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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.

VOL. V.

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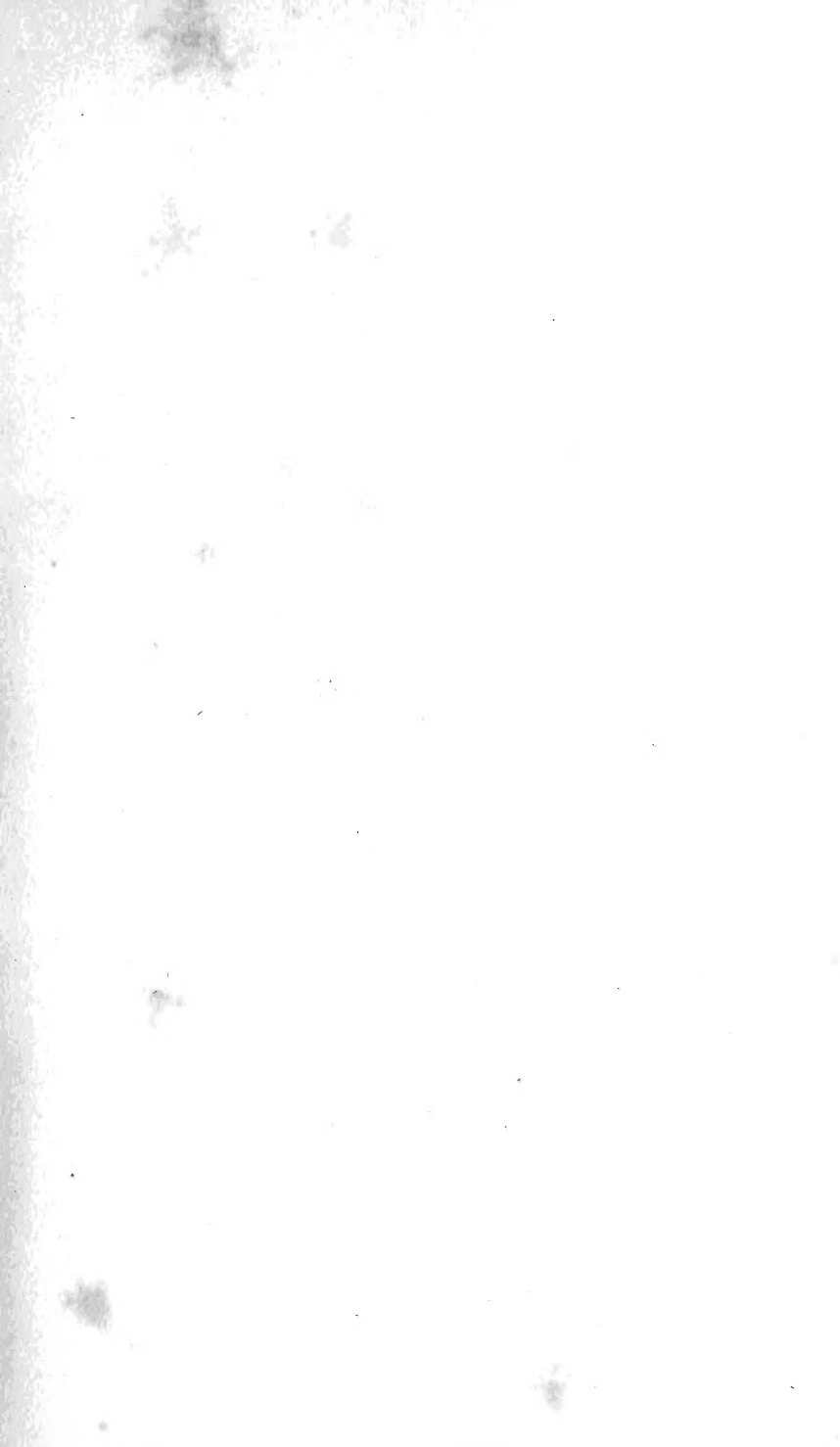
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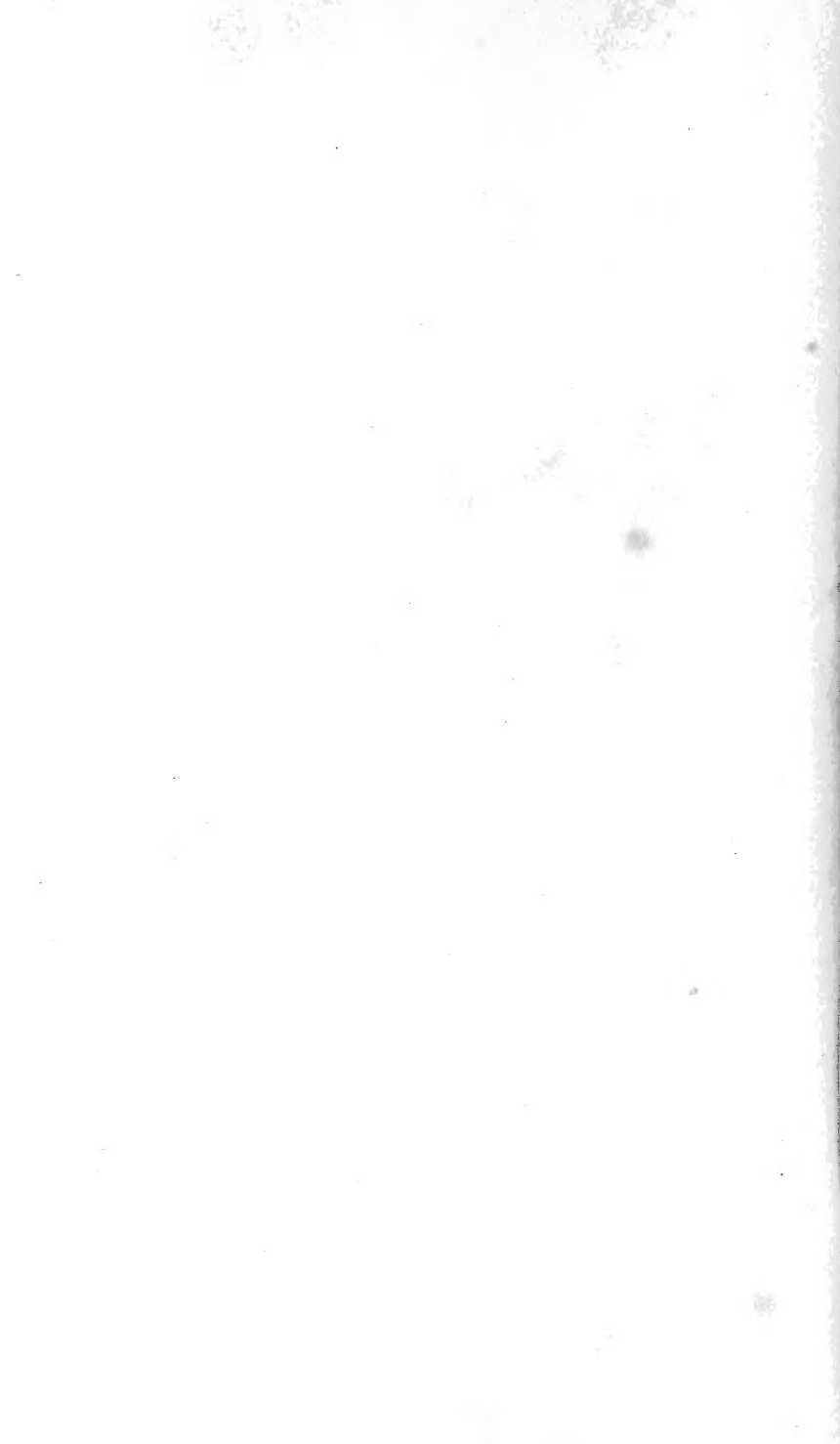
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P L A T E C C X I .

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

S W A L L O W - T A I L B U T T E R F L Y .

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 clavated: 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

A N D

S Y N O N Y M S .

Wings tailed, yellow above and beneath, with fuscous border, and yellow lunar spots: anal angle fulvous.

PAPILIO MACHAON: alis caudatis concoloribus flavis: limbo fulvo; 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.





T H E
N A T U R A L H I S T O R Y
O F
B R I T I S H I N S E C T S.

P L A T E C I X.

P A P I L I O P O D A L I R I U S.

S C A R C E S W A L L O W T A I L.

B U T T E R F L Y.

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 clavated. 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.

Above pale yellow, beneath paler. On the first wings (upper side) six pale black stripes and a black margin. On the second wings, an oblique black stripe, and a black border with five semilunar blue spots, two long tails. Stripes more numerous on the under side.

PAPILIO *Podalirius*, alis caudatis subconcoloribus flavescens; fasciis fuscis geminatis, posticis subtus linea sanguinea.

Syst. Ent. 451. 38.

Linn. Syst. Nat. 2. 751. 36.

Mus. Lud. Vir. 208.

Papilio alis pallide flavis, rivulis transversis nigris secundariis angulo subulato maculaque crocea. *Geoff. Inf.* 2. 56. 24.

Papilio *Sinon. Pod. Inf.* 62. tab. 2. fig. 1.

Cram. Inf. 13. tab. 152. tab. 2. fig. 1.

Merian. Europ. 163. tab. 44.

Roes. Inf. 1. pap. 2. tab. 2.

Reaum. Inf. 1. tab. 11. fig. 3. 4.

Fonst. Inf. tab. 5. fig. 5.

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

Schæff. elem. tab. 94. fig. 4.

———— *Icon.* tab. 45. fig. 3. 4.

Raj. Inf. III. 3.

Fab. Spec. Inf. 2. 15. 58.

Fabricius * and some other entomological writers have very minutely described the Larva and Pupa state of this rare butterfly; the Larva feed on the leaves of the turnip, cabbage, and other plants of the same genus; it is of a yellow colour, with spots of brown, head pale green. The Pupa is yellow, spotted with brown also, and has two teeth, or sharp points in the fore-part.

We have received the Butterfly from North America, as well as from Germany; it appears to be a native of most parts of the European Continent, though perhaps not frequently found.—*Berkenhout* is the only writer who has described it as an English species †; he says it is rare (in this country,) found in woods. In the perfect state, visits flowers in the day time.

* Habitat in Europæ Brævicæ.

Larva solitaria, flavescens, fusco punctata, capite pallide virescente.

Puppa flavescens, fusco punctata, antice bidentata. *Fab. Spec. Inf. &c.*

† Synopsis of the Natural History of Great Britain and Ireland.





T H E

NATURAL HISTORY

O F

BRITISH INSECTS.

P L A T E CXLV.

PAPILIO RHAMNI.

BRIMSTONE BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clavated, or knobbed at the end. Wings, when at rest, erect. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings angulated, entire, pale yellow, with a brown spot near the center of each. Underfide very pale yellow. Antennæ reddish.

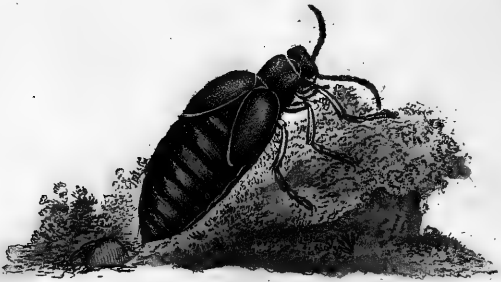
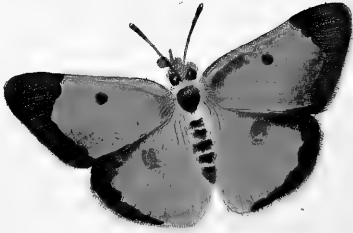
PAPILIO RHAMNI. Alis integerrimis angulatis flavis, singulis puncto ferrugineo.—*Linn. Syst. Nat.* 2. 765. 106.
—*En. Sv.* 1042.

- Papilio præcox* sulphurea five flavo viridis, singulis alis macula ferruginea notatis.—*Raj. Inf.* 112. 4.
Sulz. Inf. tab. 13. *fig.* 84.
Roef. Inf. 3. *tab.* 46. *fig.* 1. 2. 3.
 ——— 4. *tab.* 26. *fig.* 1. 5.
Degeer Inf. 1. *tab.* 15. *fig.* 1. 10.
Esp. Pap. 1. *tab.* 4. *fig.* 4.
Schæff. Elem. tab. 94. *fig.* 7.
 ——— *Icon. tab.* 35. *fig.* 1. 3.
-

The Brimstone Butterfly is common in many places in the month of June in the Fly state. In the Caterpillar state it is seldom taken, and when in chrysalis it is generally concealed among the herbage, where it is almost impossible to be discovered. In this state, like all other species of the Butterfly tribe, it is suspended by the tail, but has such muscular strength, that if touched it can throw itself upright immediately, in the same manner as the Chrysalis of *Phalæna pentadactyla*. It feeds chiefly on buck-thorn, whence it has received the specific name *Rhamni*,







P L A T E XLIII.

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

SAFFRON BUTTERFLY.

LEPIDOPTERA.

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

Antennæ clavated. Wings, when at rest, erect. Diurnal.

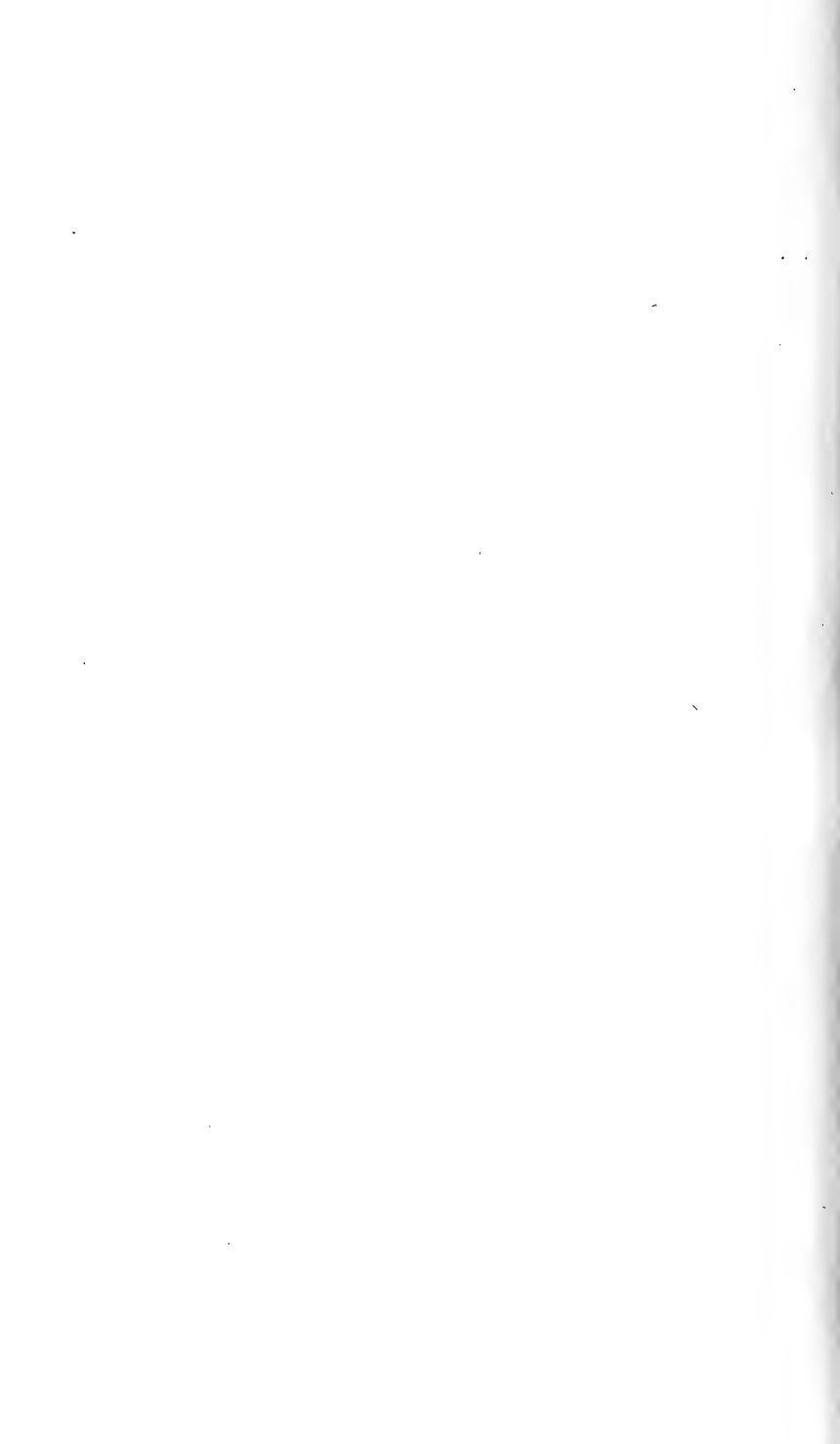
S P E C I F I C C H A R A C T E R.

Wings entire, rounded, deep yellowish orange. On the superior wings a black, and on the inferior wings an orange spot in the center; and a deep irregular border of black on the margin. Antennæ and legs yellow. Breadth two inches.—*Syst. Ent.* 477. 148.—*Linn., Syst. Nat.* 2. 764. 100.—*Fn. Sv.* 1040.

The *Papilio Hyale* has been described by several authors, English and Foreign, and the natural historians of Germany have generally noticed it. Unlike many Insects we have in our country, it is found in every part of Europe, but in greater abundance in Africa and America.

Its breadth in England rarely exceeds two inches; but influenced by a warmer climate, they arrive at a higher degree of perfection than in those northern countries, at least they are commonly taken much larger. With us it has ever been esteemed as a rare Insect, though seen this season in Kent in greater plenty than for several years; but as they were probably only an accidental brood, they may again disappear for a considerable time. The Fly is to be taken in autumn, but seldom after August.

Our Figure is of the male;—the female has several irregular yellow spots on the black borders.



P L A T E X L I I I .

M E L O E . P R O S C A R A B E U S .

C O L E O P T E R A .

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

Antennæ globular, the last globule oval. Thorax roundish. Shells soft. Head gibbous, and bent downwards.

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

Blue, black. No wings. Shells short. Abdomen long. Antennæ thickest in the middle. Head broad. Thorax narrower than the head, and without margin. Length $1\frac{1}{4}$ inch.——*Syst. Ent.* 259. 1. —*Linn. Syst. Nat.* 2. 679. 1.—*Fn. Sv.* 826.

It is by no means for the beauty, but singularity of this creature that we have given it a place in our present selection. If it is too perfect for the larva of an Insect, it certainly appears too imperfect for the adult state; it has shells, but cannot fly, and their length compared with the proportion of the body contributes much to its awkward appearance. It is very quick-sighted, and runs with swiftness when in danger. After death the body is considerably contracted, and the native brilliancy of colour it possessed while living immediately vanishes. When touched, a brown liquor oozes from the sides.

We have several species of the *Meloe* differing in size, colour, and proportion; the *Meloe Proscarabeus* is the most common, at least near London. It feeds under the surface of the ground, on the tender fibrils of plants, and prefers the light earth of the flower-garden for its devastation. May be taken in May or June.





P L A T E CCXXXVIII.

FIG. I. I.

PAPILIO HYALE.

CLOUDED YELLOW BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings rounded, yellow: an orange spot on the posterior wings: beneath, a large and smaller contiguous dot of silver.

PAPILIO HYALE: alis rotundatis flavis: posticis macula fulva; subtus puncto sequialtero argentes. *Linn. Syst. Nat.* 2. 764. 100.

Though we cannot but admire the Linnæan definitions for their perspicuity in general; we must in some instances blame him for that inattention which has betrayed succeeding naturalists into error
and

and even absurdities. The force of this remark, however harsh it may appear, will apply in a particular degree to the specific definition and quoted Synonyms of *Papilio Hyale*, and consequently to two other similar species involved in the same error.

Linnæus gave the description of *Papilio Hyale*, as above quoted in the *Systema Naturæ*, from an insect in his own cabinet, and quotes, in the Synonyms, the Butterfly figured by *Roefel, Vol. 3. tab. 46. fig. 4. 5.* The works of this author being known in every part of Europe, the entomologists of that time received the figure as that of the true *Hyale*; and relying on the accuracy of the Linnæan references, the mistake has been overlooked to the present period. Fabricius, who is the latest systematic writer on this science, quotes the figures in *Roefel*, as Linnæus had himself in the first instance; and he also refers to figures of the same insect in the works of *Cramer* and *Schæffer*. An error of such specious appearance could only be detected by a reference to the specimen in the Linnæan Cabinet, at this time in the possession of *Dr. Smith*, and from this it appears that every author has mistaken the species intended by Linnæus, and that Linnæus was himself mistaken in supposing the insect described to be the same as that figured by *Roefel*, to which he refers: that the Linnæan *Papilio Hyale* is what later authors have considered as *Papilio Palæno*, and that the true *Papilio Palæno* is not a British species.

These errors are so complicated that we must examine the characters assigned to each species with the utmost attention, and we shall then find his descriptions correct, but the synonyms erroneous. *Papilio Hyale* is described with *yellow wings*; the colour of the wings in the supposed *Hyale* is not of that kind which Linnæus would have called yellow, (*flavis*,) but *fulvis*, being of a deep orange colour, much inclining to red. Either of these expressions will certainly admit of great latitude, but we must not therefore confound one with the other. The two silver spots are not constant, though it forms a part of the specific character; we have seen in both the clouded yellow and clouded orange butterflies, sometimes only one spot, though in general it has two. On the whole, the Linnæan descrip-

descrip-

description of *Papilio Hyale* seems to agree with the fictitious *P. Palæno* of our collections, and the specimen in the Linnæan cabinet places it beyond conjecture.

Fabricius has not corrected the errors of former authors on this subject; even in his last work, *Syst. Ent.* he adds to the specific description of his *P. Hyale*, “*Mas margine alarum nigro immaculato, fœmina maculato*”*, by this it is evident he alludes to the clouded orange, for it is not so in the Linnæan insect; the broad bar of black being constantly spotted in both sexes. We have also observed that the rare variety with white wings is only the female; that which is yellow is the male: the same is observed also of *Papilio Rhanni*, or Brimstone Butterfly; and as the males of all insects are more abundant than the females, and the males of *P. Hyale* are rare, the variety, or sex with white wings must be extremely so. These have been taken in a clover field in the month of August, in company with the clouded orange.

It may be proper to close this description with a few observations on the true *Papilio Palæno*, as the subject before us has hitherto passed under that name. Linnæus says, *alis integerrimis flavis apice nigris margineque fulvis: posticis fubtus puncto argenteo*; this does not agree with, or at least express the Insect generally called *Palæno*, and the specimen in the Linnæan cabinet proves it to be a different species; the *P. Palæno* has no yellow spots on the black margins of the wings, and the spot in the centre of the anterior pair is small and shaped like a shuttle; its native place is unknown. A variety of the pale clouded yellow is found in America, and by mistake is sometimes placed in cabinets as a British species.

* The wings in the males have a broad black bar on the exterior margin; in the female the bar is spotted.

FIG. II.

PAPILIO EDUSA.

CLOUDED ORANGE BUTTERFLY.

LEPIDOPTERA.

PAPILIO.

SPECIFIC CHARACTER

AND

SYNONYMS.

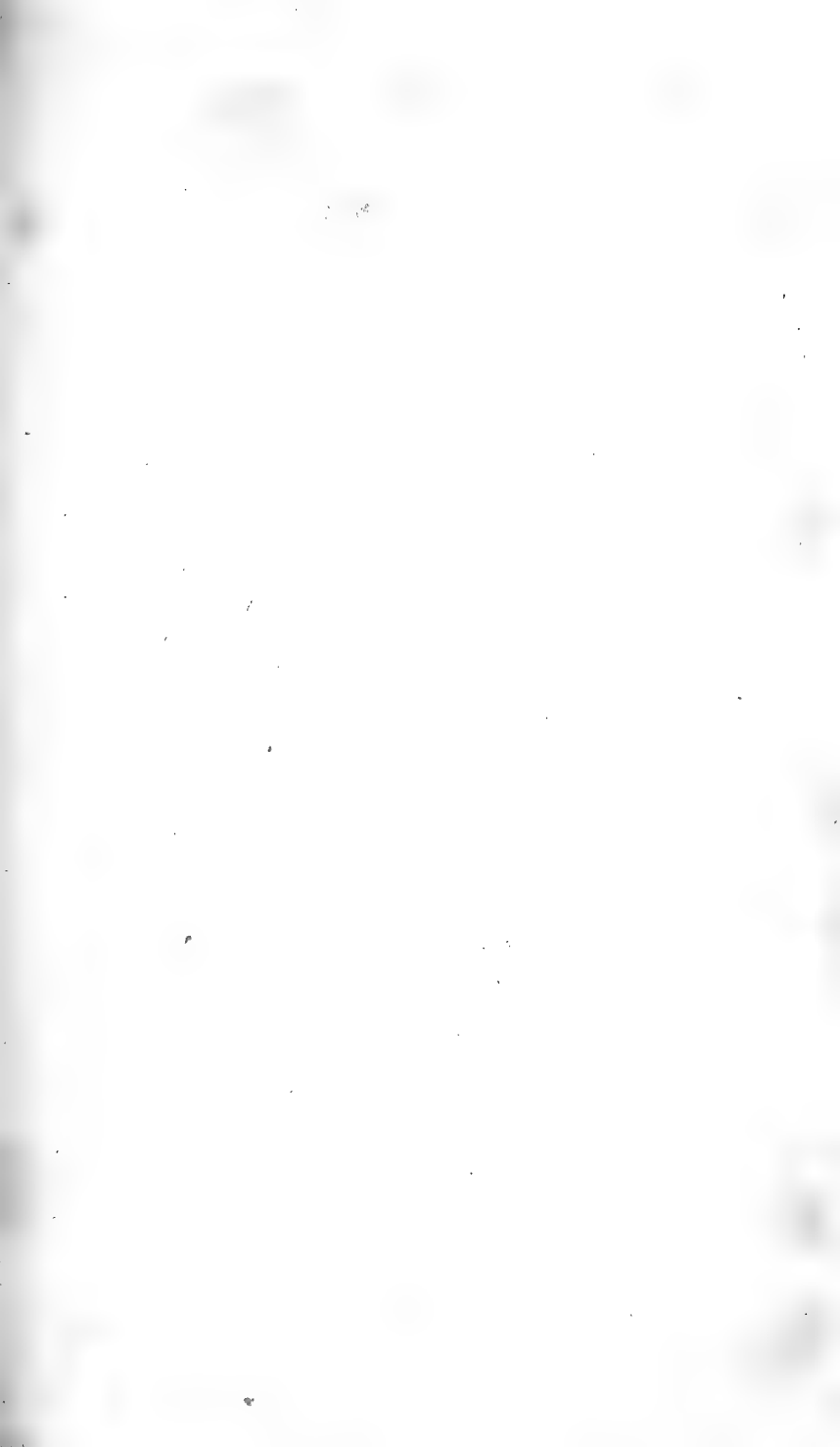
Wings entire, fulvous; with dot and margin black: beneath greenish, with a black dot on the anterior wings, and silver one on the posterior.

PAPILIO EDUSA: alis integerrimis fulvis: puncto margineque nigris, subtus virefcentibus: anticis puncto nigro, posticis argenteo. *Fab. Ent. Syst.* 2. p. 2. 206. 643.

If our observations on the preceding species are satisfactory and conclusive, the Insect before us must be a distinct species, and not the true *P. Hyale*, for which it has usually been received. This involves another interesting consideration, for Linnæus must have been acquainted with this species, as he refers to figures of it in several authors. It is probable he considered it as a variety, for it does not appear under another name in any part of his writings.

Fabricius has described a new species of butterfly, under the name *Edufa*, in his last work *Ent. Syst.* which seems to agree with our insect, and we are confirmed in our opinion by Mr. Jones of Chelsea, who assisted Fabricius with considerable information, and assures us it is certainly the *P. Edufa* of that author.

In a former part of this work we have given the male of this insect as *P. Hyale*: the annexed figure represents the female, having large yellow spots in the black border of the wings. Both this and the preceding species are figured by Esper, in the *Papiliones de l'Europe*; and by Schæffer, in the *Icones Rarissimæ*, &c.





THE
NATURAL HISTORY
OF
BRITISH INSECTS.

PLATE CCCXXXIII.

PAPILIO APOLLO.

APOLLO BUTTERFLY.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, white spotted with black: lower ones with four red ocellated spots above and six beneath.

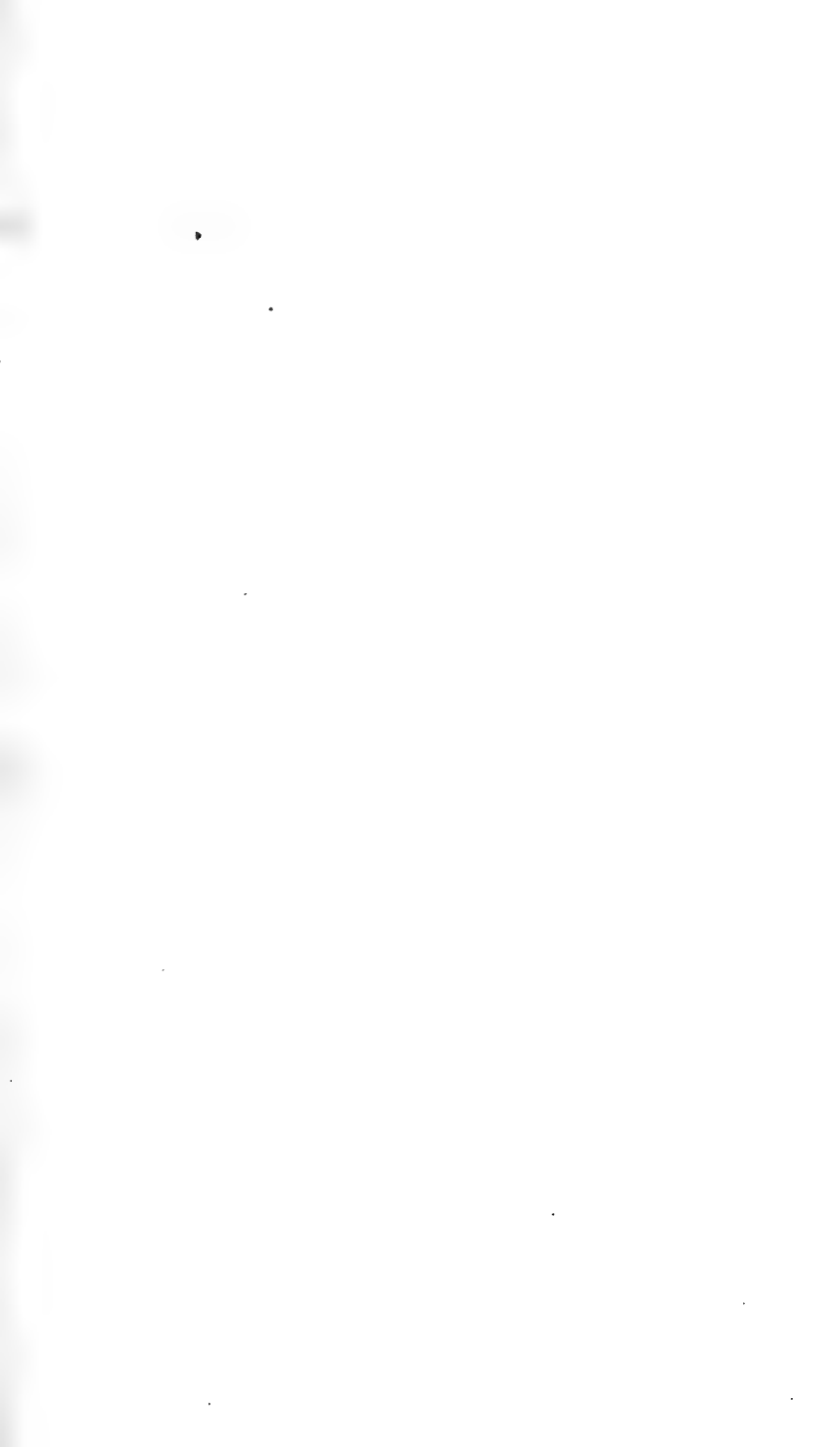
PAPILIO APOLLO: alis albis nigro maculatis: posterioribus supra ocellis quatuor, subtus sex basique rubris. *Linn. Fn. Suec.* 1032.—*It. gothl.* 230.

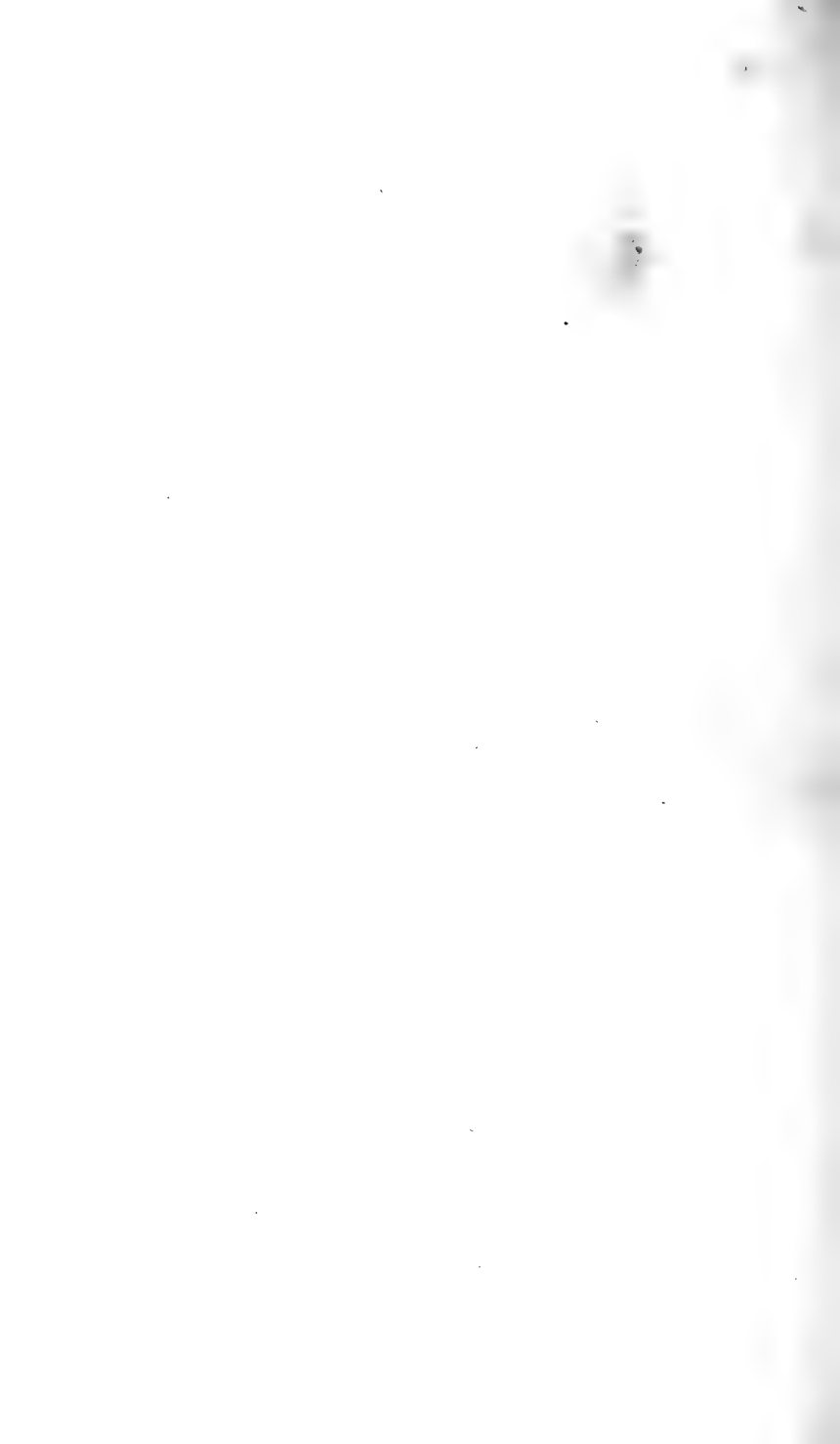
PAPILIO APOLLO. *Fabr. Inf.* 2, 35. n. 417. *Haworth, Lep. Brit.* 1. p. 29.

This large and very beautiful butterfly, is an inhabitant of various parts of Europe, and is found also in the more temperate parts of Siberia. We are induced to insert it among the British Papiliones on the assurance of Mr. Haworth, that he was recently informed the species had been taken in Scotland*. It would afford us much pleasure could the particulars of its capture be submitted to our readers, but we have been unable to procure any further information on this subject; and presuming the fact at least to be correctly stated, we could not refrain commencing our new volume with the representation of such an interesting object.

Papilio Apollo is the offspring of a solitary sluggish larva, or caterpillar, of a black colour, covered with a soft and silky down. All the rings are marked on both sides with two red spots, which together constitute a longitudinal series along each side. Besides these spots, every ring or joint is marked nearer the middle of the back with three small lateral dots of blueish, disposed in a semilunar manner, and thus forming a longitudinal waved line on each side within the two rows of red spots. The anterior part of the head is furnished with tentacula, which the animal can advance or retract at pleasure; this is furcated when completely spread out. The Pupa is slightly foliulate, somewhat ovate, and of a blueish colour.

* *Haw. Lep. Prodr. Pref.* p. 29.





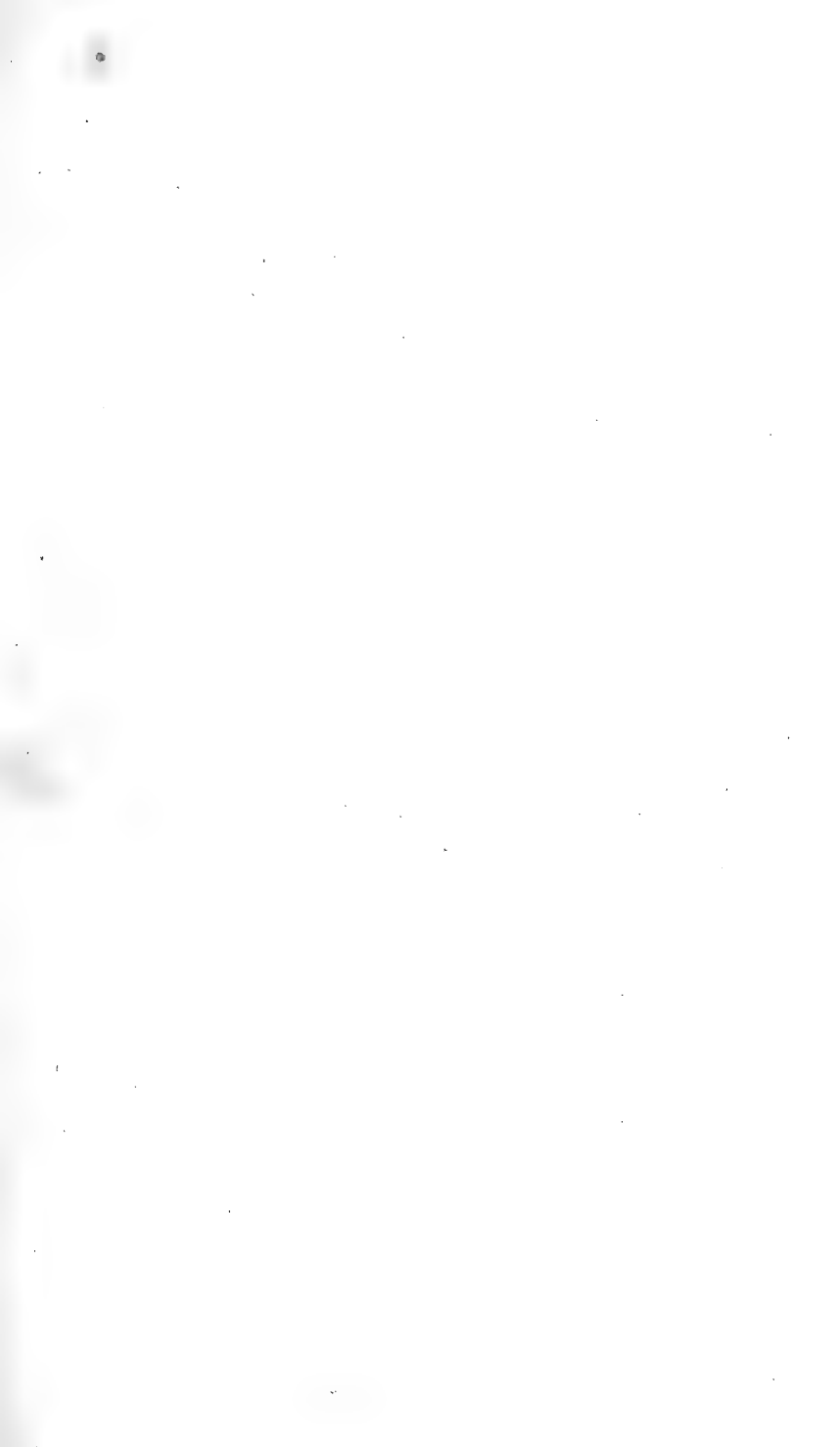




PLATE CCCCLIV.

PAPILIO CRATÆGI.

BLACK VEINED WHITE BUTTERFLY.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings white, entire; and veined with white.

- PAPILIO CRATÆGI: alii albis: venis nigris. *Linn. Fn. Suec.* 1034.—*G. el. Linn. yst. nat. p. 2257. n. 72.*—*Fabr. Ent. Syst. T. 3. p. 182. 563.*
Aldrov. inf. 246. f. 9.
Reaum. Inf. 2. t. 2. f. 9. 10.
Roef. Inf. I. p. 2. t. 3.
Frisch inf. 5. p. 16. t. 5.
Degeer inf. I. t. 14. fig. 19, 20.
Wien. Schmetterl. d. 163. D.
Schæff. ic. t. 140. f. 2. 3.
Esper. pap. I. t. 2. f. 3.

Papilio Cratægi is one of the rarest species of the *Danai candidi*, or white tribe of butterflies found in Britain. It is a delicate, and by

no means inelegant insect, though altogether plain in its appearance; and may be readily distinguished from the other analogous species, by the nerves both of the upper and lower wings being black, while the ground colour is white.

The larva feeds chiefly on the pear tree, or gooseberry, and is found in spring. The perfect insect occurs in summer, and is sometimes observed in gardens hovering about fruit trees, the nectareous juices of which afford it sustenance.









PLATE CCCCXLVI.

PAPILIO BRASSICÆ.

LARGE GARDEN WHITE BUTTERFLY.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings rounded, entire, white: tip of the upper pair in the male black, and in the female marked with two black spots.

PAPILIO BRASSICÆ: alis anterioribus maculis duabus apicibusque
 nigris, major. *Linn. Fn. Suec.* 1035.—*Gmel.*
Linn. Syst. Nat. 2259. n. 75.
Fabr. Ent. Syst. 463. 110.—*Fab. Syst. Ent.* 3.
 186. 574.—*Spec. Inf.* 2. 38. 161.
Roef. Inf. 2. t. 4.
Esper Schmet. t. 3. f. I.
Schaff. Icon. 40. f. 3. 4. and 140. f. 4. 5.
Geoffr. inf. p. 2. p. 68. n. 40.
Wien, Schmetterl. p. 163. D. 2.

In dry seasons favourable to the growth and increase of these pernicious insects, the larvæ become very injurious to our gardens, and would

would be infinitely more so were it not for the number of small birds which prey upon them, and thus lend their friendly aid to destroy those unwelcome intruders. They feed for the most part on cabbages, and some other horticultural plants, which renders them more injurious to the kitchen garden than any other. The larva is of the number of those known in England by the trivial title of the grub, and in the perfect or winged state it is distinguished by the less ambiguous epithet of Large Cabbage Butterfly.

The larva of this species appears in spring, and indeed throughout great part of the summer, as there are two or more broods of them every year. The appearance of these Butterflies on the wing in a morning is considered generally as an unerring indication that the weather will clear up, and the day eventually prove fine. This insect though common is certainly not uninteresting.





P L A T E 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 virefcentibus. *Linn. Syst. Nat.* 2. 760. 77.—*Fn. Sv.* 1037.

—*Fab. Ent. Syst. T.* 3. p. 1. 187. 576.

Geoff. Inf. 2. 70. 42.

Merian Europ. 2. tab. 39.

Albin Inf. tab. 52. fig. F. G.

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

F I G. II.

PAPILIO SINAPIS.

WOOD LADY, or WOOD WHITE BUTTERFLY.

SPECIFIC CHARACTER

AND

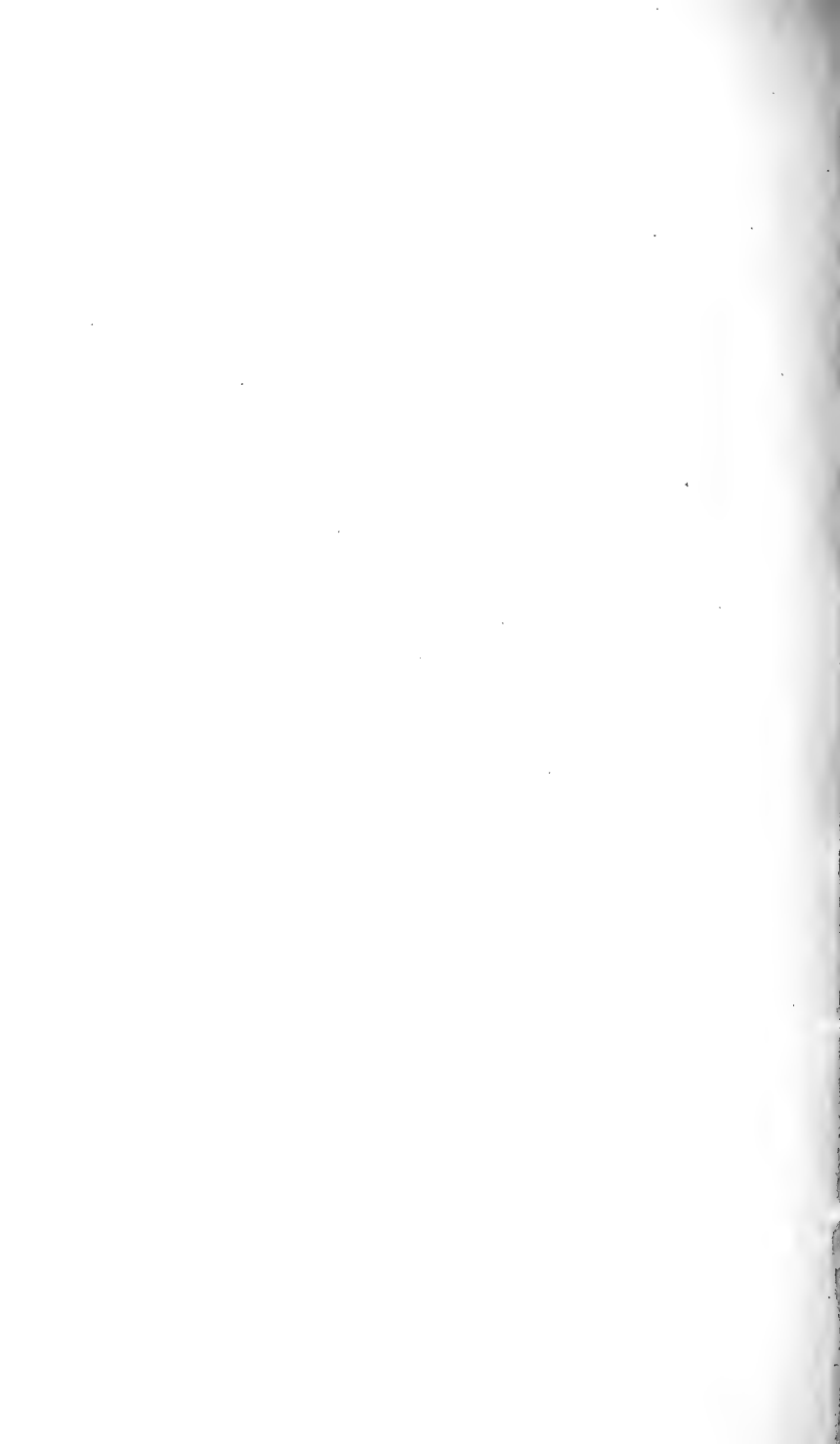
SYNONYMS.

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. Inf.* 2. 183. 4. *tab.* 1. *fig.* 1.*Raj. Inf.* 116. 8.

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





P L A T E C L X I X .

P A P I L I O C A R D A M I N E S .

O R A N G E - T I P B U T T E R F L Y , ♂ r ,

W O O D L A D Y .

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 terminate in a club. Wings erect when at rest. Fly in day-time.

* * * * * Danai Candidi.

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 rounded, edges very slightly scalloped. Above white, exterior half of the upper wings orange; with a black spot in the centre. Underfide of under wings marbled with green. Female has no orange tip.

PAPILLIO CARDAMINES: alis rotundatis integerrimus albis: posticis subtus viridi marmoratis. *Lin. Syst. Nat.* 2. 761. 85.—*Fn. Sv.* 1039.

Papilio minor alis exterioribus albis macula insigni crocea splendentibus, interioribus superne albis, subtus viridi colore variegatis. *Raj. Inf.* 115.

Roef. Inf. pap. 2. tab. 8.

Schæff. Icon. tab. 91. fig. 1. 3.

————— *Elem. tab.* 94. fig. 8.

- PAPILIO CARDAMINES. *Fab. Spec. Inf.* 2. 43. 179.
Hafn. Icon. tab. 9. *fig.* 1.
Esp. pap. 1. *tab.* 4. *fig.* 1.
 ———— *tab.* 27. *fig.* 2.
Wilk. pap. 2. *p.* 50. *tab. a.* 5.
Robert. Icon. tab. 21.

Lady of the Woods. *Harris.*

This pretty Butterfly may be taken in great abundance in the month of May. The caterpillar is found on various kinds of grafs and low herbage: *Harris* says it feeds on Wild Cole; and other writers mention, *Thlaspi Burfa Pastoris**, and *Cardamine Pratensis*†.

The male insect only, has the bright orange colour on the wings, the female is white, with some few marks of black: the under side is beautifully marbled and mottled with green in both sexes.

The Caterpillar is common in May and June, and a later brood is found in July; about the latter end of which month it becomes a chrysalis: In May following the Butterfly is produced.

* *Shepherd's Purse.*

† *Common Lady's Smock, or Cuckow-flower.*



P L A T E CC.

PAPILIO DAPLIDICE.

BATH-WHITE BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings round, white: margin brown, underside with yellow, green, and white spots.

PAPILIO DAPLIDICE: alis integris rotundatis albis, margine fuscis, subtus luteo grifeis 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 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 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 of *Bath-White* Butterfly has been given to it by some collectors. The small number of foreign authors who have figured this species sufficiently denotes its scarcity in Europe, and we are not acquainted with the works of any English author in which it is delineated.



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

PAPILIO EUPHROSYNE.

PEARL BORDER FRITILLARY BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings indented. Upper side fulvous brown with black spots. A border of silver spots on the underside.

PAPILIO EUPHROSYNE: alis dentatis fulvis nigro maculatis: subtus maculis novem argenteis. *Linn. Syst. Nat.* 2. 786.
 214. *Fn. Sv.* 1069.
Fab. Ent. Syst. T. p. 1. p. 147. sp. 450.
Geoffr. Inf. 2. 44. II.
Degeer. Inf. 2. tab. 1. fig. 10. II.
Esp. pap. 1. tab. 18. fig. 3.

An elegant species. Is common in woods, and appears in the winged state in May.



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

PAPILIO CINXIA.

PLANTAIN FRITILLARY.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings dentated, brown, with black spots: beneath fulvous; lower wings with three whitish bands marked with black spots.

PAPILIO CINXIA: Alis dentatis fulvis nigro maculatis: posticis subtus fasciis tribus albidis nigro maculatis. *Linn. Syst. 2. 784. 205.—Sv. 1063.*
Fab. Ent. Syst. 3. p. 2. 250. 779.
Roes. Inf. 4. tab. 13. fig. 4: 5.
Geoff. Inf. 2. 45. 12.
Wilks pap. 58. tab. 3. a. 8.
Esp. pap. 1. tab. 16. fig. 2.
Schæff. Icon. tab. 204. fig. 1. 2.

β. *Papilio Delia*, alis dentatis fulvo nigroque variis: posticis supra punctis quatuor ocellaribus, subtus albis: fasciis duabus fulvis; posteriore nigro punctata. *Linn. Fab.*

Papilio Delia. *Wien. Verz.* 179. 6.

The larva is black, beset with spines and tufts of the same colour; the sides are marked with a double row of white spots, the feet red. It is found on the long plantain in April. The flies appear in May. This is the rarest of the British Fritillary Butterflies, if we except *Papilio Lathonia*, the Queen of Spain Butterfly.

FIG. II.

PAPILIO LUCINA.

DUKE OF BURGUNDY FRITILLARY.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings indented, dark fuscous with yellow-brown spots: posterior wings beneath with two rows of whitish spots.

PAPILIO LUCINA: Alis dentatis fuscis testaceo maculatis: subtus fasciis duabus macularum albidarum. *Linn. Syst. Nat.* 2. 734. 203.—*Fn. Sv.* 1001, *Fab. Ent. Syst.* 3. p. 1. 250. 778,

Raj. Inf. 122. 12.

Schæff. Icon. tab. 172. *fig.* 1. 2.

Petiv. Gazoph. tab. 16. *fig.* 10.

This pretty Insect is found in the winged state in May; the Larva is unknown.—Taken in Hornsey-wood.



PLATE LXXIII.

PAPILIO LATHONIA.

LESS SILVER-SPOTTED BUTTERFLY,

OR,

QUEEN OF SPAIN.

FRITILLARY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clavated. Wings, when at rest, erect! Fly by day.

SPECIFIC CHARACTER.

Above yellow-brown, with spots of black. Beneath yellowish, variegated with dark brown, and black spots. Thirty-seven silver spots on the posterior wings.

Syst. Ent. 5. 17. 314.—*Linn. Syst. Nat.* 2. 786. 213.—
Fn. Sv. 1068.—*Geoff. Inf.* 2. 120. 6.—*Fab. Sp. Inf.* 2. 110. 481.

Papilio Rigenfis minor aureus, maculis argenteis subtus perbelle notatus.—*Raj. Inf.* 120. 6.

Hufn. Pict. Tab. 11. *Fig.* 11.

Robert. Icon. Tab. 12.

Merian. Europ. 2. *Tab.* 157.

Roes. Inf. 3. *Tab.* 10.

Esp. Pap. 1. *Tab.* 18. *Fig.* 2.

Schaeff. Icon. Tab. 143. *Fig.* 1. 2.

Seb. Mus. 4. *Tab.* 1. *H.* 1—4.

We have several species of the Papilio tribe, which are highly valued in England either for their beauty or scarcity; the *P. Lathonia* is little, if by any means, inferior to the most beautiful; and as a rare Insect is esteemed an invaluable acquisition.

The upper side is only a plain orange or brown colour, with spots of strong black, and does not in general appearance differ materially from the greasy Fritillary Butterfly, which is very common in most situations; but the underside is entirely unlike every other English Insect: the bright silver splashes on the under wings are singular in their form, and so beautifully relieved by the orange ground colour, and variegation of black between, as to form a delightful contrast of the most pleasing colours.

Whether this species was originally a native of this country, may be doubtful; we certainly have the most respectable testimonies of its being taken alive in different parts of the kingdom, but it might have been introduced by accident in the larva, or more probably in the pupa state: it has been seen at *Bath*; and either *Moses Harris*, or some of his friends, bred it from the caterpillar. "Queen of Spain Fritillaria changed into chrysalis April, appeared in the winged state May 10th.—*Gambling Gay wood*, near *Cambridge*."

It has also been taken near *London*; Mr. *Honey*, of *Union-street*, in the *Borough*, took one a few years since in his garden. I requested the favour of whatever information he could communicate respecting this circumstance, and received a note with these words:—

"September 9th, 1785.—I took the Queen of Spain Butterfly in my garden. (Signed) Wm. HONEY."



P L A T E C C C I I .

P A P I L I O A G L A J A .

S I L V E R S P O T F R I T T I L A R Y B U T T E R F L Y .

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

Antennæ clubbed at the ends. 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

A N D

S Y N O N Y M S .

Wings dentated, fulvous, with black spots. Twenty silver spots on the under side of the posterior wings.

PAPILIO AGLAJA: alis dentatis fulvis nigro maculatis: subtus
 2I. maculis argenteis. *Linn. Syst. Nat.* 2. 785.
 2II.—*Fn. Sv.* 1064.—*Fab. Ent. Syst. T.* 3. p. 1.
 p. 144. *fp.* 442.
Wilks Pap. tab. 2. a. 12.
Esp. Pap. 1. tab. 17. fig. 3.
Schæff. Icon. tab. 7. fig. 1, 2.

A very beautiful and not uncommon British species; the Larva feeds on the Violet, &c.; it is of a dirty black colour, spotted with brown, and armed with long spines, as in *P. Antiopa*. This Larva is found in May, changes to the pupa state the latter end of the same month, and appears twenty-one days after a winged insect.



PLATE CCCCXLVIII.

PAPILIO ADIPPE.

HIGH BROWN FRITILLARY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clubbed at the end; wings erect when at rest: fly by day.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Wings indented, fulvous with black spots; twenty three silver spots on the posterior pair beneath.

PAPILIO ADIPPE: alis dentatis fulvis nigro maculatis: subtus maculis 23 argenteis. *Linn. Fn. Succ.* 1066.—*Gmel. Linn. Syst. Nat.* p. 2334. n. 212,—*Fabr. Ent. Syst.* 3. 146. 448.—*Syst. Ent.* 517. 213.

The larva of this beautiful Butterfly is found on plants in May, and appears in the winged state in July. The larva is cinereous brown, with numerous rufous hairs and spines, and a dorsal white stripe, with a dark line along the middle, and the sides marked with a series of white spots. The pupa is fuscous with silvery dots.

This species is scarce, and occurs chiefly near the skirts of woods. The larva is said to feed on the two species of violet, *viola odorata*, and *tricolor*.



P L A T E CCXLVII.

PAPILIO PAPHIA.

SILVER STRIPE FRITILLARY BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings dentated fulvous, spotted with black, under-side striped with silver.

PAPILIO PAPHIA: Alis dentalis fulvis nigro maculatis, subtus fasciis argenteis. *Linn. Syst, Nat.* 2. 786, 209.
Fn. Sv. 1064.

Geoffr. Inf. 2. 42. 8.

Roef. Inf. 1. *pap.* 1. *tab.* 7.

Schæff. Icon. tab. 27. *fig.* 3, 4.

Wilks pap. 57. *tab.* 2, *a.* 7.

Papilio Paphia is an elegant species of the British Papiliones. In size, colour, and general appearance of the upper side it is very similar to Papilio Agala; in the under-side, it is extremely different.

Both

Both of these Butterflies are remarkable for that peculiar shining appearance of polished silver with which a few other of the European Fritillary Butterflies are ornamented; but in *Papilio Agala*, this silver is disposed in distinct splashes or spots, while in *Papilio Paphia* it appears in transverse streaks. These streaks are finely softened into the red and olive green of the wings, and produce altogether a singular and charming effect. It is from the latter circumstance the early English collectors termed this the *silver-wash* Fritillary.

The Caterpillar of this butterfly is found on the grass in May. It is of a plain yellowish brown, with several longitudinal stripes of dark brown; it is also thickly beset with barbed spines, a quarter of an inch in length, and has in particular two of a remarkable form on the first annulation next the head. It remains in the chrysalis twenty or twenty one days; and appears in the winged state early in June.



P L A T E C C L X.

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. Inf. 3. fig. 4.

Degeer. Inf. 1. tab. 22. fig. 5.

Roef. Inf. 1. pap. 1. tab. 6.

Sepp. Inf. 1. tab. 1.

Schæff. Icon. tab. 143. fig. 1, 2.

Ernst. Inf. Europ. 1. tab. 6.

Geoff. Inf. 2. 40. 6.

Ammer. Inf. tab. 24.

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.





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

P A P I L I O C A R D U I :

PAINTED LADY BUTTERFLY.

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

Antennæ clubbed. 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

A N D

S Y N O N Y M S .

Wings indented, above orange variegated with black and white ;
beneath, four eyes on the posterior pair.

PAPILIO CARDUI: alis dentatis fulvis albo nigroque variegatis :
posticis subtus ocellis quatuor. *Linn. Syst. Nat.* 2.
774. 157.—*Fn. Sv.* 1054
—*Fab. Ent. Syst. T.* 3. p. 1. 104. *sp.* 320.
Schæff. Icon. tab. 97. *fig.* 5, 6.
Ernst. Pap. Europ. 1. *tab.* 7.
Albin. Inf. tab. 56.
Cram. Inf. 3. *tab.* 26. *fig.* E. F.
Reaum. Inf. 1. *tab.* 26. *fig.* 11, 12.
Hoeffn. Inf. tab. 7. *fig.* 3.

The Painted Lady Butterfly is a local species, and therefore not very common. In some seasons, these Insects appear in considerable numbers, and then again are not seen for several years. They

were taken in abundance in the summer of 1795, in many parts of the kingdom, and particularly in Manchester; but since that time, few, if any, have been met with.

In point of beauty, this species has an immediate claim to the notice of English Entomologists. Its larva feeds on nettles, thistles, docks, and other herbage by the sides of ditches, and changes to the pupa state about the middle or latter end of July; the winged Insect appears twelve days after.



P L A T E LXXXIX.

PAPILIO ANTIOPA.

CAMBERWELL BEAUTY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clavated. Wings, when at rest, erect. Fly in the day time.

SPECIFIC CHARACTER.

Wings angulated, rich purple-brown, with a pale yellow external border; and an intermediate dark border, with a row of bluish eyes; on the anterior margin of the first wings two long yellowish spots.

—Alis angulatis nigris, limbo albida.

Linn. Syst. Nat. 2. 776. 165.—*Fn. Sv.* 1056.

Geoff. Inf. 2. 35. 1.

Papilio maxima nigra, alis utrisque limbo lato albo cinctis.

Raj. Inf. 135. 136.

Fonst. Inf. t. 9. & 11.

Schæff. Elem. Tab. 94. *Fig.* 1.

—— *Icon. Tab.* 70. *Fig.* 1. & 2.

Sulz. Inf. 1. *Tab.* 14. *Fig.* 85.

Roef. Inf. 1. *Pap.* 1. *Tab.* 1.

Esp. Pap. 1. *Tab.* 12. *Fig.* 2.

Seb. Mus. 4. *Tab.* 32. *Fig.* 1, 2.

Bergstræfs. 2. *Tab.* 39. *Fig.* 1. 2. 3. 4.

Wilk. Pap. 58. *Tab.* 2. a. 10.

Degeer. Inf. 1. *Tab.* 21. *Fig.* 8. 9.

The Papilio Antiopa is found in every part of Europe; in Germany particularly it is very common; it is as frequent in America as in Europe, and is esteemed as a rarity only in this country: it is, indeed, sometimes found in abundance with us, but as its appearance is neither annual nor periodical, it is generally valued by English Collectors.

There have been several instances of this Insect being found in different parts of the country in mild seasons, as plenty as the Peacock, or Admirable, Butterflies; in the summer of 1793 particularly, they were as numerous in some places as the common garden White Butterfly is usually near London.

But as a proof that its appearance does not altogether depend on the temperature of the weather, we need only adduce, that not a single specimen has been taken this season, although it has been one of the most favourable for all kinds of Insects that can be recollected; and many species of Moths and Butterflies, which have not been seen for several years before, have been taken at Combe-Wood, Darn-Wood, and similar adjacent parts, during summer, in plenty.

It is from the uncertainty of its appearance that we have such different, and, seemingly, irreconcilable accounts of the abundance and scarcity of this Butterfly; it was certainly well known as a native of this country to former Collectors, yet it received only a few years since the new name *Grand Surprise*; this name, which was given by Moses Harris, or by some of the company of Aurelians, of whose society he was a member, was evidently intended as a significant expression of their admiration, not of the beauty of the Insect, but of the singular circumstance of the species remaining so long in those very places where the most diligent researches of preceding Collectors had been made in vain; of their unwearied industry they were well persuaded, and were therefore unable to account for the appearance of a numerous brood of large Insects, which must have remained concealed many years, or been lately transported to those places.

Harris, in his *Aurelian*, calls it the *Camberwell Beauty*, though in his list of English Butterflies Hawk-Moths, and Moths, he uses the name *Grand Surprise*: we mention this circumstance, as it appears very inconsistent that the new name he adopts in one work, and the

old one he should have discarded in the other, are equally and indiscriminately used in the several editions of both; we still find it in the Aurelian, "*Camberwell Beauty*," in the other, "*Grand Surprise*," from which it might be readily inferred, that he meant two distinct Insects, were it not for the addition of the Linnæan name *Pap. Antiopa*.

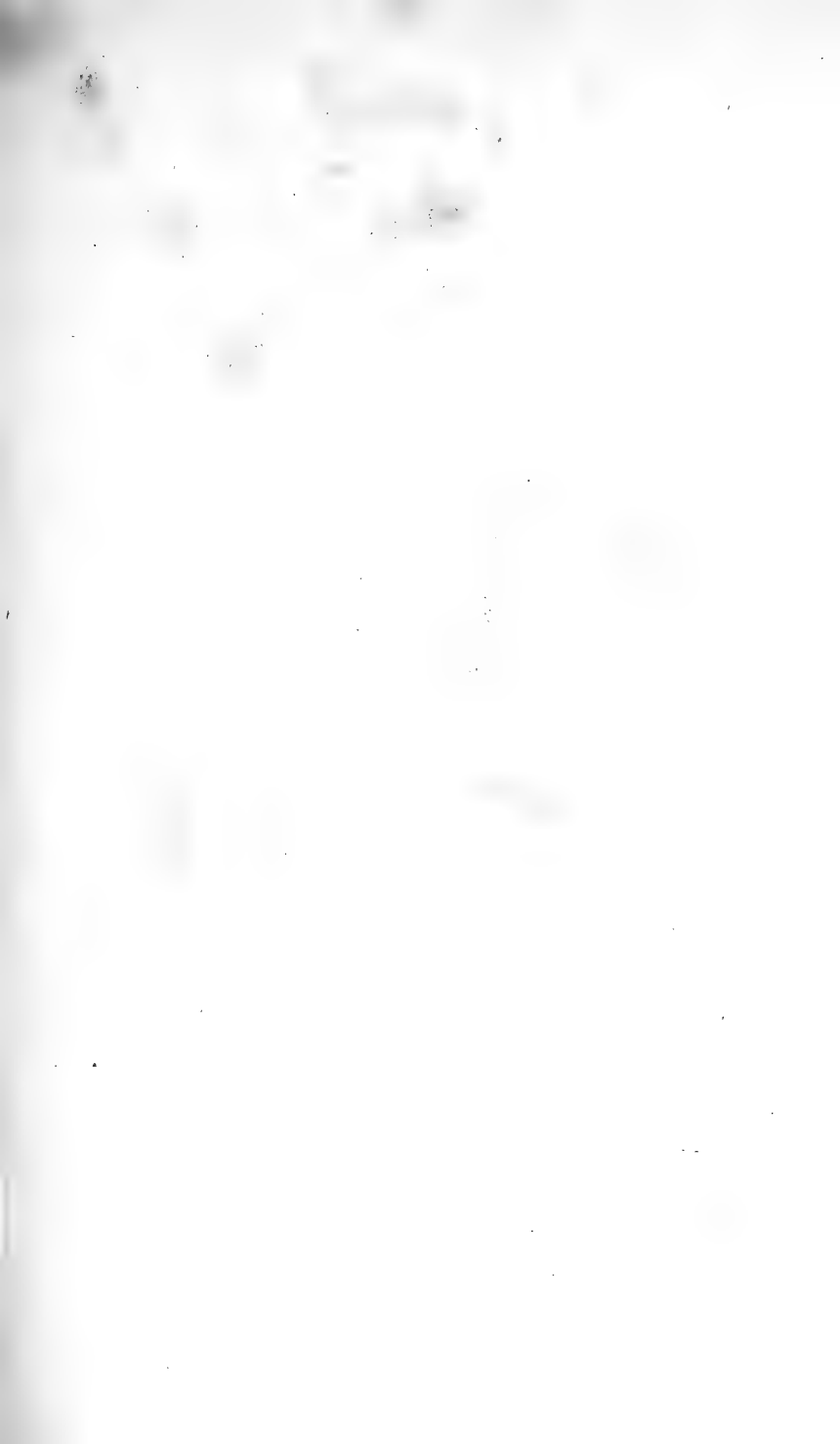
In the general description of this Insect in the Aurelian, Harris does not say that it was scarce at that time (1775), which he certainly would if it had been so; but Berkenhout, in his outlines of Natural History, (1789) adds, after its specific character, that it is "very rare in this kingdom." To reconcile those accounts, we can only observe, that no Insect is more uncertain as to the time of its appearance; that though found in abundance in one season, it may not be seen in the next, or even for several successive years; it will then appear in small or large quantities, for one, two, or more seasons, and again disappear for many years as before.

The English specimens differ from those of other countries in the colour of the light exterior border of the wings; in the former, that part is of a very pale yellow brown, inclining to a dirty white; in the latter, it is of a deep yellow, marked and spotted with brown. *Fabricius* notices this difference, and says they are varieties.

The Caterpillars feed on the Willow, and are generally found on the highest branches; they cast their skin early in *July*, and pass to the Chrysalis, as represented in the plate. The under side of the Butterfly is of a black brown, with irregular dark streaks; the yellowish border is visible on that side.









P L A T E CCVI.

PAPILIO IO.

PEACOCK BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings angulated, indented, fulvous with spots of black : a blue ocellated spot 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.* I. 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.
Schæf. 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 more the splendid species of this beautiful tribe of creatures, the representation will probably prove acceptable. The underfide is entirely of a shining dark colour, with innumerable waved streaks of black. The upperfide 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 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. Inf. 1. *pap.* 1. *tab.* 2.
Schæff. Icon. tab. 146. *fig.* 1, 2.
Ammir. tab. 15.
Frisch. Inf. 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.







P L A T E LV.

PAPILIO URTICÆ.

SMALL TORTOISE-SHELL BUTTERFLY.

LEPIDOPTERA.

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

Antennæ clavated. 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.

Deep orange. Wings considerably indented. Above, on the superior Wings, six black and two whitish spots. Inferior Wings, one large spot on each. A broad exterior black border, edged with black and yellow, and a row of light blue spots on each Wing. Underfide, black-brown with waves and dashes of yellow, brown, &c.

Syst. Ent. 505. 263.—*Linn. Syst. Nat.* 2. 777. 167.

—*Fn. Sv.* 1058.—*Geoff. Inf.* 2. 37. 4.

Papilio urticaria vulgatissima, rufo nigro cœruleo et albo coloribus varia. *Raj. Inf.* 117. 1.

Robert. Icon. Tab. 5.

Huffn. Piët. 2. *Fig.* 16.

Merian. Europ. 44. *Tab.* 44.

Albin. Inf. *Tab.* 4. *Fig.* 51.

Schaeff. Icon. Tab. 142. *Fig.* 1. 2.

Goed. Inf. 3. *Tab.* 3.

————— &c. &c.

A very beautiful species of the *Papilio*; and, were it less frequent, would be infinitely esteemed for the elegant combination of its colours; but is at present little regarded. The old Flies are observed in May, the Caterpillars are hatched about the middle of June; in July they are full fed, and cast their last exuviae: they transform into Chrysalis, in which state they remain only fifteen days, and then burst forth a *Papilio*.

They continue to breed in vast quantities during the warm weather; and have, if the season be favourable, several broods before the winter.

The Chrysalis is brown, but often assumes much of a golden hue; and, though not its common appearance, is sometimes seen entirely of a rich gilded, or gold colour; but this is unnatural, and generally indicates that the Caterpillar has been stung by the Ichneumon Fly. The Caterpillars are taken on the Nettle*.

* *Urtica Dioica.* Linn.





P L A T E CXCIX.

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 clavated: 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 Y N O N Y M S.

Wings angulated, fulvous, with black spots: beneath, a white character resembling letter C in the posterior 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. Mus.* 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 scalloped margin of the wings sufficiently distinguishes it 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 G aureum*, 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 of the Comma Butterfly is distinguished by having a broad white space on the back, extending from the posterior extremity to the eighth joint of the body. It has also one peculiarity that must not be omitted, namely, that when suspended by the tail, as is frequently its posture in a quiescent state, the head is bent upwards, and the whole creature has a falcated or hooked appearance.

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







THE
NATURAL HISTORY
OF
BRITISH INSECTS.

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

P A P I L I O I R I S .

EMPEROR OF THE WOODS, OR PURPLE HIGH FLYER.

LEPIDOPTERA.

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

Papilio.

Antennæ clavated. 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 .

Wings indented; above, purple; darker round the Edges, with seven distinct white Spots on the first Wings; on the second, an irregular broad white Stripe, and a red Eye. Beneath, black, brown, and white.

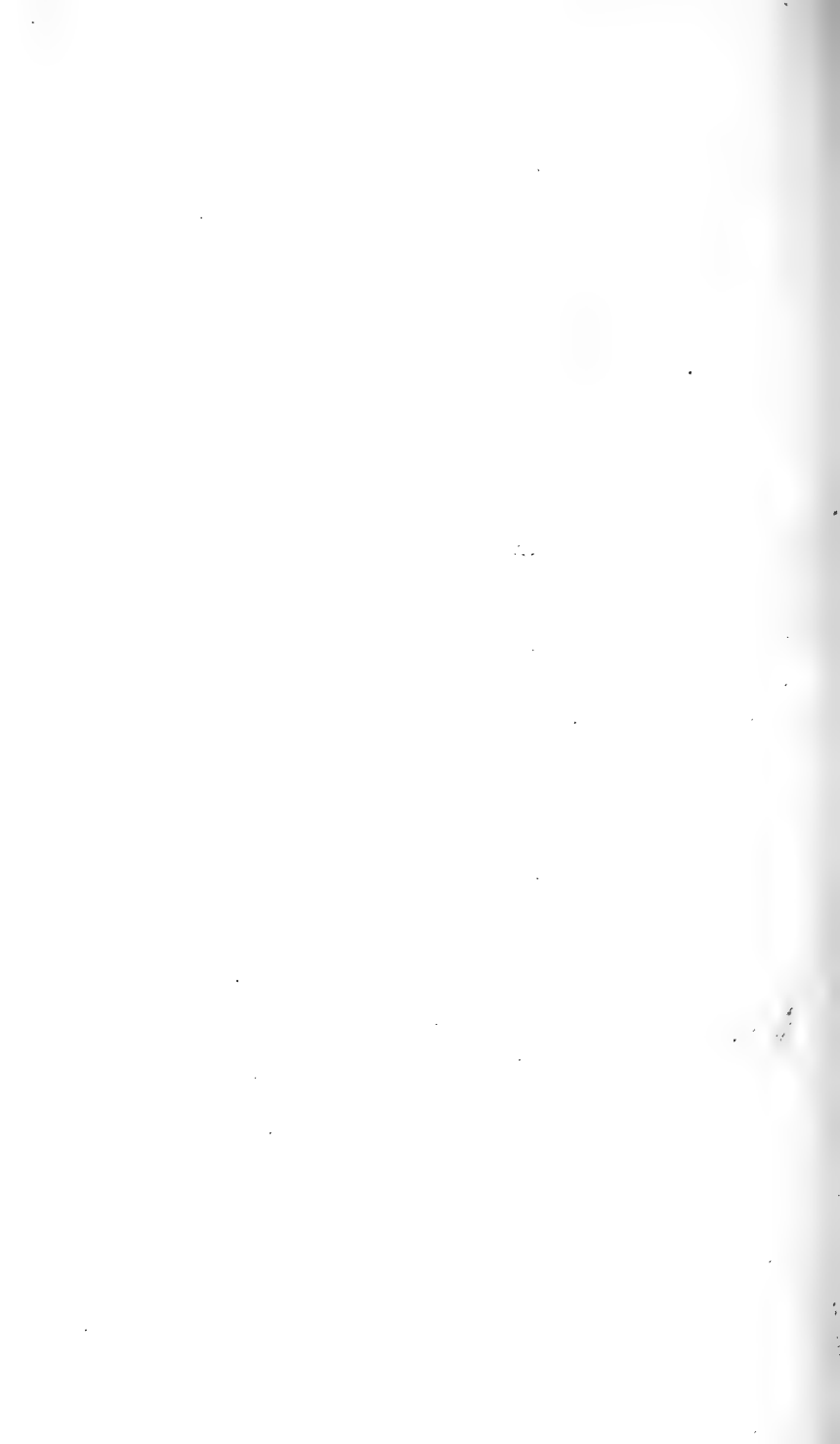
Linn. Syst. Nat. p. 476. P. cx.

The *Papilio Iris* is esteemed among the beautiful, and placed with the rare of the *English Lepidoptera*. The cursory reader may not perceive that superiority, particularly as many of the minute Insects infinitely excel in real beauty and richness of colouring; but the scientific

tific will be ever ready to give it the first place as a British Papilio, and to those a figure of the Caterpillar and Chrysalis will be an acceptable acquisition. It derives the title of Purple High Flyer, as it very rarely descends to the ground; except in some few instances, it has never been taken but in the most elevated situations, and even those instances have been after a strong wind, or heavy rain: The tops of the loftiest forest trees afford it an asylum, and in the Caterpillar and Chrysalis state, it is preserved from the wanton cruelty of man, by the almost inaccessible height of its habitation. They feed on the Sallow, *salix caprea*, and the Caterpillars are obtained by beating the branches of the tree with a pole twenty or thirty feet in length; it is then but a necessary precaution to cover the ground beneath with large sheets to a certain distance, or the insects which fall, will be lost among the herbage.

It is in Caterpillar about *May* and *June*; it passes to the Chrysalis state, and in *July* or *August* is a Papilio.

The great difficulty and trouble to rear the Caterpillars, when found; and greater difficulty to take the Fly, has stamped a valuable consideration on it, and particularly so when fine, and a high price is but esteemed an adequate compensation for it if in good preservation. The male is smaller, but more beautiful than the female; the upper side of the wings of the female not being enriched with that vivid change of purple which the male possesses in such an eminent degree; but the underside of the female is far richer in the various teints of colour than the male: they are both beautifully spotted, mottled, and waved with brown, black, white, and orange. The Chrysalis is of a very delicate texture, much resembling thin white paper, and is tinged in several parts with a very lively purple hue which it borrows from the wings of the enclosed insect, and bears the characteristic mark of a Papilio, by being suspended from the tail, with the head downward.





P L A T E CCXLIV.

PAPILIO CAMILLA.

WHITE ADMIRABLE.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings dentated. Above, uniform dark brown, with a white band, and spots. Inner angle of the posterior wings red.

PAPILIO CAMILLA: alis dentatis fuscis subconcoloribus albo fasciatis maculatisque, angulo ani rubro. *Linn. Syst. Nat.* 2. 781. 187. *Roef.* 3. tab. 33. fig. 3. 4.

The White Admirable Butterfly feeds upon the common honey suckle or woodbine, and is found in the winged state in the months of June and July, in the skirts of woods; its habit is much the same as that of *P. Atalanta*, Red Admirable, but it is by no means so common.

This species has hitherto been deemed the *Papilio Camilla* of Linnæus, though it differs in a slight degree from the descriptions and figures of authors who describe only German or Swedish specimens of it. In the late editions of the *Systema Naturæ*, *P. Camilla* is described with *P. Sibilla*, a *Papilio* nearly allied to it, but which Linnæus considered as a distinct species; his description of *Camilla* expressly saying “angulo ani rubro.”—The angulis ani, of *P. Sibilla* *, not being of a red colour, removes it from the English species.

Fabricius is of a different opinion, and in dissenting from his authority it is incumbent to state our objections. In the *Species Insectorum* of that author, the *P. Camilla* with the Linnæan specific character, is made a variety β of *Sibilla*. The synonyms of the two insects are ambiguous, and the references not more satisfactory. Among others he refers for *P. Sibilla*, to *Drury's Inf.* 2. tab. 16. fig. 1, 2,—to *Roefel Inf.* 3. tab. 70. fig. 1, 2, 3,—and to *Schæffer* 152 †. fig. 1, 2! The two last are perhaps the same species; the first is unquestionably different. For *P. Camilla* he refers to *Roefel* tab. 33. fig. 3, and this agrees with our specimen, except in the colours of the upper surface being somewhat paler; so that we may conclude our English Insect is not only the *P. Camilla* of Linnæus but also the β *Camilla* of Fabricius.

The ultimate opinion of Fabricius is however different, for in the *Entomologia Systematica* since published, *Camilla* and *Sibilla* stands a distinct species; and *Camilla* is thus described, “alis dentatis atris coeruleo micantibus: fascia utrinque maculari alba, posticis subtus basi argentea immaculata.” *Linn. Syst. Nat.* 2. 781. 187. *habitat in Austria*. Thus *P. Camilla* will no longer agree with our insect, nor with that figured by *Roefel*, plate 3. 3, fig. 3. But if we refer to the *Systema Naturæ* of Linnæus, we discover another error, for

* Roefel's figure, vol. 3. tab. 70. has an obscure red band entirely across the posterior wings.—Schæffer's figure has no trace of red on that part.

† Erratum.—Designed for 153—for 152 is the German variety of *Papilio Iris*, Purple Emperor Butterfly.

instead of the above quoted specific character, Linnæus only says, "Alis dentatis fuscis subconcoloribus albo fasciatis maculatifque, angulo ani rubro." p. 781. 187. and this is clearly our insect.— From this the whole of the Fabrician account is obviously a complicated error of description and synonyms, and without attempting to investigate it further, we shall speak of both species as they appear to us.

We consider the Common English Admirable, as the true *P. Camilla*; and that *Sibilla*, and not *Camilla* is the Austrian species, as we have received it from that country; it is *much darker* in the *upper surface*, and has a *row of shining blue spots* all round the wings: the *base of the posterior wings*, beneath *silvery* and *without spots*, as Fabricius describes his *Camilla*. Our insect on the contrary has *no row of blue spots* on the *upper surface*, but a *red spot* at the inner angle of the posterior wings; the *base of the lower wings* are also *silvery beneath*, but *has black spots* upon it. They differ in many other respects: these alone determine them to be two species, and ours to be the *Camilla* of Linnæus.

We have inspected the drawings of Mr. Jones, from which Fabricius describes most of his *Papiliones*, and are confirmed in our opinion.



P L A T E 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.

Roef. Inf. 3. tab. 37. fig. 1. 2.

Esp. pap. 1. tab. 7. fig. 3.—*Tab.* 25. fig. 1.

Ernst. Inf. Europ. 1. tab. 30.

Petiv. Mus. 4. 3. tab. 1. fig. 1.

This Insect 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 grafs. 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.

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



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

P A P I L I O H Y P E R A N T H U S .

R I N G L E T B U T T E R F L Y .

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

Antennæ clavated at the tip: 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

A N D

S Y N O N Y M S .

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. *fp.* 677.
Degeer. Inf. 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 grafs; 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 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 CCCCXXVI.

PAPILIO BLANDINA.

SCOTCH ARGUS BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ terminated in a club: wings erect when at rest: fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings indented, fuscous, with an ocellar rufous band: posterior pair beneath fuscous, with a cinereous band.

PAPILIO BLANDINA: alis dentatis fuscis: fascia rufa ocellata
posticis subtus fuscis: fascia cinerea. *Fâbr.*
Ent. Syst. T. 3. p. I. 236. n. 736.

This very rare species of Papilio has been recently discovered to be a native of the British isles. About three or four specimens of it were taken in the isle of Arran by Major Walker, to whose politeness we are indebted for the individual example at this time in our Museum. Another is preserved in the collection of our friend A. M'Leay, Esq. and those, we have reason to apprehend, are the only specimens at present in any of the London Cabinets.

Though but lately introduced to our attention as a native of Great Britain, this interesting insect is by no means unknown to the continental

tinental naturalists as an inhabitant of Germany. It is the true *Papilio* (*Sat.*) *Blandina* of the Fabrician system*. This author likewise describes another *Papilio*, nearly allied to the above, under the specific name of *Ligea*. This latter is, however, sufficiently distinguished by having four ocellate black spots in the rufous band on the upper wings instead of three, as in *P. Blandina*. Fabricius, in his general description, speaks of the near affinity his *P. Blandina* bears to *P. Ligea*, but observes that *P. Ligea* has a white spot at the end of the band on the underside of the posterior wings, which the other has not. "Affinis *P. Ligea*. differt tamen alis posticis vix ocellatis, fuscis fascia cinerea absque maculis albis." *Fabr.*—*Papilio Ligea* was discovered by Major Walker in the isle of Arran at the same time as *P. Blandina*, and will shortly appear in the present work†.

* Fabricius describes two of the *Papiliones* under the specific name of *Blandina*, but which cannot easily be confounded, as one of them are of the *Pap. Nymphales* tribe, and the other belongs in his arrangement to the *Satyri*.—*P. N. Blandina* is an East Indian species, and is fully noticed in our illustration of Exotic Entomology.

† Figures of both the above-mentioned insects have appeared in a late publication, the "British Miscellany," one in Plate 2, the other in Plate 7. Unfortunately, however, the Editor has entirely misconceived the Fabrician authorities, and reversed the two names assigned them by that author. The Fabrician *Papilio Blandina* is by that means erroneously named *Ligea*, and, *vice versa*, the Fabrician *P. Ligea*, called *Blandina*.—There are, besides, a few errors in the figures with regard to the form, situation, and number of the ocellate spots. Those relating to the *P. Ligea* will be hereafter noticed. In our *P. Blandina* (*Ligea Brit. Misc.*) the macular band on the underside of the posterior wings appears to have only two small dots, while in the insect there are no less than six, the three lower of which has a white dot in the center.—We were at first inclined to suspect, that the specimen in the cabinet of Mr. McLeay, from which the drawing of that insect was taken, might have been in some measure injured, and the spots obliterated, or that his insect varied from that we possess; we have, however, since compared them, in order to ascertain whether any such dissimilarity in reality existed between them, and find the two insects correspond in every respect.



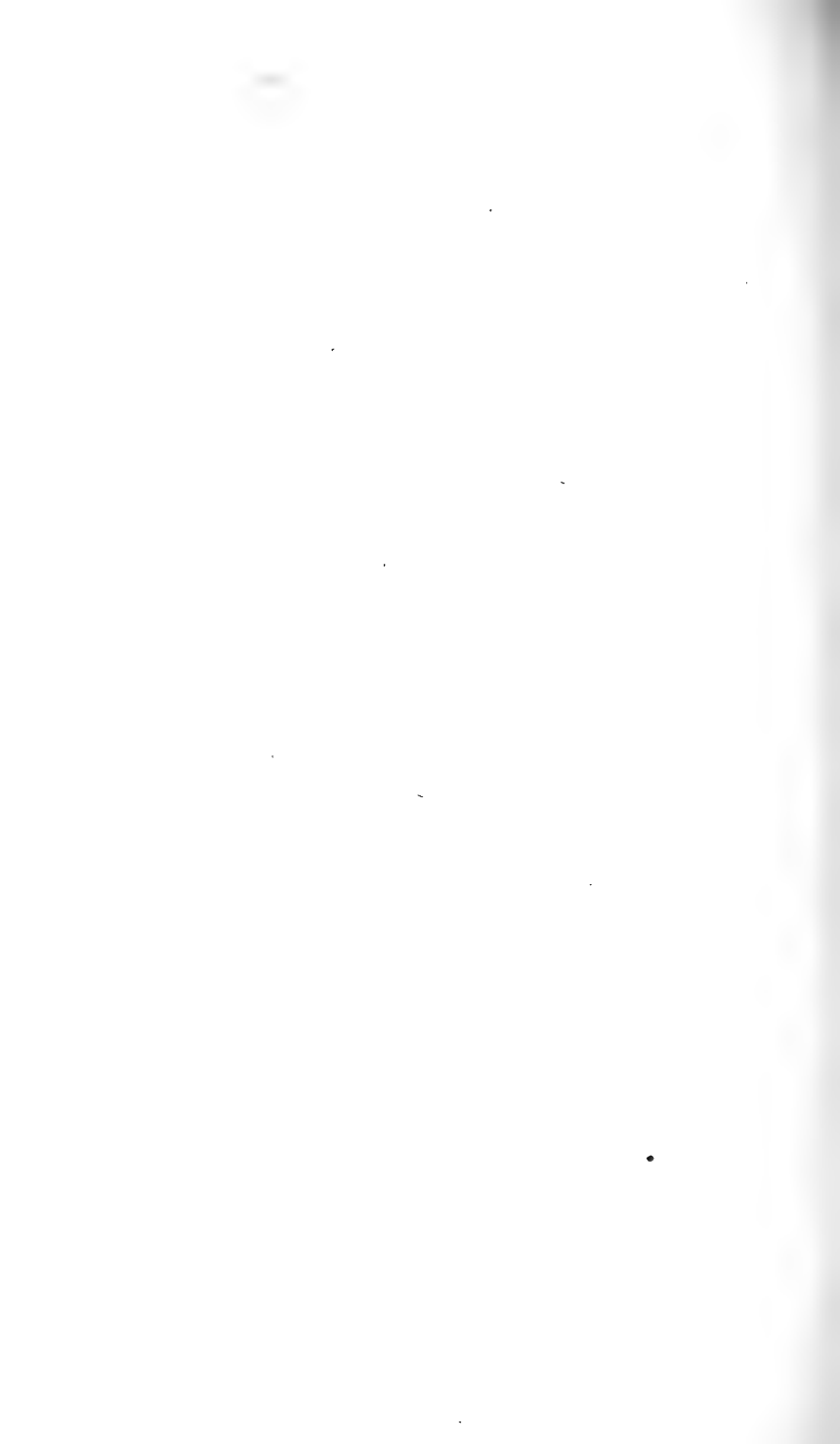






PLATE CCCC.V.

PAPILIO PILOSELLÆ.

LARGE HEATH, OR GATE-KEEPER BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ terminated in a club : wings erect when at rest : fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings indented, fuscous, with fulvous disk : anterior pair with a bipupillated black spot near the tip ; and snowy dots on the posterior wings beneath.

PAPILIO PILOSELLÆ : alis dentatis fuscis : disco fulvo, anticis utrinque ocello nigro : pupilla gemina, posticis fubtus punctis ocellaribus niveis. *Linn. Syst. Mant. I. 537.*

PAPILIO PILOSELLÆ : *Fabr. Ent. Syst. 3. 240. 748.—Syst. Ent. 497. 233.*

Papilio Tithonus. *Fabr. Spec. Inf. 80. 355.*

PAPILIO PILOSELLÆ : *Gmel. Linn. Syst. Nat. 2300. n. 552.*

PAPILIO PILOSELLÆ, LARGE HEATH. *Haworth Lep. Brit. p. 24. n. 28.*

PAPILIO HERSE. *Wien Schmetterl.* p. 320. n. 24.

PAPILIO TITHONUS: *Lewin. Pap.* 22.



This is one of the most abundant of the European Papiliones. In England it literally swarms about the hedges in the month of July, when it appears in the winged state. The larva is greenish, with a white line, and brown head: it is found in this state in June.—The male of this butterfly is rather smaller than the female, and is distinguished further by having an oblique dusky band across the fulvous disk of the anterior wings.







P L A T E CLXXXVI.

PAPILIO HERO.

SCARCE MEADOW-BROWN BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

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

PAPILIO HERO: alis integerrimis fulvis: subtus 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 places in 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.





P L A T E C C C X X .

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

M E A D O W B R O W N B U T T E R F L Y .

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

A N D

S Y N O N Y M S .

Wings dentated above, brown beneath, first pair yellowish, with a black eye-shaped mark, second pair brownish, with two smaller eye-spots.

PAPILIO JANIRA: alis dentatis fuscis; anticis subtus luteis; ocello utrinque unico, posticis subtus punctis tribus. *Linn. Syst. Nat.* 2. 744. 156.—*Fn. Sv.* 1053.—*Fab. Ent. Syst.* 3. p. 1. 241. 752. *Schæff Icon. tab.* 273. fig. 1. 2. 5. 6.—*Geoff. Inf.* 2. 49. 17.

β **PAPILIO JURINA**: alis dentatis fuscis: anticis supra litura flava ocello utrinque unico. *Linn. Syst. Nat.* 2. 774. 155.—*Fn. Sv.* 152. *Roess. Inf.* 3. tab. 34. fig. 7. 8.

Linnæus described the two sexes of this Butterfly as distinct Species under the names of Janira and Jurina. The first is the male and the latter the female insect.

The larva is hairy, green, with a lateral white line and bifid tail, and feeds on grafs. It is very common in the winged ftate, frequenting meadows, &c. whence it is called the Meadow Brown Butterfly.



P L A T E 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.



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

PAPILIO ÆGERIA.

SPECKLED WOOD BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings indented, fuscous with yellow spots : anterior pair with an ocellar spot on each side : posterior ones ocellated above, beneath marked with four dots.

PAPILIO ÆGERIA : alis dentatis fuscis luteo maculatis : utrinque anterioribus ocello, posterioribus supra ocellis, subtus punctis quatuor. *Fabr. Spec. Inf.* 2. p. 73. n. 325.—*Mant. Inf.* 2. p. 37. n. 381.
Gmel. Linn. Syst. Nat. T. 1. p. 5. n. 2295. 143,
Ray Inf. p. 128. n. 5.
Schæff. Icon. t. 75. f. 1. 2.
Hübner. Schmet. pl. 40. 181. 2.

Very common in the lanes leading through woody situations during the whole summer, two or three distinct broods being produced annually. The larva is green, with a white line, and spinous tail; the pupa greenish, and bulky in proportion to its length.

In the larva state it feeds on graminiferous plants, and is observed in this stage from March till the end of June. The first brood appears in the fly state in the month of April, the latest in Autumn.

Papilio Ægeria is not only one of the most abundant and generally diffused species of *Papiliones* in this country, but appears to be found in plenty throughout the rest of Europe.



P L A T E 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 maculari 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. Inf. 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.





P L A T E C C L.

P A P I L I O B E T U L Æ.

B R O W N H A I R S T R E A K B U T T E R F L Y.

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 clavated at the end : tongue spiral : 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

A N D

S Y N O N Y M S.

Wings tailed : above brown : beneath yellowish, with two white stripes on the posterior pair.

Papilio Betulæ: alis subcaudatis fuscis subtus luteis : posticis strigis duabus albis. *Lyn. Syst. Nat.* 2. 220.—*Fn. Sv.* 1070.

Hesperia Betulæ. *Fab. Ent. Syst.*

Geoff. Inf. 2. 58. 27.

Albin. Inf. tab. 5. fig. 7.

Ernst. Pap. Europ. 1. tab. 35. fig. 7.

Hufnag. Inf. tab. 12. fig. 1.

Petiv. Gazoph. tab. 11. fig. 11.

The male of this species is distinguished by a large fulvous mark or spot on the anterior wings. The larva is very remarkable, being broad and flat. It is found in the months of May and June, on the Alder and Sloe. Changes to *Chrysalis* the first week in July. The butterfly appears in August.







PLATE CCCCXXXVII.

PAPILIO PRUNI.

BLACK HAIR-STREAK BUTTERFLY.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

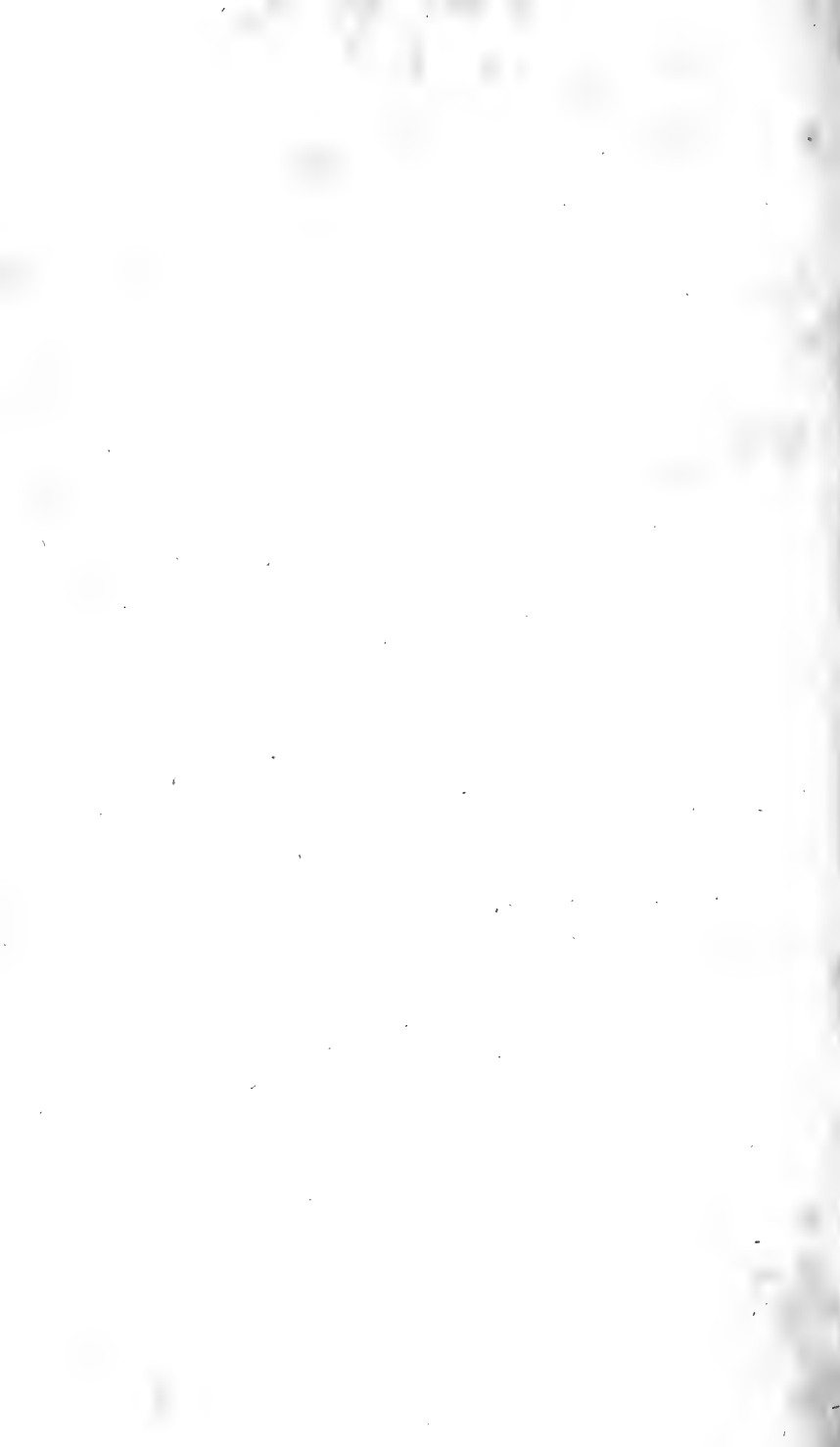
Wings slightly tailed: above brown with a red spot at the tip of the lower-ones: on the posterior pair beneath a fulvous marginal band dotted with black.

PAPILIO PRUNI: alio subcaudatis supra fuscis: posterioribus subtus fascia marginali fulva nigro punctata. *Linn. Fn. Suec.* 1071.—*Gmel. Linn. Syst. Nat.* 2341.

HESPERIA PRUNI. *Fab. Ent. Syst.* 3. 377. 70.

The larva of this species is of a green colour with a pale lateral line; the pupa brown with the head white.

This kind is found in the larva state on the cherry, bullace, and other trees of the *Prunus* genus, whence its name. It appears on the wing in July, and is not common.



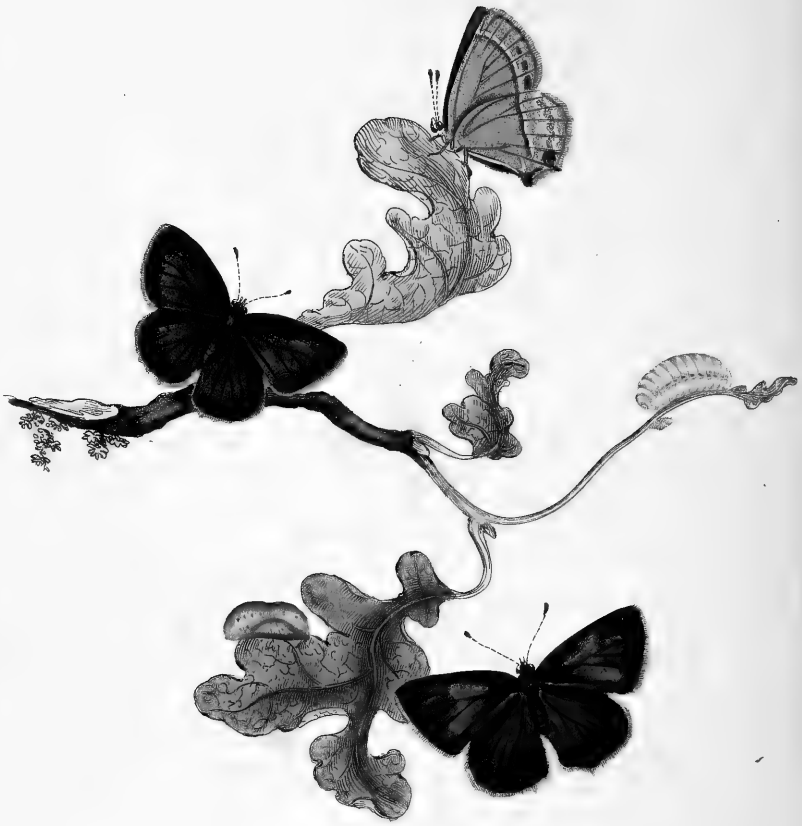


PLATE CCCCLX.

PAPILIO QUERCUS.

PURPLE HAIR-STREAK BUTTERFLY.

GENERIC CHARACTER.

Antennæ terminating in a club : wings erect when at rest : fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings slightly tailed ; blue above, beneath cinereous with a white streak, and double fulvous dot in the anal angle.

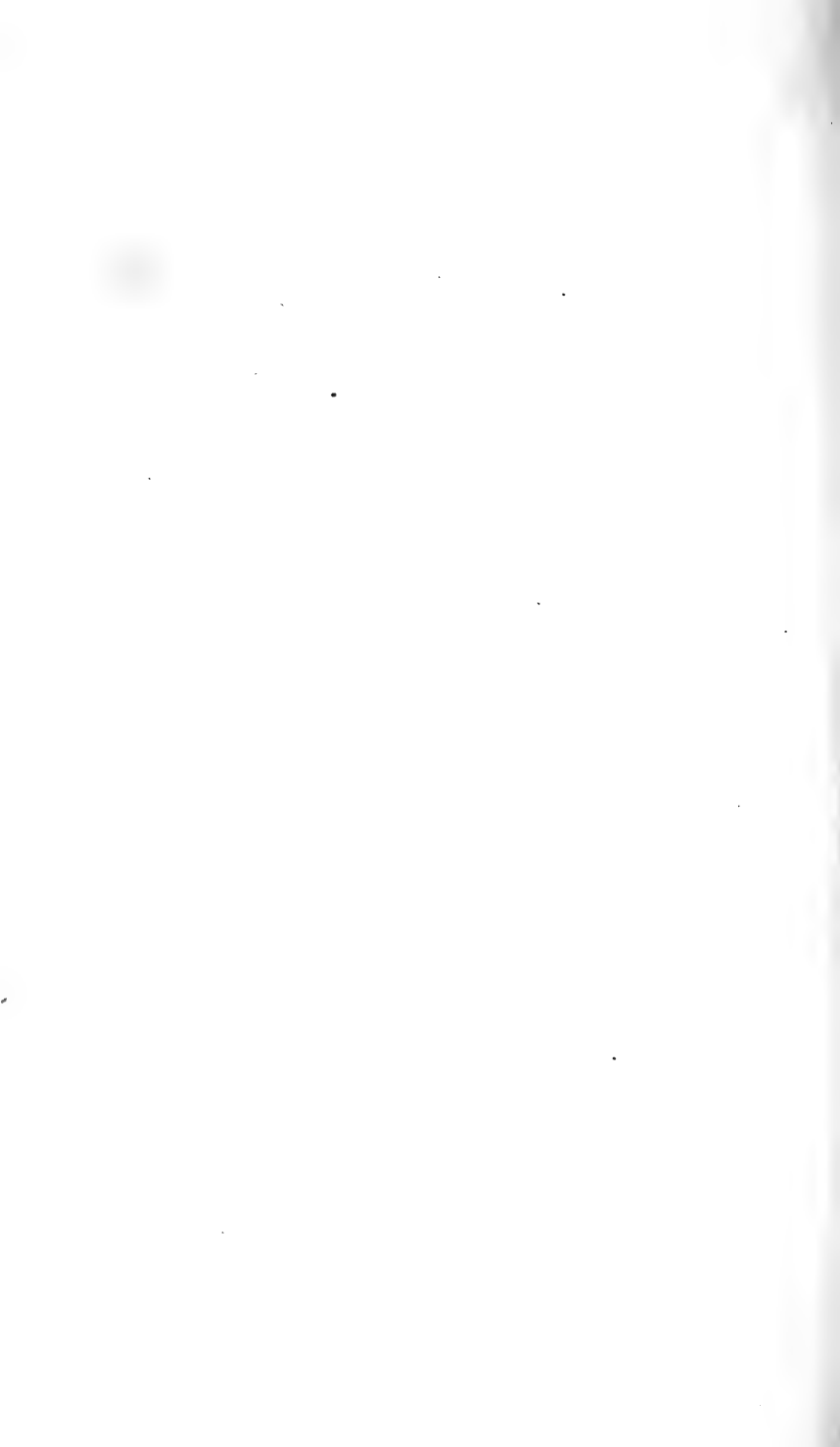
PAPILIO QUERCUS : alis subcaudatis cærulefcentibus, subtus cinereis : striga alba punctoque ani gemino fulvo. *Linn. Fn. Suec.* 1072.—*Mus. Lud. Ulr.* 314.—*Gmel. Linn. Syst. Nat. I p.* 2341.

HESPERIA QUERCUS. *Fabr. sp. inf. 2. p.* 118. *n.* 527.—*Mant. inf. 2. p.* 69. *n.* 652.—*Ent. Syst. 3.* 278. 72.
Esper Schmet. t. 19. *f.* 2. *c.* *a.*
Albin Inf. t. 52. *b.* *c.*
Admiral Inf. t. 17.
Roem. Gen. t. 18. *f.* 10.

The Purple Hair Streak feeds on the Oak. The larva is fat, of a pale or rosy red colour, and marked with lines of green dots ; the pupa glossy, and ferruginous, with three dorsal lines of brown

dots. This species is found in the larva state in June, the fly appears in July.

Both sexes of this Butterfly are of a blackish brown colour, but the male is distinguished by having a large cordated space of a rich blue colour in the disk of the anterior pair. This is an interesting species, and not by any means common.





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

P A P I L I O R U B I .

G R E E N H A I R - S T R E A K .

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

Antennæ terminating in a club: 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

A N D

S Y N O N Y M S .

Wings slightly tailed, above brown, beneath green.

PAPILIO RUBI: alis subcaudatis supra fuscis subtus viridibus. *Linn. Fn. Suec.* 1077. *Gmel. Linn. Syst.* p. 2352. 237.

HESPERIA RUBI. *Fabr. Ent. Syst.* 523, 339.—*Spec. Inf.* 121. 539,

Ejper Schmet. t. 21. *f.* 2.

Ræm. Gen. t. 18. *f.* 11. 12.

Schæff. Icon. t. 29. *f.* 5. 6.

Geoffr. Inf. p. 2. *p.* 64.

The green hair streak butterfly occurs in the larva state on the bramble in the month of July, and the perfect or winged insect appears in May.

The

The larva of this species is of a green colour varied with yellow, and has the head black: the pupa is pale brown. The upper surface of the fly in both sexes is brown, and the lower a rich and elegant silky green. Near the centre of the anterior wings on the upper surface is an obscure paler spot of an oblong form, and which is commonly most conspicuous in the male. The two sexes may be in a great measure distinguished likewise by the number and situation of the white dots on the lower surface of the posterior wings, these in the female constituting an uniform series or line extending entirely across, while in the male they are interrupted, and though distinct on the edges of the wing, are scarcely perceptible towards the disk. The female is also larger than the male; a circumstance not peculiar to this species, but common to most others of the insect tribe.



THE
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PLATE CCXVII.

PAPILIO HIPPOTHOE.

GREAT COPPER BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, margin white. Underfide ash colour, with numerous black eye-shaped spots.

PAPILIO HIPPOTHOE alis integris: margine albo, subtus cinereis: punctis ocellaribus numerosis. *Linn. Syst. Nat.* 2. 793. 254?

PLATE CCXVII.

Fab. Spec. Inf.—Ent. Syst. 2. T. 3. p. 1. 309. 172.

Degeer Inf. 2. tab. 2.

Roef. Inf. 3. tab. 37. fig. 6. 7.

Esp. pap. tab. 38. fig. 1.

Ernst, Inf. Europ. 1. tab. 44. fig. 92. 93.

Our *Papilio Hippothoe* is the largest and rarest of that kind of Butterflies called *Coppers*, by English collectors of Insects. We have heard that this insect has been lately found in Cambridgehire: our specimens were met with in Scotland.

The female is larger than the male; it has also a greater number of black spots on the wings.





P L A T E CLXXIII.

PAPILIO VIRGAURÆ.

SCARCE COPPER BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ terminated in a club: wings, when at rest, erect.
Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings angulated: above fulvous or coppery red, with a black margin: beneath dotted with black and white.

PAPILIORURALIS VIRGAURÆ. *Lin. Syst. Nat. n. 253. p. 793.*
edit. 12. n. 253. p. 2359.—Faun. Suec.
n. 1079.

Papilio ruralis Virgaureæ. Fab. Syst. Ent. n. 569. p. 126.—
Spec. Inf. 2. 569. p. 126.—Mant. Inf. 2.
721. p. 79.

K

Hesperia

Hesperia ruralis Virgaureæ : alis subangulatis fulvis : margine atro,
subtus punctis, nigris albisque.

Fab. Ent. Syst. 4. 173. p. 309

Le Bronzè. *Geoffr. Inf.* 2. 35. p. 65.

Papil. d'Europ. tab. 44. n. 92.

Esper eur. Schmett. 1. Th. tab. 19. fig. 2.

Borkhausen eur. Schmett. 1. Th. 1. p. 141. et.

p. 269.

Syst. Verz. d. W. Schmett. 1. p. 80.

L'Argus fatiné. *Ernst.*

Der Goldrathenfalter. Der Feverpapilion. *Panz. Faun. Inf. Germ.*

A specimen of this very superb and rare butterfly has been taken in Cambridgeshire. It has always had a place in the cabinets of English collectors of consequence; but we cannot learn by whom it was first discovered in this country. *Papilia Virgaureæ* and *Papilio Hippothoe*, have been frequently confounded with each other; but on a comparison, a material difference will be discovered.

Harris has made one error, which it is of importance to the English collector to correct; he says, "*Papilio Virgaureæ*, copper, feeds on grass, found in June and August in meadows, is shining copper, spotted with black." From this it appears he could mean no other than the common copper butterfly, which is found in June and August in meadows, *Papilio Phlæas*; for though the scarce copper butterfly was probably found in his time, it must have been very rare;

rare; and he would not have omitted in his catalogue of English Lepidopteræ, to mention an insect so common as *Papilio Phlæas*, if he had noticed the other. He has also the same error in his Aurelian.

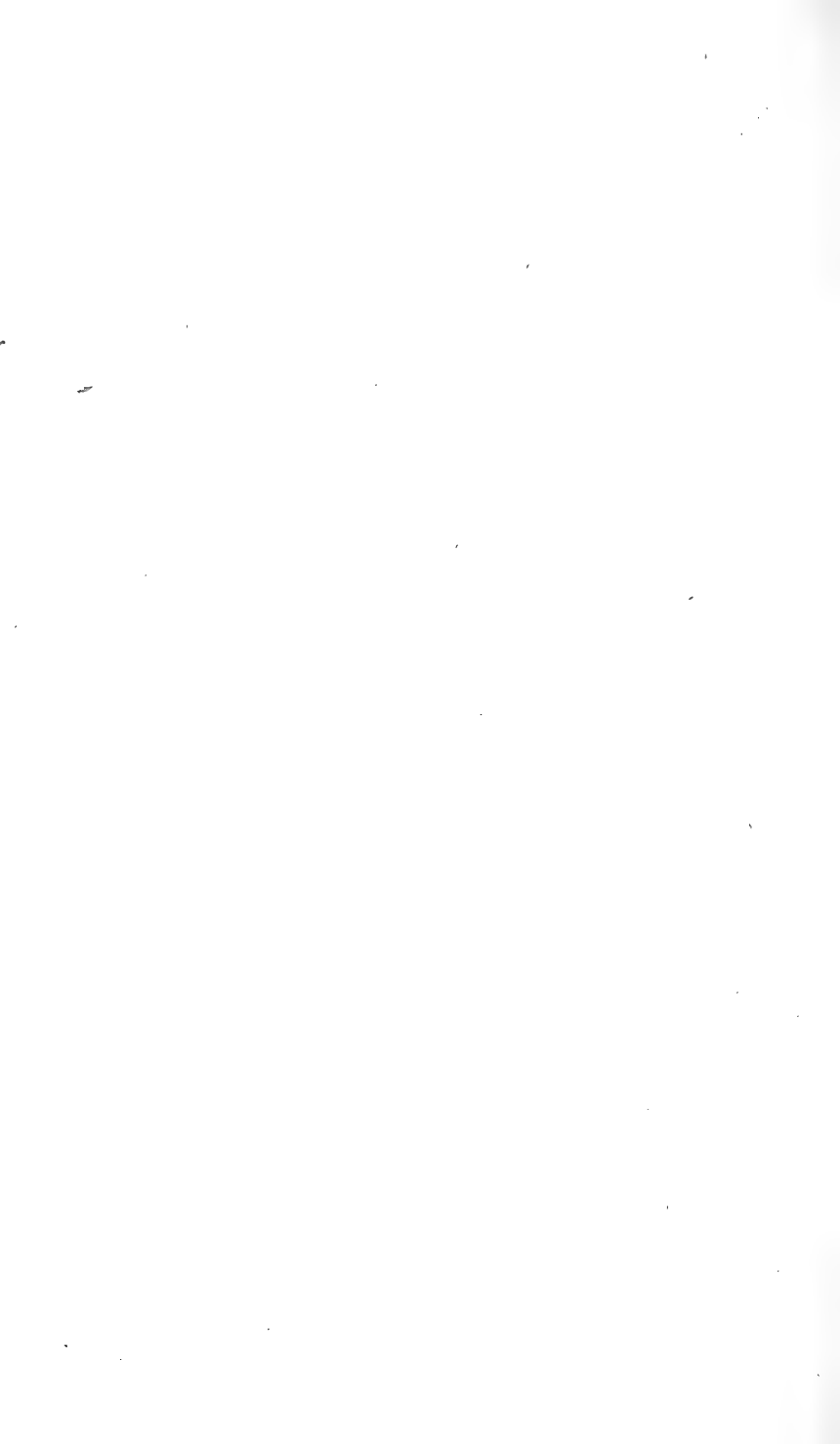




PLATE CCCCLXVI.

PAPILIO PHLÆAS.

COMMON COPPER BUTTERFLY.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings sub-entire, coppery fulvous spotted with black, beneath hoary.

PAPILIO PHLÆAS: alis subintegris fulvis nigro punctatis subtus canescentibus. *Linn. Fn. Suec.* 1078.—*Gmel. Linn. Syst. Nat. I.* 2258.

HESPERIA PHLÆAS. *Fabr. Ent. Syst.* 311. 178.—*Spec. Inf.* 126. 570.

Petiv. Mus. 24. n. 317.

Raj. Inf. p. 125. n. 20.

Roef. inf. 3. t. 45. f. 5. 6.

Geoffr. inf. p. 2. p. 65. n. 36.

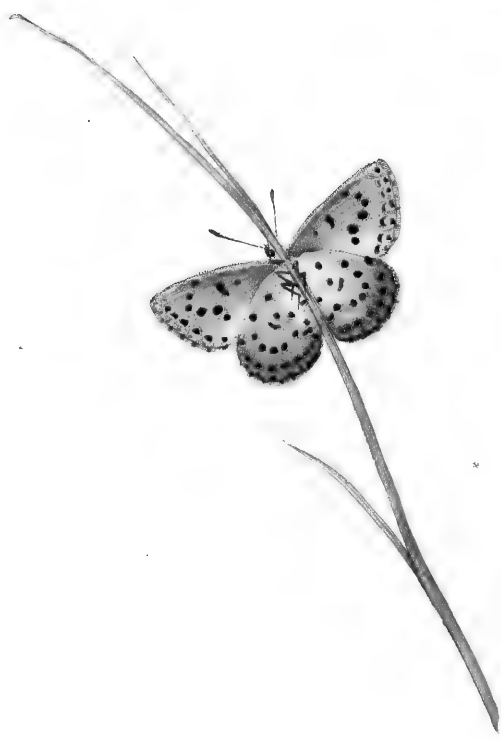
Schæff. Icon. 143. 3. 4.

This splendid little species of Butterfly, is one of the most familiar kinds, being very common in almost every field and meadow, and delighting

lighting in sunny situations among the hedges on the road sides, or the most frequented foot paths, where it cannot easily escape the attention of the most casual observer.

The general colour on the upper surface is fulvous richly glossed with a metallic lustre, and finely relieved with a great number of black spots, which contribute to render its appearance when exposed to the vigorous rays of sunshine equally brilliant and diversified. Its larva and pupa seem to be unknown; in the winged state it appears very common from April till the end of August.





P L A T E CLXXXIV.

PAPILIO ARION.

MAZARINE BLUE BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER.

AND

SYNONYMS.

Above brown, disk of the wings azure, with black spots: beneath grey, with a number of small eyes.

PAPILIO ARION: alis supra fuscus: disco cœruleo; maculis atris subtus canis: punctis ocellaribus. *Lynn. Syst. Nat.* 2. 789. 230. *Fn. Sv.* 1075.

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

Roef. 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. Leman, 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 annexed thereto. In Roefel's figure, the blue colour of the wings is more vivid than in any example we have seen; but there can be no doubt of its being a most brilliant Insect in a recent state.



P L A T E CCXXXVI.

FIG. I. I.

PAPILIO CORYDON.

CHALK-HILL BLUE BUTTERFLY.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, above silvery or pale blue, with a black margin : beneath grey, with eye-shaped spots.

HESPERIA CORYDON : alis integris cæruleo argenteis : margine nigro, subtus cinereis : punctis ocellaribus, posticis macula centrali alba. *Fab. Ent. Syst.* 3. p. 1. p. 298. 133.

PAPILIO CORYDON. *Wien. Verz.* 184. 10.

PAPILIO CORYDON. *Esp. pap. tab.* 33. fig. 4.

PAPILIO TIPHYS. *Esp. pap. tab.* 51. fig. 4.

Found on the chalk-hills between Dartford and Rochester ; particularly on a long range of hillocks leading from Dartford to the wood of Darent ; and hence the Butterfly has been called the Chalk-hill blue. We believe it has not been found in any other part near London. The larva is unknown, it appears in the winged state, the first and second week in July.

FIG. II. II.

PAPILIO LINEA.

SMALL SKIPPER BUTTERFLY.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, fulvous, divaricated, margin black.

HESPERIA LINEA: alis integerrimis divaricatis fulvis: margine nigro. *Fab. Ent. Syst.* 3. p. 1. 326.

PAPILIO LINEA. *Wien. Verz.* 159. 5.

PAPILIO THAUMAS. *Esp. pap. tab.* 36. fig. 2. 3.

PAPILIO SYLVESTRIS. *Pod. Mus.*

A very generally diffused species, but not common; it is similar to the *Papilio Sylvanus* of Linnæus, or *Hesperia Sylvanus* of Fabricius, which is found in the greatest abundance in the skirts of woods during summer. Its transformations are unknown.







P L A T E CCCCLXXXI.

PAPILIO ARGIOLUS.

AZURE BLUE BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings without a tail: above blue, with black margin: beneath blueish, with black dots.

PAPILIO ARGIOLUS: alis ecaudatis supra cœruleis margine nigris, subtus cœrulescentibus: punctis nigris dispersis. *Linn. Fn. Suec.* 1076.—*Gmel. Syst. Nat. T. 1.* p. 5. 2350. 234.

HESPERIA ARGIOLUS. *Fabr. Spec. Inf. 2.* p. 123. n. 551.—*Mant. Inf. 2.* p. 73. n. 686.

Papilio Argiolus is a very beautiful species: the female, which is rather larger than the male, is of a vivid azure blue on the upper surface; the female blueish, inclining to purple: the under surface in both are very nearly similar.

The

The larva of this butterfly is rarely met with: in the fly state the species is not uncommon, appearing about the middle of the day, in sunny weather, on the skirts of meadows: one brood in the month of June or July, and another the latter end of August. The larva is to feed on grass.



P L A T E CXLIII.

PAPILIO ARGUS.

COMMON BLUE BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER.

Male upper side fine blue with white margins. Female dark brown, with a patch of blue on the middle of each wing. Under side of both sexes lightish brown, with black and red spots.

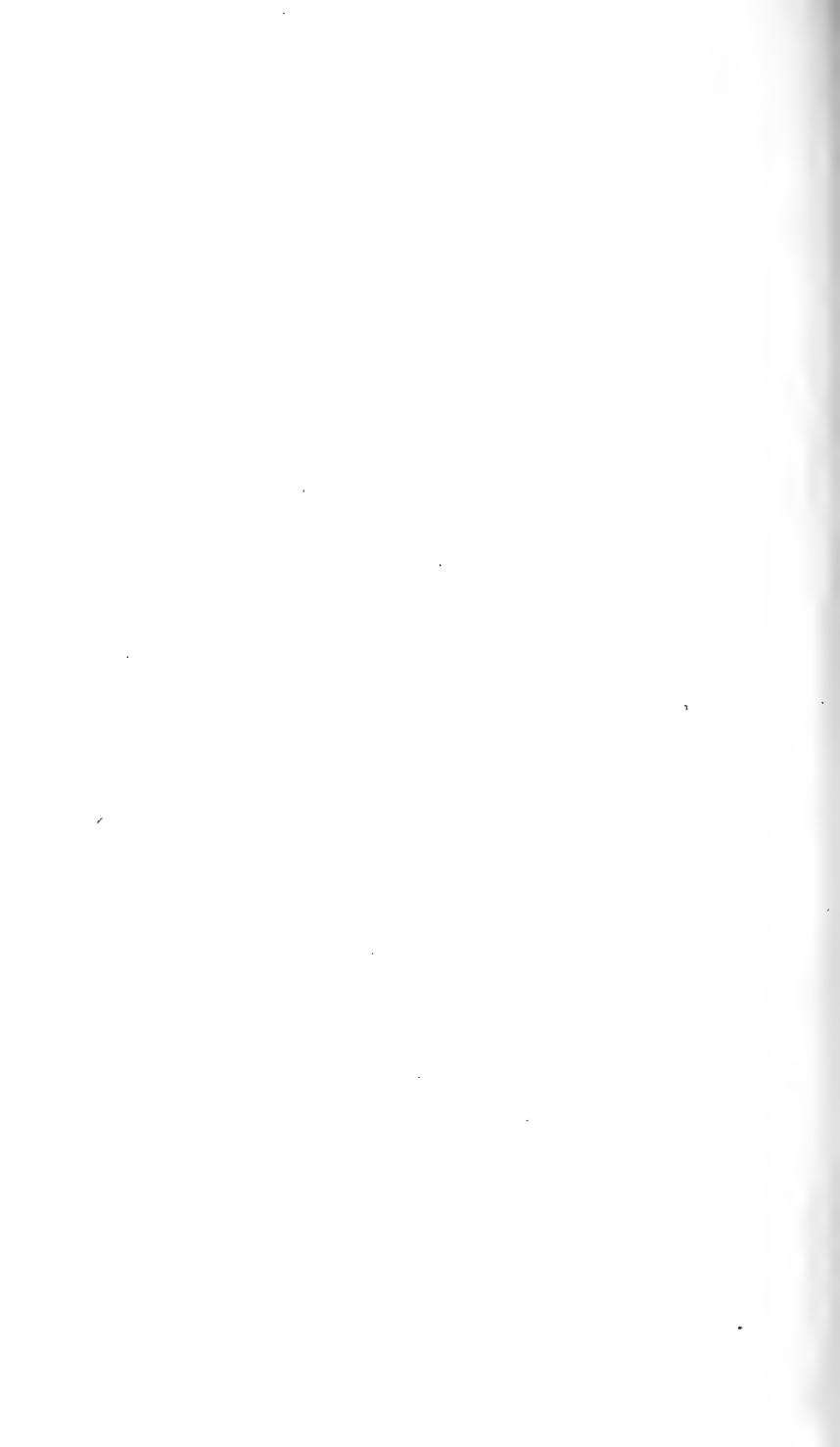
Papilio Argus : alis ecaudatis, posticis subtus limbo ferrugineo ocellis cœruleo argenteis. *Fab. Syst. Ent.* 525. 346.—
Linn. Syst. Nat. 2. 789. 232.
Fn. Sv. 1074.
Roef. Inf. 3. tab. 37. fig. 3—5.
De Geer Inf. 4. f. 14. 15.
Wilk. Pap. 63. t. 1. a. 1.
Merian. Europ. tab. 153.
Schæff. Icon. tab. 29. fig. 3. 4.

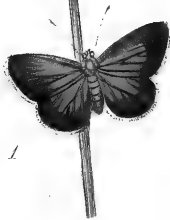
Though this beautiful Insect is very common in some places in the Butterfly state, we have never met with it's larva, nor with any account of it that appeared satisfactory. In that state it seems scarcely known. It is said, by some Collectors, to be a plain green Caterpillar, with very few hairs, bulky, and broadest across the middle. It certainly feeds very low among the thickest grass, or perhaps like

some larvæ of Moths, never comes above the surface of the ground, and lives on the roots of grafs.

The Male is of a fine blue colour on the upper side, and elegantly marked on the under side with white circles, having a black spot in the center of each : the wings are also bordered with similar spots, marked with a vermillion colour. The Female has very little appearance of the fine blue of the Male : the upper wings are of a dull brownish black, with a bluish colour on parts, and marked with a few red and black spots : the underfide as in the Male.

They seem to delight in Meadows, and, like all other Butterflies, are on the wing only in the day time. The first brood appears in the Fly state in June.





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

F I G . I . I .

P A P I L I O A L S U S .

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

Plebeii, rurales.

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

Wings entire brown, without spots; beneath grey, with a row of eye-shaped spots.

HESPERIA ALSUS: alis integerrimis fuscis immaculatis subtus cinereis, striga punctorum ocellatorum. *Fab. Ent. Syst. T. 3. p. 1. p. 295. 125. Schæff. Icon. 2. tab. 165. fig. 1. 2.*

This pretty Insect is found late in June. Its larva is unknown.

F I G. II. II.

PAPILIO IDAS.

SPECIFIC CHARACTER.

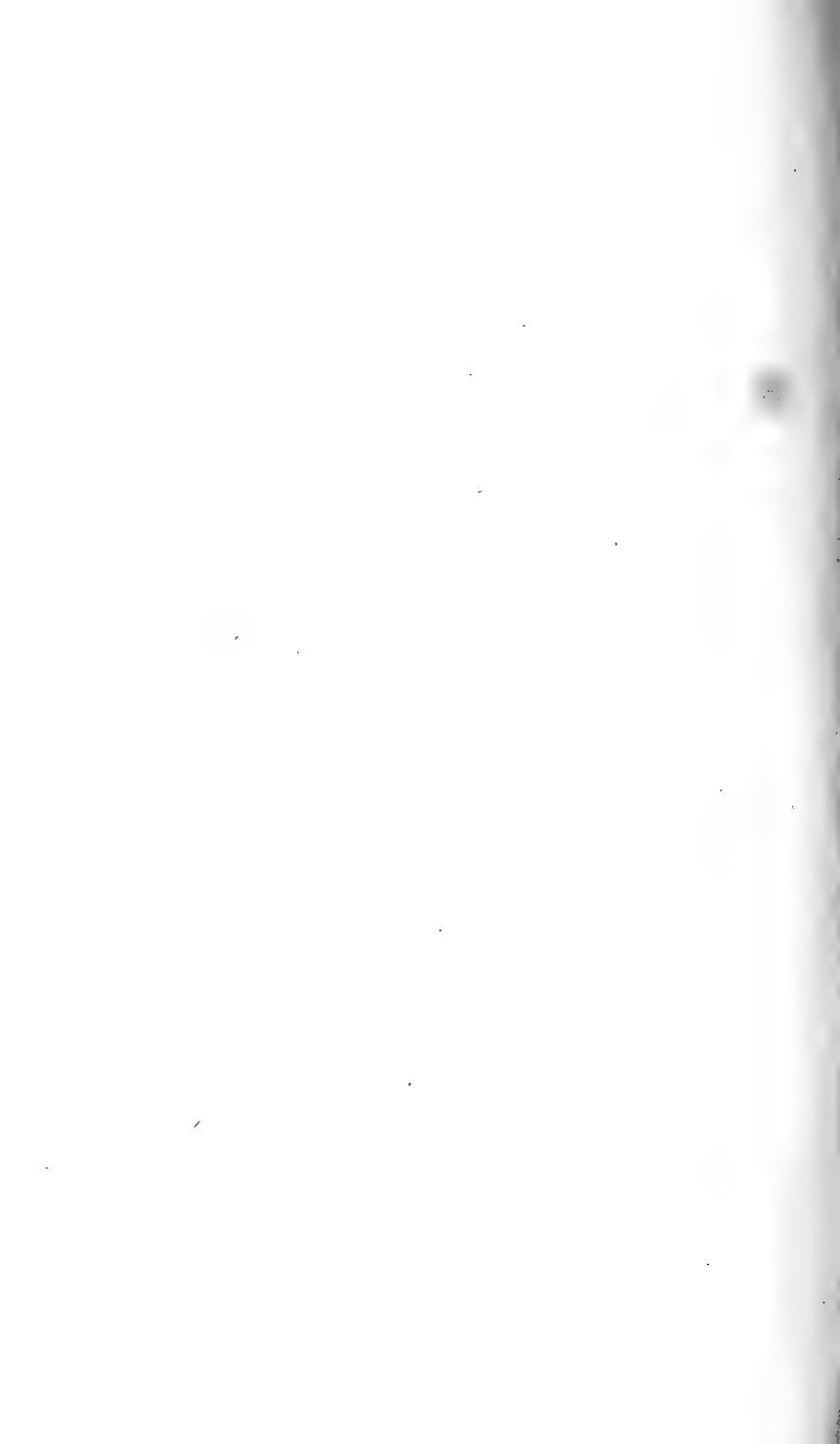
Wings entire brown. An equal marginal row of red spots both on the upper and under side. A black spot in the middle of the anterior wings.

PAPILIO IDAS: alis integris fuscis, fascia marginali utrinque rubromaculata, anticis macula media nigra.

This insect must not be confounded with the *Papilio Idas* of Linnæus. The Linnæan *P. Idas* is evidently the female of *P. Argus*, a circumstance unknown to that author, who considers them as a distinct species from their very dissimilar appearance. In one sex the upper surface is brown, and in the other a fine blue; this is not, however, peculiar to the *P. Argus*, for several of the *Papilio* tribe known amongst English collectors by the trivial name *Blues* differ in the same manner.

We suspect that our Insect has not been described by any author; it is certainly unnoticed by Fabricius in his last System of Entomology, and the specific name *Idas* omitted. This name is therefore preferred for our Insect, which seems to approach nearer to the female *Argus* described by Linnæus as *Idas*, than to any other. Found in May.







THE
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PLATE DXLI.

PAPILIO ARTAXERXES.

ARTAXERXES BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

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

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, black, with a white dot in the middle of the anterior pair, and rufous lunules on the posterior ones: margin beneath white, with rufous dots.

PAPILIO ARTAXERXES. *Jon. M. S.—Pict. 6. tab. 44. fig. 2.*

HESPERIA ARTAXERXES: alis integerrimis nigris: anticis puncto medio albo, posticis rufis, subtus margine albo rufo punctato. *Fabr. Ent. Syst. T. 3. p. 1. 297. 129.*

LYCÆNA ARTAXERXES. *Fabr. Syst. Glossat.*

To the great astonishment of our English Collectors of Natural History in the vicinity of the metropolis, *Papilio Artaxerxes*, an insect heretofore esteemed of the highest possible rarity, has been lately found in no very inconsiderable plenty in Britain: for this interesting discovery we are indebted to the fortunate researches of our young and very worthy friend, W. E. Leach, Esq. who met with it common on Arthur's Seat near Edinburgh, and also on the Pentland Hills.

A discovery so interesting in the annals of Entomology deserves especial notice, because *Papilio Artaxerxes* was not merely esteemed rare in this country; on the continent it appears to be totally unknown: their Entomologists, till the time of Fabricius, have not mentioned it, nor had Fabricius himself ever seen an example of the species; he derived his information solely from a drawing by the hand of W. Jones, Esq. of Chelsea. The extreme accuracy of that delineation, it must be indeed allowed, would render it unnecessary for Fabricius to consult the insect from which it was portrayed, but the circumstance is mentioned in order to prove the rarity of the species as an European insect; and we cannot, it is presumed, afford a more decisive testimony of its interest in this respect than in stating Fabricius, its original describer, had never seen it.

Papilio Artaxerxes is by no means striking in appearance; it becomes important from the general estimation of its scarcity, and its claim to consideration in this view is indubitable. In the best of the English cabinets,



cabinets, with the exception of that of our sincere friend A. M^cLeay, Esq. we have often lamented to observe a deception intended to supply the deficiency of this species; namely, a little painting of the insect, carefully configned on a pin, to the most obscure corner of the drawer, amongst the British Papiliones, and which, from its specious aspect and ingenious similitude, has oftentimes, we suspect, been mistaken for the original: this is a general fault, arising undoubtedly from a very pardonable motive, and therefore, we apprehend, should not be reprehended in terms of unusual severity; yet we cannot think the custom wholly blameless.—We have alluded to the cabinet of Mr. M^cLeay, and it will be therefore right to add in explanation, that his valuable and extensive collection contained a very fine specimen of *Papilio Artaxerxes*, that had been taken in Scotland previously to the discovery made by Mr. Leach, as before related.

Though we are not disposed to concede this little Butterfly any considerable portion of praise on account of its beauty, it is not altogether devoid of claim in this respect: the upper surface differs little from several analogous species, the females of several of “the blues,” as they are usually termed, at the same time that the aspect of the lower surface is entirely dissimilar from most others; and exhibits a very delicate, spotted, and prettily diversified appearance.

As these insects fly in the day-time there can be little doubt they may be sought for by the Collector with success on the hilly spot called Arthur’s Seat, near Edinburgh.



P L A T E C C X C V .

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

P E A R L S K I P P E R B U T T E R F L Y .

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

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

Plebeii Urbicolæ.

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

Wings entire, divaricated, brown, having a black streak along the middle of the anterior pair. Beneath, spotted with white.

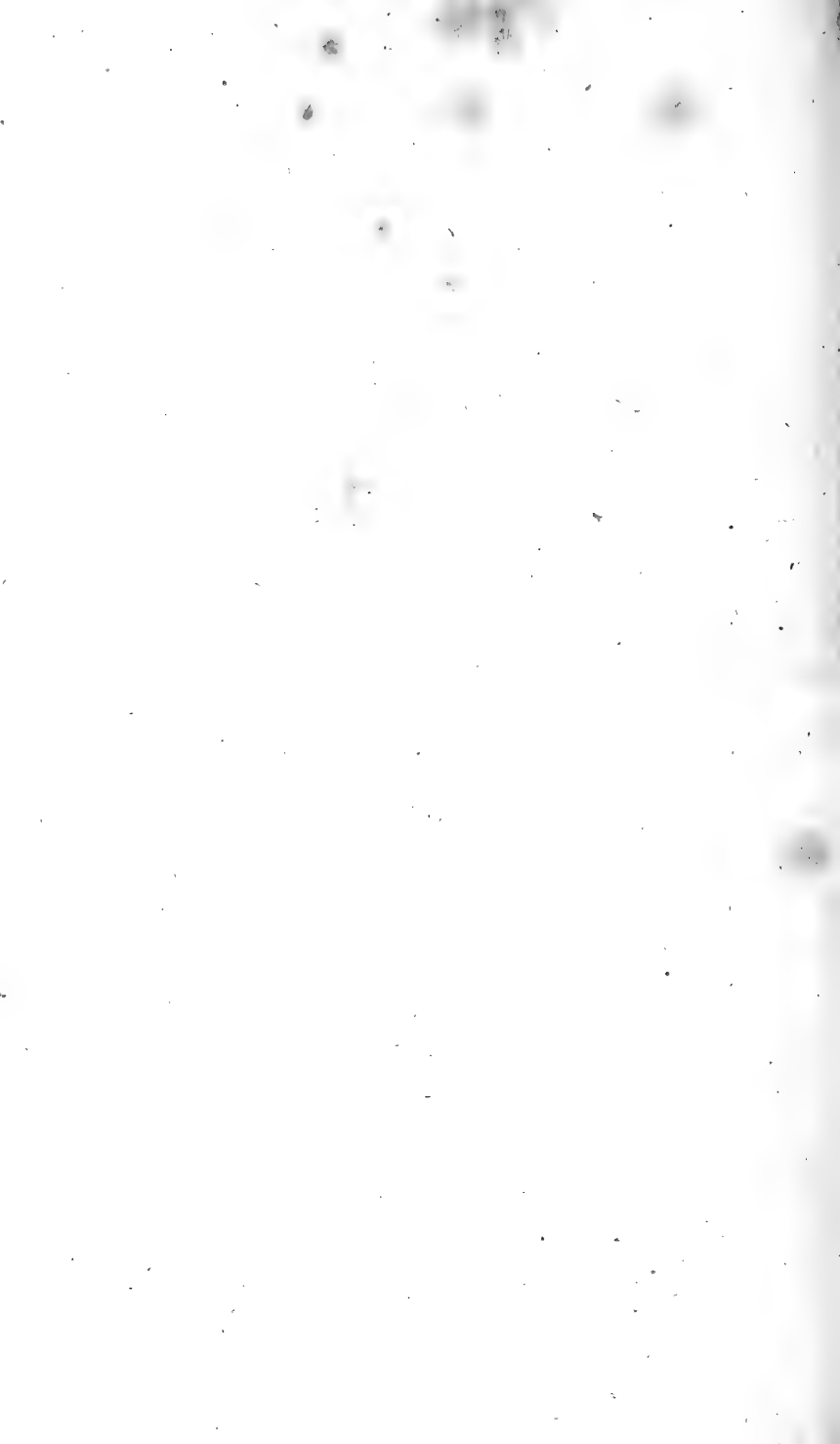
PAPILIO COMMA : alis integerrimis, divaricatis fulvis: punctis albis lineolaque nigra. *Linn. Syst. Nat. p. 793. 256.*

HESPERIA COMMA : *Fab. Ent. Syst. t. 3. p. 1. p. 325. 233.*

PAPILIO COMMA : *Wien. Verz. 159. 4.*

In the beginning of August, 1772, a brood of these Insects were taken near Lewes in Suffex, by the late Mr. Green; and we believe no other specimens have been taken since that period.

It is not very unlike the Papilio Sylvanus of Fabricius, but may be readily distinguished from it by the square spots on the under-side being perfectly white.









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

P A P I L I O M A L V Æ .

MALLOW, OR GRIZZLED SKIPPER BUTTERFLY.

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 clavated at the tip: 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

A N D

S Y N O N Y M S .

Wings indented divaricate, brown waved with cinereous: anterior pair with hyaline dots: posterior with white dots beneath.

PAPILIO MALVÆ: alis dentatis divaricatis fuscis cinereo undatis: anticis punctis fenestratis, posticis subtus punctis albis. *Linn. Syst. Nat.* 2. 795. 267.—*Fr. Su.* 1081.

HESPERIA MALVÆ. *Fabr. Ent. Syst.* 3. 350. 333.—*Syst. Ent.* 535. 396. *Sp. Inf.* 137. 638.

The larva of this Butterfly feeds on the mallow: the colour is greyish or yellowish, with the head black, and a black collar marked with four sulphur-coloured spots. The pupa is somewhat gibbous and blueish.

This insect is common in many parts of Britain in the fly state; the larva, though known, by no means common. The Butterfly appears on the wing in May.

Some collectors admit two or more varieties of the Grizzled Skipper Butterfly, while others consider them as so many distinct species: the male also differs a little from the female in being somewhat smaller.



2

P L A T E C C L I V .

F I G . I . I

P A P I L I O P A N I S C U S .

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

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

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 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. Paniscus is described by Fabricius as a native of Germany, and has been lately added to the list of British Papiliones. In this country it seems a very local species. It is deemed a rare Insect by Entomologists.

F I G. 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.



