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Some interesting beetle mites from Pacific islands collected by Antonius van Harten (Acari: Oribatida). (*Acarologica Genavensia* CVIII)

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Some interesting beetle mites from Pacific islands collected by Antonius van Harten (Acari: Oribatida). (*Acarologica Genavensia* CVIII). - Ten oribatid species are recorded: nine from Fiji (Viti Levu) and one from the Solomon Islands (Nendo). Among the species from Fiji, two are reported for the first time from this island and three species and one subspecies are new to science; for one of them a new genus (*Monstroripoda* gen. n.) is established in the family Oripodidae. The species found on the Solomon Islands is also new to science and a new genus (*Lignobates* gen. n.) is established for it in the family Haplozetidae.

Keywords: Acari - Oribatida - taxonomy - new genera - new species - Fiji - Solomon Islands.

INTRODUCTION

The well-known entomologist Dr A. van Harten worked as a specialist in biological pest control and taxonomy of aphids and spiders in Africa (mainly Angola and Cape Verde), in the Middle East (mainly Yemen) and in the South Pacific.

Additionally, Antonius van Harten has done a great deal of work on the global inventory of the terrestrial arthropods of these countries, especially of Cape Verde and Yemen, collaborating with taxonomists from all over the world and particularly with the Geneva Natural History Museum. I already had the opportunity to study the Oribatida collected by him on the Cape Verde Islands (Mahunka, 1987, 1991) and in Yemen (Mahunka, 2000), and also his collection of Prostigmata and Astigmata from Cape Verde (Mahunka & Mahunka-Papp, 1991). Currently he has begun an inventory of the insects and arachnids of the United Arab Emirates.

An important part of our knowledge of the oribatid fauna of the South Pacific islands derives from Hammer's publications (e.g., 1971, 1972, 1973). In spite of the limited number of specimens added by van Harten's new samples I was able to find several new and interesting species.

For the "List of species" I follow the system of Marshall *et al.* (1987).

LIST OF LOCALITIES

21 – FIJI: **Viti Levu**: Suva, in garden; VIII.1994; leg. A. van Harten.
192 – SOLOMON ISLANDS: Santa Cruz Islands: **Nendo**: Leaflitter in a coconut plantation; 28.-31.I.1995; leg. A. van Harten.
233 – FIJI: **Viti Levu**: Suva, yellow water trap in garden; IV.-V.1995; leg. A. van Harten.
297 – FIJI: **Viti Levu**: Tholo-i-Suva, 5km N of Suva, leaflitter in rainforest; 23.-27.VIII.1995; leg. A. van Harten.

LIST OF IDENTIFIED SPECIES

Liodidae Grandjean, 1954
Liodes ramosus Hammer, 1971
Locality: 297 – Fiji: 2 specimens.
Distribution: Fiji (hitherto only known from the type locality Viti Levu); second record for Fiji (Viti Levu).
Trhypochthoniidae Willmann, 1931
Allonothrus russeolus Wallwork, 1960
Locality: 233 – Fiji: 2 specimens.
Distribution: Circumtropical (?); second record for Fiji (Viti Levu).
Oppiidae Grandjean, 1951
Arcoppia corniculifera fijiensis ssp.n.
Locality: 21 – Fiji.
Mochlozetidae Grandjean, 1960
Uracrobates pygiseta (Hammer, 1973)
Locality: 297 – Fiji: 2 specimens.
Distribution: Tonga (hitherto only known from the type locality Tongatapu); **first record for Fiji.**
Oripodidae Jacot, 1925
Monstroripoda tubulifera gen. n., sp. n.
Locality: 297 – Fiji.
Scheloribatidae Grandjean, 1953
Brassiella penicillifer Hammer, 1973
Locality: 297 – Fiji: 1 specimen.
Distribution: Tonga (hitherto only known from the type locality Tongatapu); **first record for Fiji.**
Nasozetes lienhardi sp. n.
Locality: 192 – Solomon Islands.
Scheloribates praeincisus (Berlese, 1910)
Locality: 21 – Fiji: 4 specimens.
Distribution: Oriental and Pacific Region.
Tuberemaeus vanharteni sp. n.
Locality: 192 – Fiji.
Haplozetidae Grandjean, 1936
Lignobates berndhauseri gen. n., sp. n.
Locality: 233 – Fiji.

DESCRIPTIONS AND REMARKS

Arcoppia corniculifera fijiensis ssp. n. Figs 1-6

MATERIAL EXAMINED: 21 – FIJI (**Viti Levu**): Holotype, 4 paratypes: From the same sample. Holotype and 2 paratypes: MHNG[1], 2 paratypes: (1675-PO-03): HNHM[2].

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[1] MHNG = deposited in the Muséum d'histoire naturelle, Geneva.
[2] HNHM = deposited in the Hungarian Natural History Museum, Budapest, with identification number of the specimens in the Collection of Arachnida.

MEASUREMENTS: Length of body: 463-518 µm, width of body: 264-319 µm.

Prodorsum: Rostrum tripartite, median apex clearly wider than the lateral ones (Fig. 1). All three apices obtuse, equal in length. Shape of costulae typical, the median one horseshoe-shaped and broadened basally, its transversal band arched, longitudinal parts well-developed, but not reaching to the bothridia. Three weak, nearly transversal ridges present in the interlamellar region. Its S-shaped lateral costulae strong, well-developed, their basal part thick, bearing the exobothridial setae. Interlamellar region with 2 pairs of sigilla and some large, mostly quadrangular or triangular, irregular "tubercles" (Fig. 4). Exobothridial region distinctly granulate, sclerotised ridges not discernible. One pair of indistinct porose areas present in the sejugal region, behind the bothridia. All prodorsal setae simple, only with some fine cilia. Ratio between them: *ex* < *le* < *ro* < *in*. Sensillus (Fig. 6) with well-separated head bearing one very long and 2 (exceptionally 3) minute spines.

Lateral part of body (Fig. 3): S-shaped lateral costulae framing a field with a polygonal pattern. Exobothridial region and an area near acetabula 3 distinctly granulate. Pedotecta I small, discidium very long, with sharply pointed posterolateral margin.

Notogaster: Median part of dorsosejugal suture narrowed, nearly straight (Fig. 1). Notogastral heterotrichy present, setae *ta* very short, *te*, *ti*, *ms* and r_3 equal in length, but r_1 and r_2 much shorter than these, like setae *p*. All setae simple, narrow, nearly smooth.

Ventral parts of body (Fig. 2): Mentum (Fig. 5) and epimeral region well-sclerotised, especially the lateral border bearing setae *1c*. Surface with conspicuous polygonal pattern. Epimeral setae of normal size, no essential differences between them. The longitudinal ridge, along the discidium, arched, strong. Genital setae arranged nearly in one longitudinal row. Position of aggenital, anal, adanal setae and lyrifissures normal. These setae also nearly equal in length.

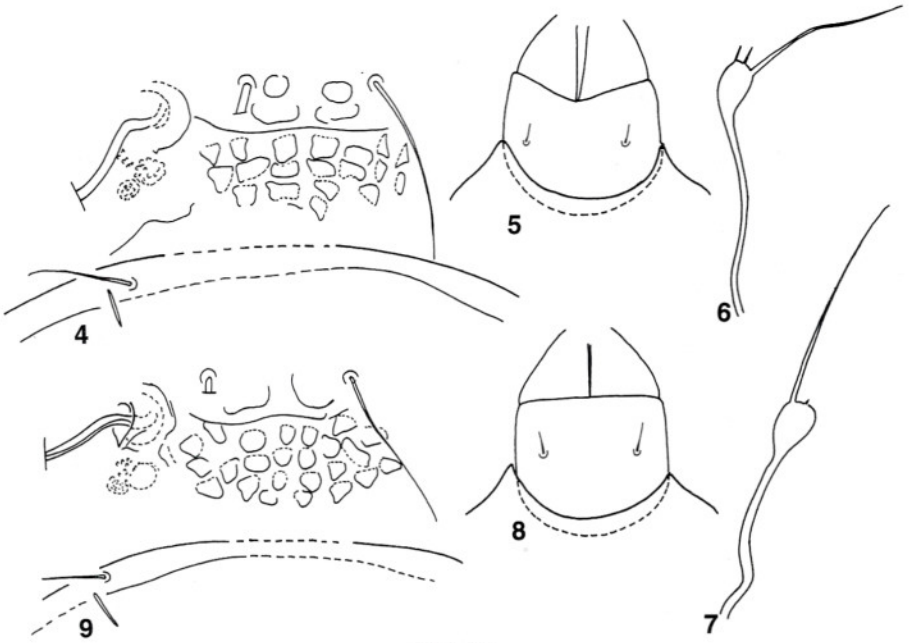
REMARKS: The nominate species *A. corniculifera* (Mahunka, 1978) described from Mauritius is well characterised by its tuberculate interbothridial field and the form of its sensillus. The new subspecies stands very near to the nominate subspecies, however in its interlamellar region it has 3 transversal ridges (absent in the nominate form) and in its interbothridial region it has fewer (18-20) but larger tubercles than the nominate form (24-26) (Fig. 9). Notogastral setae are longer in the new subspecies, setae *te* is reaching near to the insertion of setae *ms* and the form of the mentum also shows differences (see Figs 5 and 8). Some of the ventral setae (e.g., anal and adanal) are also longer in the new subspecies than in the nominate form.

DERIVATIO NOMINIS: Named after its origin.

Monstroripoda gen. n.

TYPE SPECIES: *Monstroripoda tubulifera* sp. n.

DIAGNOSIS: Family Oripodidae Jacot, 1925. Dorsal and ventral surface of body well-sculptured. Rostrum distinctively modified, with a hammer-like apex and one pair of tubuliform appendages bearing rostral setae. Lamellae long, prelamellae and strong sublamellae present. Bothridia covered by the pteromorphae, sensilli uncovered. Ten



FIGS 4-9

Arcoppia corniculifera fijiensis ssp. n. – 4, basal part of prodorsum; 5, mentum; 6, sensillus. *Arcoppia corniculifera corniculifera* (Mahunka, 1978) – 7, sensillus; 8, mentum; 9, basal part of prodorsum.

pairs of notogastral setae, four pairs of sacculi present. Epimeral setal formula: 3 – 1 – 3 – 1. Genitoanal setal formula: 4 – 1 – 2 – 3. All legs tridactylous.

REMARKS: The system of the family Oripodidae is based on the genitoanal setal formula (Balogh & Balogh, 1999). On this basis the new taxon may be related to the genus *Protoripoda* Balogh, 1970. However, the form of the rostrum is distinctive and so far unknown in the whole family. Therefore it seems justified to establish a new genus.

DERIVATIO NOMINIS: A combination of the words "monstrum" and "Oripoda", referring to the distinctive (monstruose) form of the rostrum.

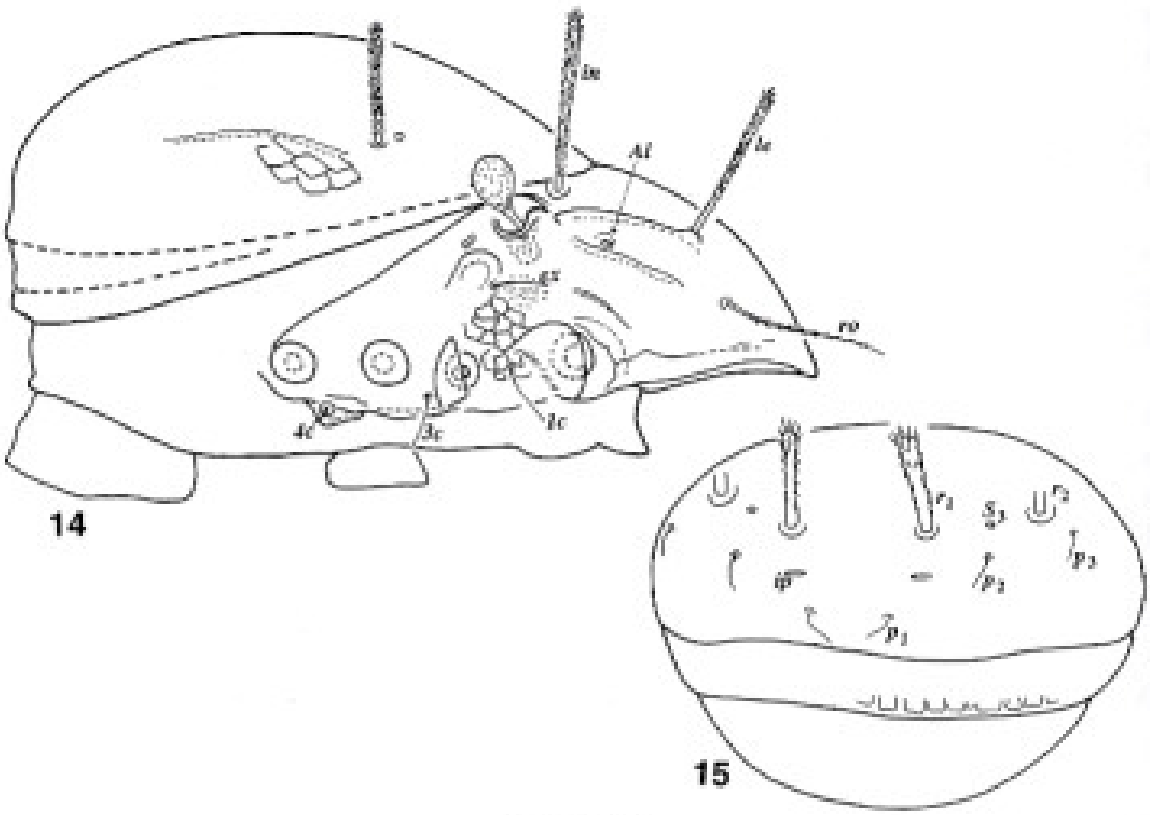
Monstroripoda tubulifera sp. n. Figs 10-13

MATERIAL EXAMINED: Holotype: 297 – FIJI (**Viti Levu**); MHNG.

DIAGNOSIS: See diagnosis of the genus.

MEASUREMENTS: Length of body: 348 µm, width of body: 184 µm.

Prodorsum: Anterior part of rostrum elongated, nasiform, at the beginning neck-like, then widened, rostral apex rounded (Fig. 10). One pair of long, tubuliform appendages laterally, bearing the rostral setae. Lamellae long, without true apices, these parts connected by a fine line. Prelamellae long, reaching to the appendages. Sublamellae also well-sclerotised, not narrower than the lamellae. Ratio of the prodorsal setae: *ex* < *le* < *in* < *ro*. Rostral setae slightly dilated basally, otherwise all setae



FIGS 14-15
Brassiella penicillifer Hammer, 1973 – 14, body in lateral view; 15, notogaster in posterior view.

postanal, ad_2 in para-anal (Hammer,1973 described this) and ad_3 also in para-anal position, far from the anal aperture and not near to lyrifissure *iad*.

Nasozetes lienhardi sp. n. Figs 16-18

MATERIAL EXAMINED: Holotype: 297 – FIJI (**Viti Levu**); MHNG.

DIAGNOSIS: Rostral apex wide, its form typical for the genus. Lamellae and prelamellae well-developed. Form and length of the lamellar setae different from the other prodorsal setae. Four pairs of sacculi and 10 pairs of short notogastral setae present. Epimeral setal formula: 3 – 1 – 3 – 3. Genitoanal setal formula: 4 – 1 – 2 – 3. All legs tridactylous.

MEASUREMENTS: Length of body: 368 µm, width of body: 224 µm.

Prodorsum: Rostral apex of the single male specimen similar to that of the other species of the genus, but its protruding part extremely wide and its "neck-part" only hardly narrower than the anterior part (Fig. 16). This latter is separated from the anterior one by a transversal line, anterior part is much lighter than the other parts. Lamellae and prelamellae thick, well-developed, lamellar apices absent. Rostral setae very thin, simple, lamellar setae much longer and thicker than the other prodorsal setae, bent, sword-shaped. Interlamellar and exobothridial setae also long, slightly blunt at tip. Bothridium and the posterior part of the sensillus covered by anterior tectum of the notogaster. Sensillus round.

3a the shortest of all, the latter indistinct. Surface of genital and anal plates scarcely sculptured. Ventral plate like the other parts of the body, medially with small and roundish sculptures, laterally with long and large slit-like formations. Genitoanal setal formula: 4 – 1 – 2 – 3. Anterior setae of genital plates longer than the others, all narrow. Aggenital setae minute. Anal and adanal setae also short. Setae ad_1 and ad_2 stick-shaped, blunt at tip, ad_3 curved, setiform.

Legs: All legs tridactylous, with equal claws. Femora of legs II-IV sculptured with irregular slits or alveoli.

REMARKS: The new species is characterised by the form of its sensillus, the simple interlamellar setae, the long notogastral setae and last not least by the peculiar ornamentation of the notogaster. It stands nearest to *T. similis* Balogh, 1970. However, the notogastral setae of the new species are much longer, and in *T. similis* the long, slit-like alveoli are missing on the posterolateral part of the notogaster and on the ventral plate laterally (see Balogh, 1970b).

DERIVATIO NOMINIS: I dedicate the new species to Dr A. Van Harten, the collector of this interesting material.

Lignobates gen. n.

TYPE SPECIES: *Lignobates berndhauseri* sp. n.

DIAGNOSIS: Family Haplozetidae. Rostrum rounded. Lamellae and sublamellae very weak, without lamellar cusps. Prelamellae absent. Lamellar setae located on the prodorsal surface in the interlamellar position, along the inner side of the lamellae. Prodorsal setae simple. Sensillus long, reclinate, with dilated head. Dorsosejugal suture distinct. Pteromorphae movable. Four pairs of large porose areas and ten pairs of minute notogastral setae present. Pedotecta small, discidium distinct, custodium not developed. Genitoanal setal formula: 4 – 1 – 2 – 3. All legs monodactylous.

REMARKS: The new taxon is distinguished by the form of the lamellae and the position of the interlamellar setae, the distinct dorsosejugal suture, the four pairs of porose areas on the notogaster and the geniotoanal setal formula. A similar combination of characters, mainly regarding the position of the interlamellar setae, is known in the genus *Perxylobates* Hammer, 1972, but the dorsosejugal suture is absent in *Perxylobates*.

DERIVATIO NOMINIS: This is the latin version of the first syllable of *Xylobates*.

Lignobates berndhauseri sp. n. Figs 23-26

MATERIAL EXAMINED: 233 – FIJI (**Viti Levu**): Holotype, 1 paratype: same sample. Holotype: MHNG, paratype (1677-PO-03): HNHM.

DIAGNOSIS: Lamellae without cusps, interlamellar setae arising in the interlamellar position. Sensilli long, directed backwards, their heads asymmetrically pilose, with pointed tips. Notogastral surface ornamented with short, fine lines. Ten pairs of minute notogastral setae present. Epimeral setal formula 3 – 1 – 3 – 3. Genitoanal setal formula: 4 – 1 – 2 – 3. All legs monodactylous.