

Trigonoplax unguiformis, De Haan	...	West Channel
Hymenosoma ovatus, Stimpson	...	All grounds
H. rostratum, Haswell	...	Do.

## ANOMURA.—

Cryptodromia lateralis, Gray	...	Off Queenscliff
Galathea australiensis, Stimpson	...	West Channel
Munida subrugosa	...	Do.
Cancellus typus, Milne, Edwards	...	Off Queenscliff
Eupagurus lacertosus, Henderson	...	Do.
E. lacertosus, var. Nana, Henderson	...	Do.

## MACRURA.—

Alphaeus socialus, Heller	...	All grounds
A. villosis, Olivier	...	Do.
Virbius australiensis, Stimpson	...	Off Queenscliff
Pandalus leptorhynchus, Stimpson	...	Do.
Leander intermedius, Stimpson	...	All grounds.

## MOLLUSCA.—The only shells of special interest were :—

Conus segravei, Gatliff, the first record for Port Phillip	...	Off Quarantine Ground.
Erato denticulata, Pritchard and Gat- liff, found alive	...	Do.
Nucula grayi	...	Near St. Leonard's.

## DESCRIPTIONS OF SOME MALLOPHAGA FROM AUSTRALIAN BIRDS.

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(Communicated by D. Le Souëf, C.M.Z.S.)

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BIRDS are the hosts of numerous parasitic hemipterous insects belonging to the sub-order Mallophaga. In Europe and America these have been worked out very thoroughly, but in other countries they have received little attention, for, owing to their small size, they easily escape notice. Each family of birds has its own group of parasites, and a family with a wide distribution—as, for instance, the ducks—will have the same parasite on it in all parts of the world with but slight variations in size, the warmer countries generally affording the larger insects; hence many European species are found on Australian birds. It is interesting to note also that the colour of the parasite seems to depend a great deal upon the colouration of the bird.

The classification of the group has been worked out by Leach,



Nitysch, and Burmeister, and is given in "Monographia Anoplurorum Britanniae" by H. Denny (1852) as follows:—

Sub-order—MALLOPHAGA.

Family	...	Philopteridæ		Liotheidæ	
Genus	...	Trichodectes	Philopterus	Gyropus	Liotheum
			<i>Sub-genera.</i>		<i>Sub-genera.</i>
			Docophorus		Colpöcephalum
			Nirmus		Menopon
			Goniocotes		Nitzschia
			Goniodes		Trinoton
			Lipeurus		Eureum
			Ornithobius		Læmobothrium
					Physotomum

The genera *Trichodectes* and *Gyropus* are parasitic upon the mammalia only, and in determining the Australian forms we have followed the classification given above.

The insects to be described have been collected both from birds in their native state and from the same species in confinement at the Melbourne Zoological Gardens, and have been found to correspond in every instance, and to be constant in their characteristics.

1.—*LIPEURUS GIGANTEUM*, found on Australian Crane or Native Companion, *Antigone australasiana*.

Dirty white and shining head, sub-cordate clypeus truncate, lateral margins sinuated to receive eyes and antennæ, temporal angles rotundate, base concave; antennæ in female filiform, with first joint the thickest and second longest; male first joint very long, with a blunt tooth on inferior margin, second cylindrical; third short and internally produced; fourth and fifth small and filiform. Prothorax narrower than head, which it overlaps inferiorly, slightly convex anteriorly. Metathorax truncate in front, lateral margins gradually widening to basal angles, which are semi-acute, base truncate. Legs white, ungues chestnut. Abdomen semi-elliptical, with sides a little serrated; last segment in female cleft, in male produced, forming an obtuse angle. Length—Male  $2\frac{3}{4}$ , and female 3 lines.

2.—*LIPEURUS IBIS*, found on White Ibis, *Threskiornis strictipennis*.

Elongate, with a broad intermittent chestnut band round the body; head very long, somewhat conical; clypeus semi-hemispherical, with two hooked lines extending from its base downwards, and two small hairs on each side; antennæ long and filiform in female, and slightly stouter in male, with the last two joints at an angle with first three; eyes prominent, an indefinite line extending from base of antennæ to base of head, which is truncate. Prothorax quadrate, sides deep chestnut, metathorax widest posteriorly, sides chestnut. Legs long and



pale. Abdomen elongate and clavate, first two segments very long, first entirely chestnut, second with a pale line in centre, each subsequent one quadrilateral, with a chestnut patch laterally, last segment cleft entirely chestnut. Length, 2 lines.

3.—LIPEURUS MENURA, found on Lyre-bird, *Menura superba*.

Elongate, abdomen banded transversely with dark chestnut bands; head very long and narrow, margins dark brown, eyes small but prominent; antennæ long, last two joints in male stand at an angle with the rest, a dark band extending transversely between antennæ. Prothorax quadrate, lateral margins pitchy-chestnut. Metathorax truncate, sides pitchy-chestnut; legs long and pale. Abdomen elongate, nearly filiform, each segment pitchy-brown, last one cleft in both sexes; sutures pale. Length,  $1\frac{3}{4}$  lines.

4.—LIPEURUS ALBUS, found on the White Sulphur-crested Cockatoo, *Cacotua galerita*.

Elongate and very pale; head sub-ovate, clypeus semi-hemispherical; antennæ in male first joint robust, second and third longer, fourth and fifth short; eyes obscure. Prothorax semi-quadrate; metathorax truncate, with lateral margins slightly converging from the base, which is width of head; legs pale and robust, unguis light chestnut. Abdomen sub-clavate. Length—Male 1 line, female  $1\frac{1}{8}$  lines.

5, 6.—NIRMUS SETOSUM, found on Emu, *Dromæus novæ-hollandiæ*.

Abdomen darkly banded in male and blotched in female. Head large and conical, chestnut anteriorly with a dark band from base of antennæ to occiput. Clypeus bifurcate, basal angles rotundate, base concave; antennæ filiform in both sexes; eyes pale but prominent, with ferruginous angular patches behind them. Legs light chestnut; prothorax narrower than head, irregularly convex in front, sides rotundate, base sinuously produced. Metathorax wider than head; lateral margins rotundate; abdomen sub-elliptical, nine segments, very setose. Female with irregular ferruginous patch on lateral margins of first seven segments, irregular chestnut patch on last segment, which is convex and cleft. Male, chestnut band across each segment except first two, which have ferruginous patches laterally. Length—Male  $1\frac{2}{3}$ , female 2 lines.

7.—NIRMUS MENURA, found on Lyre-bird, *Menura superba*.

Head and thorax light yellow; abdomen with ferruginous margins; head sub-triangular, clypeus retuse, lateral margins, entire, except fovæ containing antennæ, a chestnut line runs round the head; eyes pale and obscure; tribiculæ prominent; antennæ filiform, first joint longest; legs pale. Prothorax narrow and sub-quadrate, truncate anteriorly and irregularly convex



posteriorly. Metathorax sub-ovate, with semi-acute lateral angles and semi-lunar convex base slightly wider than head; abdomen claviform, with first seven segments serrated at lateral margins, eighth and ninth segments conical, whole, and setose in the male, and cleft in the female. Length—Female 1, and male  $\frac{7}{8}$  line.

8.—MENOPON PSITTACUS, found on Rosella Parrot, *Platycercus eximius*.

Light brown, broadly banded; head sub-trapezoidal, pale fulvus, with a patch of dark fulvus at base of antennæ, and a line joining antennæ to occiput; clypeus semi-lunar base concave convex, with a dark chestnut line running transversely. Prothorax cup-shaped, slightly concave anteriorly, rotundate posteriorly. Metathorax sub-conical, wide as head, concave anteriorly, truncate posteriorly; abdomen clavate, each segment banded transversely with light chestnut. Length,  $1\frac{1}{4}$  lines.

9.—MENOPON MENURA, found on Lyre-bird, *Menura superba*.

Pale yellow, head irregularly sub-triangular, a light chestnut line running behind clypeus, and extending from base of foveæ to base of occiput; clypeus conical, palpi long and filiform; antennæ capitate; eyes marked by two black spots posteriorly in foveæ, which contains antennæ; basal angles produced, base concave, with two ferruginous horny protuberances on each side of occiput. Prothorax narrower than head, truncate anteriorly, convex posteriorly, lateral angles acute and somewhat produced. Metathorax sub-conical and concave anteriorly, base width of head; legs pale yellow; abdomen sub-clavate, bluntly serrated at lateral margins; sutural margins slightly setose. Length,  $1\frac{1}{8}$  lines.

10.—COLPOCEPHALUM VINCULUM, found on Pied Crow-Shrike, "Apostle-bird," *Strepera grauculina*.

Deep chestnut, abdomen very distinctly banded; head transverse, a chestnut line extending from base of palpi to eyes, where it gets pitchy-black, a small black spot immediately behind this; basal angles produced to dark chestnut, with three light hair follicles. Prothorax sub-quadrate; lateral angles acute, a dark line running transversely anteriorly, and a sinuated line running from middle of anterior side to centre. Metathorax transverse, sub-conical, basal angles acute and prominent; legs robust, lined with deep chestnut; abdomen semi-elliptical, each segment broadly banded with deep chestnut, and having a small black longitudinal line on lateral margins. Length, 2 lines.

#### EXPLANATION OF PLATE.

- 1.—*Lipeurus giganteum*.
- 2.—*L. ibis*.
- 3.—*L. menura*.
- 4.—*L. albus*.
- 5.—*Nirmus setosum* (male).
- 6.—*N. setosum* (female).

- 7.—*N. menura*.
- 8.—*Menopon psittacus*.
- 9.—*M. menura*.
- 10.—*Colpocephalum vinculum*.
- 11.—*Heterodoxus macropus*.



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