TETRAPOLIPUS BRASILENSIS, A NEW SPECIES (ACARINA, PODAPOLIPIDAE) FROM BEETLES IN BRAZIL

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PARASITISM
COLEOPTERA
BRAZIL

ABSTRACT : A new species of mites of the genus *Tetrapolipus* is described on the basis of the adult and the laviform female. No males were found. The mites were collected from beetles in Brazil.

PARASITISME
COLÉOPTÈRE
BRÉSIL

RÉSUMÉ : Une nouvelle espèce d'acariens du genre *Tetrapolipus* est établie. Seules la femelle adulte et la femelle larviforme sont connues et décrites. Les acariens ont été recueillis sur des coléoptères au Brésil.

The genus *Tetrapolipus* Berlese, 1911, was erected for podapolipid mites, whose females have two pairs of articulated legs. The type species of the genus is *T. batocerae* Berlese, 1910. BERLESE described only the female and the larviform female.

Since BERLESE erected the genus several species have been added to BERLESE'S type species, and a few transferred to other genera, sometimes on no sound ground. The number of legs of the female seems to be such an important character of a genus, that we cannot agree with HUSBAND (1972), who erected the genus *Coccipolipus* for *C. macfarlanei* [3] with the definition that the adult female possesses one or two pairs of legs. It is indeed difficult to accept the idea that a species where the female has one pair of legs would belong to the same genus as a female with two pairs.

We do not want to review, here, the genus *Tetrapolipus*, but we should like to note that *Coccipolipus epilachnae* Smiley, 1974 should be transferred to the genus *Tetrapolipus*, because the adult female has two pairs of legs. The male and the larviform female have also several other characteristics in common with other species of the genus *Tetrapolipus*.

In the present paper a new species of mites is described. The mites were collected by Zr. CAMERIK, in Rio de Janeiro Grumari, Brazil on 24.5. 1975, from the abdomen and beneath the elytrae of beetles. The mounted mites were sent to us for study by Dr. F. S. LUKOSCHUS, from the Zoological Laboratory, Catholic University Nijmegen, the Netherlands, to whom our sincere thanks are due.

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3. The same mites from the same breeding origin were described by FELDMAN-MUHSAM and HAVIVI, 1972 as *Podapolipus* (*Bakerpolipus*) *coccinellae*.

MATERIAL EXAMINED

43 mounted larviform females ; 11 mounted ecdysing larvae from which the females could be examined and studied.

No males were found.

Female holotype and larviform female allotype deposited in the collection of the Laboratory of Medical Entomology, The Hebrew University — Hadassah Medical School, Jerusalem. Paratypes in Instituto Sperimentale per la Zoologia Agraria, Florence, Italy, and the British Museum (Natural History), London.

ADULT FEMALE

As all females examined were either still within the larviform female or in ecdysis, sclerotization is weak and some details are difficult to discern, such as the presence of dorsal sclerites which were described in *T. hunteri* Husband, 1973 and in *Stigmacarus lukoschusi* Feldman-Muhsam and Havivi, 1977.

Idiosoma long-oval with 2 transversal constrictions and a large lobe covering the gnathosoma from the dorsal side (Fig. 1). Length of mounted female with gnathosoma 360-390 μm, width of idiosoma at its widest point 170-180 μm. At the posterior end of the idiosoma there are two small lips (Fig. 1). Spiraculae present and tracheal system well developed.

Two pairs of legs ; the first considerably larger than the second. Leg I : 5-segmented ; third segment bears dorsally a relatively long seta. Apotele with two spur-like projections and three minute ones, and terminated with a campanulate sucker. Leg II : segments decrease considerably in width from the base to the distal segment. Apotele carries three minute spurs and terminates in two teathlike projections.

Gnathosoma about as long as wide with a pair of chelicerae and a pair of palps, as figured (Fig. 1). No sternum present.

As all females described are very young, they contain no embryos or eggs, and thus, at present, there are no means to decide whether the species is ovi- or larviparous.

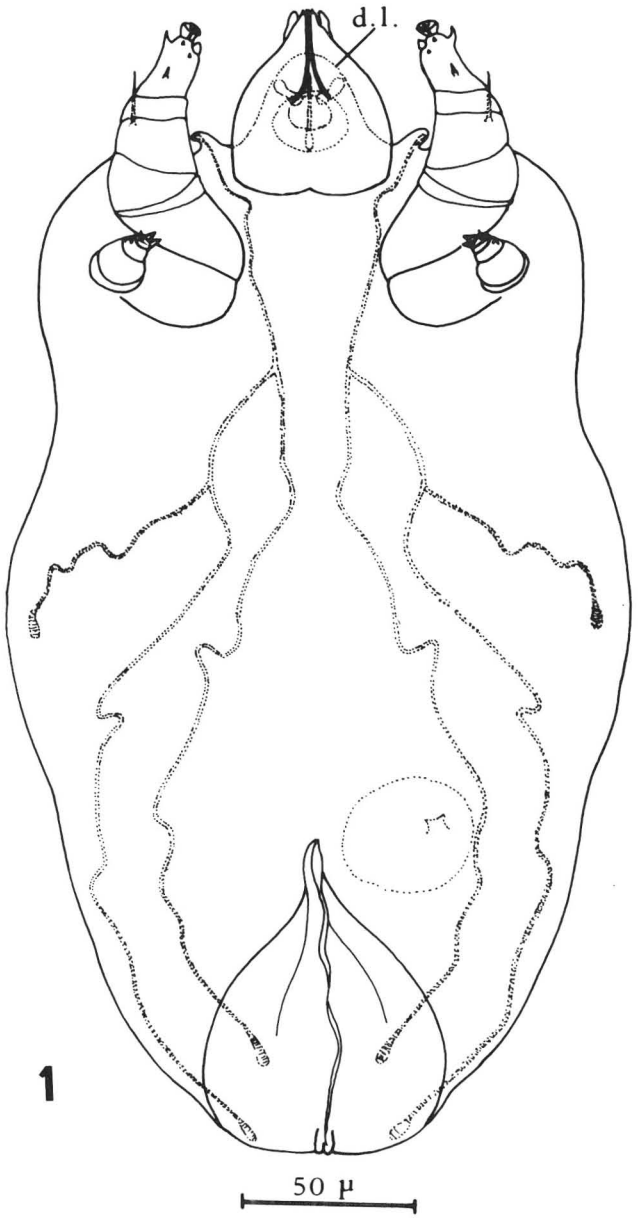
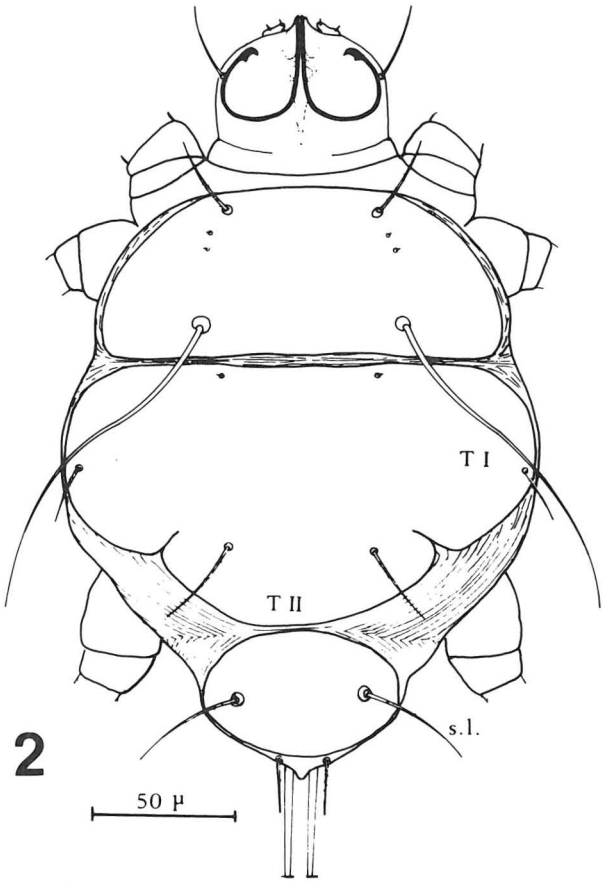


FIG. 1. — *Tetrapolipus brasilensis* sp. n., Adult female. Ventral aspect. d.l. : dorsal lobe.

LARVIFORM FEMALE

Idiosoma oval, 240-280 μm long (in the type : 280 μm), 130-175 μm wide (in the type : 170 μm).

Dorsum : Propodosomal plate with medium size setae verticales internae (17 μm) ; setae verticales externae and scapulares internae minute (less than 2 μm) ; scapulares externae (sc. e) very long



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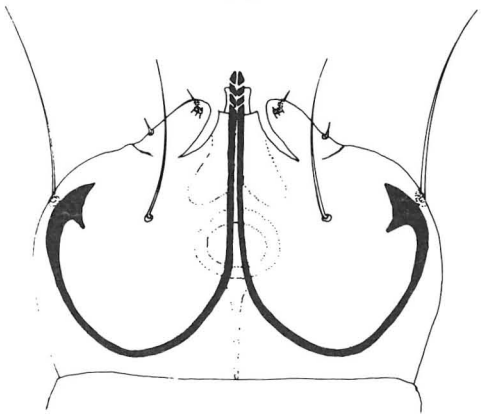

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20 µ

FIG. 2-3. — *Tetrapolipus brasilensis*, Laviform female.
2) Dorsal aspect. T I : Tergite I ; T II : Tergite II ; s.l. : setae lumbales.
3) Gnathosoma, ventral aspect.

(97 µm). Sejugal furrow straight. Tergites I and II only slightly separated. Setae humerales internae minute and sometimes missing or undiscernable ; humerales externae medium-sized (ca. 10 µm). Setae dorsales long (32 µm). Tergite III transversally elliptic, with relatively long (32 µm) setae lumbales. All dorsal setae except sc.e., are slightly pectinate (Fig. 2).

Caudal plate bears the very long (245 µm) setae caudales and two slightly pectinate and relatively short (21 µm) setae caudales accessores.

Venter : Apodemes I unite with sternum, apodemes II free. Coxae III far apart from one another (Fig. 4).

Coxal setae I, II and III short (5 µm). Opisthosomal plate elliptic.

Gnathosoma : semicircular ; cheliceral cone and palps protruding ventrally, 39 µm long, and 59 µm wide. Antero-lateral and ventral setae long (28 µm and 15 µm respectively). Palps with two short (3 µm) dorso-lateral setae (Fig. 3). On the ventral side of the palps a minute protuberance is present subapically, similar to that described in other species of podapolipid mites (FELDMAN-MUHSAM & HAVIVI, 1972 and 1977), though slightly differing in shape in the various species. The sclerotized, hook-shaped chelicerae are long, with a wide base reaching the lateral walls of the gnathosomal capsule.

Legs : Leg I terminates in two small claws, legs II and III with campanulate suckers, but no claws. Chaetotaxy is presented in Table I. The tibiae of all legs carry one long seta each (leg I — 38 µm, leg II — 55 µm and leg III — 123 µm). (Fig. 4).

TABLE 1. — Chaetotaxy of legs of larviform female.

	Trochanter	Femur	Genu	Tibia	Tarsus
Leg I	0	3	3	6 setae, 1 solenidium	6 setae, 2 solenidia, 1 spur
Leg II	0	1	0	4 setae	3 setae 1 spur, 1 fish tail seta
Leg III	0	0	0	4 setae	2 setae 1 spur, 1 fish tail seta

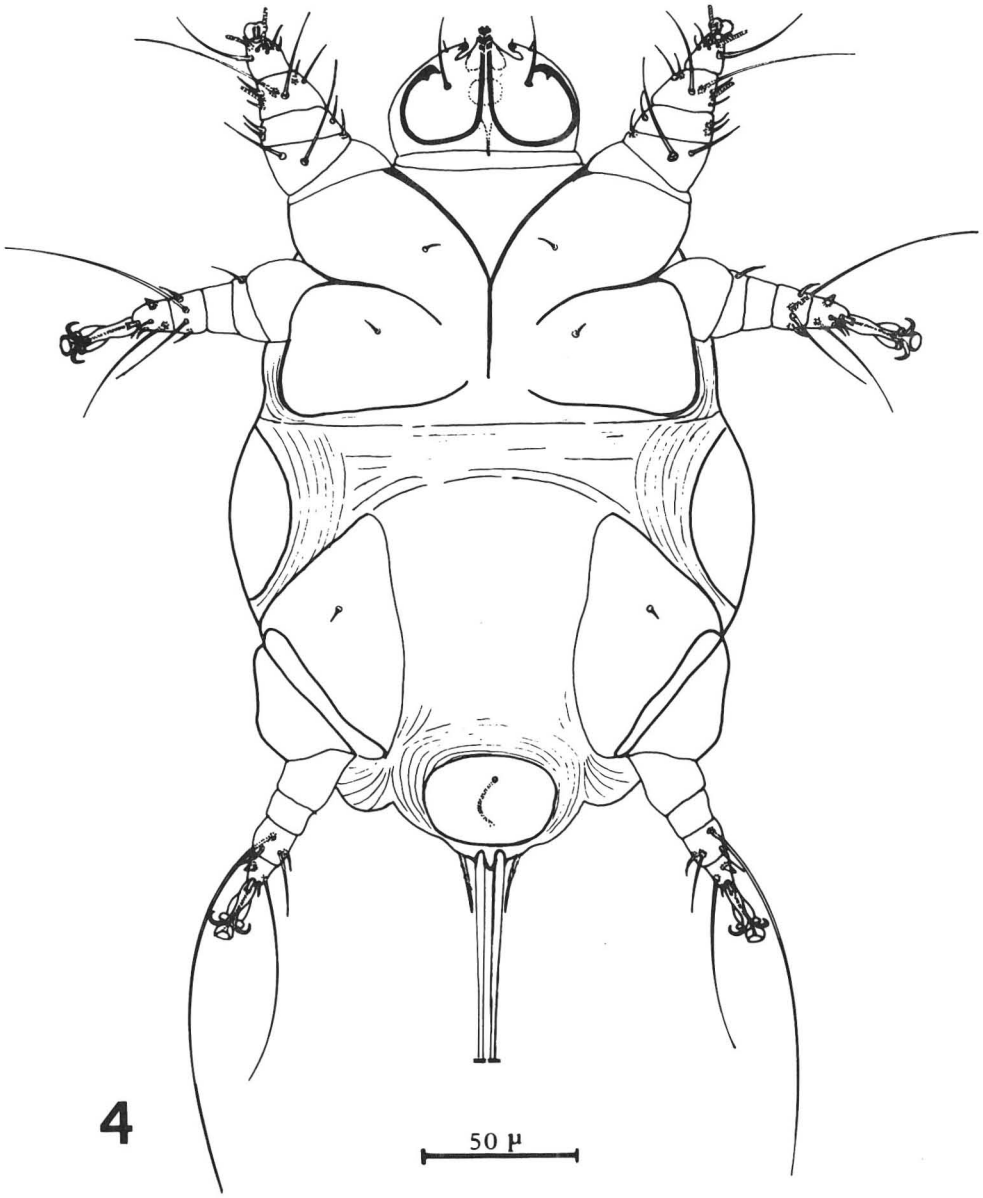

FIG. 4. — *Tetrapolipus brasilensis*.
Larviform female, ventral aspect.

DISCUSSION

The genus *Tetrapolipus* s. lat., i.e. all *Tetrapolipus* species including *Stigmacarus lukoschusi* Feldman-Muhsam & Havivi, 1977 and *Rhynchopolipus rhynchophori* (Eving, 1924), comprises eight species with adult females having (or assumed to have) two pairs of legs.

The specimens described here differ from all eight species. For example, in the larviform female of *T. brasilensis*, tergite I is partly separate from tergite II, whereas in *T. solanophilae* Cooreman, 1952 they are entirely separated, and in *R. rhynchophori* (Eving, 1924) as well as in *T. epilachnae* (Smiley, 1974) they are entirely fused. Setae dorsales are long in *T. brasilensis* but short

in *S. lukoschusi* and *T. hunteri*, Husband, 1973 and minute in *T. hippodamiae* McDaniel and Morril, 1969. Setae lumbales are relatively long in the new species and short in *T. blattae* Oudemans, 1915. In *T. batocerae* all plates are cribiform whereas they are smooth in *T. brasilensis*. There are many more differences between *T. Brasilensis* n. sp. and the other species of the genus, but already the few mentioned here suffice to show that the specimens described here deserve the rank of a species.

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Paru en mars 1981.