 2. 769. 131.—*Fn. Sv.* 1048.—*Fab. Ent. Syst.* 1. 3. p. 4. 88. 276.
Roef. Inf. 1. pap. 1. tab. 3.
Wilk. Pap. tab. 3. a 2.
Reaum. Inf. 1. tab. 25. fig. 1. 2.
Schæff. Icon. tab. 94. fig. 1.
Merian. Europ. 1. tab. 26.
Albin. Inf. tab. 3. fig. 4.
Goed. tab. 1. fig. 23.
Esp. Pap. 1. tab. 5. fig. 2.

We have not a more beautiful Insect in this country than the Peacock Butterfly. It is, indeed, too common to claim the particular notice of Entomologists; but to those who admire most the splendid species of this beautiful tribe of creatures, it will probably prove acceptable. The underside is entirely of a shining dark colour, with innumerable waved streaks of black. The upper side is represented in the annexed plate.

The Caterpillars, which are black, beset with spines, and elegantly marked with rows of white spots, are frequently found feeding on the nettles, and other low herbage by the sides of ditches. They change to the chrysalis state the first week in July, and appear in the winged state twenty-one days after.





P L A T E C C V I I .

JULUS TERRESTRIS.

APTERA.

GENERIC CHARACTER.

Feet on each side double the number of the segments of the body.
 Antennæ beaded Palpi 2. jointed. Body femicircular.

SPECIFIC CHARACTER

AND

SYNONYMS.

Feet 200.

JULUS TERRESTRIS: pedibus utrinque 100. *Linn. Syst. Nat.* 2.
 1065. 3.—*Fn. Sv.* 2066.—*Fab. Ent. Syst.* I. 2. 394. 8.
Degeer Inf. 7. 578.
Geoff. Inf. 679. 1.
Frisch. Inf. 2. tab. 8. fig. 3.
Sulz. Inf. tab. 24. fig. 156.
Sulz. Hist. Inf. tab. 30. fig. 15.

This singular creature is found of a vast magnitude in foreign countries. We possess one of that kind between four and five inches in length. In Europe, or at least in England, they are feldom considerably larger than the annexed figure.

It has two pair of feet to every segment of the body. These are very minute, but give a remarkable appearance to the Insect. It is found in damp places, generally under stones.





P L A T E CCVIII.

P H A L Æ N A F I M B R I A.

BROAD-BORDERED YELLOW-UNDERWING MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R.

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

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

N O C T U A.

Thorax crested. First wings clay-colour, marked with obscure bands or streaks. Second wings reddish orange, with a broad bar of black.

P H A L Æ N A F I M B R I A: cristatata alis plavis griseo fasciatis; posticis helvolis: macula lineari atra. *Linn. Syst. Nat.* 2. 842. 123.—*Fab. Ent. Syst. T.* 3. p. 2. 59. 165.
Wien. Verz. 87. 18.
Schreb. Inf. fig. 9.

This rare Insect is distinguished from two very common species that are allied to it, by the broad border of black on the under wings, as its trivial name implies. In the larva state, it is one of that kind collectors denominate under-ground feeders: subsisting chiefly on the roots of grass, and never coming out of the ground till the evening, for which reason it is very rarely taken.

The Moth is very delicate in its appearance ; the Caterpillar quite plain. Our specimen changed to crysalis early in May, and produced the moth in the middle of June.

Fabricius was not informed that it was a native of this country, as appears by his last work, in which he describes it only as a native of Germany.



P L A T E CCIX.

CERAMBYX LINEATOCOLLIS.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ articulated, diminishing in size towards the end. Thorax gibbous, or spined on the sides. Elytra narrow, and of equal breadth.

SPECIFIC CHARACTER.

Entirely covered with hair, greenish. Thorax unarmed with spines, cylindrical, marked with yellow lines, shells without spots, brown.

CERAMBYX LINEATOCOLLIS: villosus viridescens, thorace mutico cylindrico flavo-lineato, elytris immaculatis fuscis.—
Marsham's MS.

We must consider this as a new British species of *Cerambyx*, neither Linnæus nor Fabricius having given any description of it. It is described only in the manuscripts of T. Marsham, Esq. whose accurate definition of its characters we have adopted.

It appears to be a local species. The only two specimens that have occurred to our notice, having been taken in the Isle of Ely, Cambridgeshire. Our specimen was found on the bark of the willow.



P L A T E CCX.

PHALÆNA LANESTRIS;

LITTLE EGGER MOTH.

LEPIDOPTERA,

GENERIC CHARACTER.

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

BOMBYX.

Antennæ of the male pectinated, of the female setaceous.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings ferruginous, first pair with a white stripe across each: a white spot near the base, and another in the middle of each.

PHALÆNA LANESTRIS: alis reversis ferrugineis: striga alba, anticis puncto basique albis.—*Linn. Syst. Nat.* 2. 815. 28.—

Fn. Sv. 1105.

Fab. Ent. Syst. 3. p. 1. 429. 68.

Wien. Verz. 57. 2.

Roef. Inf. 1. *phal.* 2. *tab.* 62.

The Caterpillars of the little Egger Moth, feed on black and white thorn, willow, lime-tree, &c. The female deposits a large cluster of eggs in a tuft of hair collected from her body. When

are hatched, the young begin to spin a strong white web, which they enlarge as their society increases; they remain together till they have devoured all the leaves of the plant on which they are hatched, or till they are arrived at full size to change into the chrysalis state.

These Caterpillars are not very uncommon in some parts of the country, especially in Kent. They are ready to change to chrysalis state late in June. The Moth is not produced till April following.

The trivial English name, Egger Moth, is given to this, and two or three other Moths, from the similitude of the case in which the chrysalis is inclosed to the shape of egg.



P L A T E C C X I.

P A P I L I O M A C H A O N.

SWALLOW-TAIL BUTTERFLY.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R.

Antennæ clubbed at the end. Wings erect when at rest. Fly by day.

S P E C I F I C C H A R A C T E R

AND

S Y N O N Y M S.

Wings and tails of a yellow colour, with broad spaces of brown marked with yellow lunar spots. A reddish spot on the interior angle of the lower wings.

PAPILIO MACHAON: alis caudatis concoloribus flavis: limbo fusco; lunulis flavis, angulo ani fulvo.—*Linn. Syst. Nat.* 2. 750. 33.—*Fn. Sv.* 1031.—*Fab. Ent. Syst.* 2. p. 1. 87. *Roef. Inf.* 1. pap. 2. tab. 1. *Wilk. Pap. tab.* 47. tab. 1. a 1. *Merian. Europ. Inf.* 94. *Frisch. Inf.* 2. tab. 10. *Schæff. Icon. tab.* 45. fig. 1, 2. *Seba Mus.* 4. tab. 32. fig. 9, 10. *Geoff. Inf.* 2. 54. 23. *Esp. Pap.* 1. tab. 1. fig. 1.

Papilio Machaon and Papilio Podalirius are the only two species of Swallow-tail Butterflies that have been found in England. Both are very scarce, but Papilio Machaon less so than Papilio Podalirius, of which a figure has been given in another part of this work.

Entomologists mention several parts of the country in which it has been taken, both in the larva and winged state. Harris says it feeds on wild fennel and carrots; that one he found remained in the chrysalis state from the 23d of September to May the 15th following, and another, that changed July the 15th, produced a butterfly the 10th of August. He adds, that the species was found in the meadows of Bristol and Westram.

From the number of foreign authors who have given figures of the Butterfly, we may imagine that it is very common on the Continent. Those preserved in cabinets of English Insects are generally brought from Germany, from whence also we sometimes receive preserved specimens of the Caterpillars.



P L A T E C C X I I .

M U T I L L A E U R O P Æ A .

EUROPEAN MUTILLA.

HYMENOPTERA.

G E N E R I C C H A R A C T E R .

Generally want wings. Body covered with down. Thorax blunt at the base. Sting pointed; concealed within the body.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S .

Head black. Thorax red. Abdomen black; margins of some segments whitish.

MUTILLA EUROPÆA: nigra thorace rufo, abdominis segmentis margine albo.—*Fab. Ent. Syst. t. 3. 368. 9.*

Mutilla Europæa, nigra abdomine fesciis duabus albis, thorace antice rufo.—*Linn. Syst. Nat. 2. 966. 4.—Fn. Sv. 1727. Sulz. Hist. Inf. tab. 27. fig. 23, 24.*

Apis Aptera: *Udm. Diff. 98. tab. 17.*

The Mutillæ seems less clearly defined than most of the Linnæan genera. That author described only a small number of the species, and was even doubtful whether several that were placed under that division of his system did not more properly belong to some other, especially to the ichneumons, among which several apterous insects are included.

The

The cause of this uncertainty may be partly attributed to our entire ignorance of their manner of life or transformations. Some of the Mutillæ have wings, and others are without. Authors have considered the apterous Insects as the females, and the winged kind as the males, which opinion is countenanced by numberless instances in almost every class of Insects. Others have however maintained that both males and females were winged, and that the apterous Insects were neuters, presuming in support of such opinion, that the Mutillæ lived in societies like the Wasps, Ants, and Bees.—From observations on a number of exotic species of this tribe, we have no doubt that the winged Insects are males, and the apterous kind females.

Yeats alludes to three species of Mutillæ that have been found in England, but names only the Mutillæ Europæa; and this is the only kind we have ever found. We have taken it on a sandy pathway, near the entrance of Coombe Wood, Surry.



P L A T E C C X I I I .

P H A L Æ N A P R Æ C O X .

LEPIDOPTERA.

G E N E R I C C H A R A C T E R .

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

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S .

N O C T U A .

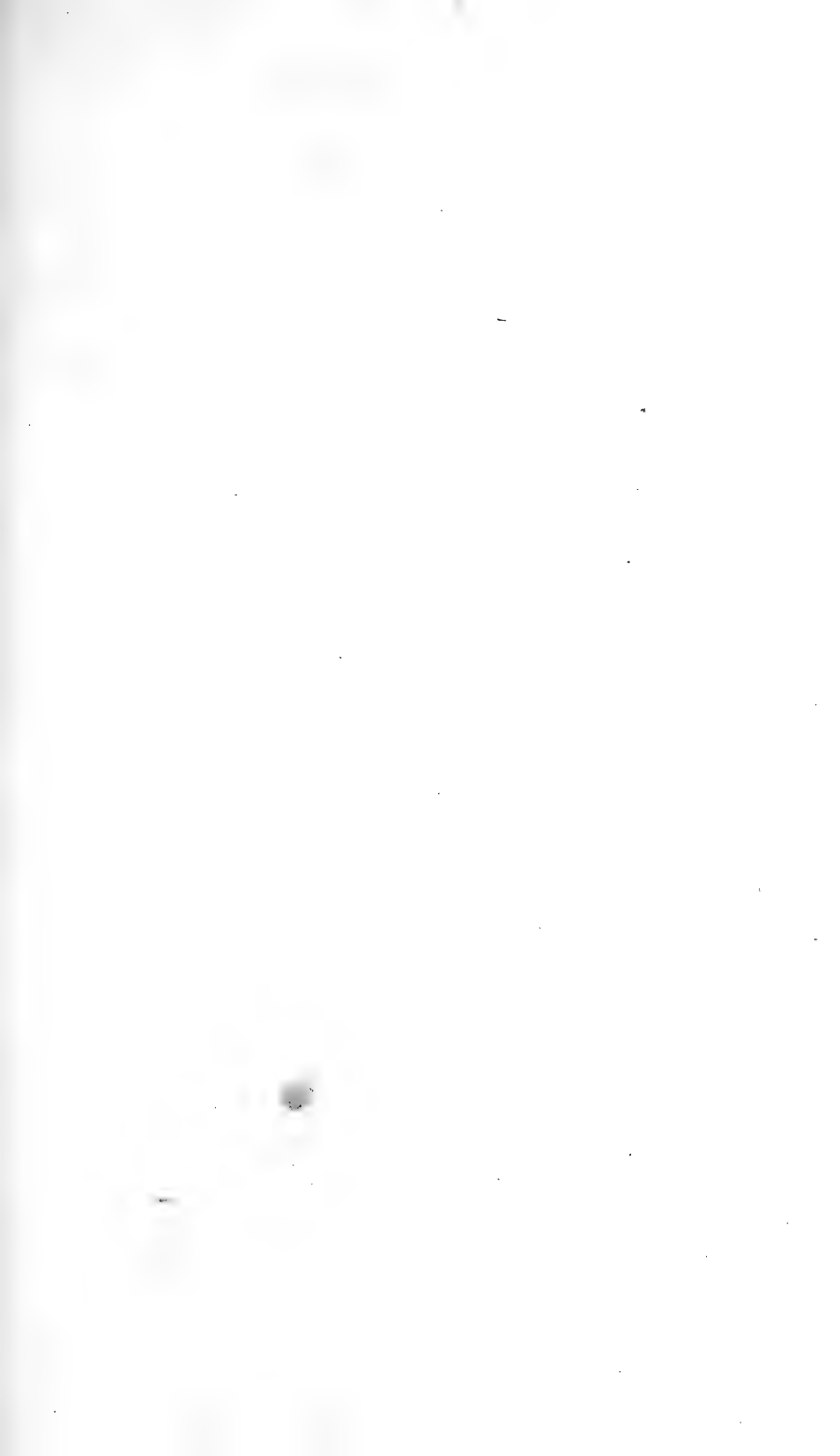
Thorax crested. Wings deflexed. First pair ash-colour with two spots on each, and a short dash of red near the ends. Second pair reddish brown.

P H A L Æ N A P R Æ C O X : cristata alis deflexis cinereis bimaculatis: posticis fascia rufa abbreviata.—*Linn. Syst. Nat.* 2. 854. 174.—*Fab. Ent. Syst.* I. 3. p. 2. 97. 289.
Roef. Inf. I. *phal.* 2. tab. 51.

When the late Duchefs of Portland honoured the scientific as well as practical part of Entomology with her patronage, her Grace discovered, and reared from the caterpillars several species of Phalæna, of which collectors were ignorant before. Phalæna Præcox is among the number of those her Grace found in one of the Portland isles; and the specimen we have figured is one which formed part of her collection.

Fabricius

Fabricius says the larva feeds on the thistle. The rarity of this creature induced us to depart from our usual method, and copy the larva and pupa from the plate in the works of Roefel, apprehending it would be particularly interesting to English naturalists in general, as that author alone has represented it in those states; and no collector that we are informed has met with it within the last fifteen years.





P L A T E C C X I V .

P H A L Æ N A R U S S U L A .

C L O U D E D B U F F M O T H .

L E P I D O P T E R A .

G E N E R I C C H A R A C T E R .

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

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S .

Wings deflexed, bright yellow. Margin and antennæ blood red. A lunar-shaped spot on the middle of the wings.

P H A L Æ N A R U S S U L A : alis deflexis luteis: margine sanguineo lunulaque fusca, antennis sanguineis.—*Fab. Ent. Syst. I. 3. p. 1. 180.*—*Linn. Syst. Nat. 2. 830. 71.*
Schæff. Icon. tab. 83. fig 4, 5.
Clerk. Icon. tab. 4. fig. 1.
Raj. Inf. 228. 75.

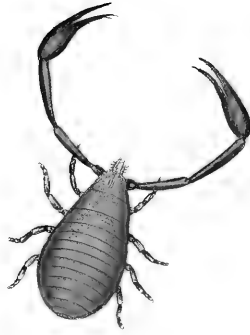
As the *Phalænæ* are not remarkable for a variety of gay colours, like those of the *Papilio* genus, an exception to a general rule in the beautiful species before us, more strongly demands our notice. The male *Phalæna Ruffula*, which is known by the pectinated antennæ, is of a fine golden yellow, with a rich, though narrow marginal band of sanguineous red round the wings. The female is a pretty Insect, but is more inclined to brown throughout than the male.

This

This species has been supposed to feed on grafs in the larva state, but as collectors have very rarely reared it from that state, it has been difficult to determine its proper food. Fabricius mentions lettuce and scabious or devil's-bit. The larva is hairy, and in many respects very much resembles that of the Garden Tiger Moth, from which we may perhaps infer that it is a general feeder.

We found the larva in May; shortly after it spun a web and passed into the pupa state, from which the moth was produced the 11th of June following.





P L A T E CCXV.

PHALANGIUM CRANCROIDES.

APTERA.

GENERIC CHARACTER.

Eight feet. Four eyes, two on the summit of the head, and two others on the sides. Antennæ resemble feet, and are placed at the fore-part of the head. Abdomen round.

SPECIFIC CHARACTER

AND

SYNONYMS.

Body of an oblong ovated form, flat. Claws smooth, hairy at the ends.

PHALANGIUM CRANCROIDES: abdomine obovato depresso, chelis lævibus: digitis pilosis.—*Lin. Syst. Nat.* 2. 1028. 4.
—*En. Sv.* 1968.

SCORPIO CRANCROIDES: abdomine ecaudato ovato depresso fusco, manibus oblongis.—*Fab. Ent. Syst. T.* 2. 436. 10.

Chelifer abdomine lineis transversis.—*Geoff. Inf.* 2. 618. 1.

Chelifer europæus obscure fuscis corpore ovato depresso, chelis elongatis.—*Degeer Inf.* 7. 355. 2. tab. 9. fig. 4.

Roef. Inf. 3. tab. 64.

Frisch. Inf. 8. tab. 1.

Schæff. Elem. tab. 38.

The synonyms sufficiently denote the unsettled opinion of eminent naturalists in respect of the proper genus to which our Insect should be referred. We have followed the definition of Linnæus, because
it

it appears to us more characteristic of the creature, which should have a lengthened articulated tail, terminated in a sharp crooked sting, to warrant us in placing it among the Scorpions. In the system of Fabricius this forms no part of his generical character, but those who are accustomed to depend only on the writings of Linnæus, would be perplexed to reconcile the apparent difference between the Phalangia of that author, and the Scorpio of Fabricius.

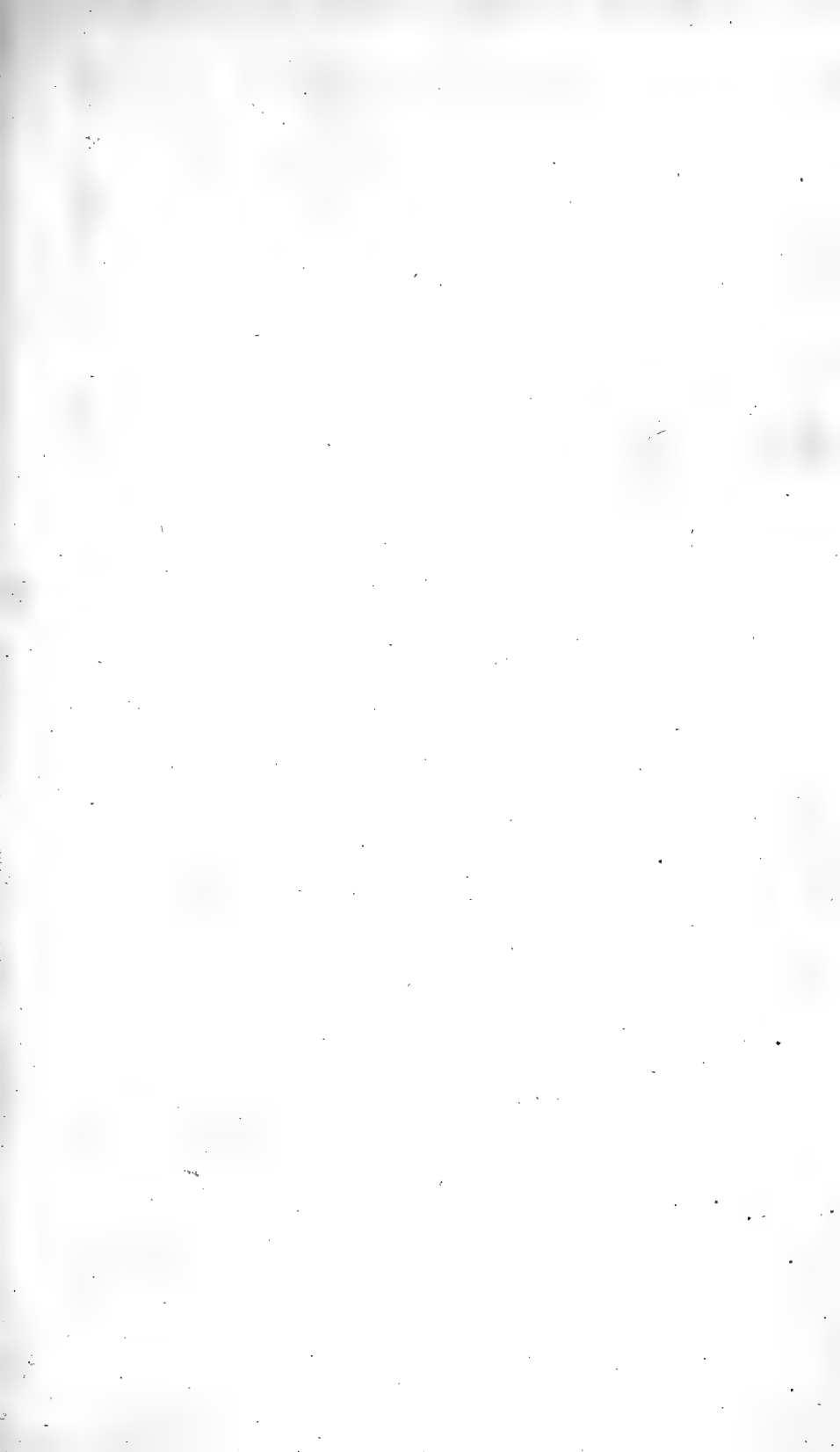
The general appearance of this creature, except the want of tail, is precisely that of a Scorpion in miniature.

Mr. Adams, in his Essay on the Microscope, has figured and described a new species of this genus; it is smaller, and differs in form from our present species: he calls it the Lobster Insect. We believe Phalangium Cancroides is the largest Insect of the genus found in England that resembles a Scorpion.

This Insect is sometimes found in the covers of old books, in rotten wood, and other damp and decayed substances. We once found it fastened on the body of the *Musca Vomitoria*, Common Flesh Fly, from which it could not be extricated without killing and tearing the fly into pieces.

Roefel has given a figure of it, and represented a parcel of its eggs. They are of an oblong form, colour greenish, and appear to be deposited in roundish clusters of about thirty or forty eggs in each.

The natural size of our Insect is represented at Fig 1.





P L A T E C C X V I .

P H A L Æ N A L I B A T R I X .

H E R A L D M O T H .

L E P I D O P T E R A .

G E N E R I C C H A R A C T E R .

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

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S .

Thorax crested. Wings deflexed, varied with red and grey; two white spots on the anterior wings; edges deeply ferrated or indented.

P H A L Æ N A L I B A T R I X : cristata alis incumbentibus dentato erosis rufo griseis: punctis duobus albis.—*Lin. syst. Nat.* 2. 831. 78.—*Fn. Sv.* 1143.
Fab. Ent. Syst. L. 3. p. 2. 64. 181.
Wien. Verz. 62. 1.
Geoff. Inf. 1. 121. 26.
Godt. Inf. 1. tab. 67.
Albin. Inf. tab. 32. fig. 50.
Schæff. Icon. tab. 24. fig. 1. 2.
Roef. Inf. 4. tab. 20.
Harris Inf. tab. 1. fig. C. D.
Pod. Inf. 92. tab. 2. fig. 9.

The Caterpillar of this Insect is generally found under the bark of the willow and fallow, or on the rose. It is probable there are two broods of it in the year, being sometimes taken in the winged state early in the summer, but more commonly in the month of October; this is the more likely, as the English Aurelians first called it the Herald, from an idea that its appearance warned them of approaching winter.

This Insect remains about twenty-eight days in the pupa state, the Caterpillar not being found till the beginning of September.

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I N D E X.
HYMENOPTERA.

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E R R A T A.

Page 23, For *Phalæna Menthrastiri*, read *Phalæna Menthrastri*.—Second line, descrip. pl. 189.

Page 60, ——— *Phalæna statices*, read *Sphinx statices*.
—Second line, descrip. pl. 204. fig. 2.



