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Zoological Results of the British Speleological Expedition to Papua New Guinea, 1975 A new species of the subgenus Australobius, genus Lithobius (Chilopoda: Lithobiomorpha) from Paupa New Guinea

BY E. H. EASON

INTRODUCTION

During the British New Guinea Speleological Expedition, 1975, Dr. Petar Beron of the Bulgarian Natural History Museum, one of the biologists on the expedition, collected a number of myriapods which were sent to Dr. R. L. Hoffman for study. Among these specimens are two well-preserved female lithobiids found in a deep pit known as "The Sting" on the Finim Tel plateau in the Star Mountains, close to the border between Papua New Guinea and Irian Jaya (formerly Dutch New Guinea). Dr. Hoffman has kindly allowed me to examine these lithobiids which belong to a new species of the subgenus *Australobius* (genus *Lithobius)* which is described below.

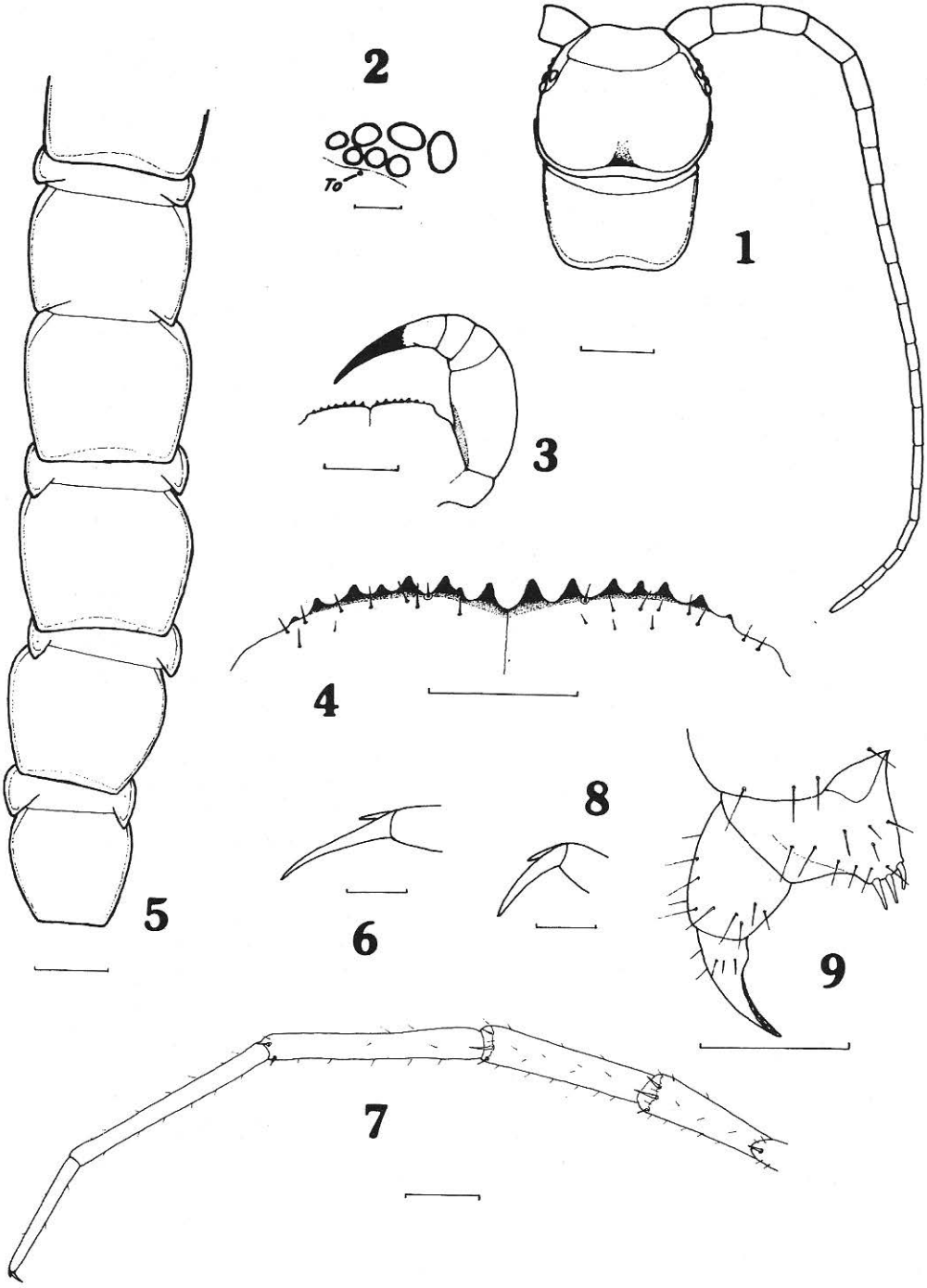
A full account of "The Sting" which is not a cave and supports vegetation, including urticating trees, at its base is given by Eavis (in Brooke, 1976).

Lithobius (Australobius) tenuiunguis, sp. nov — Figures 1-9.

Type specimens: Female holotype (Bulgarian Natural History Museum, Sofia) and female paratype (British Museum [Natural History], London), from the Finim Tel Plateau, 35 km WSW of Telefomin, Western Province, Papua New Guinea, P. Beron leg.

Description of holotype: *Colour:* very dark red. *Size:* 19 mm long and 2.5 mm broad at T. 8 and 10. *Head:* fairly smooth; broader than long, rather broader than T. 10; projection of lateral marginal interruptions distinct; posterior marginal ridge with a feeble median thickening; a distinct median depression anterior to the posterior marginal ridge; posterior border very slightly emarginate (Fig. 1). *Antennae:* 12.8 mm long; of 20 very elongate articles, the tenth three times and the terminal article five times as long as broad (Fig. 1). *Ocelli:* 1 + 3, 3; posterior ocellus distinctly larger than posterosuperior; organ of Tomosvary very small, immediately below the anterior two ocelli of the inferior row (Fig. 2). *Prehensorial claw:* long and slender, almost three and a half times as long as breadth at base when seen from below (Fig. 3). *Prosternum:* with 7 + 7 teeth, those on the right being supplemented by a small adventitious tooth medial to the base of the second tooth; no obvious diastema; a small porodont about the size of one of the setae arises from a well-defined alveolus posterolateral to the base of the second tooth; shape of dental margin typical of *Australobius* and similar to that of *Lithobius (Australobius) inflatitarsis* (Eason, 1978: fig. 6) with the lateral tooth small and posterior in position and the median sinus U-shaped (Fig. 4). *Tergites:* T.1 fairly smooth, almost as broad as T.5 but narrower than T.10, almost trapeziform with posterior border slightly emarginate (Fig. 1); T.3 and subsequent large tergites coarsely pitted and wrinkled with lateral borders rather less convex than in most species of *Lithobius;* posterior borders of T. 3, 5 and 10 slightly emarginate, those of T. 8, 12, 14 and intermediate tergite almost straight; posterior angles of T.3 evenly rounded, those of T.5 abruptly rounded, those of T. 8, 10, 12 and 14 angulated, those of T.6 with feeble rounded projections, those of T.7 with distinct broad projections, those of T.9, 11 and 13 with more prominent projections; on the large tergites from T.1 to T.12 the marginal ridge is entire, slightly raised, narrow laterally and broad posteriorly with a distinct posterior median thickening most marked on T.1 to T.8; on T.14 the ridge is deficient posteriorly (Fig. 5). *Coxal pores:* 7, 7, 7, 7; oval or circular; separated from one another by their own diameter. *Anterior legs:* tarsal articulations distinct; accessory apical claws about quarter the length of principal claws which are long and slender; sensory spurs absent or vestigial (Fig. 6). *14th leg:* not thickened; apical claws as in anterior legs.

Figures 1-9. *Lithobius (Australobius) tenuiunguis,* n. sp. 1, Head with right antenna and first tergite, dorsal. 2, Ocelli with organ of Tomosvary (To). 3, prosternum with left prehensor, ventral. 4, dental margin of prosternum, ventral. 5, 5th to 14th tergites, dorsal. 6, apical claws of right 12th leg, lateral. 7, right 15th leg, ventral. 8, apical claws of right 15th leg, lateral. 9. right gonopod, ventral. Scale line is 1.0 mm for Figs. 1, 3, 5, 7; 0.5 mm for Figs. 4 and 9; 0.2 mm for Figs. 2, 6, 8.


2
To
1
3
4
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7

15th leg: 11.6 mm long; not thickened, distal three articles long and slender (Fig. 7); accessory apical claw almost half the length of principal claw which is relatively short (Fig. 8). *Grandular pores:* concentrated on the 13th, 14th and 15th legs with a few scattered pores on all articles of the prehensors. *Gonopod:* with three slender acuminate spurs and a long sharp simple claw (Fig. 9); dorsolateral setae not differentiated from general setae.

Spinulation:	Ventral					Dorsal				
	C	t	P	F	T	C	t	P	F	T
1	—	—	p	am	m	—	—	amp	a	a
2-5	—	—	p	am	am	—	—	amp	a p	a p
6-10	—	—	mp	am	am	—	—	amp	a p	a p
11-12	—	—	amp	amp	am	—	—	amp	a p	a p
13	—	—	amp	amp	am	a	—	amp	a p	a p
14	a	m	amp	amp	a p	a	—	amp	a p	a p
15	a	m	amp	amp	a p	a	—	amp	p	[p]

[15 DpT, present on the left leg only, is very small.]

Description of paratype: Differing from the holotype in the following characters: *Size:* 17 mm long and 2 mm broad at T.8 and 10. *Antennae:* 9.6 mm long. *Ocelli:* anterior ocellus of inferior row very small. *Prosternum:* with 6 + 5 teeth; porodont posterolateral to the second tooth on both sides. *Tergites:* posterior borders of T.8 and 12 slightly emarginate, those of T.14 and intermediate tergite distinctly emarginate. *Coxal pores:* 7, 6, 6, 6. *15th legs:* 8.8 mm long.

Spinulation:	*Ventral*					*Dorsal*				
	C	t	P	F	T	C	t	P	F	T
1	—	—	p	am	m	—	—	amp	a	a
2-3	—	—	p	am	am	—	—	amp	a p	a
4-7	—	—	p	am	am	—	—	amp	a p	a p
8	—	—	[m]p	am	am	—	—	amp	a p	a p
9-11	—	—	mp	am	am	—	—	amp	a p	a p
12	—	—	[a]mp	amp	am	—	—	amp	a p	a p
13	[a]	—	amp	amp	am[p]	a	—	amp	a p	a p
14	[a]	m	amp	amp	a[m]p	a	—	[a]mp	a p	a p
15	a	mk	amp	amp	a p	a	—	amp	[a]p	—

[Letters in brackets indicate spines present on one side only.]

DISCUSSION

The subgenus *Australobius* Chamberlin has recently been reviewed (Eason, 1978) and three species have been reported from New Guinea, *Lithobius loriae* Silvestri, *Lithobius viduus* (Attems) and *Lithobius ethodes* (Chamberlin), each with only a single record. *L. loriae* differs from the new species in its smaller size, fewer prosternal teeth, absence of posterior projections on T.6 and 7 and absence of accessory apical claws and the spine VaC on the 15th legs (Silvestri, 1894): and *L. viduus* in the absence of posterior projections on T.6 and 7, absence of 15VaC and in having triden tate claws on the female gonopods (Attems, 1932). The third species, *L. ethodes*, was based on a single male with both 15th legs missing: although the 15th coxae were, presumably, intact Chamberlin (1939) made no mention of any coxal spines, but he mentioned posterior projections on T.9, 11 and 13 only so that *L. ethodes* cannot be identical with *L. tenuiunguis*.

There are only two other described species of *Australobius* which, like *L. tenuiunguis*, have posterior projections on tergites other than T.9, 11 and 13, *Lithobius auctus* (Chamberlin) from Java and *Lithobius feae* Pocock from Burma. *L. auctus* is described as 10 mm long with six ocelli, 7 + 7 prosternal teeth, 2, 3, 3, 3 coxal pores, projections on T.6 and 7 and only a single dorsal and no ventral spines on the first leg: although the 14th and 15th legs are missing from the only known specimen (a male), 15 VaC is present and DaC altogether absent (Chamberlin, 1944). If *L. auctus* were based on an immature specimen of *tenuiunguis* the small size, the small number of coxal pores and the absence of DaC would indiate an early post-larval stadium: but Chamberlin did not suggest that his specimen might be immature and the assumption is that it was an adult.

Apart from Pocock's (1891) very brief original description, the Burmese form of *L. feae* is known only from a single female (Eason, 1973). This specimen agrees with *L. tenuiunguis* in many essential characters but the antennal articles are less elongate and the antennae themselves much shorter, the claw of the prehensor is only two and two-thirds times as long as its breadth at the base when seen from below, the prosternal porodont is placed between the lateral two teeth which are relatively large (Eason, 1973: fig. 43), there is no trace of projections on T.6, there is no posterior median thickening of the marginal ridges of the large tergites whose posterior borders, particularly those of T.12 and 14, are strongly emarginate, the posterior border of the intermediate tergite has trapeziform emargination, and the spurs and claw of the gonopod are relatively stout (Eason, 1973: fig. 44): the 14th and 15th legs are missing but the claws of the anterior legs are much less slender than in *tenuiunguis*. The above characters, all of which have been confirmed by re-examination of the specimen which is preserved in the British Museum (Natural History) (Reg. no. 1893. 11.12.3), distinguish the two species from one another quite clearly.

The specimens described by Silvestri (1917) under *L. feae* from northern India are closer to *L. tenuiunguis* than is the Burmese form in that they have posterior projections on T.6: and Silvestri (1917: fig. I, 11) figures the prosternal porodont more medially, between the four lateral and the four medial teeth. But in other respects including the length of the antennae, the shape of the intermediate tergite (T.15), the size of the prosternal teeth and the shape of the claw of the prehensor (Silvestri, 1917: fig. I, 11) they resemble the typical *L. feae*.

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