THE LABIDOCARPINE MITES (ACARI: CHIRODISCIDAE) FROM ORIENTAL BATS I. GENERA *AFROLABIDOCARPUS* FAIN, 1970 AND *ASIOLABIDOCARPUS* FAIN, 1972

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----- ABSTRACT—Two genera of Labidocarpine mites (*Afrolabidocarpus* Fain, 1970 and *Asiolabidocarpus* Fain, 1972) parasitic on East Asiatic bats are revised and 2 new species described: *Afrolabidocarpus longipes* n. sp. and *A. vietnamensis* n. sp. -----

The mites which are studied here have been found by us on bats from East Asia preserved in alcohol in the British Museum (B. M.), London or in the Institut royal des Sciences naturelles, Bruxelles, Belgium (I. R. S. N. B.).

Family CHIRODISCIDAE Trouessart, 1892
Subfamily LABIDOCARPINAE Gunther, 1942
Tribe LABIDOCARPINI Fain, 1971

Genus *Afrolabidocarpus* Fain, 1970

This genus until now, contained only 3 species. Among these 2 (*A. longiscutatus* Fain, 1970 and *A. breviscutatus* Fain, 1970) were described from Zaïre (Central Africa) and one (*A. medioscutatus* Fain, 1972) from Bougainville Islands. All were found on *Hipposideros* spp. except *A. longiscutatus* of which one specimen was also found on *Coleura afra*.

The description of *A. medioscutatus* and 2 new species found on *Hipposideros* spp. from East Asia is given here.

KEY TO THE SPECIES OF *AFROLABIDOCARPUS*
(Females)

1. Posterolateral lobe of dorsal shield very short, abruptly triangular, and not running beyond posterior margin of coxa II; both lobes of shield running close together in their basal half. Setae *h* 50μm long ..... *A. breviscutatus* Fain, 1970
- Posterolateral lobe of dorsal shield progressively attenuated toward its apex which is rounded, both lobes widely separated at their bases 2

2. Posterolateral lobe of dorsal shield shield running beyond level of setae *h*. Setae *h* 50-65μm, *sc i* 120-150μm. Tarsus IV 20μm, with apical spine 24μm, long... *A. longiscutatus* Fain, 1970
- Posterolateral lobe of dorsal shield short, not reaching level of *h* setae. Other characters variable 3

3. Posterolateral lobe of dorsal shield not running beyond coxa II. Legs IV very large, tarsi IV 30μm long. Setae *sc i* 120μm. Body 335 to 375μm long 4
- Posterolateral lobe of dorsal shield running slightly beyond coxa II. Legs IV smaller; tarsi IV 18μm long, with a curved apical spine 21μm long. Setae *h* 25μm, *sc i* 60μm. Body 252μm long ..... *A. medioscutatus* Fain, 1972

4. Posterior lobes of dorsal shield slightly divergent. Setae *h* 30μm, thin. Apical curved spine of tarsus IV 48μm long. Body 375μm long ..... *A. longipes* n. sp.

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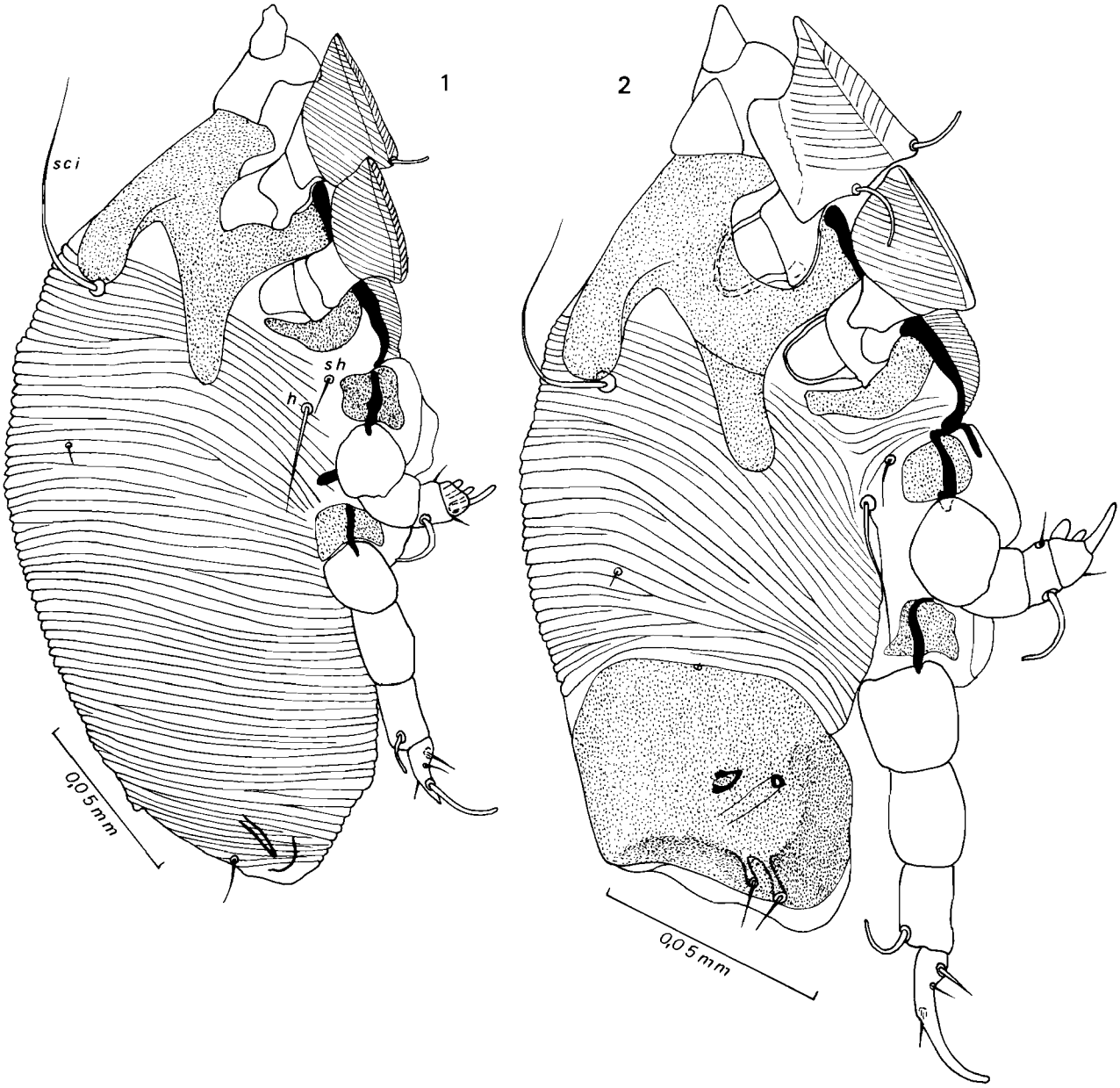


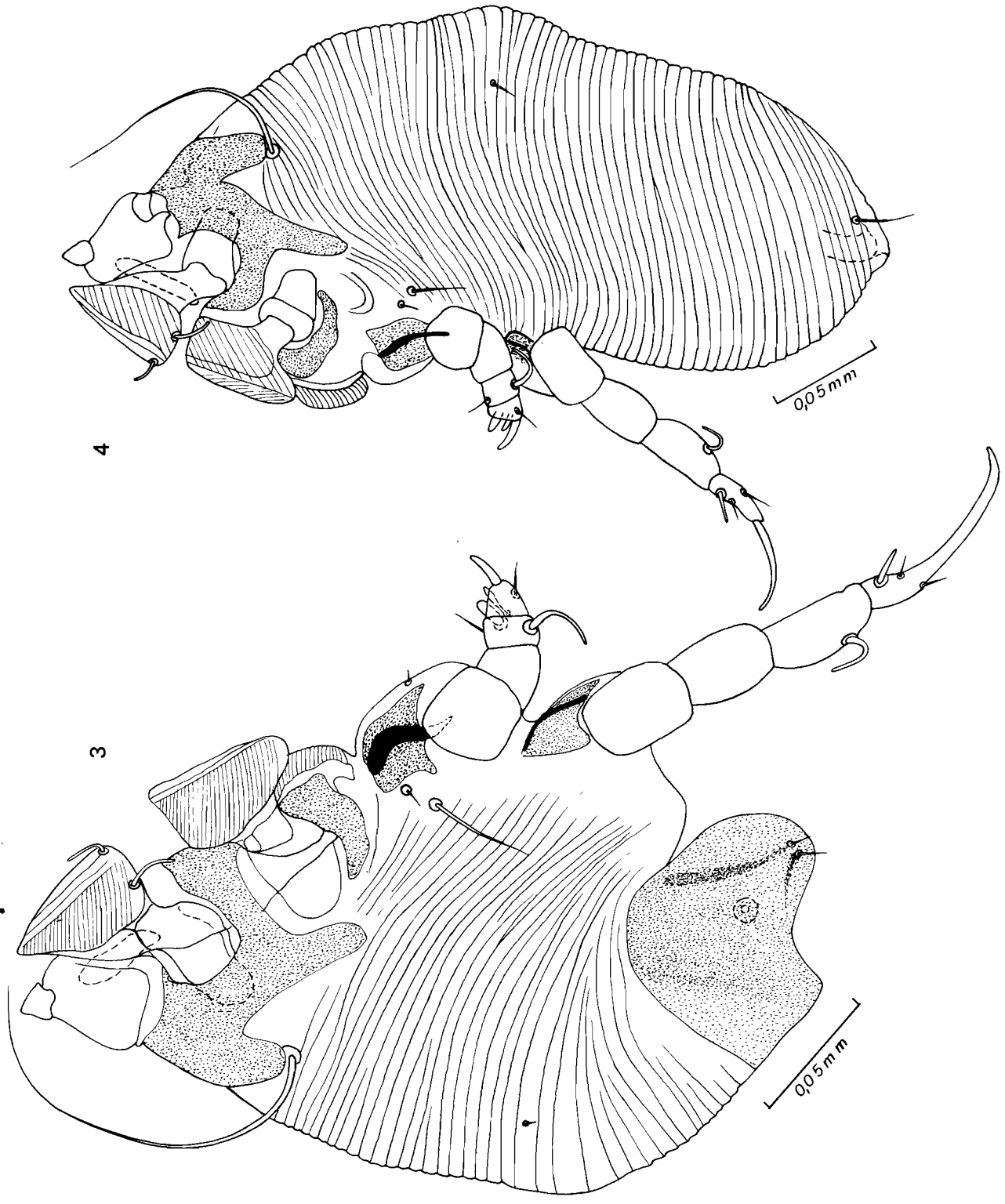
Figs. 1-2: *Afrolabidocarpus medioscutatus* Fain, 1970—1, holotype female; 2, allotype male.

- Posterior lobes of dorsal shield strongly divergent. Setae *h* 90μm, thick. Apical spine of tarsus IV 33μm long. Body 335μm long ..... *A. vietnamensis* n. sp.

Males

(N. B. : the males of *A. breviscutatus* and *A. vietnamensis* are unknown)

1. Posterolateral lobe of prescapular shield running beyond level of setae *h*. Seta *h* strong, 75μm long. Tarsus IV 12-15μm long, with an apical spine 18-21μm. Body 180-231μm long ..... *A. longiscutatus* Fain, 1970
- Posterolateral lobe of prescapular shield not reaching level of *h* setae. Seta *h* thin, 25μm long 2



Figs. 3-4: *Afrolabidocarpus longipes* n. sp. -3, holotype male; 4, allotype female.

Fig. 5: *Afrolabidocarpus vietnamensis* n. sp. – holotype female.

2. Posterolateral lobe of prescapular shield not running beyond coxa II. Seta *sc i* 120-140μm long. Tarsus IV 21μm long, with apical spine 50μm long. Body 295μm long..... ..... *A. longipes* n. sp.
- Posterolateral lobe of prescapular shield running behind coxa II. Seta *sc i* 45-50μm. Tarsus IV 15μm, with an apical spine 18-20μm long. Body 192μm long..... ..... *A. medioscutatus* Fain, 1972

1. Afrolabidocarpus longiscutatus Fain, 1970

This species was described from *Hipposideros caffer centralis* (typical host) and *Coleura afra*, Zaire. The second host probably was, accidental. I have found numerous females and males from Asia which are similar to the types on the following hosts: *Hipposideros* sp., in Buin, Bougainville Islands (23. X. 1938). The mites were fixed on hairs either near the anus and on the head (bat host and types of the mites in I. R. S. N. B.); *Hipposideros ater aruensis* E. Sepik, Papua. The mites were attached to hairs of the head and the back (host in B. M. n° 13. 2036-37).

2. *Afrolabidocarpus medioscutatus* Fain, 1972

In this species the posterolateral lobe of the prescapular shield has an intermediate length between the two other species. It is distinguished from *A. breviscutatus* by the shape of this lobe, regularly attenuated toward its rounded apex, by the larger distance between the 2 lobes of the shield and several other characters (see the key).

FEMALE (Fig. 1)—Holotype 252μm long and 123μm wide. There are approximately 60 striations in midline. Length in midline of gnathosoma 38μm; of prescapular shield along paramedian lobe 66μm, along lateral lobe 80μm. Tarsus IV 18μm long, its apical spine 21μm. Setae *h* 25μm, *sc i* 60μm, *l 5* 12μm.

MALE (Fig. 2)—Allotype 192μm x 108μm. There are 25-28 striations in midline. Between the lateral lobe of prescapular shield and the opisthosomal shield there are 14-15 striations. Length of gnathosoma 32μm; of prescapular shield 54μm (along paramedian lobe) and 66μm (along lateral lobe). Tarsus IV 15μm long, its apical spine 18-20μm. Setae *sc i* 45-50μm, *h* 25μm. Posterior border of opisthosomal shield with 2 pairs of setae 6-7μm long and 6μm apart.

HOST AND LOCALITY—*Hipposideros* sp., Bougainville Islands. Types in I. R. S. N. B.

3. *Afrolabidocarpus longipes* nov. spec.

This species is close to *A. medioscutatus* but is distinguished by larger size of the body, the much greater size of legs III-IV and in male by the relatively much greater length of the apical spines of tarsi IV compared to the length of the tarsus. Also, back in the female is more humped than in *A. medioscutatus.*

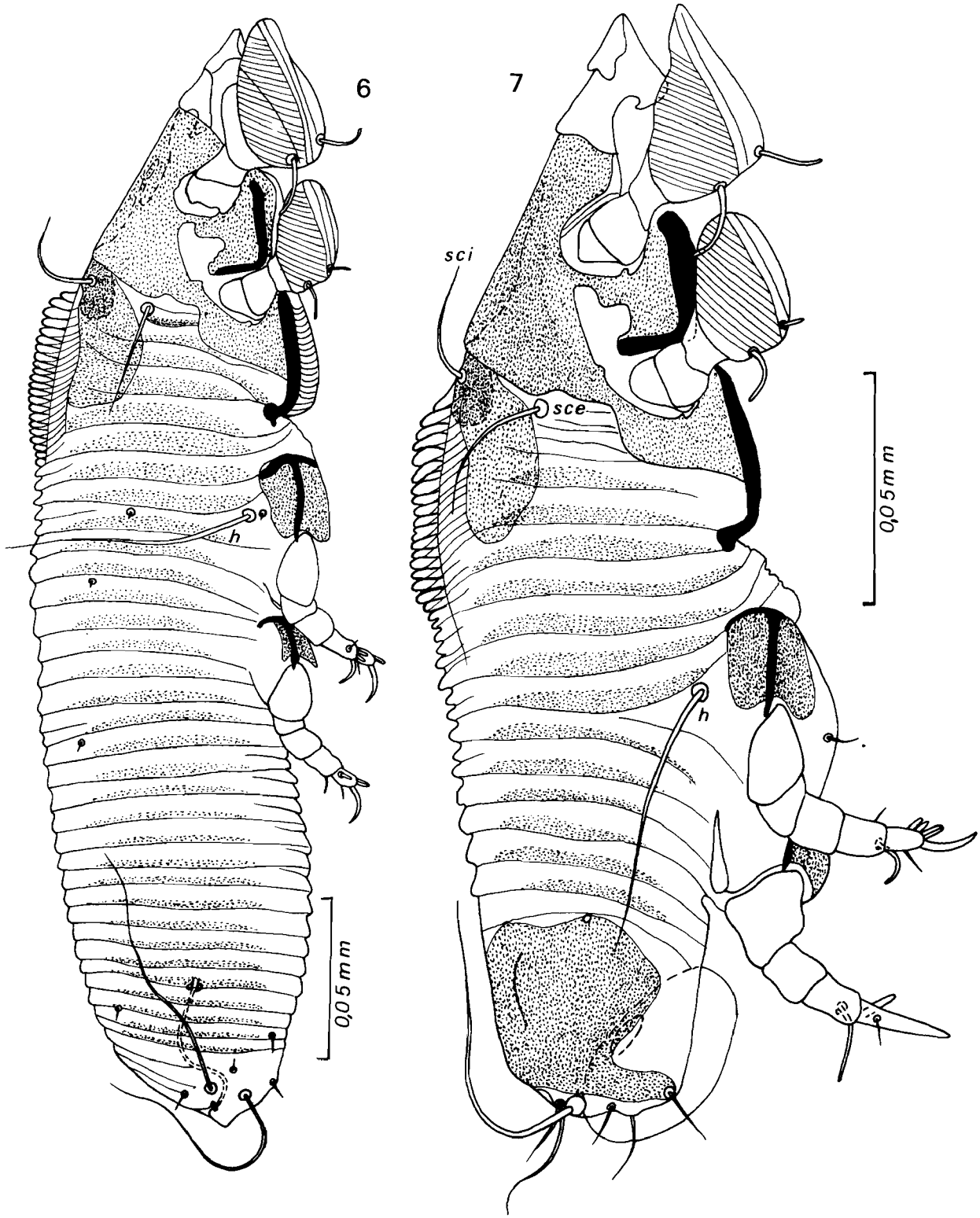
MALE (Fig. 3)—Holotype 290μm long, 185μm wide. There are 35-40 striations in the midline. Length of gnathosoma 48μm, of prescapular shield 57μm (along paramedian lobe) and 87μm (along lateral lobe). Tarsus IV 21μm, its apical spine 50μm. Setae *sc i* 130-140μm, *h* 25μm. Posterior margin of opisthosomal shield with 2 pairs of unequal setae 3μm and 9μm long, 6μm apart.

FEMALE (Fig. 4)—Allotype 375μm long, 165μm wide. With 45-50 striations in midline. Length of gnathosoma 48μm; length of shield along paramedian lobe 60μm, along lateral lobe 96μm. Tarsus IV 30μm long, its apical spine 48μm. Setae 30μm, *sc i* 120μm, *l 5* 15μm.

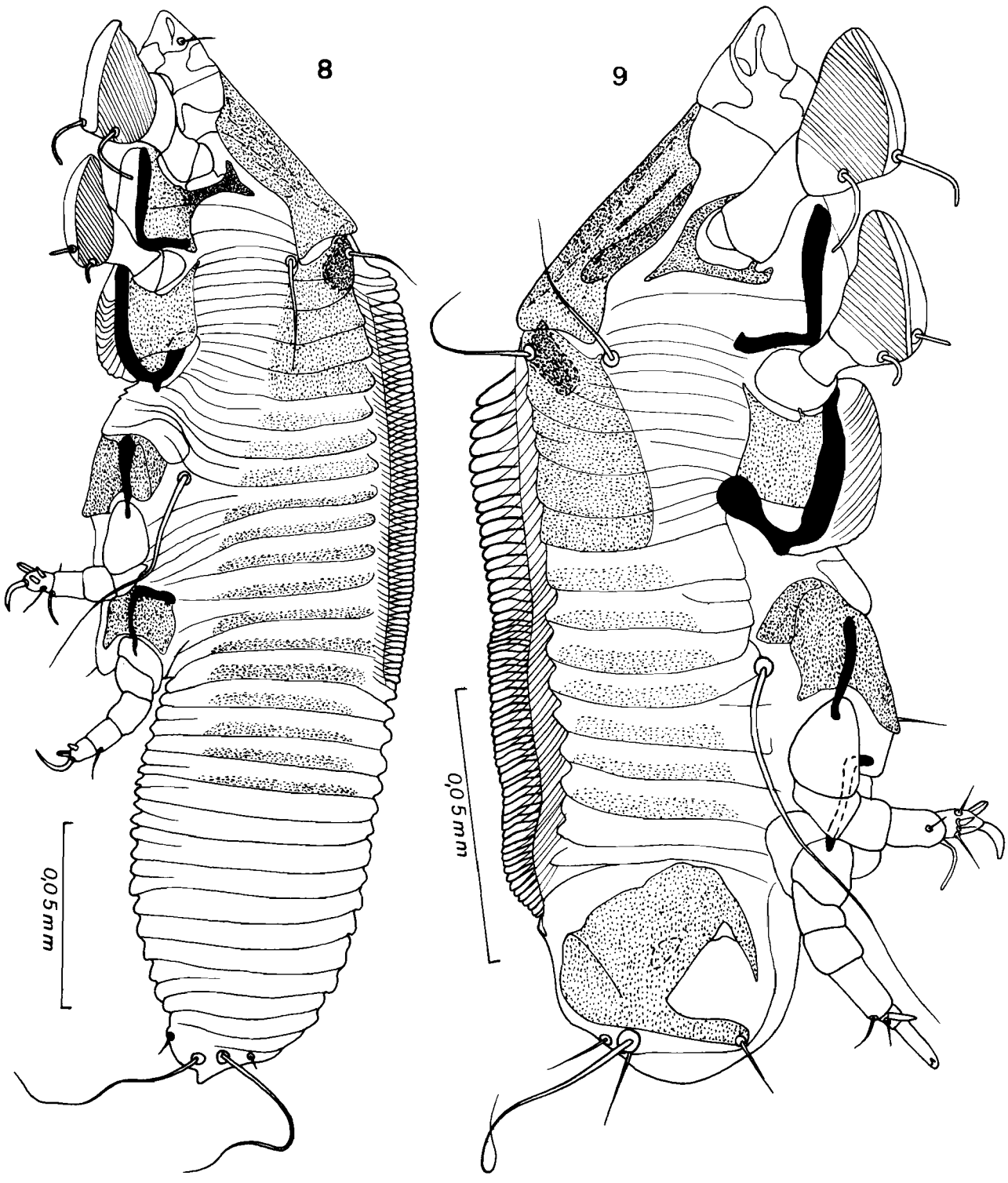
HOST AND LOCALITY—On *Hipposideros galeritus schneideri*, Lebong, Tandai, Sumatra. Bat in the B. M. n 29. 6. 12. 1. The mites were attached to the hairs of the face. (holotype and 3 paratype and 3 paratype males, allotype and 3 paratype females). Types in B. M.

4. *Afrolabidocarpus vietnamensis* nov. spec.

This species is represented by a single female. It is distinguished from *A. longipes* by the much greater length of *h* setae, the smaller length of apical spine of tarsus IV and the more divergent direction of the scutal lobes.



Figs. 6-7: *Asiolabidocarpus bougainvilleensis* Fain, 1972-6, holotype female; 7, allotype male.



Figs. 8-9: *Asiolabidocarpus megadermae* Fain, 1972—8, holotype female; 9, allotype male.

FEMALE (Fig. 5)—Holotype 335μm long, 164μm wide. With 50-60 striations along midline. Length of gnathosoma 50μm, of dorsal shield along paramedian lobe 60μm, along lateral lobe 83μm. Tarsus IV 30μm long, with apical spine 33μm. Setae *h* 90μm, *sc i* 120μm, *l 5* 9μm.

HOST AND LOCALITY—On *Hipposideros pratti*, Chapa, N. Vietnam. Bat in B. M. n° 33. 4. 1. 70-77. Holotype female in B. M.

Genus *Asiolabidocarpus* Fain, 1972

This genus is represented so far by 3 asiatic species: *A. bougainvilleensis* Fain, 1972, described from *Hipposideros* sp., Bougainville Islands, *A. megadermae*, Fain, 1972, from *Megaderma spasma*, India and *A. hipposideros*, from *Hipposideros armigera*, in N. Vietnam.

The genus *Asiolabidocarpus* resembles *Olabidocarpus* Lawrence, 1948. It has a mediodorsal cuticular crest and in the female tarsi III-IV bear peduncles without suckers. It differs from this genus by the absence of this peduncle on tarsus IV of the male and specially in both sexes by the presence of 2 wide paramedian postscapular shields beginning at the level of the crest and extending laterally until the level of the *sc e* setae. The genus seems confined to Asiatic Hipposideridae and Megadermatidae.

1. *Asiolabidocarpus bougainvilleensis* Fain, 1972

This species has been described previously (Fain, 1972). Here the drawings of the female (Fig. 6) (holotype) and the male (Fig. 7) is given. Holotype female measures 340μm long and 90μm wide. The male measures 243μm long.

HOSTS—*Hipposideros* sp. from Bougainville Islands (same bat as for *Afrolabidocarpus medioscutatus*), types in I. R. S. N. B.; *Hipposideros calcaratus*, Solomon Islands (bat in B. M. n° 63. 1957-1955) (1 male); *Aselliscus tricuspis*, Riba Caves, Auki, Malaita Islands, Solomon Islands (bat in B. M. n 67. 2123-24) (1 female).

2. *Asiolabidocarpus hipposideros* Fain, 1972

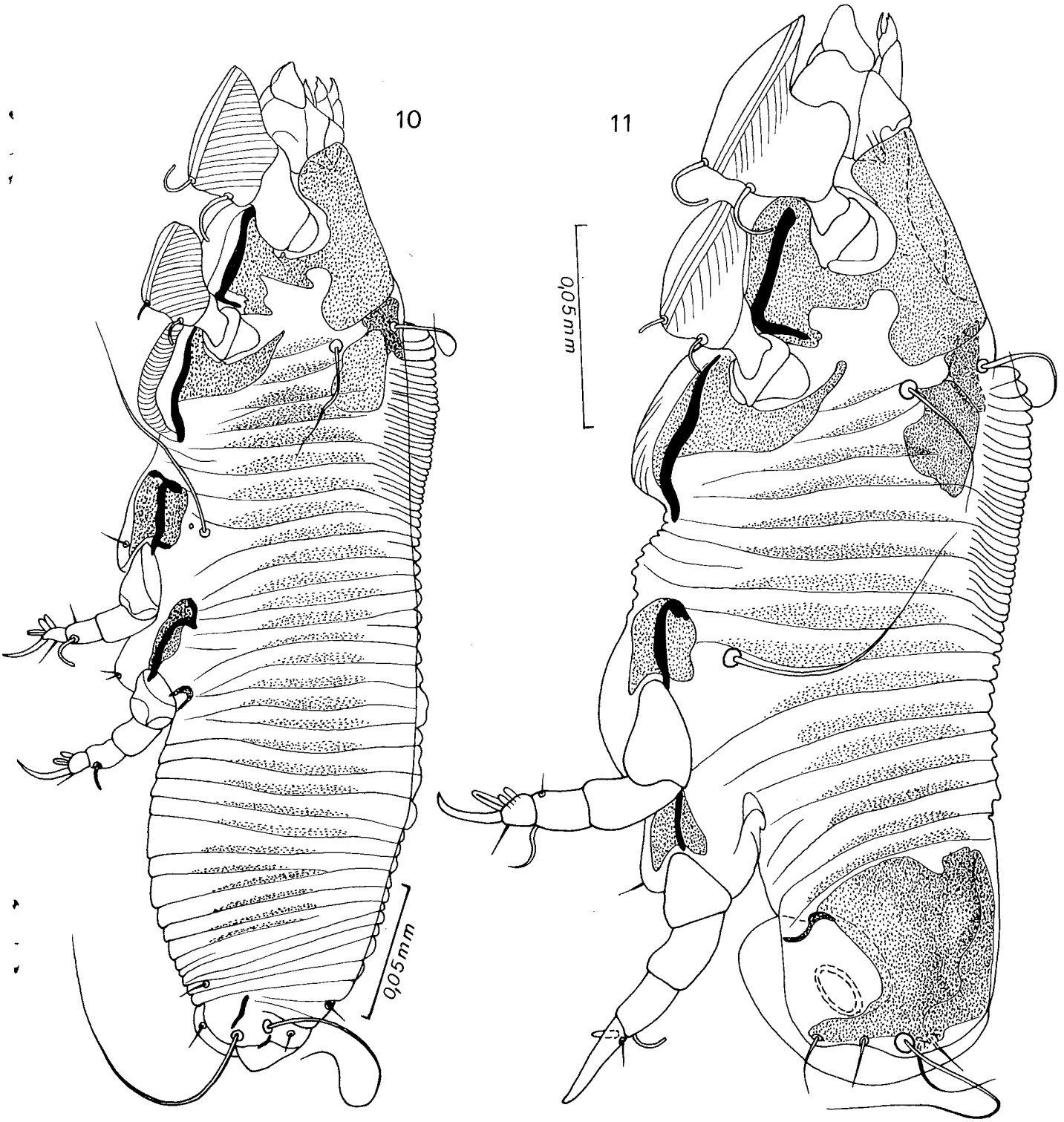
The cuticular crest in the female of this species is much longer (117μm) than in *A. bougainvilleensis* (55-60μm), and possesses 60 striations (for 22-24 in previous species). Also, the postscapular shields are wider (30μm for 20μm in previous species). Holotype female 285μm long, 93μm wide. Male 190μm long (Figs. 8-9).

HOST—*Megaderma spasma*, India (Types) and *Megaderma spasma medium*, Besut Trengganu, Malaya (1 male). Types in I. R. S. N. B.

3. *Asiolabidocarpus hipposideros* Fain, 1979

The female of this species has a short cuticular crest (60-70μm) as in *A. bougainvilleensis* It is distinguished from this species, in both sexes, by the shape of the postscapular shields which have a notch in their lateral margins, and by the absence of a sclerotized bridge between the prescapular shields and the coxa II.

FEMALE (Fig. 10)—Holotype 330μm long, 105μm wide. Lateral surface of body slightly sclerotized with 30 striations between setae *sc e* and *l 5*. Crest 60μm long, with 22-30 striations. Length of gnathosoma 33μm, of prescapular shield in midline 48μm, of postscapular shields 35-42μm; width of postscapular shields 21μm. The postscapular shields are fused forwards with prescapular shield by mean of a strongly sclerotized sclerite. Setae *sc i, sc e, h, d 5, l 5* are 30μm, 21-30μm, 55-70μm, 75μm and 100μm respectively. Tarsi III and IV with 2 or 1 thick spine respectively and a well-developed peduncle without sucker. Tarsi IV 9μm long with an apical spine 18-20μm long.



Figs. 10-11: *Asiolabidocarpus hipposideros* Fain, 1979–10, holotype female; 11, allotype male.

MALE (Fig. 11)—Allotype 268μm long and 105μm wide. There are 15 striations laterally between setae *sc i* and opisthosomal shield. Crest 70-75μm long, with 25 striations. Lengths of prescapular shield 48μm (in midline), of postscapular shields 40-45μm. Width of postscapular shield 18-24μm. Tarsi IV very short (6μm) with a strong ventral spine and a large flat prolongation 21μm long; peduncle absent. Opisthosomal shield with 5 pairs of unequal terminal setae, one of these measures 75μm long.

HOST AND LOCALITY—*Hipposideros armiger*, Chapa, N. Vietnam (bat in B. M. n° 33. 4. 1. 45-60). The mites were found attached at the base of ears (Holotype and 2 paratypes female, allotype and 4 paratypes male). Types in B. M.

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