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A NEW FUR MITE FROM A MALAYAN BAT,
NEOMYOBIA LAVOIEPIERREI n. sp.
(ACARINA : MYOBIIDAE)

BY

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Summary : *Neomyobia lavoiepierrei*, the first myobiid to be reported from Malaya is described, being based on one female recovered from a bat, *Tadarida johorensis* (Microchiroptera). It bears some resemblance to *N. inaequalis* Ewing, 1938, described from an American species of *Tadarida*, *T. cyanocephala*, but differs from it particularly with respect to the morphology of the setae of dorsum.

Introduction : This paper is the second in a series of projected studies on the fur mites of mammals being carried out in the I.C.M.R.T. Laboratory in the Zoology Department of the University of Singapore. The present study is devoted to a description of a new species of myobiid taken from a Malayan bat, *Tadarida johorensis*. Since, however, the new mite which belongs to the genus *Neomyobia* appears to be the first neomyobiid to be collected in Malaya, a description of the species is given in the hope that it will stimulate other workers to search for more specimens.

A record of the literature shows that some eighteen other species of *Neomyobia* have been reported from bats. The description of all these species is incomplete in that leg I and the chaetotaxy of the idiosoma have been inadequately illustrated and described. In this paper leg I of the new form is described in some detail and a basis is provided for the nomenclature of the idiosomal setae. A fuller treatment of some of these morphological features will be given later by LAVOIEPIERRE, PARAN and BECK (in preparation) in a detailed redescription of *Neomyobia inaequalis*.

***Neomyobia lavoipierrei* n. sp.**

N. lavoipierrei (fig. 1) has the idiosoma elongated about three times as long as broad, with fine transverse striations on the dorsum and the ventrum.

Dorsum : The external verticals (EVR), internal verticals (IVR), external scapulars (ESC), internal scapulars (ISC), internal humerals (IHM) and dorsals (D_1 , D_2 , D_3), are all long and broad and longitudinally striated. The external and internal verticals differ from the other setae of the dorsum in that their bases are wide. The remaining setae are either spinous or flagelliform : the lateral posterior (LPS) are long and flagelliform ; the external posteriors (EPS) and internal posteriors (IPS), situated behind the lateral posterior, are small and spinous.

Towards the posterior end of the body there are two openings — the anus or uropore (UP) and the genital opening (GO). Associated with these openings is a pair of plates (GC). The setae surrounding these openings are the pre-anals (PA) and the genitals (G_1 , G_{2a} and G_{2b}). The pre-anals are small spinous setae ; the genitals are small and spinous but mounted on small knob-like processes.

Ventrum : Coxal setae absent. The few setae that are present are either spinous or flagelliform. The short spinous external ventral I (EV 1) and long, flagelliform internal ventral I (IV 1) are situated closely behind leg II. The corresponding pair behind leg III are the short external ventral II (EV 11) and long and flagelliform internal ventral II (IV 11). At the level of leg IV on either side there is a single spinous seta, ventral III (V 111), which appears to correspond with the external ventral III of *Myobia muris-musculi*.

Leg I : The trochanter (TR) has fused with the genu — tibia — tarsal complex (FS). The body of the femur (F) is distinctly fused with the trochanter as well as the genu — tibia — tarsal complex. The femoral tubercle or process (FP) is curved and grooved and opposes the genu — tibia — tarsal complex forming a mechanism to grasp the hair of the host.

Coxa 1 carries four setae : one long and spinous, and three short and spinous. The fused genu — tibia — tarsal block (FS) carries nine small spinous setae in addition to the two specialised tarsal setae, the solenidion (W_2) and the famulus (C.).

Leg II-IV (fig. 1, 2, 6). Each consists of five movable segments : trochanter, femur, genu, tibia and tarsus, the coxa having fused with the idiosoma. Tarsus II carries two unequal claws. In addition to the normal solenidion (W_1), tarsus II also bears a second solenidion (W_2) derived from the dorsal seta. In *N. inaequalis* this seta is flagelliform in the female and is modified only in the male.

The gnathosoma (fig. 3 and 4) is somewhat knob-like in outline. The body of the gnathosoma, which has dorsal wall (DW), ventral wall (VW) and lateral walls, is formed by the fusion and integration of the gnathosomal elements. The palp (PP) has become fused to the body, as is indicated by its associated seta, the acanthodion

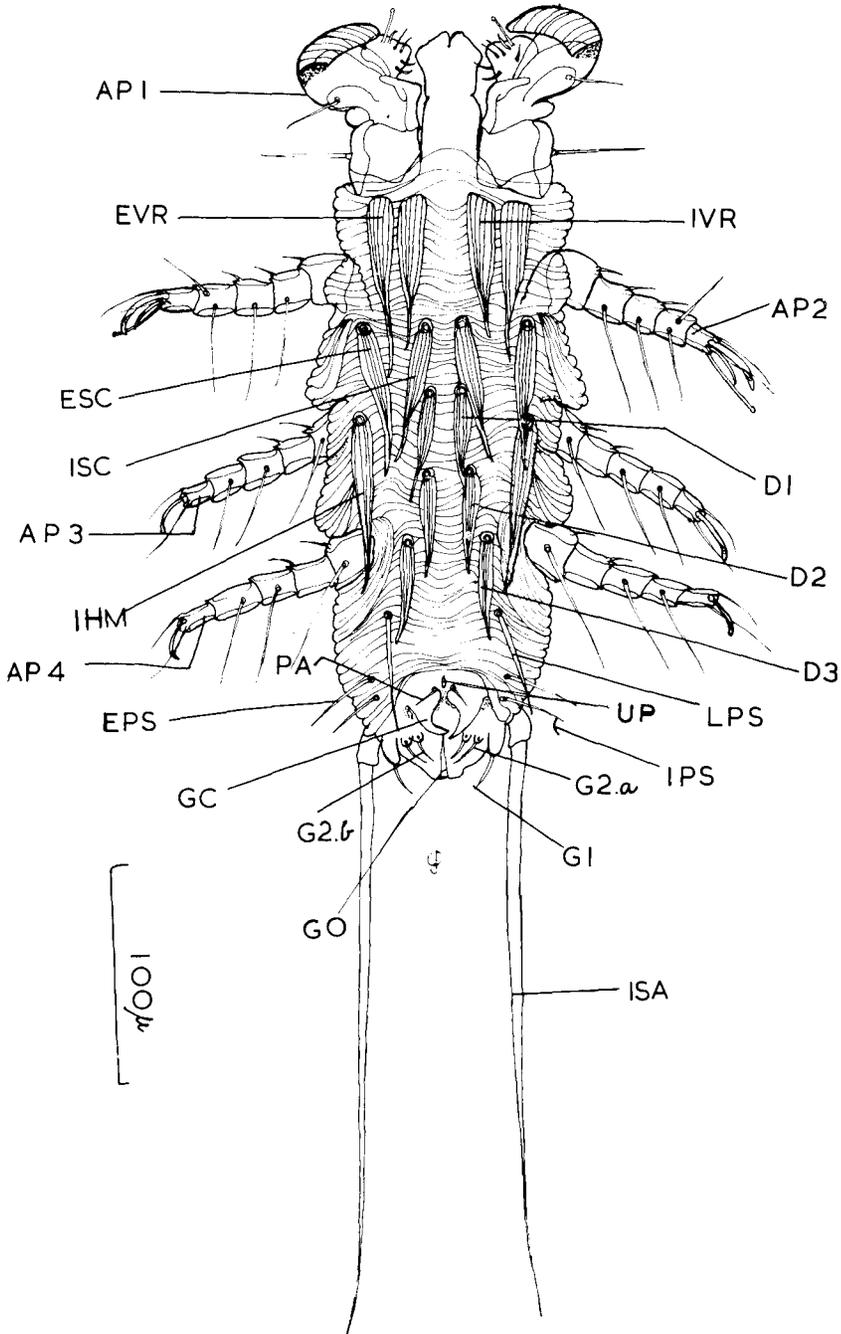


FIG. 1. — *Neomyobia lavoipierrei* n. sp.
Dorsum of female to show general morphology and chaetotaxy.

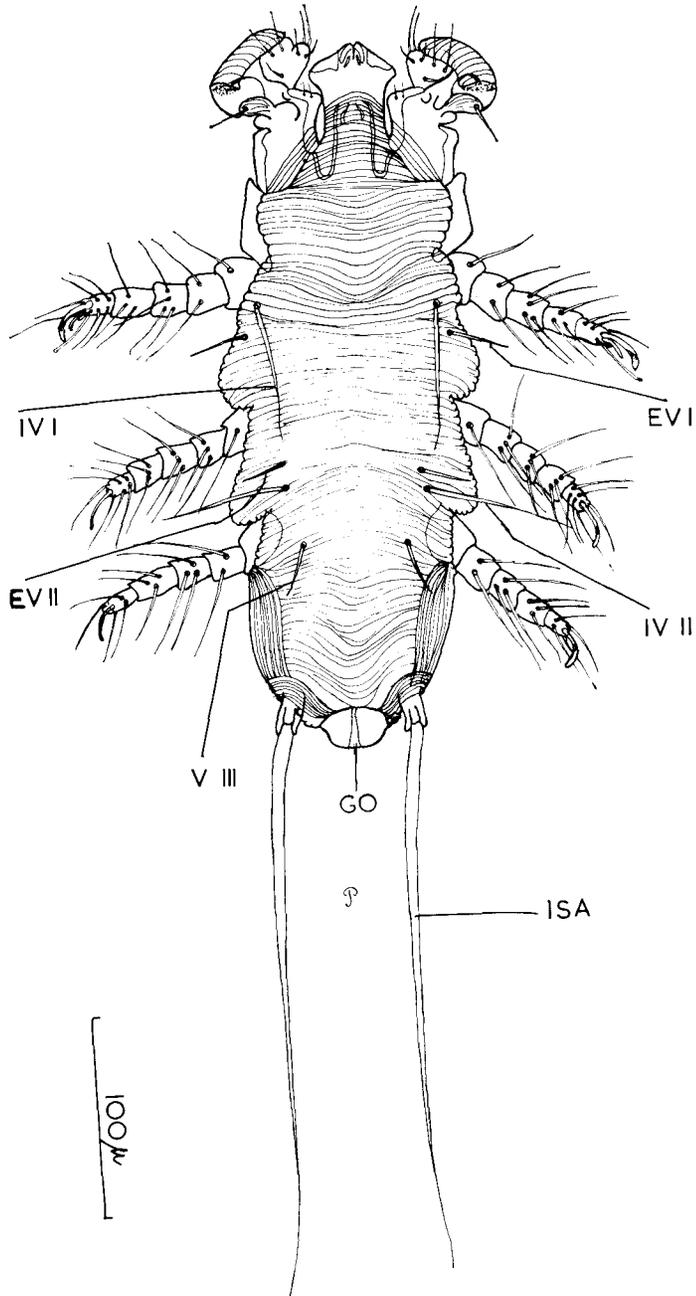


FIG. 2. — *Neomyobia lavoipierrei* n. sp.
Ventrum of female to show general morphology and chaetotaxy.

(AK). The stylets (chelicerae) have a typical myobiid pattern. Dorsum : no setae. Ventrum : two pairs of spinous setae — anterior and posterior rostral setae (ARS and PRS).

Measurements : length (from tip of leg I to the end of the idiosoma) — 420 μ . Width (at the widest part of the body) — 135 μ .

Material examined : One specimen, a female, collected from *Tadarida johorensis*, and preserved in 70 % ethyl alcohol. The mite was cleared in lacto-chloro-phenol and mounted in Ewing's medium.

Discussion : Eighteen species of *Neomyobia* have been reported so far, all of them being from bats : *N. cheiropteralis* Michael 1884. *N. pantopus* Poppe and Trouessart 1895, *N. poppei* Trouessart 1895, *N. caudata* Banks, 1909, *N. magna* Radford 1934, *N. mysticmalis* Radford 1935, *N. inaequalis* Ewing 1938, *N. plecotia* Radford 1938, *N. jacksoni* Radford 1940, *N. clara* Womersley 1941, *Neomyobia miniopteris* Womersley 1941, *N. capensis* Meillon and Lavoipierre 1944, *N. unciger* Lawrence 1951, *N. africanus* Lawrence 1951, *N. natalensis* Lawrence 1951, *N. crocidurae* Lawrence 1951, *N. pusillus* Lawrence 1951, *N. africanoides* Kellman 1964. In this paper a new species of *Neomyobia* is described, bringing the genus to nineteen species. *N. lavoipierrei* is regarded as a new species for the following reasons : (1) the female has the dorsal seta of tarsus II modified into a solenidion (W2) (fig. 6), a feature which appears to be unusual among neomyobiids ; (2) *N. lavoipierrei* differs from *N. inaequalis* in (a) the possession of a long slender seta, the lateral posterior (LPS), (b) broad and foliate external and internal vertical seta which are broader and more foliate than in *N. inaequalis*. The chaetotaxic nomenclature applied to this species is based on the scheme adopted for *Myobia muris-musculi* (PARAN, in the press).

I am glad to dedicate this new species to Dr. LAVOPIERRE, who has encouraged me to carry out research on mites in the I.C.M.R.T. Laboratory.

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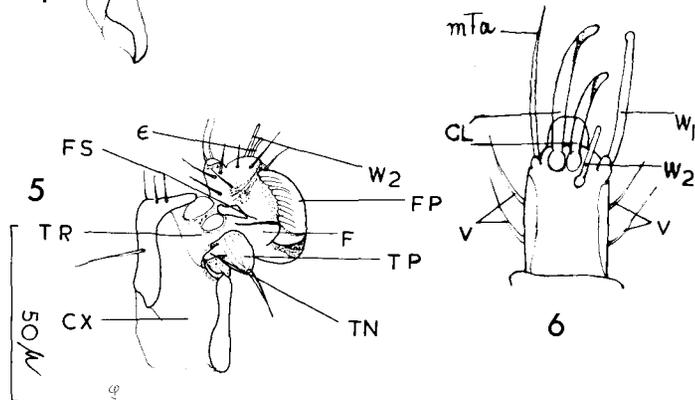
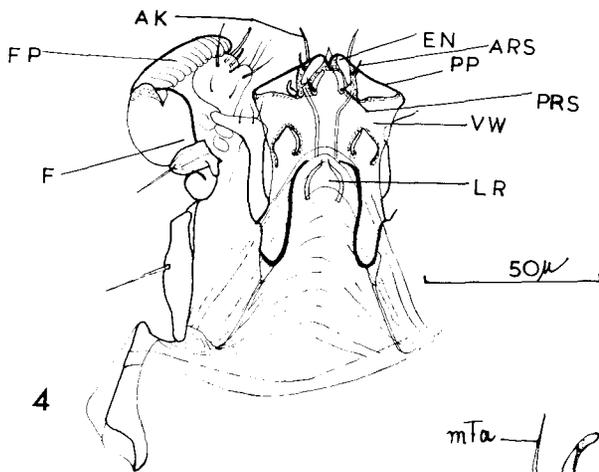
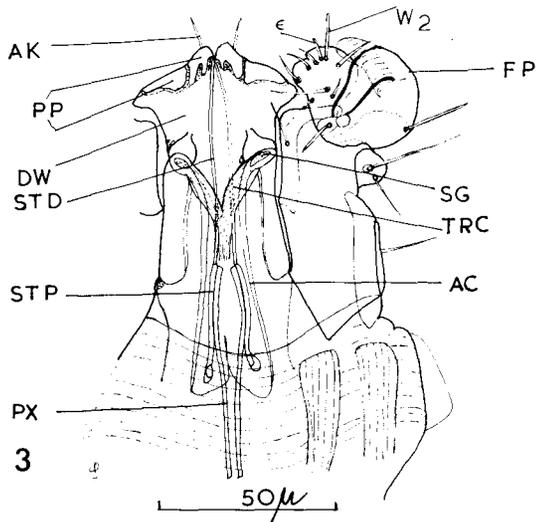


FIG. 3-6. — *Neomyobia lavoipierrei* n. sp.

3, dorsum of gnathosoma and right leg I of female. — 4, ventrum of gnathosoma and right leg I of female. — 5, ventrum of leg I of female to show segmentation and chaetotaxy. — 6, dorsum of right tarsus II of female.

KEY TO THE TERMINOLOGY OF FIGURES.

AC	arthrodial membrane of chelicerae.	IPS	internal posterior seta.
AK	acanthodion, the modified setae of pedipalpal palp.	ISC	internal scapular seta.
AP ₁ — AP ₄	Legs I, II, III, and IV.	IVR	internal vertical seta.
ARS	Anterior rostral seta.	IV I	internal ventral seta I.
CX	Coxa of leg.	IV II	internal ventral seta II.
D ₁ — D ₃	Dorsal setae 1 to 3.	ISA	internal sacral seta.
DW	dorsal wall of gnathosoma.	LPS	lateral posterior seta.
EN	endites of pedipalps.	LR	labrum.
EPS	external posterior seta.	PA	pre-anal seta.
ESC	external scapular seta.	PP	palp of pedipalp.
EV I	external ventral seta I.	PX	pharynx.
EV II	external ventral seta II.	PRS	posterior rostral seta.
EV III	external ventral seta III.	SG	stigmata.
EVR	external vertical seta.	STP	proximal segment of stylet.
F	Femur.	STD	distal segment of stylet.
FP	femoral process of leg I.	TN	trochanter process (peg.).
FS	fused block of genu, tibia and tarsus.	TP ₁	trochanter process.
G ₁	genital seta I.	TR	trochanter.
G ₂	genital seta 2.	TRC	air channel.
G _{2a}	genital seta 2a.	UP	uropore.
G _{2b}	genital seta 2b.	V	ventral seta of leg.
GC	genito-anal complex of plates.	V III	ventral seta III of idiosoma.
GO	genital opening.	W ₁	solenidion 1.
IHM	internal humeral seta.	W ₂	solenidion 2.

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