

Stone, some of which had their heads embedded in the wasp-larvæ in the act of sucking the juices.

Mr. Pascoe exhibited numerous new species of Heteromeroous *Coleoptera* from Australia. One species of *Sargus* was remarkable, inasmuch as it was always covered, even when living, with a floccous substance, which had been declared to be the immature state of a fungus (*Sphaeria*).

Mr. Briggs exhibited *Detopeta pulchella*, captured recently by him at Folkestone.

Mr. Davis exhibited numerous preserved larvæ, including a case illustrating the life history of *Cossus ligniperida*.

Mr. Müller stated that *Cynips lignicola* emitted, when handled, a strong and disagreeable odour, and he thought that this might partially account for its rapid spread in this country, the odour possibly rendering it distasteful to birds, &c.

Mr. Dunning made some observations respecting a swarm of *Syrphi* he had noticed at Walton-on-Naze, in Essex, last autumn. Mr. Verrall had examined some of the specimens, and said there were six species.

A discussion then took place respecting the enormous number of *Syrphi* and *Coccinellæ* noticed last season, especially with reference to the supposed migratory powers of these latter. The general opinion of the Meeting was, that there was no necessity to suppose immigration to have taken place, as the larvæ were most extremely abundant a short time before the appearance of the swarms of the perfect insects.

Mr. Bates read a paper on "New genera and species of *Coleoptera*, from Chontales, Nicaragua."

Mr. Baly communicated new genera and species of *Hispide*.

Mr. Salvin read a "Synopsis of the Rhopalocerous genus *Clotithida*."

6th December, 1869. H. W. Bates, Esq., President, in the Chair.

M.M. d'Emerich, De Marsseul, and Oberthür were elected Foreign Members; Capt. A. M. Lang, of Brockham, near Reigate, W. A. Lewis, Esq., of The Temple, J. C. Melvill, Esq., of Manchester, and Howard Vaughan, Esq., of Chancery Lane, were elected Members.

Professor Westwood exhibited drawings of several very large species of *Chalcidæ*, and of new genera and species of *Pselaphidæ*.

Mr. F. Smith exhibited a larva-case which he supposed to belong to a species of *Orkistæus*, found by Mr. J. K. Lord, in the plains of Sinai, on the sand, where the only vegetation consisted of low plants; also a mass of earth-cells, formed by a species of *Halticus*, near Cairo; these penetrated the sand to the distance of a foot.

Mr. Jenner Weir exhibited *Heliothis armigera*, bred from larvæ feeding in the fruit of the Tomato, in Spain or Portugal.

Mr. Müller exhibited a photograph of an example of *Pterostichus Prevostii*, from Switzerland, with two supernumerary hind-legs.

Mr. McLachlan communicated "Notes on *Boreus hyemalis*, Linné, and *B. Westwoodii*, Hag."

NEW SPECIES, &c., OF HEMEROBINA—SECOND SERIES (*OSMYLUS*).

BY R. M'LACHLAN, F.L.S.

The insects noticed in this series all pertain to *Osmylus*, with one exception, for which I have thought it necessary to institute a new genus. One rather important fact has struck me, when examining these insects, viz., that in most of the species (perhaps all, excepting the European *O. fulvicephalus*) the claws are toothed internally, or bifid.

The following is a concise tabular arrangement of the more closely allied genera:—

- A.—*Ocellis desunt*..... POLYSTECCHOTES, Burm.
 A.A.—*Ocellis adsunt*.
 a.—*Area costalis serie arcularum unicatæ*.
 b.—*Tarsorum plantulæ simplices*. *Area sub-costalis venulâ transversâ basali*.....OSMYLUS, Latr.
 b.b.—*Tarsorum plantulæ bifidæ vel lamelliformes*.
 c.—*Area sub-costalis venulâ transversâ basali*... STENOSMYLUS, McL.
 c.c.—*Area sub-costalis venulis transversâibus plurimis*.....FORISMUS, McL.
 a a.—*Area costalis seriebus plurimis (ad basin 5) arcularum*.....HYPOSMYLUS, McL.

The genus *Myiodactylus*, Brauer, is placed in the family *Nymphidae* on account of its filiform antennæ.

The now described species of the above-named genera are as follows:—

POLYSTECCHOTES.—*punctatus*, F. (N. America); *vittatus*, Say (N. America).

OSMYLUS.—*fulvicephalus*, Scop. (Europe); *multiguttatus*, McL. (Asia Minor); *conspersus*, Walk. (India); *lineatocollis*, McL. (India); *Langii*, McL. (India); *pubicosta*, Walk. (India); *tuberculatus*, Walk. (India); *interlineatus*, McL. (India?); and *inquinatus*, McL. (Ceram).

STENOSMYLUS.—*tennis*, Walk. (Tasmania); *stenoperus*, McL. (Australia); *incisus*, McL. (N. Zealand); *pallidus*, McL. (Australia); and (f) *longipennis*, Walk. (Australia).

FORISMUS.—*sfrigatus*, Burm. (Australia).

HYPOSMYLUS.—*punctipennis*, Walk. (India).

OSMYLUS MULTIGUTTATUS. n. sp.

O. niger, nitidus. *Pedes flavi; tarsorum articulis 1—4 ad apicem,*

ultimoque toto, nigris; unguibus piceis, intus serratis. Alæ albedo-hyalinæ, confer-tim nigro-guttatæ, venis plerumque pterostigmatæque flavo-albidis.

Long. corp. 5-6''; exp. alar. 19-20''. *Hab. Trebizond.*

In mus. auctoris, necnon Dom. De Selys.

The whole body, including the antennæ, eyes and ocelli, intensely black, the head much polished, the other parts duller; abdomen clothed with moderately long cinereous hairs, especially at its apex. Head with the crown very convex, not sulcated in front, the ocelli prominent; palpi piceous, the terminal joint tipped with black. Legs yellow, moderately pubescent; the coxæ, four first tarsal joints at the apex, and the last joint entirely, black; claws blackish piceous, stout, finely serrated internally; plantule simple.

Wings broad, the apical margin rounded; whitish-hyaline, thickly covered with large and intensely black spots. In the anterior wings there are about 25-30 more or less rounded spots, some of those on the costa being confluent, and thus forming transversely elongate, cuneiform dashes; the margins are regularly spotted, the disc with two irregular longitudinal rows, those placed on the two rows of gradate veinlets often united into interrupted transverse streaks; in the posterior wings the discal spots are less numerous. The margins (especially the costal) and all the veins are strongly ciliated with black. The longitudinal and most of the transverse veins and veinlets in the basal half of the wings are whitish yellow, except where they traverse the spots, when they become black; most of the gradate veinlets and of the longitudinal apical veins are black (but the first five gradate veinlets in the outer series are white in the middle, even although they be placed in the black spots); the sector about 10-branched in the anterior wings: the pterostigmatal region in all the wings is slightly tinged with yellowish.

This beautiful and striking species was collected in 1869, at Trebizond, by M. Th. Deyrolle. In structure it is much like *O. fulvicephalus* (*chrysops*, Auct.), but has shorter and broader wings, with the apical margin slightly rounded, instead of slightly excised; hence the apex is less produced. The net-work of the wings is rather more open, and the series of gradate veinlets more parallel.

OSMYLUS LINEATOCOLLIS, n. sp.

O. albidus. Caput fusco nigroque varium; antennis, labro, palpisque flavo-albidis. Prothorax albidus; supra lineâ mediâ longitudinali, strigâ utrinque interruptâ, punctisque quatuor nigro-fuscis. Meso- et meta-thorax ad latera anticeque nigro-fusci. Abdomen brunneum, pilis flavis vestitum. Pedes pallidè flavi; unguibus testaceis, intus ad basin serratis. Alæ albo-hyalinæ, punctis fuscis conspersæ.

Long. corp. 4''; exp. alar. 14½-15½''.

Hab. India septent.

In Mus. Brit.

Whitish. Crown of the head whitish, with a large cordate swelling, in which is an irregular, transverse, blackish groove, and behind this a transverse, polished, brown ridge, dilated in the middle and at each end; front whitish, varied with

shining fuscous; labrum and palpi yellowish; antennæ pale yellowish, the basal joint slightly fuscescent above. Prothorax whitish, about one-half longer than broad, slightly narrower in front; above, with three transverse ridges, one in the middle and one at each end; a longitudinal line in the middle, which is dilated on the ridges, an interrupted line on each side, and four dots, all blackish-fuscous; hairs blackish. Meso- and meta-thorax whitish, broadly blackish-fuscous in front, at the sides, and under each anterior wing. Abdomen brownish, the sides of the segments margined with yellowish; terminal segment yellowish. Legs primrose-yellow, with concolorous hairs. Claws testaceous, the apical half simple, the basal half serrated internally, the serrations being nearly hidden in the plantula.

Wings moderately broad, the apical margin slightly rounded, the apex acute; whitish-hyaline, with sparsely scattered brown dots, especially round the apical and inner margins, two or three at the pterostigma and one on the disk being larger than the others; in the posterior wings the basal half is without dots: venation rather open, varied with whitish and brownish; radius dotted with brown; ciliation for the most part whitish; the gradate series in the anterior wings nearly parallel.

There are three examples in the British Museum, varying slightly in the number of the brown spots in the wings. The species is allied to *consersus*, Walker, but has fewer dark markings on the wings, and the venation in *consersus* is almost entirely blackish, margined with fuscous; the markings on the head and thorax are also differently arranged.

OSMYLUS LANGII, n. sp.

O. piceo-niger. Antennæ flavæ, articulis duobus basalibus piceis. Pedes flavi; unguibus intus serratis. Alæ elongatæ, sub-angustatæ, acutæ, vic falcatæ: antice flavidæ, punctis plurimis margaritaceis conspersæ; maculis tribus costalibus, nonnullis ad apicem, fasciæque irregulari ante apicem et marginem dorsalem strigas tres emittenti, fuscis; venis venulisque flavis, nigro minutè punctatis: posticæ hyalinæ, venis venulisque plerumque nigris vel nigrescenti-suffusis.

Long. corp. 4-5''; exp. alar. 17-20''.

Hab. India septent.

In Mus. Brit. et auctoris.

Pitchy-black, the head somewhat shining. Palpi piceous. Antennæ yellow, the two basal joints pitchy-black. Eyes very large, black and shining. Ocelli small. Prothorax rather short, the sides parallel; above, with three transverse raised lines, one in the middle, and one at each end (forming raised margins), clothed with sparse blackish hairs. Abdomen blackish above, somewhat ochreous beneath. Legs yellow, with minute blackish points and short yellow pubescence; claws serrated internally.

Wings long, narrow, acute, the apical margin very slightly excised, giving the wings a slightly falcate appearance: anterior wings washed with yellow, shining; with fuscous markings, viz., three large, somewhat quadrate, spots on the costa,

several beyond these near the apex, and a large irregular band extending from near the apex and along the dorsal margin, emitting three broad streaks, one of which enters the apex, and the two others reach the dorsal margin; beyond this band, nearer the base, is a less distinct and somewhat quadrate spot on the dorsal margin, and there are also two small and distinct discal blackish spots, one near the base, the other in the middle; the whole wing is rather thickly sprinkled with pearly drops, being in reality portions of the membrane which have not acquired the yellow ground tint; in the fuscous band these dots are more distinct, and several of them are there much larger, forming large spots; neuration moderately open, the veins and veinlets yellow, with minute black points, from each of which springs a short blackish hair: posterior wings hyaline, all the basal veins and veinlets, and also the gradate veinlets, black and suffused with blackish; the longitudinal veins between, and on each side of, the gradate series, whitish, with blackish points.

There is a specimen of this beautiful species in the British Museum, and I have a long series before me, which I owe to the liberality of Captain Lang, by whom they were collected at Masuri, in June.

OSMYLUS PUBICOSTA, Walker.

Chrysopa pubicosta, Walk., Tr. Ent. Soc. Lond., n. s., vol. v, p. 183.

O. albicus. *Caput thoracque nigro-signati*. *Antennæ flavo-albidae, articulis duobus vel tribus basilibus piceo-nigris*. *Palpi piceo-annulati*. *Pedes flavo-albidi, tarsi testaceis, unguibus intus minute serratis*. *Alæ late, ad apicem vir acute, albo-hyaline: antice area costali lata, ad basin fere abrupte dilatata; punctis nonnullis basin versus, duobus pterostigmaticis albis, strigaeque transversa irregulari ante apicem, nigro-fuscis; venis venisque albis, nigro minutè punctatis, cum costâ ciliis longis instructis; posticæ punctis duobus pterostigmaticis nigro-fuscis*.

Long. corp. 4—4½"; *exp.* 15—18".

Hab. India septentrionalis.

In Mus. Brit. et auctoris.

Whitish, with a pale yellow tinge. Crown of head much inflated, with irregular blackish markings; front with blackish dots, and blackish lines at base of antennal sockets: palpi annulated with piceous: antennæ yellowish white, the two basal joints (and sometimes also the third) pitchy black. Prothorax rather short, slightly broader posteriorly; above, with interrupted longitudinal blackish lines, and clothed with sparse but long yellowish hairs: mesothorax large, much inflated. Legs pale whitish yellow, and clothed with long concolorous hairs; the middle with two or three small and indistinct teeth.

Wings broad, sub-acute at the apex, whitish-hyaline with whitish veins and veinlets; the costal margin and neuration longly ciliated: anterior wings with the costal area very broad at the base, rather abruptly dilated (almost as in *Ancylopteryx* and *Megalomus*); markings few and blackish, consisting of a spot on each side of the somewhat yellowish pterostigmatal region, the inner of which is the larger,

a short transverse streak placed on the inner series of gradate veinlets, and sundry scattered dots at the base of the wing and on the dorsal margin; veins and veinlets whitish, with small and distinct black points, from each of which springs a blackish hair; most of the veinlets of the inner gradate series, some in the outer, and several at the base of the costal area, black; costal margin with pale ciliation, which is very long near the base; reticulation very open (transverse veinlets few): posterior wings with a black spot upon each side of the pterostigmatal region; neuration without black points; some of the gradate veinlets in both series blackish.

I have re-described this insect, partly because it was erroneously placed by Mr. Walker in *Chrysopa*, and also because I have before me three fine examples taken by Capt. Lang at Masuri in June and July, it having hitherto been unique. It is an anomalous *Osmylus*, and I am not very clear as to the existence of ocelli, which I believe are present, though certainly obscure. The species is best placed in this genus provisionally.

OSMYLUS INTERLINEATUS, n. sp.

O. griseo-brunneus, pilis flavis nigrisque vestitus. *Antennæ flavæ. Pedes pallidè flavi, tibus anticis intermediisque extus nigro-tripunctatis*. *Alæ modicè elongatæ, acute, griseo-hyaline; pterostigmate utrinque fusco-notato, punctisque nonnullis fuscis; venis venisque nigris, albo-varis; sub-costâ, radioque albis, nigro-lineatis: antice areâ sub-costali nigro-lineatâ, margine dorsali puncto tuberculato fusco notato*.

Long. corp. 5"; *exp. alar.* 17½". *Hab. Natalia? (India orientali?)*.

In Mus. Brit.

Lurid greyish-brown with yellow and blackish hairs intermingled. Antennæ yellow. Eyes grey. Prothorax stout, rather longer than broad. Legs pale yellow; anterior and intermediate tibiæ with three black spots externally, of which one is in the middle, one near the base, and one near the apex.

Wings rather long, the apex acute, the apical margin straight; greyish-hyaline; pterostigmatal region with a blackish spot on each side, a smaller blackish spot placed across two of the nervules of the outer gradate series, and two or three more in the disc on the orbital region; on the inner margin of the anterior wings at about one-third of its length from the base, is a rounded raised (convex) fuscous spot with black veins: neuration for the most part black, but white here and there: sub-costa and radius in the anterior wings whitish, with six pairs of long black spaces, and with black lines in the membrane in the sub-costal area, one line being placed between each pair on the veins; in the posterior wings there are five pairs of black spaces on these veins, and no lines in the sub-costal area: the net-work of the basal portion of the wings is moderately dense; the gradate series not parallel but converging on the inner margin.

There is one example (not in good condition) in the British Museum, indicated as from Port Natal; but, without being able to affirm

that it is so, I am rather inclined to believe that this locality is erroneous, and that the insect is, in reality, Indian. It is allied to *tuberculatus* and *inquinatus* (the next described species), differing from the former in its larger size, broader aspect, and in the lineated sub-costal area; its differences from *inquinatus* are noted in the following comparative diagnosis.

OSMYLUS INQUINATUS, n. sp.

O. interlineato similis; sed alis sine punctis discalibus, anticarum areâ sub-costali, areaque inter sub-costam et radium, fasciis duabus brevibus, transversalibus, puncto inter fascias, strigisque duabus apicem versus, sordidè aureis, mox distinguitur.

Long. corp. 4"; *esp. alar.* 19".

In Mus. Brit.

Hab. Ceram.

This species, collected in Ceram, by Mr. Wallace, has the form of *interlineatus*, but is apparently abundantly distinct in consequence of the dull golden markings of the anterior wings.

O. tuberculatus, interlineatus, and inquinatus, are no doubt closely allied; yet I cannot consider them as only forms of one species, and doubt not that more extensive materials will prove their specific value. Possibly also the raised spot of the wings, and somewhat different general appearance, may eventually cause them to be generically separated from the other species of *Osmylus*. The claws in *O. tuberculatus* are distinctly bifid at the apex, and the same character doubtless obtains in the two others; but the single specimens of each of these are not in a condition for minute examination.

HYPOSMYLUS, nov. gen.

Caput parvum: antennae breves; ocelli supra et inter antennarum bases positi; labrum paullo emarginatum; palporum maxillarum articuli duo basales breves, ceteri longiores, inter se aequales, ultimo acuto. Prothorax latitudine paullo longior. Pedes pilosi, unguibus crassis, valde curvatis, plantulis simplicibus. Alae amplae: anticarum areâ costali latâ; venulae costales furcatae, venulis obliquis plurimis, series areolarum plurimas formantibus, connectae; sub-costâ et radio ad apicem confluentibus; area sub-costalis venulâ unâ ad basin solum instructa; sectore et radio parallelis; areolis discalibus per-numerosis; venulis marginalibus furcatis; areâ post-costali multi-areolata; posticae fere ut in anticis, sed area costalis angustata, serie areolarum unâ.

This genus is formed for the reception of *Osmylus punctipennis*, Walker, and differs especially from *Osmylus* (as here restricted) in the costal veinlets being united so as to form several irregular rows of small cells.

HYPOSMYLUS PUNCTIPENNIS, Walker.

Osmylus punctipennis, Walk., Tr. Ent. Soc. Lond., n. s., vol. v, p. 183.

H. brunneus. Caput testaceum, super antennis flavum. Antennae brunneae. Pedes flavo-brunnei, flavo-ciliati; tarsi obscurioribus. Alae testaceo-hyalinae, venusè micantes: anticae punctis nonnullis ante apicem fuscis; sub-costâ et radio flavis, reliquis venarum venularumque flavis, fuscis; areâ post-costali flavido, obsolete fusco-notato.

Long. corp. 6"; *esp. alar.* 24—28".

In Mus. Brit. et auctoris.

Pale brown. Head testaceous; crown much inflated, but with an abrupt declivity above the antennæ which is occupied by a yellow transverse space, in which are situated the ocelli, which are very small, and placed closely together in a triangle; the posterior portion of the head, partly below the eyes, shows two large oval tubercles, one on each side. Antennæ and palpi pale brownish.

Eyes somewhat plumbeous. Thorax above with sparse, but long, testaceous hairs. Abdomen fuscous (colours probably altered), clothed with testaceous hairs; the last segment entirely testaceous and provided with two large oblique approximating valves (♂♀). Legs yellowish, with yellow hairs; the tarsi somewhat darker; the claws shining brown.

Wings long and broad, acute at the apex; hyaline with a testaceous tinge, and with beautiful blue, purple, and golden reflections; the pterostigmatal region yellowish with indications of fuscous dots; sub-costa and radius yellow; most of the other veins whitish, but many of the transverse veinlets fuscous; the margins and veins longly ciliated with yellowish hairs: in the anterior wings are several fuscous dots on the outer series of gradate veinlets, and a smoky corneous dot in one of the discal cellules near the middle; the cellules in the costal area irregular; the discal cellules very numerous, but leaving a very broad marginal space.

Of this large insect I have seen but two examples—Walker's type, and the one given to me by Captain Lang, by whom it was captured at Kunawur.

20, Limes Grove North, Lewisham, S.E.,
December, 1869.

HINTS ON PRESERVING LARVÆ.

BY H. PEYER.

Some two years ago, seeing some preserved larvæ in the possession of Mr. Bond, I became desirous to know the method by which they were prepared; and, after a good many experiments, I attained success. Believing that there are many others who would like to be informed of the *modus operandi*, I have pleasure in giving them the result of my experience, as follows.

Having procured a larva, immerse it in a solution of alum or pyro-

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