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FURTHER DATA ON THE TARSONEMID MITES
OF MADAGASCAR (ACARI: TARSONEMINA)

(New and interesting mites from the Geneva Museum LXXX)

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ABSTRACT

Further data on the Tarsonemid mites of Madagascar (Acari: Tarsonemina).- Four Tarsonemina species (*Pygmephoridae* and *Scutacaridae*) are identified from Madagascar. Two of them are described as new to science (*Pseudopygmephorus madagassicus* sp. n., *Scutobe lobata* gen. n., sp. n.), for one of them it was necessary to establish a new genus: *Scutobe* gen. n. (*Scutacaridae*).

INTRODUCTION

In our previous publication (MAHUNKA & MAHUNKA-PAPP 1993) we have presented the description of 5 new Scutacarid species of the Tarsonemina cohorts (Heterostigmata), extracted from soil samples taken by the Geneva Expedition to Madagascar in 1989 (Dr. B. Hauser & Dr. C. Lienhard). The study of the Tarsonemina mites is part of a joint research project¹ with the Arthropod Department of the Geneva Natural History Museum on soil mites of this region (MAHUNKA 1993). We discuss now, in continuing the elaboration of this material, 4 species belonging to the same group: two of them are new to science. One of them belongs to the genus *Pseudopygmephorus* Cross, 1965 (family *Pygmephoridae*), the other represents the new genus, *Scutobe* gen. n., relegable to the family *Scutacaridae*. The two other species are also very interesting. For one of them (a *Pygmodispus* species recently described from Madagascar) this is the second finding, while the other species (*Zambedania africana* Mahunka, 1972, described by the senior author from Rhodesia and now of special importance in the systematics of the family *Pygmephoridae*) is of great interest from a zoogeographical point of view, being an additional proof for the interrelationship of the East African and Madagascan faunas.

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In the species description we apply, with some minor modifications, LINDQUIST's terminology (1986). The measurements given correspond to the smallest and largest value obtained from the series under study.

LIST OF LOCALITIES

Mad-89/35: MADAGASCAR: (Prov. Antsiranana [anciennement Diego-Suarez]): Sous-préf. Andoany (anciennement Hell-Ville): Ile de Nosy Be, Réserve naturelle intégrale "Lokobe", forêt primaire près Ampasindava, prélèvement de sol dans les angles formés par les contreforts d'un grand arbre, 85 m, extraction par appareil Berlese, 30.XI.1989, leg. B. Hauser.

Mad-89/52: MADAGASCAR: (Prov. Tamatave: Sous-préf. Ambodifotatra): Ile de Nosy Boraha (anciennement Ile Sainte-Marie), région de "La Crique", forêt de "Kalalao" au sud-est de Lonkinty, forêt primaire, prélèvement de sol dans les angles formés par les contreforts d'un grand arbre, 80 m, extraction par appareil Berlese, 7.XII.1989, leg. B. Hauser.

Mad-89/54: MADAGASCAR: (Prov. Tamatave: Sous-préf. Ambodifotatra): Ile de Nosy Boraha (anciennement Ile Sainte-Marie), région de "La Crique", forêt de "Kalalao" au sud-est de Lonkinty, forêt primaire, prélèvement de sol dans les angles formés par les contreforts d'un grand arbre, 105 m, extraction par appareil Berlese, 7.XII.1989, leg. B. Hauser.

LIST OF IDENTIFIED SPECIES

Pygmephoridae Cross, 1965

Pseudopygmephorus madagassicus sp. n.

Locality: Mad-89/54.

Zambedania africana Mahunka, 1974

Locality: Mad-89/52: 2 specimens.

Distribution: Rhodesia (MAHUNKA 1972); **new for Madagascar.**

Scutacaridae Oudemans, 1916

Pygmodispus (*P.*) *nosybe* Mahunka et Mahunka-Papp, 1993

Locality: Mad-89/54: 3 specimens.

Distribution: Madagascar (MAHUNKA & MAHUNKA-PAPP 1993).

Scutobe lobata gen. n., sp. n.

Locality: Mad-89/35.

DESCRIPTIONS

***Pseudopygmephorus madagassicus* sp. n.**

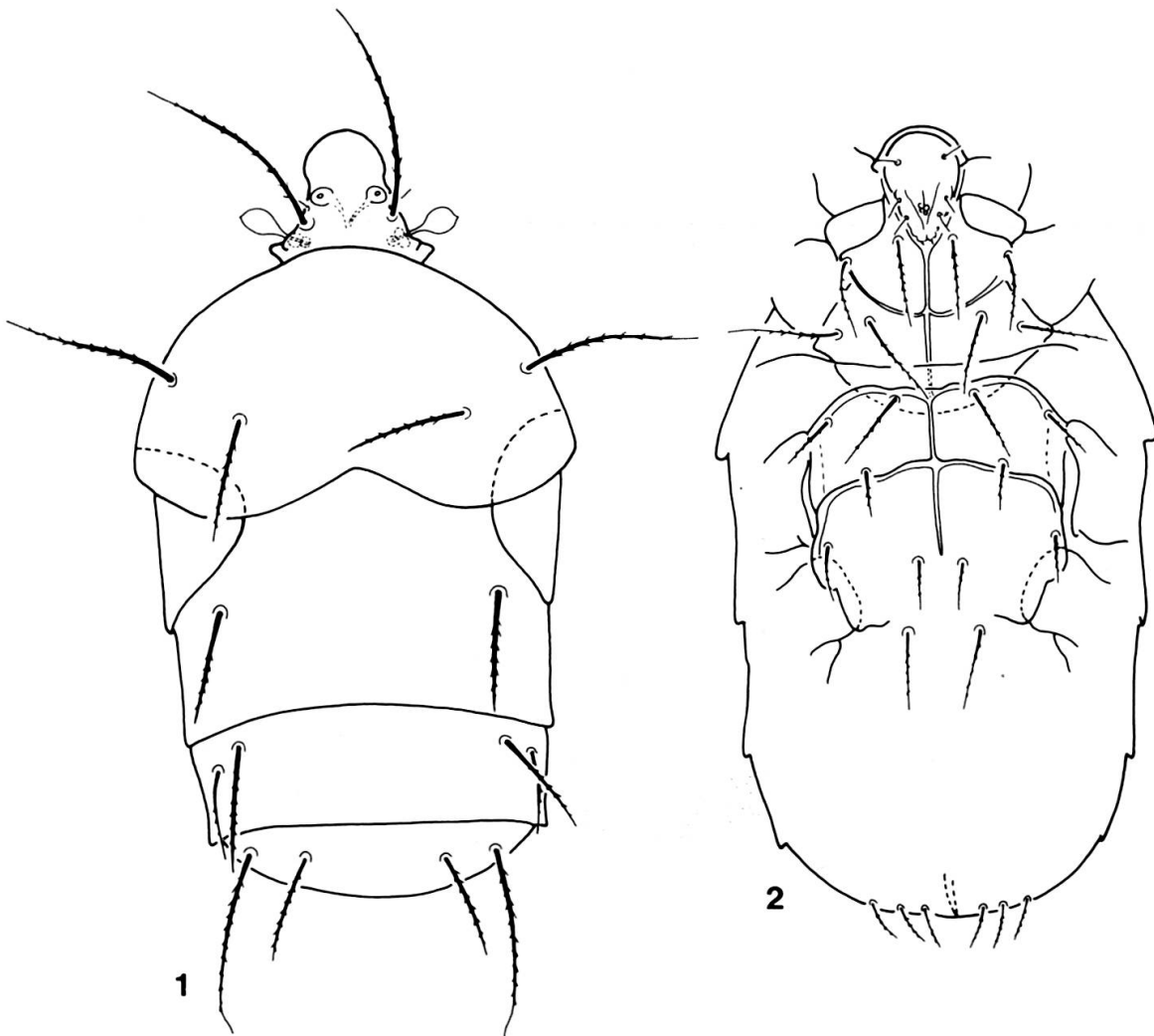
Measurements. – Length: 230-254 μm , width: 137-150 μm .

Dorsal side: Prodorsum with two pairs of very different hairs, setae *exa* long, finely ciliate (all dorsal setae belonging to this type). Setae *c*₂ shorter than *c*₁,

setae h_1 characteristically shorter than h_2 and pine-shaped, the latter with flagellate distal end. Setae of segment *PS* nearly equal in length (Fig. 1).

V e n t r a l s i d e : Apodemes well developed, the structure of this region with the characteristic form, typical for the genus, but apodemes III and IV sinuous (Fig. 2). All setae simple, setiform, scarcely ciliate.

L e g s : Leg I with a simple claw originating on a long peduncle (Fig. 3). Solenidium ω_1 short but very thick, rounded, ω_2 as long as ω_1 (Fig. 4). Tarsus of leg II (Fig. 5) with two strongly dilated, spiniform setae, their basal part peculiarly thick, nearly guttiform. Tarsus of leg III (Fig. 7) with one spiniform seta. Tarsus of leg IV (Fig. 6) slightly modified, dilated basally and strongly narrowed anteriorly, setae tc' modified, setiform but strong, peculiarly bent before its distal end.



FIGS 1-2.

Pseudopygmephorus madagassicus sp. n. – 1: dorsal side, 2: ventral side.

Material examined: Holotype: Mad-89/54, 2 paratypes from the same sample. Holotype and 1 paratype: MHNG² and 1 paratype (1428-TP-199): HNHM³.

Remarks: On the basis of the spiniform setae of tarsus II and III the new species belongs in the “*quadrata*-group” and it is closely related to *P. centriger* (Cooremann, 1951), however, the form of tarsus I and the modified setae of tarsus IV distinguish the new species from it.

Scutobe gen. n.

Diagnosis: Family *Scutacaridae*. Clypeus extremely large, much larger than the other dorsal segments. Its anterior margin hollow medially, its surface with strong and characteristic sculpture: punctulate, partly reticulate and/or foveolate. Posterior sternal plate modified, much widened laterally and posteriorly. Apodeme III completely reduced. Setae *4b* arising far posteriorly, removed from the others. Setae *1a*, *3a-c*, *4a* and *4b* beet-shaped. Legs with claw, the modified seta *s* on tarsus I thick, large, protruding laterally. Femur of leg IV with a characteristic laterobasal blade-like protrusion, fitting into a lateral hollow of the sternal plate.

Type species: *Scutobe lobata* sp. n.

Remarks: The new taxon belongs in the family *Scutacaridae*. It stands near *Lamnacarus* Balogh et Mahunka, 1963, but it differs by the posteriorly more dilated sternal plate, the lack of the apodeme III, and principally by the characteristic modification of femur IV.

Scutobe lobata sp. n.

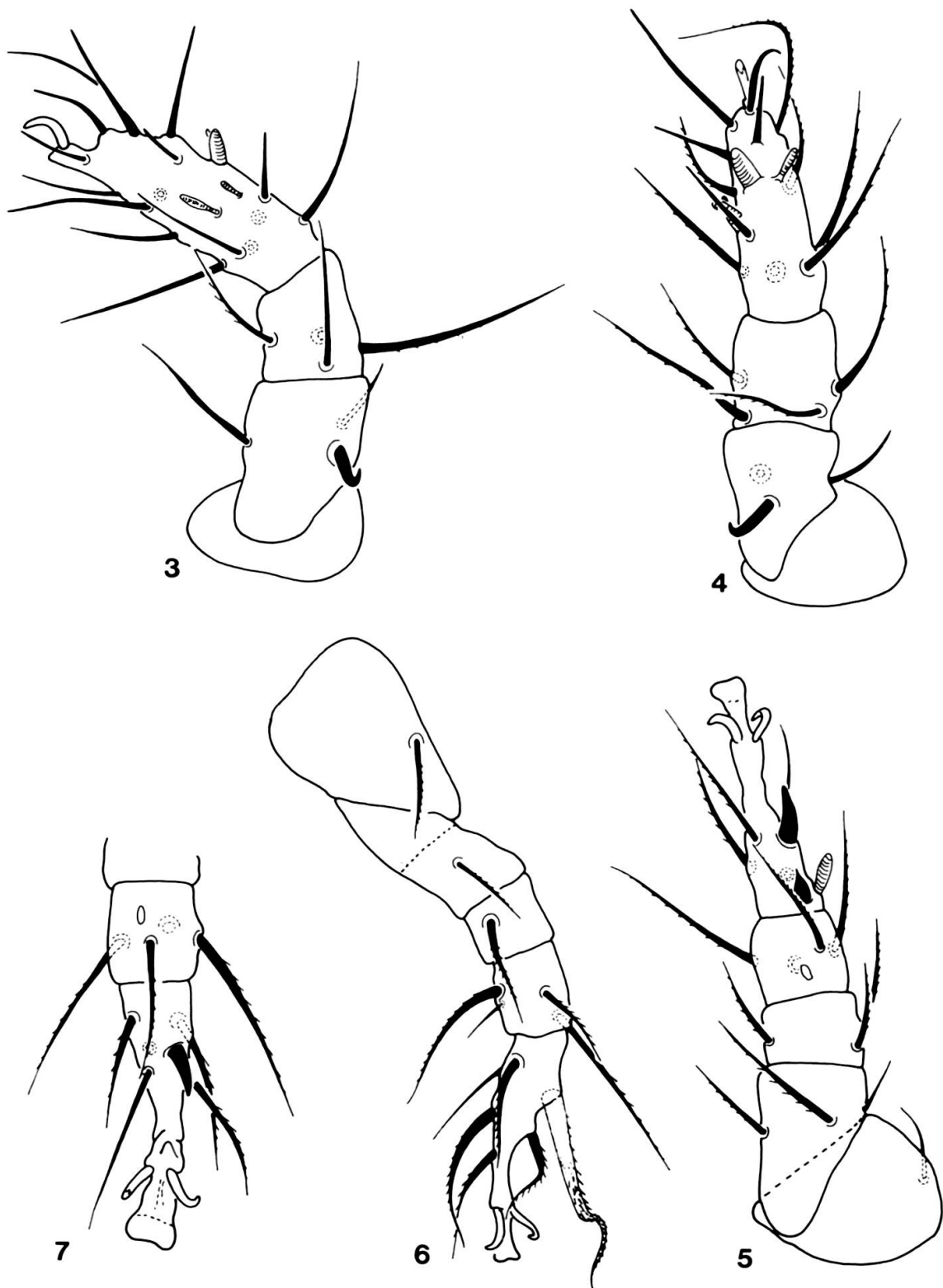
Measurements. – Length: 206-240 µm, width: 157-160 µm.

Dorsal region (Fig. 8): Clypeus very large, with a conspicuous, characteristic median dent in its anterior margin. The whole surface with a peculiar ornamentation consisting of a rough and generally extended punctulation, varyingly large alveoli (originating more sparsely) and of a reticulation along the anterior margin (Fig. 8). Clypeal setae normal setiform, with fine cilia nearly equal in length. The surface of the other segments less sculpturate. Among the setae three pairs (*d*, *f*, *h*,) dilated, bacilliform, distinctly spiculate. Setae *ps*₁ and *ps*₂ also dilate basally, but with longer cilia. Setae *e*₁, *h*₂ and *ps*₃ thin, simple, the latter strongly bent inwards.

Ventral region (Fig. 9): Gnathosoma with the normal scutacaroid morphology. Anterior sternal plate normal, posterior one modified, characteristically widened and extended at the basis of legs IV and posteriorad. Anterior part without sculpture, setae *1a* strong, beet-shaped, their whole surface ciliate; setae *1b* and *2a* normal, setiform, setae *2b* strongly dilated, smooth. Posterior sternal plate distinctly

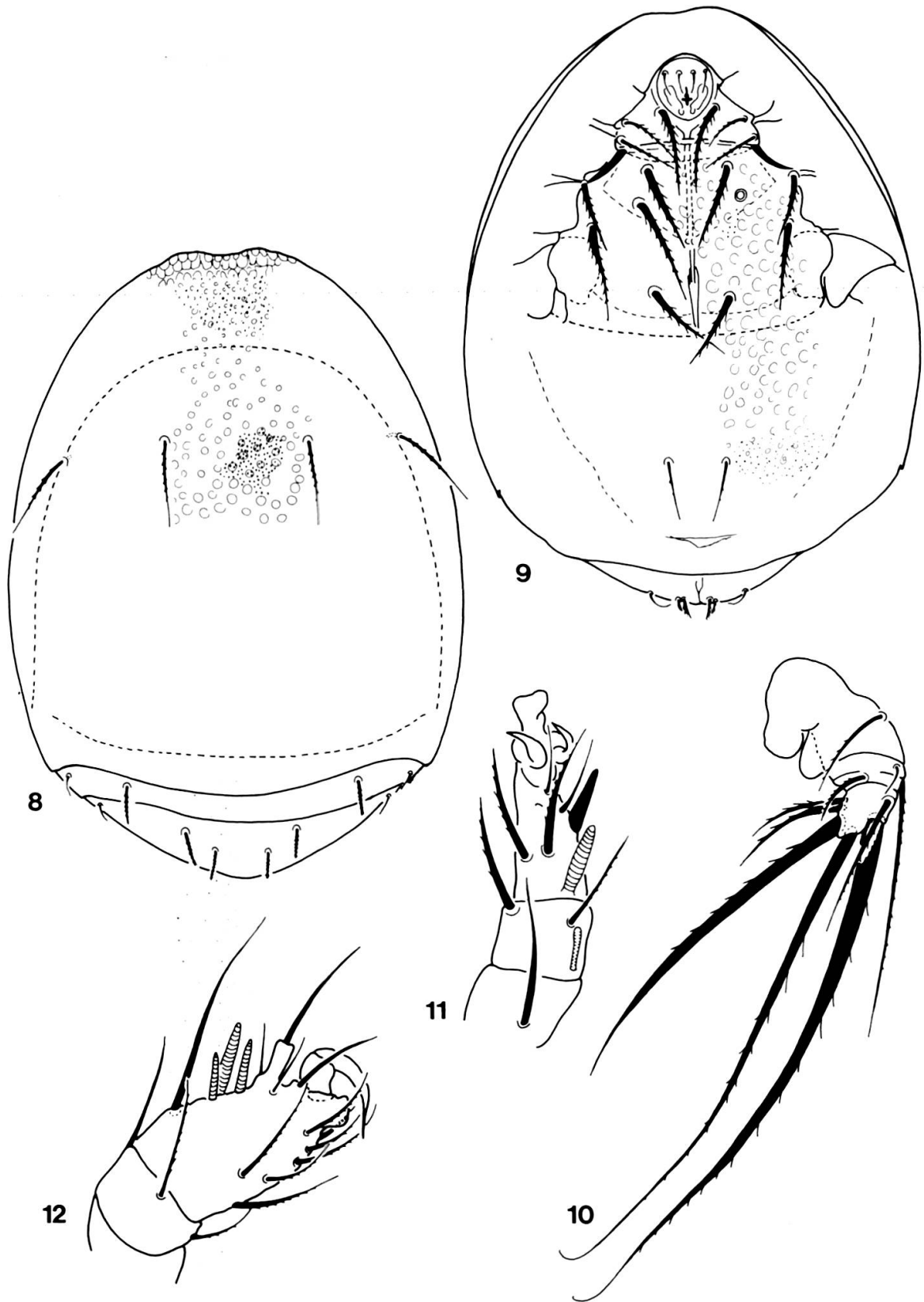
² MHNG = deposited in the Museum d'Histoire naturelle, Genève.

³ HNHM = deposited in the Hungarian Natural History Museum, Budapest, with the identification number of the specimens in the Collection of Arachnida.



FIGS 3-7.

Pseudopygmephorus madagassicus sp. n. – 3: leg I in lateral view, 4: leg I in dorsal view, 5: leg II, 6: leg IV, 7: tibia and tarsus of leg III.



FIGS 8-12.

Scutobe lobata gen. n., sp. n. – 8: dorsal side, 9: ventral side, 10: leg IV, 11: leg II, 12: leg I.

punctulate and seldom foveolate (Fig. 9), like the clypeus. The size of foveolae decreasing posteriorly. Apodema III absent, sternal apodema slightly dilated medially. Setae arising on the posterior sternal plates - except *4b* - also beet-shaped. Setae *4b* arising far posteriorly, setiform, almost smooth.

L e g s : Claw of leg I very large, with long, gradually narrowing apex. Basal squama (s) very large, strongly protruding laterally (Fig. 12). The morphology and chaetotaxy of leg I display the normal scutacaroid characters. Setae *ld''* of legs II (Fig. 11) and III thick, spiniform, about as long as solenidium ω . Femur of leg IV with the peculiar laterobasal blade-like formation (Fig. 10). Tibiotarsus with 6 setae.

M a t e r i a l e x a m i n e d : Holotype: Mad-89/35, 2 paratypes from the same sample. Holotype and 1 paratype deposited in the MHNG and 1 paratype (1429-TP-199) in the HNHM.

R e m a r k s : See the remarks after the generic diagnosis.

RÉSUMÉ

Données supplémentaires sur les Acariens Tarsonemides de Madagascar (Acari: Tarsonemina). – Quatre espèces de Tarsonemines (*Pygmephoridae* et *Scutacaridae*) ont été identifiées de Madagascar. Deux nouvelles espèces (*Pseudopygmephorus madagassicus* sp. n., *Scutobe lobata* gen. n., sp. n.) sont décrites, pour l'une d'elles un genre nouveau est créé: *Scutobe* gen. n. (*Scutacaridae*).

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