

Ch. discors, *Maton & Racket*. Ch. punctulatus, *Maton*. Ch. septem-valvis, *Mont*. Ch. corallinus, *Risso*.

\*\* *Margin with ovate imbricate scales.*

*Callochiton evanidus*. *Chiton evanidus*, *Sow. Ill. f. 139.*

### 3. ISCHNOCHITON.

Valves thin; posterior valve entire; the plates of insertion very thin, smooth-edged, of the central valves each with a single notch; margin covered with very small imbricate scales.

\* *Scales of mantle transversely grooved.*

*Ischnochiton textilis*. *Chiton textilis*, *Gray* = *Ch. longicymba*, *Blainv.*

*Ischnochiton limaciformis*. *Chiton limaciformis*. West Indies.

*Ischnochiton Magdaliensis*. *Chiton Magdaliensis*, *Hinds*.

*Ischnochiton alatus*. *Chiton alatus*, *Sow.* Philippines.

\*\* *Scales of mantle minute, granule-like.*

*Ischnochiton marginatus*. *Chiton marginatus*, *Mont*. *Ch. cinereus*, *Lowe, Z. J.*

### 4. LEPTOCHITON.

The valves rounded, thin; posterior valve entire; the plates of insertion rudimentary, without any notches on either the terminal or central valves. Mantle covered with granular scales.

*Leptochiton cinereus*. *Chiton cinereus*, *Montague* = *Ch. asellus*, *Lowe, Zool. Jour.* var. white, *Chiton albus*.

*Leptochiton Hanleyi*. *Chiton Hanleyi*, *Bean*.

*Leptochiton cajetanus*. *Chiton cajetanus*, *Poli*. *Lepidopleurus cajetanus*, *Risso*.

Should the form of the plates of insertion of any specimen not be sufficiently seen, they may be easily made visible through the inner side of the mantle by their being soaked a few hours in a weak solution of caustic potash, but care should be taken that they are not left too long in soak, nor the solution be too strong, otherwise the margin will be dissolved. But should the valves be wished to be kept separate, this is the best way of separating them, as the plates of insertion are cleaned, and not broken, as they are likely to be if taken from the mantle. I may remark that the number of notches in the plates of insertion is sometimes, but as far as I have observed, very rarely, liable to variation; in one specimen of *Chiton Bowenii* I have observed that the plate of insertion of the last valve but one has two notches on one side, but the normal single one of the genus on the other.

### ENTOMOLOGICAL SOCIETY.

August 3rd, 1846.—Thomas Marshall, Esq., Vice-President, in the Chair.

Among the donations were a number of *Arpedium subpubescens*, a rare species of *Staphylinidæ*, sent by A. H. Haliday, Esq., for distribution among the members.



Mr. Gutch exhibited several boxes of *Coleoptera* from Central Europe, and a new species of Fritillary butterfly from Servia. He also presented to the Society a quantity of specimens of *Simulium Columbatchense*, a small dipterous insect which attacks the cattle in the Bannat, frequenting all the moist parts of the body, as the nostrils, anus, &c., and causing the death of great numbers of these animals. They occur on both banks of the Danube, appearing in clouds, and are supposed by the common people to be bred in a hole in a mountain where the body of the dragon slain by St. George was deposited.

Mr. Westwood exhibited a small box of *Coleoptera* from Western Tropical Africa, including numerous rare *Tenebrionidæ*.

Mr. W. W. Saunders exhibited a small box covered with the cases formed by the larvæ of an Australian species of *Oiketicus*, and including a number of specimens illustrating the natural history of six species of that genus, sent from the interior of New South Wales by Mr. Stevenson.

The following memoirs were read :—

“Descriptions of some new species of *Helæus*.” By the Rev. F. W. Hope, F.R.S. &c.

“Description of a new species of *Paussidæ* from India.” By J. O. Westwood.

“Note relative to the Larva of a species of Dipterous insect (evidently *Anthomyia canicularia*) infesting the human body.” By Mr. George Downs, F.R.C.S.E.

“Description of a new genus of Lamellicorn Beetles from India.” By J. O. Westwood.

“Note on a remarkable migration of swarms of common White Butterflies across the Straits of Dover on the 5th of July, flying from the south or south-west, and which were also observed at Folkstone, and on the passage to Ostend, the wind blowing at the time lightly from the eastward ; and on the Black Dolphin of the hop-plantations, regarded as the larva of the *Coccinella*.” By H. L. Long, Esq.

Note from Mr. Louis Frazer, Corresp. M.E.S., giving an account of his entomological pursuits in Northern Africa.

“Notes on the Entomology of Australia, as observed during an expedition from Fort Burke to Port Essington.” By Mr. Stevenson, Corr. M.E.S. Communicated by W. W. Saunders, Esq.

September 7th.—A. Ingpen, Esq., Vice-President, in the Chair.

The following memoirs were read :—

A note from Mr. Long of Dover, on an attempt to naturalise *Palingenia Virgo* (a continental species of *Ephemeridæ* remarkable for its snow-white wings) by bringing over the ova in a bottle filled with the water of the Rhine where they occur, and by placing them in the rivers in England. It did not appear that the experiment had been successful. Also further notes on swarms of white butterflies observed between Boulogne and Calais a few days after the 5th of July.

Note from the Rev. F. W. Hope on swarms of white butterflies,



*P. Napæ* and *Rapæ*, observed at Southend, Essex, on the 2nd of September, which disappeared the following day after depositing vast numbers of eggs; and on the occurrence of numerous specimens of *Sphinx Convolvuli* and *Atropos*.

"A memoir on the œconomy of the Driver Ants of Tropical Africa." By the Rev. T. Savage.

Mr. Evans exhibited various larvæ from New Holland.

Mr. W. W. Saunders exhibited a box of insects from Adelaide in Australia, containing illustrations of the natural history of various interesting species of *Lepidoptera*, with their parasites. Also the sexes of several new species of *Thynnidæ*, &c.

Mr. F. Bond exhibited a living specimen of *Locusta Christii* in full vigour, taken near Kingsbury, Middlesex. Also a remarkable variety of *Hipparchia Janira*, of which the ground-colour of the wings was nearly white.

Messrs. Stevens and Weir exhibited specimens of *Sphinx Atropos* reared from the potato, remarkable for having been produced much earlier in the year than usual. Mr. Weir also exhibited two specimens of *Deilephila Livornica*, taken in the spring at Lewes, Sussex.

Mr. J. F. Stephens stated, in allusion to the unusual heat of the present season, that he had observed at least three broods of *Pontia* and two of *Bombyx lubricipeda* during the summer.

October 5th.—The Rev. F. W. Hope, F.R.S., President, in the Chair.

Mr. Weir exhibited specimens of *Deilephila Celerio* and *Cynæda dentalis* from Lewes; also of *Locusta Christii* from Camberwell.

Mr. Evans also exhibited the same species of locust taken at the Nash Lighthouse near Cowbridge, Glamorganshire, in September, and stated that another specimen had been taken in the garden of the gate-house at Hyde Park Corner. Another taken at Littlehampton was exhibited by Mrs. Atteguis, and Mr. Hope mentioned its occurrence at Southend. The following additional localities were also communicated by other members present: St. James's Park, Kennington, Margate, Epping, Durham, Glasgow, Cromer and the adjacent district (where it was numerous), and Newcastle.

Mr. Marshall stated that *Deilephila Celerio* had been taken at Hackney; and Mr. Moore, jun., exhibited a larva of *D. Galii* having a red head and anal horn, found upon the mullein near Southend. Also a Geometrideous larva found on the coast at the same place, to the body of which several long slender fungi were attached.

Mr. Hope exhibited specimens of *Sphinx Atropos*, and stated that he had observed that the white-coloured varieties of the larvæ feed on the ash, whilst amber-coloured specimens feed on the potato.

Mr. E. Doubleday stated that the larvæ had been found at Coker-mouth on *Euonymus europæus*; and Mr. S. Stevens mentioned that they had been so abundant at Margate that they had been collected as food for chickens. Mr. Doubleday also noticed, that on dissecting some of the specimens, both of *Sphinx Atropos* and *Convolvuli* recently disclosed, not one of the females was found to have



the eggs developed in the ovaries. He also mentioned that *Graphiphora subrosea* had been recently captured at Whittlesea Mere, thus proving it to be indigenous; which was the more interesting, as it agrees in the structure of the antennæ with a North American group of which there is no other European representative. *Deiopeia pulchella* had also been captured at Epping at the end of September. He also stated that the larva of *Polia occulta* feeds upon species of *Polygonum*, and not on the dandelion as represented by some authors.

Mr. Hope stated that two specimens of *Catocala Fraxini* had been taken at Southend.

The following papers were read:—

Extracts from a letter addressed to Mr. Westwood by Captain Hutton, containing a series of observations on the Indian species of *Papilio*.

Extracts from a letter addressed to Mr. Westwood by R. Templeton, Esq., containing notices of some of the *Lepidoptera* of Ceylon.

The completion of Mr. Savage's memoir on the driver ants was also read.

Mr. E. Doubleday, in allusion to the two former communications, stated his belief that *Papilio Panope* and *similis* are the sexes of one species; also that *P. Pammon* and *Polytes* are varieties of one species, as affirmed by Boisduval; and that the insects regarded as the two species, *P. Epius* and *Demoleus*, by Captain Hutton, were the sexes of one species (as indeed Mr. Templeton had stated in his letter).

November 2nd.—The Rev. F. W. Hope, F.R.S., President, in the Chair.

Mr. Newport exhibited a box of *Coleoptera*, &c. from Melbourne, South Australia, including a large new species of *Eucranium*?, *Cerapterus Hopii*, &c.; and also a species of *Blatta* of which the left hind leg had evidently been reproduced, being smaller than the other. Instances of the reproduction of the antennæ, but not of the feet, had hitherto been noticed in this group.

Mr. Griffith stated that he had observed during the preceding autumn, on one small spot of woody ground at Addington Hill near Croydon, a very great number of specimens of *Cynthia Cardia*.

Captain Frennd stated that he had found *Vanessa Urticæ* alone in some quantity on the summit of the Sierra Nevada in Spain, 16,000 feet above the level of the sea.

Mr. Weaver exhibited a new British *Noctua* allied to *Hadena adusta*, and other rare *Lepidoptera* from Perthshire.

Mr. F. Bond exhibited a living specimen of *Sphinx Atropos*, and stated that he was convinced that the cry emitted by this insect was not produced by the moveable appendages at the sides of the thorax, as he had found that the noise was equally strong when the sides of the thorax were violently compressed and held tight. Mr. Newport, who had also examined the insect whilst alive, stated that in his opinion the noise was either produced by the lateral friction of the parts of the spiral tongue (maxillæ) against each other, or by their



combined friction against the front of the prothorax, but added that this view required further observation.

Mr. F. Bond exhibited a very small papyriceous nest of a wasp, which had been suspended to a twig by a piece of horse-hair.

Mr. Moore, jun., exhibited several chrysalids of moths, the interior of which was filled apparently with minute parasitic *Acari*.

Mr. Westwood exhibited an extensive series of *Cremastocheilidæ*, from the collections of the Royal Museum of Stockholm, Messrs. Hope, Schaum (including the types of the species described by M. Gory), Turner, &c. He also stated that *Entomobia Apum*, described by Signor Costa (in a work presented the same evening), was the *Braula cæca* of Nitzsch; and that M. Blanchard had recently published a memoir on the impregnated state of the *Hippoboscæ*, in the bodies of which he had detected larvæ, contrary to the observation of M. Léon Dufour.

Mr. Newport, in reference to the statement made at the last meeting, of the immature state of the ova in some specimens of *Sphinx Atropos* and *Convolvuli*, observed that he had recently dissected a female of the latter species which had remained in the chrysalis state nearly its full period, and that he had detected the ovaries, but in a very slightly developed state, and which, he did not consider, would have ever arrived at their full state of development. A considerable discussion as to the cause of this non-development of the ova took place, in which Messrs. Marshall and Westwood having suggested that it was owing to the great heat, Mr. Newport stated that he had found the ova as fully developed in specimens of *Vanessa Urticæ* which had been produced from the chrysalis in from  $8\frac{1}{2}$  to  $9\frac{1}{2}$  days, in a mean highest temperature of  $70^{\circ}$  to  $75^{\circ}$ , as in others which had remained in chrysalis thirteen or fourteen days with a mean highest range of temperature of from  $55^{\circ}$  to  $60^{\circ}$ . *V. Io* was developed in a few hours over ten days, when the mean lowest temperature during that period was  $71^{\circ}06$ , and the mean highest  $75^{\circ}55$ . This may afford some explanation of the fact, that the two broods of *V. Io* usually appear in this country only in the hottest parts of summer, July and August, when, in its natural haunts, it is usually about fourteen days in the pupa state.

Mr. E. Doubleday exhibited drawings of the ungues of the two species of *Leptocircus*, which he had found to be simple in the one and deeply bifid in the other. He also stated that Mr. Wing had obtained a larva of *Sphinx Celerio* found on a vine-tree at Paddington.

The abundant occurrence of *Vanessa Antiopa* in different places during the past autumn was also noticed, especially at Tunbridge Wells by Mr. Stephens, at Yarmouth by Mr. Ingpen, and at Yaxley by Mr. F. Bond.

December 7th.—W. Spence, Esq., F.R.S., Vice-President, in the Chair.

Mr. Moore, jun., exhibited a quantity of flour infested with mites; also the eggs of some species of *Acarus*? arranged in rows on the



under side of several feathers of birds ; likewise a very minute paper nest of *Vespa Britannica*.

Mr. Westwood exhibited drawings and specimens illustrating the transformations of the common flea.

Mr. E. Doubleday read extracts from a letter addressed to him by M. Guénée, stating that he had become associated with M. Boisduval in the ' *Histoire naturelle des Insectes Lépidoptères*,' and that the nocturnal *Lepidoptera* would be described by him.

Descriptions of two new species of *Papilio* were read by J. O. Westwood.

Mr. Thwaites gave an account of the observations which he had recently made on the habits of *Tinea granella*, in granaries at Bristol. The moth appears in August, at which time it is advisable to attempt its destruction by fumes of sulphur. The insects remain in the larva state through the winter, being full-fed in October, when they seek out winter-quarters in the woodwork of the granaries, such as the beams, floors and supports, committing much damage by boring into them to the depth of half an inch, or sometimes an inch. If the wood be hard they do not excavate so deeply, but cover the surface with a thick layer of excrement ; and it had been observed that they do not fear attacking kyanized wood ; it was consequently suggested that it would be serviceable to coat the wood with plates of lead or other metal. Mr. Spence noticed how singularly this insect seemed to set at nought the supposed objections to insect life, attacking the knots of the wood, which were of course most strongly saturated with turpentine. On examining the debris left by these insects with a microscope, it was found to consist only of minute particles of gnawed wood, which did not appear to have undergone the action of the stomach ; and it had been observed, that when there was a sufficient mass of debris for their defence they do not bore into the wood. Mr. Spence also alluded to the change of instinct which these circumstances evidently proved the insects to have undergone from their natural state.

#### LINNÆAN SOCIETY.

April 20, 1847.—E. Forster, Esq., V.P., in the Chair.

Read a paper "On a new genus of Plants of the family *Burmanniaceæ*." By John Miers, Esq., F.R.S., F.L.S. &c. &c.

#### OPHIOMERIS.

*Perianthium* superum, tubulosum, gibbosum, caducum ; fauce laterali annulo semiclausâ ; limbo 6-partito, laciniis 3 exterioribus brevibus ovatis, 3 interioribus longissimis subulatis. *Stamina* 6, libera, infra perianthii faucem inserta et ejus laciniis opposita, inclusa, versus tubum retroflexa ; filamentis petaloideis, margine appendiculatis ; antheris adnatis in sinu filamentorum terminalibus, 2-ocularibus, loculis longitudinaliter dehiscentibus. *Ovarium* inferum, 1-loculare ; placentis 3 parietalibus, medio ovuligeris ; ovulis indefinitis, anatropis. *Stylus* brevis. *Stigmata* 3. *Fructus* turbinatus, truncatus, apice operculatim dehiscens, 1-locularis. *Semina* plurima, scobiformia. *Embryo* ignotus.—Plantæ Brasilienses, hyalinæ, super lignum cariosum parasiticæ ; rhizomate





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