

A NEW GENUS AND SPECIES OF MENOPONIDAE  
(MALLOPHAGA, INSECTA) FROM APTERYX.

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Plate IX

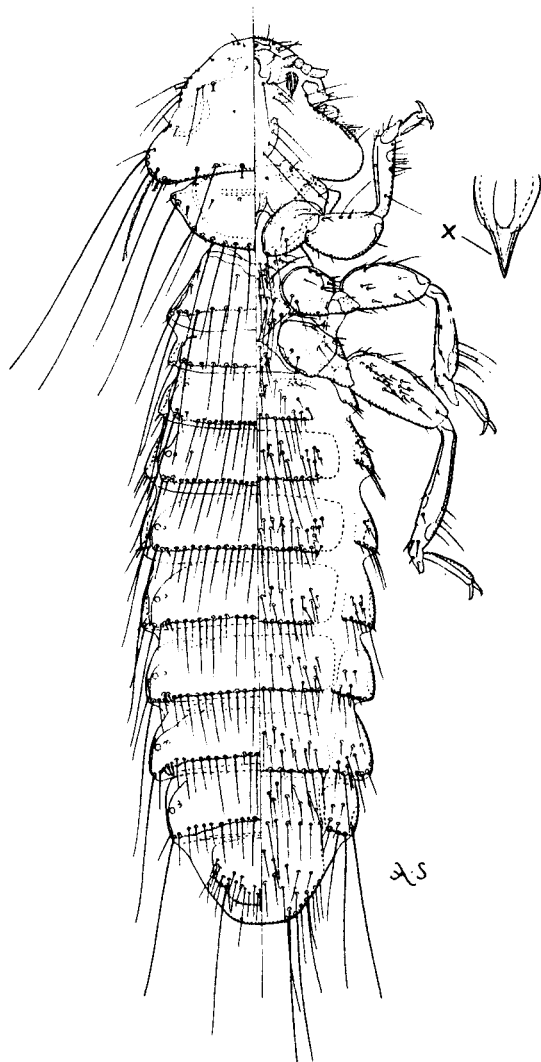
THE only described species of Mallophaga parasitic on the Apterygiformes belong to the genus *Rallicola* (*Aptericola*) of the superfamily Ischnocera ; this new genus is the first of the superfamily Amblycera to be described from this host order. The genus has a rather strange history : the first specimen to be examined was a single female (in the Meinertzhagen Collection in the British Museum) which was mentioned by Clay (1947 : 463, 472) as 'New Genus D', but was not named because the host record needed confirmation. Recently further females were received from Mr. C. B. Rich of the Dominion Entomological Laboratory, Kamloops, British Columbia ; these also were unsuitable for naming as they lacked specific determination of the host, but Mr. Rich kindly informed me that they had been received from the Wallaceville Animal Research Station, New Zealand and Dr. Whitten of the latter institution was not only able to supply the information that the specimens came from an *Apteryx australis mantelli* killed by a car in North Island, New Zealand, but also most kindly sent me the remainder of the collection, including males, and gave permission for the description of this interesting new species.

*Apterygon*, gen. n.

Menoponidae without combs of stout setæ on 3rd femora or on any abdominal sternites. Dorso-lateral margins of head without preocular slit or deep emargination ; one pair of ventral sclerotized processes ("oral spines") arising near base of maxillary palpi ; antennal fossæ well developed and terminal segment of antenna globate (fig. 2). Sensilli 3-5 (figs. 8-12) associated with dorsal head setæ absent ; the two lenses of the eye usually well marked in the Menoponidae cannot be seen in any of the specimens. Prosternal plate (fig. 1 x) well developed, with posterior pointed process ; prosternum with two median setæ. Small well-defined mesothorax with the anterior mesothoracic setæ four in number and close together (fig. 3) ; meso- and metathoracic sternal plates present and with setæ ; venter of 3rd femora with brush of setæ. Tergites I-VIII in both sexes continuous across the segment and separated from the pleurites by a narrow suture. Post-spiracular setæ which are normal for the Menoponidae (Clay, 1954 : 716) are in this genus the first setæ each end of the row of marginal tergal setæ ; tergites I-VIII with a single row of marginal setæ and with occasional anterior setæ at the lateral sides of the tergites, these being rather more numerous in the female than in the male.

Sternites I–VII with more than one row of setæ, male with scarcely any lateral concentrations of setæ forming a brush except perhaps on IV, in the female lateral concentrations of setæ more marked on IV and V. Pleurites with marginal and submarginal setæ. Male genitalia (the characters of which are not necessarily of generic value) with complex arrangements of sclerites in genital sac (Pl. IX, figs. 2–3; text-figs.

Fig. 1.



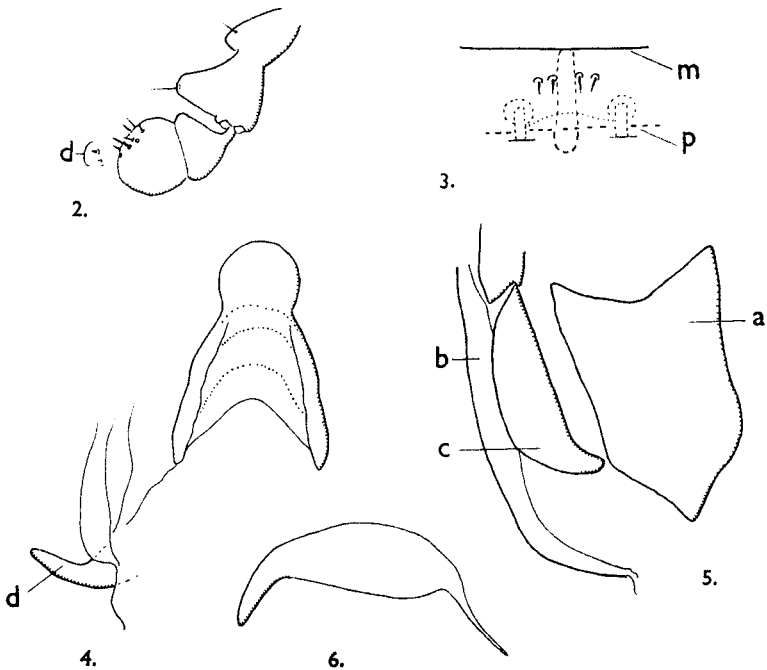
*Apterijon mirum* sp. n.  
Male (Arthur Smith del.) x.—prosternal plate.

4-6); female with circular reticulated structure associated with the genital chamber (fig. 7, z).

Type species: *Apterygon mirum* sp. n.

At the present time it is not possible to say much about the affinities of this new genus as so little is known about the characters which show relationship within the Menoponidae. The preocular slit may be present or absent in genera which seem to be related, such as *Eidmaniella* and *Austromenopon*; the ventral head processes may be present or absent even within one genus (*Nosopon* and *Pseudomenopon*) and may have been developed independently in different genera; degree of development of the hypopharynx may vary considerably within one genus (Clay, 1959: 159). The taxonomic importance of the sensilli associated with some of the dorsal head setæ needs further study. All species of the Menoponidae examined have one sensillus associated with seta a (fig. 9) and probably two, but the second one is not always visible in those forms in which this seta is near the lateral margin of the head; any of the sensilli 3-5

Figs. 2-6.



*Apterygon mirum* sp. n.

2. Antenna. d.—setæ on dorsal surface of last segment. 3. The four anterior mesothoracic setæ. m.—anterior margin of mesothorax lying ventral to prothorax; p.—posterior margin of prothorax with two of the prothoracic setæ. 4-6. Distal sclerites of the genitalia; letters refer to sclerites as shown in Pl. IX, fig. 2. 4. Ventral. 5. Dorsal. 6. Lateral view of sclerite d.

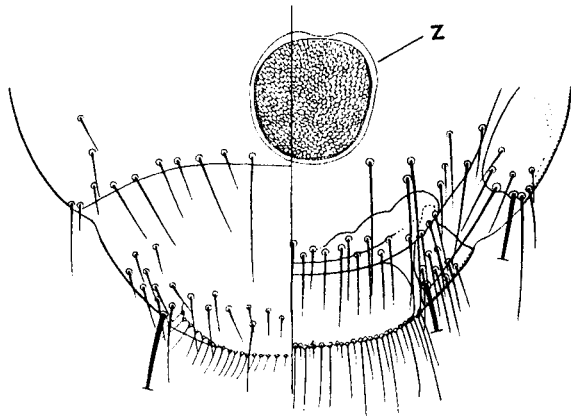
(figs. 9–12) may be present or absent and this seems to be constant for groups of taxa. For instance, the *Austromenopon* forms from the Alcidae have a sensillus associated with one of the setæ on the middle of the dorsal surface (fig. 11, no. 5), while in other species of *Austromenopon* both 4 and 5 are absent (fig. 9). In *Actornithophilus* species parasitic on the suborder Lari sensilli 4 is absent, while it is present in the species on the suborder Charadrii (fig. 12). In *Menancanthus stramineus* (Nitzsch) sensilli 1–4 are present, 4 being somewhat removed from its usual position near the seta (fig. 10), in other species of *Menancanthus* from the Galli and the Passeres examined sensillus 4 is absent. This new genus resembles *Hohorstiella* in the absence of sensilli 3–5. A study of the Menoponidae is being made with a view to finding characters which may show affinities between the genera and for the revision of "The Preliminary Key to the Genera of the Menoponidae" (Clay, 1947), now somewhat out of date. The most that can now be said is that in general appearance and in the characters of the ventral processes, the sternal plates and chaetotaxy of the thorax and in the general characters of the abdomen this genus resembles *Menancanthus* sens. lat. and *Hohorstiella*.

*Apterygon mirum* sp. n.

Type host : *Apteryx australis mantelli* Bartlett.

The specimens on which this species is based are in rather poor condition having lost a number of the setæ and having been in alcohol for some time. It is the only known species of the genus unless examination of further specimens from *A. owenii* should show the population on the latter host to be different ; the single female from *A. owenii* at present available

Fig. 7.



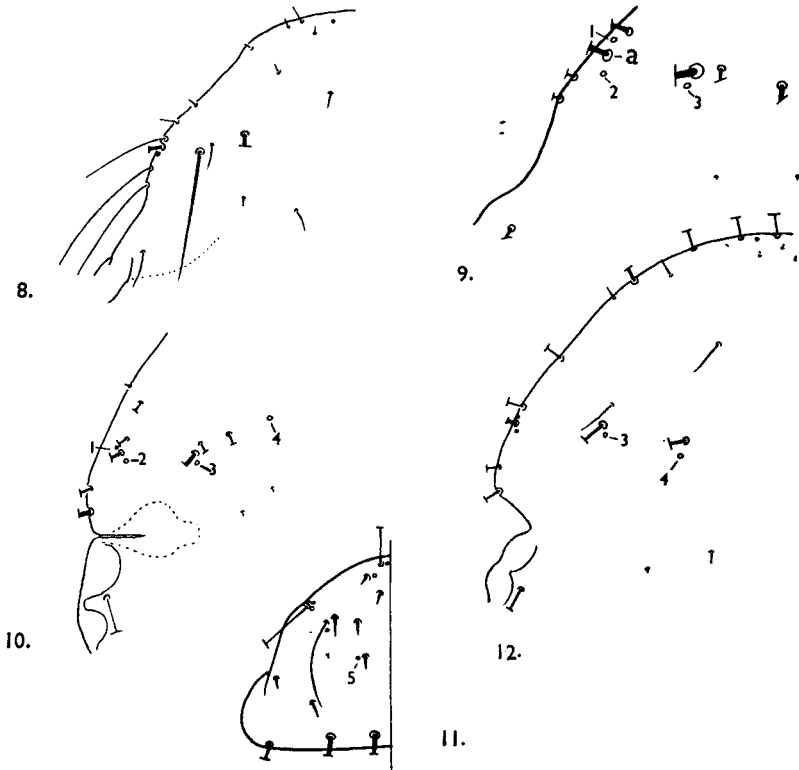
*Apterygon mirum* sp. n.  
Female. Terminal segments of female abdomen (Arthur Smith del.) z.—Internal structure associated with genital chamber.

shows some slight differences, but further material including males must be seen before deciding whether these differences represent more than individual variation. The species has the characters already given for the genus together with the further characters given below.

*Male*.—As shown in fig. 1. Dorsal head setæ as in fig. 8; sitophore absent, lingual sclerites reduced, epipharyngeal crest not apparent in whole specimens. Antenna as in fig. 2. Marginal setæ of tergites irregular in length and thickness and showing individual variation in number; post-spiracular setæ on segments I and V somewhat shorter than those on the remaining segments—the relative length and thickness of these setæ are often good specific characters. Genitalia as shown in Pl. IX, figs. 2–3; text-figs. 4–6.

*Female*.—General characters as shown in Pl. IX, fig. 1. Chaetotaxy of head, thorax and abdominal segments I–VIII similar to that of male, but the tergites tend to have rather more setæ, especially on the lateral

Figs. 8–12.



Dorsal anterior region of male heads to show setæ and associated sensilli. 8. *Apterygon mirum*. 9. *Austromenopon phaeopodis* (Schrank). 10. *Menacanthus stramineus* (Nitzsch). 11. *Austromenopon nigropleurum* (Denny). 12. *Actornithophilus totani* (Schrank).

areas and there are more pronounced brushes of setæ each side of sternites IV and V.

Sternites and chaetotaxy of segments IX–XI as in fig. 7.

Measurements in mm. (in Canada balsam).

	Male				Female			
	Length		Breadth		Length		Breadth	
	Range	Mean	Range	Mean	Range	Mean	Range	Mean
Head	0.36–0.38	0.37 (6)	0.60–0.62	0.61 (6)	0.37–0.40	0.39 (6)	0.62–0.64	0.63 (6)
Prothorax			0.46–0.48	0.47 (6)			0.49–0.52	0.50 (6)
Metathorax			0.49–0.51	0.50 (5)			0.54–0.57	0.55 (5)
Abdomen (IV)			0.66–0.69	0.67 (5)			0.90	
Total *	2.52				2.38			
Genitalia †	0.78							

\* The total length is given as an indication of size, but measurements of length and breadth of abdomen in the majority of the Menoponidae are so dependent on the treatment of the individual specimen that they can be no more than approximate.

† Length from anterior margin of basal apodeme to end of parameres.

*Holotype* male and *allotype* female : slide no. 655 in the British Museum (Natural History) from *Apteryx australis mantelli* Bartlett from Opotiki, Bay of Plenty, New Zealand, kindly presented by the Wallaceville Animal Research Station, Wellington, New Zealand. Paratypes : eight males and seven females in the Wallaceville Animal Research Station, Dominion Entomological Laboratory, Kamloops, British Columbia and the British Museum (Natural History).

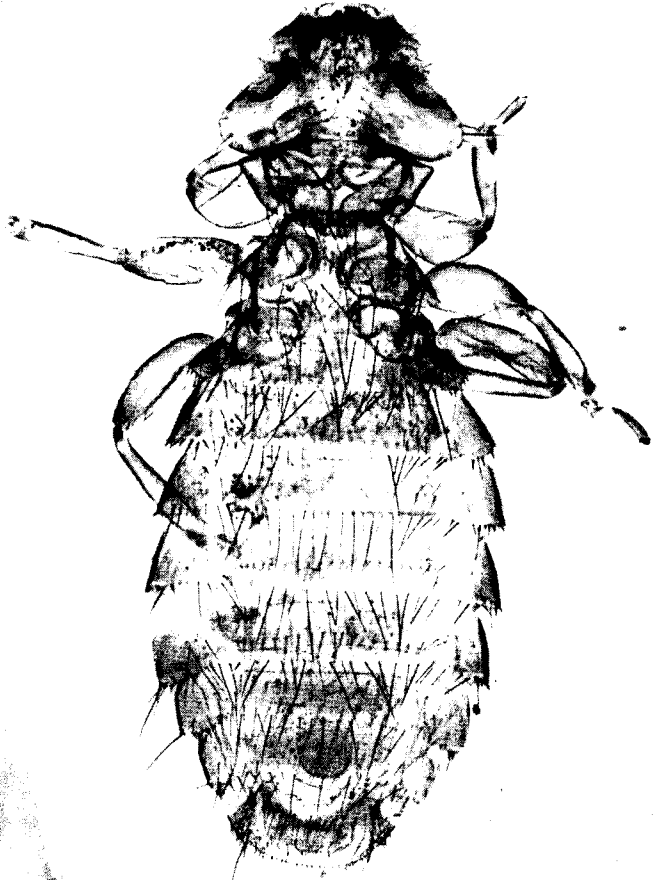
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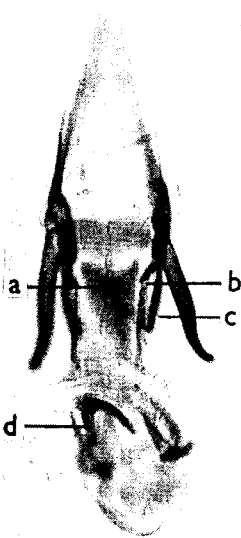
#### EXPLANATION OF PLATE.

1. *Apterygon mirum* sp. n. Female.
2. *Apterygon mirum*. Male genitalia with sac extruded.
3. *Apterygon mirum*. Male genitalia.

[Photographs by J. V. Brown, British Museum (Natural History).]



1.



2.



3.