

SOME ADDITIONS TO THE NEUROPTEROUS FAUNA OF NEW ZEALAND, WITH NOTES ON CERTAIN DESCRIBED SPECIES.

BY ROBERT McLACHLAN, F.R.S., &c.

More than 20 years ago I published (Annals and Mag. Nat. Hist., July, 1873) a Catalogue of the Neuropterous Insects of New Zealand. Since then a few additional species have been described, and sundry alterations in nomenclature, &c., have been found necessary. It is not my intention in the present paper to revise that Catalogue; I propose simply to give descriptions of a few hitherto unnamed species, and to intercalate therewith a few supplementary notes. The additions to my collection of these insects from the Colony during the period above mentioned have not been great; for several of them I am indebted to Mr. G. V. Hudson, of Wellington, an industrious entomologist and keen observer, who has done good work in *Neuroptera* (as in other Orders) by describing and figuring the metamorphoses of several species in his Manual of New Zealand Entomology (1892). From him, and from others, I still have a few species, chiefly *Trichoptera*, that await examination.

TRICHOPTERA.

Fam. *SERICOSTOMATIDÆ*.

ŒCONESUS, McLach.

This genus (σ) was established so long back as 1862 (Trans. Ent. Soc. Lond., 3rd ser., vol. i, p. 303, with further notes in Journ. Linn. Soc. Zool., x, p. 211, pl. ii, fig. 1, 1868, and, φ , in Annals and Mag. N. H., July, 1873, p. 39). It becomes necessary to supplement the published descriptions, more especially as there co-exists in New Zealand another genus the aspect of which is very similar.

σ . In the anterior wings there is a deep fold or groove commencing at the arculus on the inner margin, where it is very broad, extending to the thyridium, and thence continued obliquely: the neuration seems to defy comparison with a regular condition; the *sector radii* would seem to arise from the upper cubitus, which, in its turn, arises from the radius near its base (a condition that merits still further examination and confirmation!), and the apical neuration is equally extraordinary (*cf. fig., loc. cit. supra*), especially the position of the 3rd apical cellule (which bears the "point" near its base common to that cellule). In the posterior wings there are indications, on the costal portion, of the fold on the anterior; the neuration is more regular, and the apical forks 1, 2 and 3 are present.

φ . Neuration regular; in the anterior the upper edge of discoidal cell is straight; apical forks 1, 2, 3 and 5 present: in the posterior apical forks 1, 2, 3 and 5 present (*cf. Annals and Mag. Nat. Hist., l. c. supra*).

ÆCONESUS MAORI, McLach.—♂. There is a small triangular acute tooth on the ante-penultimate ventral segment. Last dorsal segment narrow; from its upper edge arise the superior appendages in the form of two narrow transverse lobes, contiguous in the middle of the margin, their outer edge furnished with long and strong pale hairs; intermediate appendages (upper penis cover?) long and flattened, united for more than half their length, and then forming two branches, each oblique at its apex, leaving a deep triangular excision between them. Inferior appendages two-branched, the upper branch long, cylindrical and obtuse, bearing long pale hairs, lower branch attenuate at the apex, which is curved downward.

♀. Larger (expanse, 30 mm., as against 26 mm.). In the anterior wings the pale irrorations are smaller and more evenly distributed. A sharp triangular brown-tipped tooth on the ante-penultimate ventral segment. Last dorsal segment in the form of a triangular plate; below it is a tubular piece, truncate at its apex, whence (viewed laterally) a narrow rounded valve proceeds on either side, projecting slightly beyond the tube.

I have males from Wellington (*Hudson*, "Nos. 1 and 11"); the only ♀ bears no special indication of locality.

PSEUDÆCONESUS, *n. g.*

The species of this genus resemble *Æconesus* in a very remarkable manner, but the neuration of the ♂ is quite different. The characters here given are mainly comparative.

♂. Characters of antennæ, palpi, legs, &c., practically the same. In the anterior wings there is no costal fold and no defined groove (present in *Æconesus*); the radius is confluent with the first apical sector (in both sexes and in both pairs, as in *Æconesus*); upper edge of discoidal cell excised (straight in *Æconesus*); apical forks Nos. 1, 2 and 3 present (irregular afterwards), the 6th apical cellule very much dilated at its base in a nearly circular manner. In the posterior wings apical forks Nos. 1, 2, 3 and 5 are present, and the neuration is apparently regular (but abnormally irregular on one side in the only male before me).

♀. The joints of the labial palpi shorter and broader, the terminal joint almost spoon-shaped. In the anterior and posterior wings apical forks Nos. 1, 2, 3 and 5 are present, and the neuration appears to be normal and regular.

It appears to me probable that *Æconesus* and *Pseudæconesus* may have affinity with the group of genera represented by *Goëra*, *Silo*, &c.

PSEUDÆCONESUS MIMUS, *n. sp.*

♀. Almost precisely similar to the same sex in *Æ. maori*, but slightly smaller. In the anterior wings the excised upper edge of the discoidal cell (mentioned in the generic characters) is a good structural definition; the pale irrorations are larger and less regular (more as in the ♂ of *Æ. maori*); near the base of the 3rd apical cellule is a rather large rounded pale spot, on each side of which is a somewhat conspicuous brown spot (wanting in *Æ. maori*).

On the ante-penultimate ventral segment is a very strong triangular tooth. End of abdomen very similar (in dried examples) to that of *Æ. maori*.

I have two examples before me from Wellington (*Hudson*, "Nos. 1b and 11"), and in referring them to *Pseudæcones* (in the absence of the ♂) have been principally guided by the form of the discoidal cell.

PSEUDECONESUS STRAMINEUS, *n. sp.*

♂. Much paler than *Ps. minus*, stramineous or pale testaceous. Anterior wings pale greyish-stramineous, closely irrorated with small whitish spots, the pubescence greyish and stramineous intermixed (no dark spots in the 3rd apical cellule), apical margin narrowly fuscous, slightly interrupted with the ground colour, and on the inner margin are four or five long fuscous lines alternating with long pale spaces. Posterior wings whitish-silky-stramineous, the apical portion more yellowish, fringes concolorous. On the ante-penultimate ventral segment is a long and strong narrow, testaceous, acute tooth, and another similar, but rather shorter, on the penultimate. Last dorsal segment concealed (in the example before me); superior appendages lateral, quadrate, furnished with long pale hairs. Intermediate appendages (or upper penis cover?), viewed from above, consolidated into a broad elongate plate, canaliculate above, deeply notched at the apex, forming two obtuse apical points furnished with very long pale hairs. Inferior appendages 2-branched, the branches distant, both apparently stout and cylindrical, curved in such a manner as to leave a semicircular space between them.

Length of body, 7 mm. Expanse of wings, 28 mm.

One ♂ from Wellington (*Hudson*, "No. 12b"), which I consider the type of *Pseudæcones*.

♀. As in the ♂, but the body darker, and the anterior wings with a more decided yellowish tint; the pale and dark spaces on the inner margin less distinct.

A sharp, broad, triangular tooth on the ante-penultimate ventral segment. Margin of last dorsal segment nearly straight, and slightly excised in its middle. Tubular piece forming two small, broad, triangular obtuse lobes, if viewed laterally, but open above and beneath.

Length of body, 10 mm. Expanse of wings, 33 mm.

One example from Mount Arthur, 2800 feet, January 19th (*Meyrick*); a second much smaller example from the same locality but at 4500 ft. elevation, expands to only 20 mm., it agrees with the larger in all essential points, and the dwarfing is probably due to altitude.

Although the sexes above described are not from the same locality, I have coupled them on account of colour-likeness, it seeming to me very improbable that the ♂ described as *stramineus* can be of the same species as the ♀ described as *minus*. Feeling that there is yet a good deal to clear up in these allied forms, and that it could only be satisfactorily done by local observers, I have quoted the numbers on the specimens forwarded to me by Mr. Hudson.

OLINGA, *new name.*

= *Olinx*, McLach., Journ. Linn. Soc. Zool., x, p. 196 (1868).

This change in nomenclature is necessary, and under rather peculiar circumstances. In 1856 Förster (Hym. Stnd.) used *Olynx* as a generic term. According to his derivation (which was the same as mine) it should have been *Olinx*. Possibly I might have been excused from altering my term had not Taschenberg (Hym. Deutschl.), in 1866, given Förster's name its correct rendering (*Olinx*), in which he has been followed by others. The term I now propose changes the original as little as possible, and has practically the same meaning.

The ♀ of *O. Feredayi*, McLach., remains unknown to me.

NEUROPTERA—PLANIPENNIA.

Fam. OSMYLIDÆ.

STENOSMYLUS, McLach.

I instituted this genus in 1867 for the reception of *Osmylus tenuis*, Walker, and other Australian species. It was chiefly characterized by the narrow wings, and (especially) by the bifid or deeply excised tarsal plantulæ. Subsequently, two New Zealand species (*incisus*, McLach., and *citrinus*, McLach.), with the apical margin of the wings strongly excised, were included, and I see no reason for altering their position; moreover, the Australian *Osmylus pallidus*, McLach., should be placed in *Stenosmylus*, and it has excised wings. I have since received another species from New Zealand (described below), in which the apical margin is scarcely excised, and the wings broader than in the Australian species, thus approaching some forms of *Osmylus*, therefore, species with both forms of wings are represented both in New Zealand and Australia. The latter genus has increased vastly of late in the number of known species, and there is much diversity in the form of the wings and in minute details of neural structure. The condition of the plantulæ remains the principal distinguishing character of *Stenosmylus*, for in *Osmylus* they are truncate, or at the most only very slightly excised. I have an undescribed *Stenosmylus* with excised wings from Chili.

STENOSMYLUS LATIUSCULUS, n. sp.

Head above and pronotum dull yellowish. On the head the hinder part of the vertex (behind the ocelli) is separated from the fore part by a transverse slightly raised line, from which two slightly divergent longitudinal impressed lines descend to the hinder margin; ocelli large, but not prominent, approximate, their sockets narrowly blackish; eyes blackish; antennæ pale brown, the two basal joints and the base of the 3rd joint yellow; front fuscous; palpi yellow. Pronotum narrowly black on its side margins, longer than broad, with a transverse sulcus on its posterior third, the disc with small black tubercles whence black hairs arise, and there are black

hairs on the lateral margin. Meso- and meta-nota yellowish, clouded with fuscous. Anterior legs pale yellow, with fine, short, dark hairs, the tips of the tibiae and of the tarsal joints brownish, plantula brownish (intermediate legs wanting); posterior legs mostly fuscous, but the base of the femora and tibiae is somewhat yellowish. Abdomen (♀) fuscous above, dull yellowish beneath, sparingly clothed with pale pubescence: apex obtuse, provided beneath with an ovipositor (?) which appears to consist of two closely applied two-jointed pieces, the second joint directed backward upon the first; the posterior margin of the 7th ventral segment produced in its middle into a quadrate valve, from within which a cylindrical process (broad at its base) is directed between the basal joints of the above described apparatus.

Wings long-oval, subacute at the apex, with a very slight subapical excision. The ground-colour is very pale grey, somewhat shining: in the anterior wings the neuration is blackish and whitish alternately, but in an irregular manner, closely set with minute black tubercles, whence arise black hairs; some of the black transverse nervules are faintly clouded, giving a faint irregular tessellated appearance; the margins all round are alternately whitish and dark in an irregular manner; there are faint dark spots on the transverse nervules between the radius and sector at their commencement, also along the lower cubitus, and the external series of gradate nervules form a somewhat curved dark line; pterostigmatic region (in both pairs) long but ill-defined, whitish-testaceous; costal nervules irregular, some simple, some with a small fork at the costal end, or forked and each branch again forked: posterior wings almost without markings, save slight nebulosity occasioned by the grouping of the black nervules, which are less numerous than in the anterior, and the black tubercles are fewer in number and scarcely evident.

Length of body, 13 mm. Expanse of wings, 54 mm.; length of anterior wing, 26 mm., greatest breadth, 9 mm.

I have one ♀ labelled "Otira Gorge, on window at light."

Var. Smaller (expanse, 45 mm.). The head above and pronotum more dusky, and the black margins of the latter rather broader. Posterior legs wholly yellowish. The anterior wings rather more strongly marked, the spots under the radius and along the lower cubitus rather more distinct.

One ♀ without special indication of locality, but which may possibly have come from Greymouth. The difference from the type is very slight, and any importance attached to the slight discrepancies mentioned would probably disappear with more materials.

STENOSMYLUS INCISUS, McLach.—I possess this species from Otago (*Oxley*), Waitara, and Wellington (*Hudson*). According to Mr. Hudson it is rare in the neighbourhood of Wellington.

STENOSMYLUS CITRINUS, McLach.—This insect is apparently liable to variation, and perhaps from local causes, so far as I can judge from the three specimens in my collection. The precise locality of the type specimen is uncertain. A second, from Wellington (*Hudson*) has the anterior wings more strongly marked and the ground somewhat

greyer; on the posterior wings there is a distinct discal point (as in the anterior), and the apical portion is distinctly clouded. Finally a third, from Waitara, differs still more widely; the posterior femora are darker: the wings have scarcely a trace of the yellow colour so striking in the type, but could be more correctly described as pale grey; the dark points in the anterior are much more numerous, and are spread over nearly the whole wing, but the whitish spot at the end of the upper cubitus is scarcely indicated, and is not margined with black; in the posterior the neuration is blackish in certain places, causing a nebulous appearance. All three examples agree in size and form, and at present it seems prudent to consider that from Waitara as only a strongly marked variety, having in view the paucity of material.

(To be concluded in our next).

TWO SPECIES OF *PSOCIDÆ* NEW TO BRITAIN.

BY ROBERT McLACHLAN, F.R.S., &c.

Herr H. Tetens, of Berlin, one of the most recent writers on European *Psocidæ*, lately visited London, and through him I am able to confirm the following species, of which I give brief descriptions, as new to our List.

PSOCUS MAJOR (Kolbe), Loens.

Ps. sexpunctatus, L., var. *major*, Kolbe, Jahrb. d. Westf. Provinz. Ver., 1879-80, p. 109. *Ps. major*, Loens, Stett. Zeit., li, p. 7 (1890); Tetens, Ent. Nachr., xvii, p. 375 (1891); Reuter, Act. Fenn., ix, No. 4, p. 25 (1893).

Closely allied to *Ps. 6-punctatus*. Differs in the apex of the anterior wings being less rounded; the pterostigma less dilated at the apex, and its basal portion more or less opaque-whitish or yellowish; the six subapical spots the same, but the other markings of the wings are less evenly distributed, and in part congested into an oblique fascia from the base of the pterostigma to the inner margin (somewhat as in *Ps. fasciatus*), where it is widest, and the colour of the markings appears to me to be brown rather than grey (minute differences in the neuration are also indicated, and the colour of the body is said to differ in fresh individuals).

I have one example in my British collection taken at Forest Hill, near London, on September 30th, 1861. Mr. J. J. King does not possess it amongst his extensive series of *sexpunctatus* from varied British localities, and Herr Tetens (*l. c.*, p. 376) was mistaken (of which he is now convinced) in attributing (from description) *Ps. subfasciatus*, Steph., to this species. It is very possible I had more British examples in view when writing my Monogr. of Brit. *Psocidæ* (Ent. Mo. Mag.

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(Concluded from page 243).

PSEUDO-NEUROPTERA.

Fam. *PSOCIDÆ*.

MYOPOCUS NOVÆ-ZEALANDIÆ, Kolbe, Ent. Nachrichten, ix, p. 145 (1883), = *Psocus zealandicus*, Hudson, Man. N. Z. Ent., p. 107, pl. xvi, fig. 2 (1892).

The types of Kolbe's species, in very bad condition (Wellington; I believe from Mr. Hudson), are in my collection. There seems to be no doubt that Mr. Hudson's insect is identical, but his figure (of the perfect insect) leaves much to be desired.

Fam. *EPHEMERIDÆ*.

EPHEMERA HUDSONI, n. sp.

♂ imago. Body castaneous (abdomen mutilated after its 4th segment; its segmental divisions narrowly darker), paler beneath. Eyes liver-red. Legs pale dingy yellowish; anterior femora with a short blackish line internally, and their tips, and those of the same tibiæ and tarsal joints, darker. Anterior wings vitreous, iridescent, the costal margin as far as the radius, from close to the base to the extreme apex, dark reddish-brown, otherwise these wings are quite without markings; neuration black, but the roots of the chief nervures and the cellules enclosed thereby, are pale yellowish; pterostigmatic region with mostly two rows of irregular cellules, most of the nervules being connected, the cellules of the lower row mostly larger. Posterior wings vitreous, without markings, the dilated basal costal portion faintly tinged with yellowish; neuration black, principal nervures yellowish at extreme base.

Length of body (?). Expanse of anterior wings, 41 mm. Length of anterior wing, 19½ mm.

♂ subimago. Body dull greyish-brown, without markings, save that the segmental divisions of the abdomen are narrowly darker. Legs pale whitish-yellow, the articulations blackish, and the last tarsal joint and claws also blackish or fuscous. Outer setæ long (the tips wanting), pale greyish-brown, finely pubescent; middle seta (in the example before me) rudimentary, shorter than the appendages, dilated and rounded at the apex, consisting of not more than ten transverse joints. Appendages greyish-yellow, the long 2nd joint nearly straight, terminal two joints short, subequal and slightly incurved. Anterior wings sub-opaque, pale greyish, with the costal margin and neuration as in the imago, and in addition there are two oblique, irregular, transverse, smoky-grey fasciæ, one nodal at its origin, and not extending to the inner margin, the other sub-stigmatal, and extending right across, the sub-apical margin bordered with the same colour. Posterior wings concolorous with the anterior, with a faint, smoky-grey, median, oblique fasciæ, and the apical portion also smoky-grey.

Length of body, 20 mm. Expanse as in imago.

♀ subimago. Almost entirely similar to the *♂ subimago*, but larger and more

robust. The middle seta (in the example before me) long and well developed, but considerably shorter than the two outer, and its apex apparently flattened and dilated (? inflated during life). Wings as in the ♂ subimago, but the ground has a slight greenish tinge; the dark costal margin of anterior more smoky, with scarcely any reddish tinge.

Length of body, 20 mm. Expanse, about 43 mm. (the tips of wings broken).

Wellington (*Hudson*). I have 1 ♂ imago, 1 ♂ subimago, and 1 ♀ subimago. This is the *Ephemera* from New Zealand mentioned, but not described, by Eaton in his *Revis. Monogr.*, p. 59; he had then seen only the mutilated imago; such a geographical distribution is anomalous for the genus. A very remarkable species in coloration, and still more remarkable for the condition of the median caudal seta as exhibited in the ♂ and ♀ subimago in my collection; such a condition, if constant, being probably sufficient for generic separation, showing relationship with *Heptagenia* on the one hand, and *Pentagenia* on the other: the precise condition remains to be confirmed and elucidated from an examination of many specimens of both sexes and in both winged stages.

ODONATA.

Sub-fam. LIBELLULINA.

SYMPETRUM BIPUNCTATUM, Brauer, *var. n.* NOVE-ZEALANDIÆ.

♀. Apparently differing from the type form chiefly in the extension of the yellow at the base of the wings, and its deep tint. In the anterior wings this colour extends to the 2nd ante-cubital nervule, to the arculus, and to near the end of the median (or lower basal) cell, and in the posterior it forms a triangular basal space reaching the triangle, and continued in an oblique manner to the anal margin some distance below the end of the membranule.

I have three females before me from Paikakariki, on the coast about 20 miles north of Wellington (*Hudson*). I am not aware that the ♂ has been discovered. Another ♀, from near Auckland (*Col. Bolton*) has been in the British Museum Collection for 40 years; it differs slightly from those from near Wellington, the yellow at the base of the wings being less extended, and hence more typical, and the dark dorsal line of the abdomen appears to be wanting (it is present in the others, and is indicated in Brauer's description).

An examination of the ♂ is desirable, but *at present* I see no reason to consider the examples as forming more than a local race of *S. bipunctatum*, a species apparently widely distributed in Australia and the Polynesian Islands, and which is probably liable to local variation. I have, at present, no ♀ before me that I can refer to *bipunctatum* (type), but those from New Zealand agree (with the exception stated) with Brauer's description, even to the structure of the vulvar scale (a crucial point).

This is the only species of *Libellulina* at present known from New Zealand, and adds another to the ridiculously small number of Dragon-flies that appear to exist in the Colony.

N.B.—Brauer quite correctly placed this species in *Sympetrum* (*Diplax*) as characterized by (*inter alia*) the large elevated bilobate posterior lobe of the prothorax. Mr. Kirby, ignoring this important character, places it, and others with the same form of prothorax, in *Trithemis*, Brauer, in the true species of which the prothorax is very differently formed (Catalogue of *Odonata*, p. 18).

Sub-fam. ÆSCHNINA.

ÆSCHNA BREVISTYLA, Ramb.—The examples from New Zealand have perhaps a slightly different *facies* from the Australian typical form. My examples are all from Canterbury, but when compiling my list of New Zealand *Neuroptera* in 1873, I overlooked the fact that Brauer had already recorded the species from Auckland (Reise der "Novara"); it is in the British Museum from Canterbury, Wellington and Auckland.

Sub-fam. AGRIONINA.

TELEBASIS.—The two species from New Zealand placed under this generic term have since been transferred by De Selys to *Xanthagrion*, Selys, and a doubtful "race" of *X. zelandicum* is described by him under the name *antipodum*, from a single imperfect ♀, differing from the type chiefly in small colour characters. Of *X. sobrinum*, McLach., there are further examples in the British Museum. Colonial entomologists will do well in carefully studying these small Dragon-flies.

Lewisham, London:

August, 1894.

NEPTICULA CONFUSELLA, A NEW BIRCH-MINING SPECIES.

BY JOHN H. WOOD, M.B.

Early in last May I had the satisfaction of breeding a few moths from the new *Nepticula* larvæ, provisionally known as "No. 1," which were described at pages 95-6 *ante*, mining in the leaves of birch. They were recently submitted to Lord Walsingham, who has most kindly drawn up for me the following description:—

Antennæ in the ♂ long (reaching to the fascia when laid back at rest), shorter in the ♀, cinereous; eye-caps whitish. Head amber-yellow. Thorax brownish-cinereous. Fore-wings brownish-cinereous, with a slight purplish lustre in a strong

Bibliography of the Neuropterida

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