ART. XXXVIII.—*On a Collection of* Mallophaga *from the Kermadecs.*

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THE material which forms the subject of this paper was collected by the expedition of New Zealand naturalists which visited the Kermadec Islands in 1907–8 under the guidance of Messrs. Tom Iredale and W. R. B. Oliver. From the labels we judge that it was collected chiefly by Mr. W. L. Wallace. It was forwarded by Mr. Oliver to the Dominion Museum, Wellington, and the Curator of that institution, Mr. A. Hamilton, has been kind enough to place it in our hands for description.

The *Mallophaga* collected comprise thirteen species from five bird hosts, and one species from a mammal, the introduced domestic goat. To these we have added two species taken by one of us from a skin of *Oestrelata neglecta* Schl., forwarded by Mr. Oliver to Mr. A. F. Basset Hull, of Sydney. As Mr. Iredale's notes (1910) mention about thirty species of birds observed on the group, it is obvious that nothing like a complete collection of the Mallophagan fauna was obtained.

Of the sixteen forms reviewed, we have described six as new species, one as a new variety of a known form, eight have been ascribed to already known species, and consideration of one species has been deferred.

LIST OF HOSTS, WITH PARASITES.

Pelagodroma marina Lath.
  Ancistrona procellariae Westw.
  Lipeurus languidus Kell. & Kuwana.
  Lipeurus exiguus Kell. & Kuwana.
Oestrelata neglecta Schl.
  Philopterus fuscoclypeatus nobis.
  Lipeurus diversus Kellogg var. *excavatus* nobis.
  Lipeurus kermadecensis nobis.
Charadrius dominicus Müll.
  Philopterus wallacei nobis.
  Degeeriella oraria Kellogg.
  Colpocephalum timidum Kellogg.
Numenius variegatus Scop.
  Philopterus armatus nobis.
  Philopterus numeniicola nobis.
  Degeeriella oliveri nobis.
Sturnus vulgaris Linn.
  Philopterus leontodon Nitzsch.
  Degeeriella nebulosa Burmeister.
  Menopon sp.
Capra hircus Linn.
  Trichodectes climax Nitzsch.

LIOTHEIDAE.

Menopon sp.

Among the parasites collected from the European starling (*Sturnus vulgaris* Linn.) are specimens of a *Menopon* similar to some which we have ourselves collected from the same host in New South Wales, but which do not agree with any *Menopon* described from the starling that we can trace. As it seems somewhat improbable that what is apparently a common parasite of an extremely common bird should have eluded observation, we have deferred consideration of this species until we are dealing with our New South Wales material, in order to allow of a further search.

Colpocephalum timidum Kellogg (1896, p. 145, pl. 12, fig. 6).

One male and a few females from *Charadrius dominicus* Müll. This species has previously been taken by Kellogg from the same host in Kansas, U.S.A., and also from *Squatarola squatarola* Linn. from California (1899, p. 112). Kellogg gives the breadth of the female as 0·37 mm., which is evidently a misprint, as our specimens measure from 0·58 mm. to 0·64 mm.

The male, which is apparently undescribed, resembles the female, with the exception that the angles of the abdominal segments project a little more prominently, and the last segment is more bluntly rounded. Length, 1·65 mm.; breadth, 0·52 mm.

Ancistrona procellariae Westwood (1874, p. 197).

Syn., *Ancistrona gigas* Piaget (1885, p. 117), Kellogg (1896, p. 150, and 1899, p. 116).

One individual referable to the genus *Ancistrona* was found upon *Pelagodroma marina*. Two species have been described under this genus; the type, *A. procellariae*, by Westwood from a *Daption capense* presented by Messrs. R. Brown and Baird to the Hope Museum, Oxford. No locality is given, but it may be assumed that the bird in question formed part of an Antarctic collection, as Baird described parasites from Antarctica. Piaget described a second species, *A. gigas*, from a *Procellaria* collected on the Barendts north polar expedition. We have a separate copy of the paper containing his original description, but it bears no date, and no indication as to the periodical in which it originally appeared, and we have been unable to trace a reference to it in any bibliography of the group accessible to us. The date may be fixed roughly as 1883–84, as the paper in question follows immediately on another by the same author, criticizing the "Die Mallophagen" of Taschenberg, which was published in 1882. The original description is, however, reproduced verbatim by Piaget in his Supplement (1885, p. 117), and this reference is given by Kellogg (1896, p. 150; 1899, p. 116; 1908, p. 75) for the original account.

Piaget gives a detailed description of his type, but does not particularize any characters by which it differs from *A. procellariae* Westwood, except its larger size. His own words are, "L'espèce se rapproche génériquement de l' *A. procellariae* de M. Westwood, mais en diffère spécifiquement, surtout par les dimensions. Seulement la description donnée par le savant entomologue est trop sommaire pour permettre une comparaison détaillée."

Westwood gives the length of his species as $2\frac{1}{2}$ lines (roughly, $5\frac{1}{4}$ mm.), while Piaget gives his as 6 mm., so that the difference in size is only $\frac{3}{4}$ mm.

in a length of 6 mm., which hardly justifies an assumption of specific difference. It seems to us possible that Piaget has read Westwood's measurement as millimetres, not lines.

Westwood's description is short, and his figure poor, but there is nothing in either to indicate a specific difference between the forms described by him and by Piaget. The poorness of his figure may be accounted for by the fact that *Ancistrona* is very difficult to view satisfactorily under a microscope, the variations in thickness being comparatively so large. As a matter of fact, Piaget has fallen into error in his figure of the ventral parts of the head, for he figures as a posterior production of the hind-head what is really an anterior intercoxal production of the prothorax.

Kellogg (1896, p. 50; 1899, p. 116) obtained specimens of an *Ancistrona* from various petrels on the Californian coast of the North Pacific, which he has referred to *A. gigas* Piaget.

Finally, the individual we have under review comes from the South Pacific, and on that account might well be expected to agree with Westwood's species rather than Piaget's, if the two were distinct. We find it agrees with Piaget's description of *A. gigas* in all details except size, as it measures only 4 mm.

We conclude from the foregoing that there is only one species so far known in the genus, and we rank *A. gigas* Piaget as a synonym of *A. procellariae* Westwood.

PHILOPTERIDAE.

Lipeurus kermadecensis n. sp.

Description of Female.—Head subconical, elongate, narrower in front; anterior portion of clypeus obtusely rounded and transparent; lateral margins of forehead strongly chitinized, with narrow transverse interruptions to roots of marginal hairs, and continued as antennal bands behind antennary fossa, ending internal to the eye; temples rounded, not distinctly wider than at trabecular angles, without distinct bands; occiput roundly emarginate; all the hind-head evenly chitinized, with transparent interspaces from the antennary fossae meeting in the middle line at about half the distance between the line of the antennae and the occiput, and continuing to apex of occipital emargination; from each branch a lateral interspace given off, passing posteriorly parallel with temporal margins to occiput; trabeculae practically absent; antennae with 1st and 2nd segments equal and longest, 5th next in size, 3rd and 4th smaller and about equal; 3 marginal hairs on side of forehead, corresponding to interruptions through the lateral band; between the anterior pair a dorsal and a ventral hair, internal to lateral band; small hair in front of trabecular angle, and one at angle; 4 or 5 small hairs round temporal lobe, that at temporal angle more prominent than the others; 2 pairs of hairs on dorsal surface of forehead.

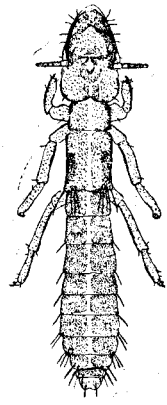

FIG. 1.
Lipeurus kermadecensis. ♀.

Prothorax approximately rectangular, broader than long, evenly chitinized, slightly darker at antero-lateral margins, with a median interruption. Metathorax more than twice as long as prothorax, approximately rectangular, anterior angles slightly truncated, lateral margins somewhat

compressed; middle of posterior margin projecting slightly on to abdomen; evenly chitinized, mid-lateral parts more deeply coloured; median interruption continuous with that of prothorax; a long hair at posterior angle, and inwards from it a group of 3 pustulated hairs.

Abdomen of 10 segments, narrow, elongate, sides subparallel; gradually increasing in width to 6th segment, then sharply tapering to 10th, which is slightly bilobed; all evenly chitinized, with median interruption as in thorax extending through 8 segments; 9th completely chitinized; 10th with chitinous lateral blotches; 2 pairs of small hairs on posterior margin of each segment, and a large pair of ventral hairs, one on each side of the mid-line; on 1st segment 6 other small hairs, 4 of which are near anterior border; one hair at posterior angle in segments 2 to 4, two in 5 and 6, three in 7th, one in 8th and 9th; on segments 9 and 10 a pair of dorsal hairs.

Length, 1·76 mm.; breadth, 0·28 mm. Head, 0·44 mm. by 0·28 mm.

Three females taken by one of us from a skin of *Oestrelata neglecta* Schl. forwarded to Mr. A. F. Basset Hull, of Sydney. This species approximates closely to *Lipeurus limitatus* Kellogg (1896, p. 124) from *Puffinus griseus* Gmel. from California, but differs in being little more than half the size, in the shape of the prothorax, in the median interruption of the abdomen being continuous through 8 segments and not 7 only, and in the disposition of the interruptions of the hind-head. The male is unknown, as is the male of *L. limitatus*. Kellogg also having collected females only.

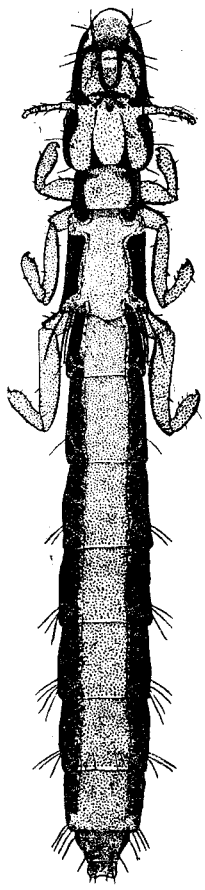

Fig. 2.

Lipeurus diversus var. *excavatus*. ♀.

Lipeurus diversus var. excavatus var. nov.

This form is intermediate between *L. angusticeps* Piaget (1880, p. 306) and *L. diversus* Kellogg (1896, p. 123), approaching more closely to the latter. Our form differs from Kellogg's species in having distinct lateral bands on the margin of the clypeus, in front of the antennal bands; occipital blotches slightly different in arrangement; bands of prothorax produced more markedly on to metathorax, and not interrupted at the suture; hairs on posterior margin of metathorax slightly different in arrangement, the second hair from the angle being small, and not of almost equal length with the others; lateral bands of abdomen distinctly broader, each produced anteriorly into a concavity in posterior margin of that of preceding segment; this posterior margin with a clear diverticulum towards lateral margin, the exact relations being best seen in the figure. The sexual dimorphism agrees with that shown in Kellogg's figures of *L. diversus*, but as the one male at our disposal has lost his antennae we are unable to compare the males satisfactorily.

Several specimens from *Oestrelata neglecta* Schl. from Sunday Island. We have figured a female.

Lipeurus languidus Kellogg and Kuwana (1902, p. 475, pl. 29, fig. 8).

Two females and one male of this species were taken from *Pelagodroma marina* Lath. The species was originally described from Galapagos Island, where it was taken from *Oceanites gracilis* and *Procellaria tethys*, as well as on a number of other hosts to which it had obviously straggled.

Lipeurus exiguus Kellogg and Kuwana (1902, p. 479, pl. 30, fig. 2).

One female from *Pelagodroma marina* Lath. The species was originally described from *Oceanites gracilis* from Galapagos.

Degeeriella oliveri n. sp.

A few males and one female of this species were collected from *Numenius variegatus* Scop. The form resembles fairly closely *D. actophilus* of Kellogg and Chapman (1899, p. 78) from *Calidris arenaria* Linn. from California, and, in a less degree, *D. inaequalis* of Piaget (1880, p. 176) from *Numenius arquatus* Linn. from Europe; but differs markedly in detail from either. From both the forms mentioned our species differs in the proportionately greater length of the head in front of the antennae, and also in the relations of the chitinous framework of the clypeal parts. The signature does not extend across the width of the clypeus, as in Kellogg's figure of *D. actophilus*, and its rounded posterior angle projects strongly into a clear uncoloured space, which is thus not a transverse bar, but a more or less horseshoe-shaped clear area. Dorsal to the signature, the clypeal bands of either side are produced as a deeply sinuous structure crossing the anterior margin of the head.

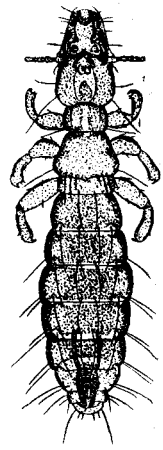

FIG. 3. *Degeeriella oliveri* ♂.

From *D. inaequalis*, to which it approximates in size, it is easily distinguishable from the fact that the sides of the abdomen are convexly subparallel to the 6th segment, and then taper somewhat to a broadly rounded 9th segment in the male, while Piaget's species has the abdomen much swollen at the 4th and 5th segments, and tapering considerably before and behind. Also, the last segment of the abdomen in the female is barely notched, and not markedly bifid, as figured by Piaget.

From *D. actophilus*, besides the differences in the head region already indicated, it may easily be distinguished by its greater size, 1·85 mm., as against 1·6 mm.

We figure the male, of which the measurements are: Length, 1·85 mm.; breadth, 0·37 mm.; head, 0·49 mm. by 0·3 mm. The female differs chiefly in the shape of the abdomen, the sides of the last two segments converging abruptly, and meeting almost at right angles, with a slight notch in the apex; and in the generally lighter colour of the transverse bands of the abdomen. It measures: Length, 1·88 mm.; breadth, 0·44 mm.

We have named this species in tribute to Mr. W. R. B. Oliver, one of the leaders of the expedition.

Degeeriella nebulosa Burmeister.

Nirmus nebulosus Burmeister, Denny (1842, p. 132, pl. 11, fig. 13).

A couple of individuals of this common parasite of the starling were obtained from *Sturnus vulgaris* Linn.

Piaget (1880, p. 155) wrongly credits Denny with being the author of this species.

Degeeriella oraria Kellogg.

Nirmus orarius Kellogg (1896, p. 104, pl. 5, fig. 5).

Two females which we have referred to the above species were taken upon *Charadrius dominicus* Müll. The species was described by Kellogg from a single female taken from the same host in Kansas, U.S.A., which would seem to have been immature.

Our specimen agrees in general with Kellogg's description, but has strong square blotches on the ventral surface of the abdomen, and small dark median blotches on segments 3–7 on the dorsal surface, neither of which are mentioned in Kellogg's description. In addition, a pair of median hairs is found on all the segments, and not only on segments 3–6, as figured; there are 5 hairs on either side of the metathorax, not 4; and the dimensions are somewhat greater, the length being 1·95 mm. as against 1·84 mm., and the breadth 0·47 mm. against 0·4 mm.

Philopterus leontodon Nitzsch (1818).

Docophorus leontodon Nitzsch, in Giebel (1874, p. 90, pl. 11, figs. 4, 7).

A solitary immature specimen of a *Philopterus* was taken from the introduced European starling (*Sturnus vulgaris* Linn.), which has reached the Kermadecs from New Zealand.

We have referred it to Nitzsch's species as the general form of the head is similar to that of *P. leontodon*.

Philopterus fuscoclypeatus n. sp.

A single mutilated individual, which is almost certainly a female, of this species was collected by one of us from a skin of *Oestrelata neglecta* Schl. sent to Sydney. We have ventured to describe it, in spite of its condition, as the structure of the fore part of the head very clearly distinguishes it from any *Philopterus* so far known.

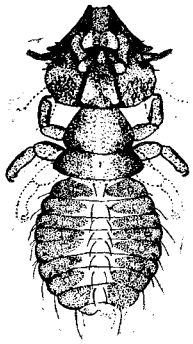

FIG. 4.

Philopterus fuscoclypeatus. ♀.

Head broader than long; temples evenly rounded, and fore part of form of an equilateral triangle, with anterior angle truncated; from base of trabeculae sides of forehead are perfectly straight to anterior clypeal angles; clypeus entirely brown, darker at sides, where the antennal bands widen out, ending in a more or less sinuous border extending from the anterior clypeal angle, parallel to the long axis, back to the suture; anterior clypeal angles projecting slightly beyond the anterior margin of the clypeus, which is almost straight, there being only a slight median depression; clypeus wholly chitinized, with no clear margins or spaces, with hind margin passing almost straight across the head, curving slightly back on to the centre of the clear space in front of mandibles; laterally the hind margin curves round to join the antennal

bands, and in each lateral curve is a small tubercle; in front of mandibles, and internal to lateral bands, a more or less oblong uncoloured space, containing in its centre a dark oblong blotch with serrated lateral margins; trabeculae fairly strong, coloured, and extending to 2nd segment of antennae; on dorsal surface, at base of trabeculae, an acutely conical process set in a papilla, resembling those found in *Giebelia;* antennae short, slightly bent from 2nd segment, with 1st segment longest, then 2nd, then 5th; 3rd and 4th equal and shorter; eye not prominent, with bristle; occipital bands strong, very slightly converging from the anterior angles of the prothorax to the base of the mandibles; temples dark, mammillated, with at least 2 pustulated hairs about angles; occipital signature conical, the apex meeting a second larger cone, with its base along the articulations of the mandibles; between these and the occipital bands, subtriangular uncoloured spaces; hind margin slightly sinuous, projecting a little on to prothorax; oesophageal sclerite and glands fairly conspicuous (in cleared specimen); few hairs are observable; beyond the pustulated hairs already mentioned only a short hair at trabecular angle and a stout spine behind the eye can be made out, but the hairs may easily have been abraded off the specimen.

Prothorax half as long as head, and seven-tenths as wide; with slightly convex posterior margin; angles rounded, and sides converging anteriorly; lateral areas brown, with median uncoloured space; apparently 1 spine and 1 small pustulated hair in posterior angle. Metathorax about half as long as prothorax, and wider, with sides convexly diverging from in front to prominent postero-lateral angles, thence curving to an almost straight hind margin; a spine and a hair in postero-lateral angle; and apparently a couple of pustulated hairs on either side on hind margin; latter with a strong brown band on its free portion; all, except a median uncoloured line, of uniform brown colour; sternal markings of two pairs of very strong intercoxal lines, the posterior pair forming T-shaped structures with lateral lines external to the coxae.

Abdomen of 9 segments, orbicular, widest at 4th segment, and with last segment small and apparently bifid; the first 7 segments with triangular lateral blotches, elongated inwards; blotches of 8th segment quadrilateral; 9th with only small suffused blotch; 1 to 3 pustulated hairs in posterior angles of segments, and a few hairs along hind margins, as well as several on the uncoloured space in centre of abdomen; but no accurate description of the number and disposition of hairs is possible, owing to the condition of the specimen; on the ventral surface, small blotches corresponding in shape to those of segment 8; no genitalia observable.

Total length, 1·38 mm.; breadth, 0·60 mm.; head, 0·42 mm. by 0·50 mm.

It is unfortunate that we have not at our disposal better material of this species, which we have included in the genus *Philopterus*, but which presents some affinities with *Giebelia*. From this genus, however, it is clearly marked off by the uniform chitinization of the dorsal surface of the clypeus, and the absence of the ventral membranous flap. When more material is available it may be necessary to make the species the type of a new genus.

Philopterus wallacei n. sp.

This species has the general form and characters of *Philopterus fuliginosus* Kellogg (1896, p. 80) from *Charadrius squatarola*, but differs in the following points: Length is 1·67 mm. against 1·62 mm., breadth 0·95 mm.

against 0·65 mm., so that, besides being slightly longer, it is proportionately much broader. Head measurements are 0·76 mm. by 0·72 mm., as against 0·60 mm. by 0·53 mm. Antennal bands are produced inwards further, and end in a rounded posterior prolongation. The narrow bands on the hind margins of the first six terga are more distinct than those indicated in Kellogg's figure of *P. fuliginous*, and, moreover, are only very narrowly interrupted medianly. The lateral blotches on the final segment of the abdomen are not so pronounced, nor is the abdomen so distinctly turbinated. There are also a few minor differences in the number and arrangement of hairs

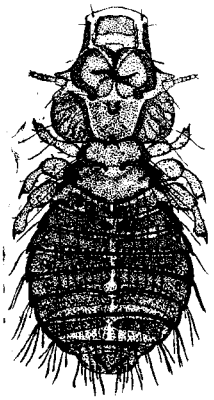

FIG. 5.
Philopterus wallacei.
♂.

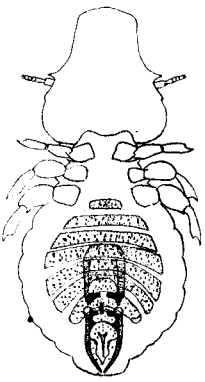

FIG. 6.
Philopterus wallacei.
Ventral.

We have figured the disposition of the chitinous markings on the ventral surface of the abdomen, as well as the genital apparatus, which is extraordinarily large and complex, and continues through six abodminal segments, as in *P. fuliginosus*.

One male from *Charadrius dominicus* Müll. We have named the species in compliment to Mr. W. L. Wallace, to whom its discovery is due.

Philopterus armatus n. sp.

Females of two species of the genus *Philopterus* were taken from *Numenius variegatus* Scop., both of the *fuliginosus* type, and closely allied to one another. They are easily distinguishable, however, the present species being larger, and having the head broader in proportion (as well as different in the disposition of markings), than the next described species. Two males were also collected which we take to belong to this species.

Description of Female.—Head a seventh broader than long, truncate, with obtusely rounded anterior angles, concave sides to the trabeculae, and much swollen temporal lobes; hind margin sinuous, with central rounded projection on to prothorax; clear brown, with the strong mandibles, antennal bands, and acuminate point of signature much darker. Clypeus with narrow lateral bands, clear anterior margin, distinct suture, and an evenly chitinized signature, parallel to the anterior and lateral margins, with semicircular posterior margin, and strongly projecting posterior acuminate joint, rising from just inside hind margin. Antennal bands strong, ending in a rounded enlargement at the antennary fossa; internal to antennal bands, 2 strong bent bands rise from the articulating process for the mandibles, curving strongly to pass round the anterior ends of the antennal bands, thence running straight to the anterior ends of the clypeal bands, just posterior to the clypeal angles; in the curve of these bands, on either side, a strong chitinous blotch; trabeculae light in colour, reaching to the middle of 2nd segment of antenna; antennae light, with short stout 1st joint, 2nd longest, 3rd and 5th equal and shorter, 4th shorter still; eye fairly prominent, clear outwardly, with a pigment

spot on inner margin, with two bristles; before and behind eye a narrow marginal band; occipital bands practically absent, being indicated only by the inner margins of the even-coloured temporal lobes; 6 hairs in front of trabecula, and a very short bristle on its base; 2 pairs of hairs on dorsal surface in front of mandibles; 2 hairs with a short spine between at temporal angles, and 2 spines external to prothorax on either side of hind margin.

Prothorax projecting under occiput, with slightly diverging sides, rounded angles, then converging sides to short, straight hind margin.

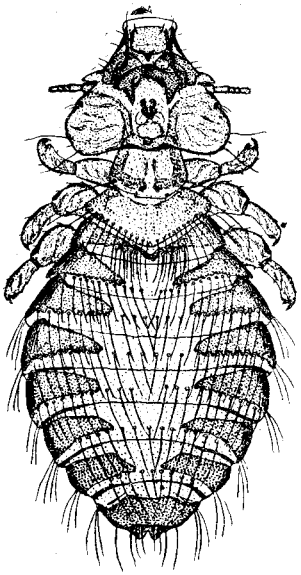

FIG. 7.
Philopterus armatus. ♂.

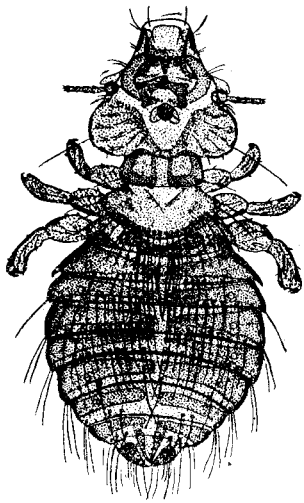

FIG. 9.
Philopterus armatus. ♀.

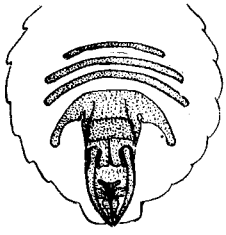

FIG. 8.
Philopterus armatus.
Ventral. ♂.

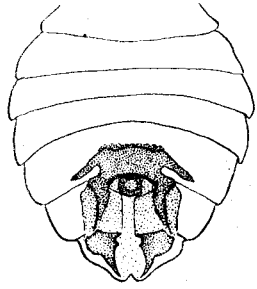

FIG. 10.
Philopterus armatus.
Ventral. ♀.

Where the converging sides meet the straight margin are two little folds in the chitinous border. A single hair in the angle. A fairly strong lateral band extending along more than one-third of hind margin. Metathorax convexly divergent to a truncated postero-lateral angle, with 3 strong hairs; hind margin obtusely rounded, strongly projecting on to abdomen, with a series of about 20 pustulated hairs, in addition to the 6 already mentioned; with short dark antero-lateral bands.

Abdomen of 9 segments, elongate-oval, with strong lateral bands to first seven segments; transverse bands of 1st segment meeting in the middle line; of 8th segment continuous; of segments 2–7 short, extending from two-fifths to one-quarter across width of abdomen, and leaving a large clean central area; segment 9 very short, and slightly bifid, with small dark oval blotch in either lobe; each segment, except the last, with a series of pustulated hairs along the hind margins of the transverse bands, in the anterior segments embraced in serrations of the bands themselves, but becoming removed from the bands as we proceed posteriorly, so that the hind margin of the band of segment 6 is only slightly serrated, while that of segment 7 is entire; posterior end of lateral band of segment 2 forms a strong spinous projection, and there is a similar but less prominent projection in segment 3; 1 to 3 hairs in posterior angles of segments 3 to 8; segment 9 with a prickle on either lobe. Genital blotch prominent, and best understood by reference to the figure.

Length, 2·42 mm.; breadth, 1·05 mm.; head, 0·74 mm. by 0·84 mm.

Description of Male.—Generally smaller and darker than female, with golden-brown head and dark-brown abdomen; head not so wide in proportion as that of female, but with the same markings, except that the two small markings in the curve of the inner antennal band are absent; marginal bands of prothorax stronger; abdomen pyriform, widest at 3rd and 4th segments, thence abruptly tapering to a longer 9th segment, with obtusely rounded angles, and an almost flat hind margin; segments 2 to 7 with very strong lateral bands of blackish brown; posterior angles of segment 1 rounded under segment 2; of segments 2–5 strongly projecting, segment 3 especially so, with a strong spine; chitinous parts of segment 9 standing out dorsally as a flattened semicircular prominence, the lateral borders of which are inside the actual margin of the segment; with 2 strong lateral blotches, connected by a narrow line along the hind margin, and much broken by large pustules, bearing hairs, about 20 in all; transverse bands of segment 1 meeting mesially, and of the remaining segments separated by a narrow median line; hind margin of segments 2 to 6 bordered by a narrow dark line, hardly interrupted mesially; genitalia complex, generally resembling those of *P. wallacei*, but differing in being partly obscured on the ventral side by a striated chitinous supporting plate and in the narrower chitinous bands.

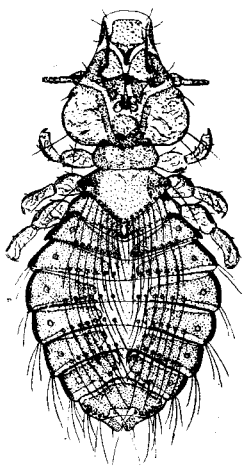

Fig. 11.

Philopterus numeniicola. ♀.

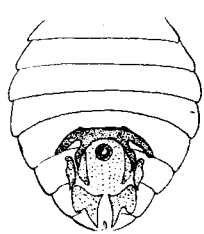

Fig. 12.

Philopterus numeniicola. Ventral.

Length, 1·98 mm.; breadth, 0·91 mm. Head: Length, 0·67 mm.; breadth, 0·69 mm.

Philopterus numeniicola n. sp.

Two females from *Numenius variegatus* Scop. This species bears a strong general resemblance to the last, but is smaller, the head is longer

and narrower, the prothorax different in shape, and there are other minor differences.

Description of Female.—Head longer than broad, with elongate concave-sided clypeus, evenly rounded temporal lobes, and slightly concave hind margin, with very small median rounded projection on to prothorax; markings much the same as in the last species, save that the suture is much more distinct, the acuminate point of the signature is forked anteriorly, the inner antennal bands do not reach so far forward, and the occipital bands are well defined; prothorax with sides converging anteriorly, and hind margin slightly convex; metathorax with postero-lateral angles not truncated, but acute, and with deeper and more angulated projection on to abdomen; hind margin with about 20 pustulated hairs, not 26. Abdomen more roundly oval, with last segments not so much produced; transverse bands not so distinctly angulated at apex, and produced further inwards, leaving a much smaller clear space; the pustulated hairs of the segments generally fewer in number, ranging from 6 on segment 1, through from 12 to 14 on the intervening segments, to 4 on segment 7; 1 to 3 hairs in the posterior angles, except the first, which is without hairs; genital blotch closely resembling that of the last species, and more easily compared on reference to the figures.

Length, 1·97 mm.; breadth, 0·91 mm.; head, 0·66 mm. by 0·60 mm.

TRICHODECTIDAE.

Trichodectes climax Nitzsch, in Giebel (1874, p. 58, pl. 20, fig. 2).

Many specimens of both sexes were obtained from the introduced domestic goat (*Capra hircus* Linn.).

The types of the new species and variety described in this paper are deposited in the Dominion Museum, Wellington, New Zealand. Where there has been sufficient material, cotypes have been retained in our own collection.

All the figures in this article have been drawn with a camera lucida, and have been equally magnified.

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