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New Species of Pygmephorid and Scutacarid Mites
(Acari: Tarsonemini) from New Zealand

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Abstract

Two new species of Scutacaridae (*Imparipes insignis* and *Scutacarus extrovertus* n.sp.) are described and *Scutacarus quadrangularis* Paoli is recorded. Of the Pygmephoridae, *Bakerdania luxtoni* and *B. novaezelandicus* n.sp. are described and *B. tarsalis* (Hirst) is recorded.

INTRODUCTION

DR Malcolm Luxton sent me several collections of mites collected and extracted by him and other workers. The collections contained mites belonging to the families Pygmephoridae and Scutacaridae. Apart from two species already known there were four new species which are described below.

With the exception of one collection from the nest of a solitary bee, all materials are from pasture soils; a detailed description of the habitat will be given after the diagnosis of the respective species.

The holotypes and half of the paratypes are deposited in the collection of the Entomology Division, D.S.I.R., Nelson, New Zealand, and the other half of the paratypes, under the serial numbers given in the designations, in that of the Zoological Department of the Hungarian Natural History Museum, Budapest.

SCUTACARIDAE

Imparipes (I.) *insignis* n.sp. Figs. 1-3.

Length: 185-190 μ ; width: 152-154 μ .

Dorsal side (Fig. 1): Clypeus small, margins narrow, setae of equal length, interior pairs arising anteriorly to exterior pair. All hysterosomatic hairs long and thin, setae sacrales internae longest of all.

Ventral side (Fig. 3): Setae coxales I internae of anterior sternal plate weakly, setae coxales II externae heavily, incrassate, latter ones smooth. Both praesternal hairs long, reaching points of origin of setae poststernales internae. These latter arising anteriorly to their inner mates which are longer but still do not reach the posterior margin of body. Three pairs of caudal hairs present, setae caudales internae and externae 2 of about equal length, whereas externae 1 minute and hardly discernible.

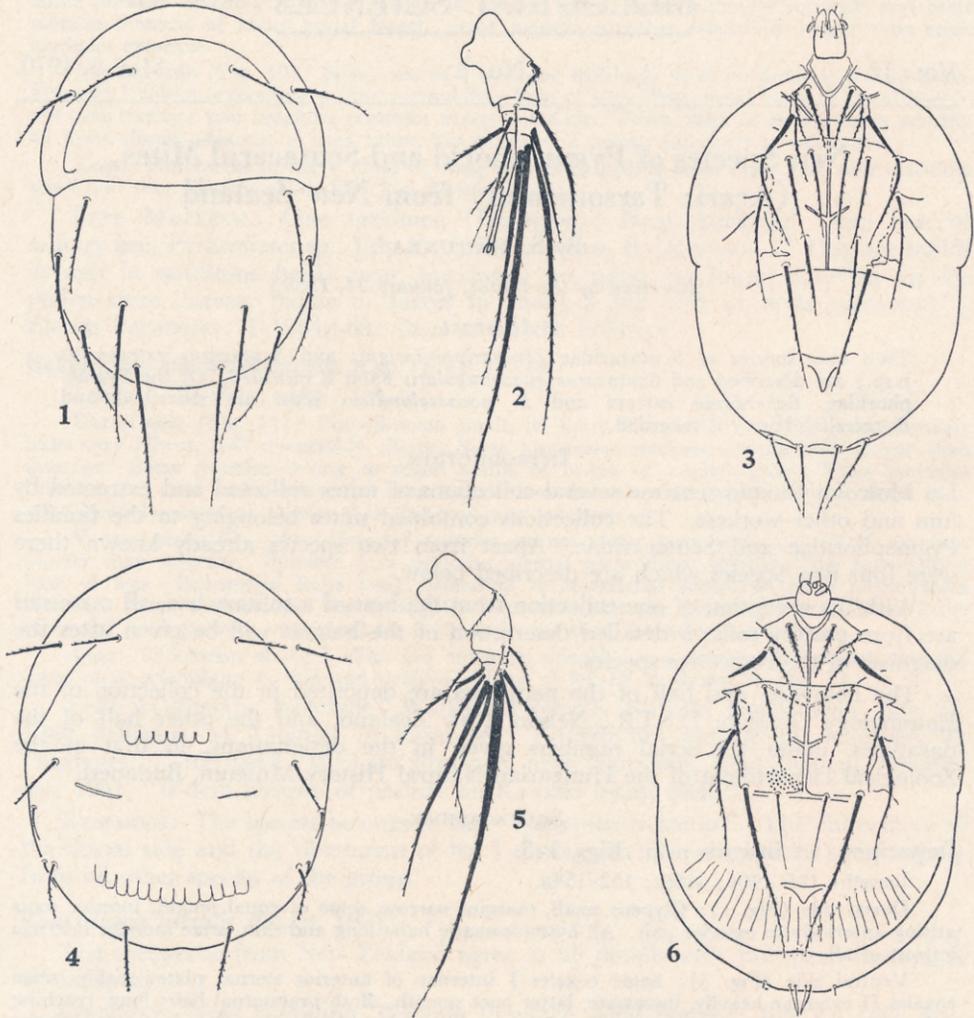
Legs: Tibiotarsus of leg I with claw, solenidium ω_1 considerably thicker and longer than ω_2 . Tarsus of leg IV (Fig. 2) shortened, its hair t long, extending to tarsal apex. Hair l essentially shorter than hair p.

REMARKS: The species belongs to the "degenerans-group". The extraordinarily small setae caudales externae 1, and the long praesternal hairs, as well as the chaetotaxy of leg IV, as a combination of characters distinguish the new species from all known congeners.

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TYPE MATERIAL: One specimen (Holotype): Waikato Province, near Hamilton, New Zealand, November, 1967, collector, M. Luxton ("0-4cm horizon of pasture on Kaipaki loamy peat. Original peat drained 15-20 years ago; pasture established for approximately ten years"). 1 ex (Paratype: T-1065p-68): data as for the holotype.



FIGS. 1-3.—*Imparipes insignis* n.sp. (1) Dorsal, adult; (2) Leg IV; (3) Ventral, adult. FIGS. 4-6.—*Scutacarus extrovertus* n.sp. (4) Dorsal, adult; (5) Leg IV; (6) Ventral, adult.

Scutacarus extrovertus n.sp. Figs. 4-6.

Length: 195μ ; width: 162μ .

Dorsal side (Fig. 4): Margins of dorsal plates with a pectinate rugosity. Clypeal hairs of about equal length, inner pair emerging slightly anteriorly to outer pair. Setae dorsales in similar situation. Setae lumbales internae and setae sacrales internae arising characteristically adjacent to body margins. The external mates of both pairs of hairs originating also marginally, visible only in a lateral view.

Ventral side (Fig. 6): Posterior margins of ventral plate also pectinately indented. Sternal plate punctate. Hairs of anterior sternal plate short; on posterior plate setae praesternales externae arising posteriorly to internae. Setae poststernales externae comparatively long but not reaching posterior margin of body. Three pairs of caudal hairs present, internae and externae 1 closely adjacent to one another, minute externae 2 rather removed.

Legs: Tibiotarsus of leg I with a well developed claw, solenidia ω_1 and ω_3 of about equal length, but ω_2 considerably thinner. Tibiotarsus of leg IV (Fig. 5) with seven hairs, hair s much shorter than hair r. Also hair b of femur short.

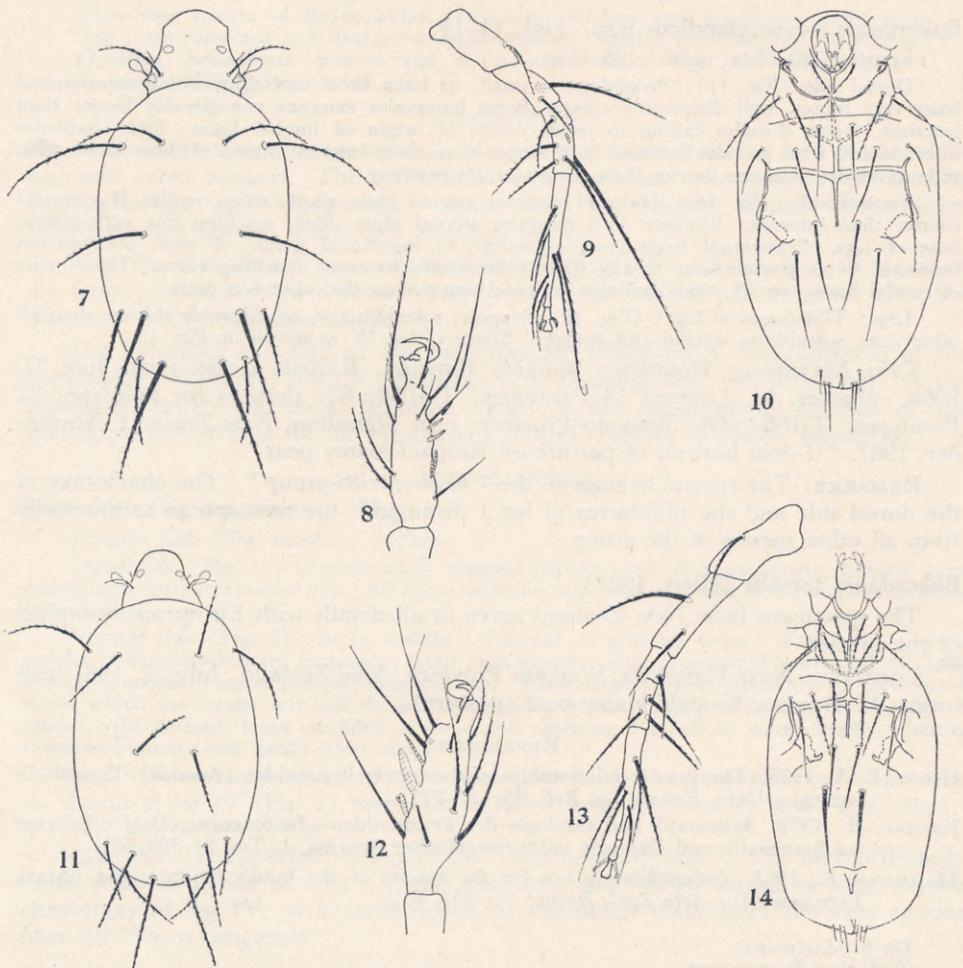
TYPE MATERIAL: One specimen (Holotype): Waikato Province, near Hamilton, New Zealand, November, 1967, collector, M. Luxton ("0-4cm horizon of pasture on Kaipiki loamy peat. Original peat drained 15-20 years ago; pasture established for approximately ten years").

REMARKS: The special position of the dorsal hairs distinguishes the new species from all hitherto known congeners. The indentation of the dorsal plates and the ventral plate is also a characteristic feature.

Scutacarus quadrangularis (Paoli, 1911).

The species-group needs clarification, hence the New Zealand specimens are only tentatively identified as Paoli's species.

LOCALITY: Near Hamilton, Waikato, New Zealand, January 31, 1968, collector, M. Luxton ("from a very wet peat soil developed under a vegetation of *Hypolaena lateriflora* and *Sporodanthus traversii*").



FIGS. 7-10.—*Bakerdania luxtoni* n.sp. (7) Dorsal, adult; (8) Leg I, tibiotarsus; (9) Leg IV; (10) Ventral, adult. FIGS. 11-14.—*Bakerdania novaezelandicus* n.sp. (11) Dorsal, adult; (12) Leg I, tibiotarsus; (13) Leg IV; (14) Ventral, adult.

PYGMEPHORIDAE

Bakerdania luxtoni n.sp. Figs. 7–10.

Length: 342–356 μ ; width: 203–224 μ .

Dorsal side (Fig. 7): Propodosoma wide, with two pairs of hairs. All hysterosomatic hairs very robust; setae humerales externae longest of all dorsal hairs, internae considerably shorter. Setae dorsales reaching points of origin of lumbal hairs. Setae lumbales internae and setae sacrales internae of about equal length; setae sacrales externae essentially longer than setae lumbales externae.

Ventral side (Fig. 10): Setae coxales I externae strikingly short on anterior sternal plate. Epimere 3 robust, extending to line surrounding base of legs. Poststernal hairs of equal length, not even exterior pair reaching posterior margin of body. Three pairs of caudal hairs present, all three closely adjacent to each other, but externae 2 arising anteriorly to other two.

Legs: Tibiotarsus of leg I (Fig. 8) long and thin, with a large claw. All four solenidia small and thin. Tarsus of leg IV (Fig. 9) long.

TYPE MATERIAL: One specimen (Holotype): Near Auckland, from nest of solitary bee, *Paracolletes* sp., July 15, 1965, collector, B. Donovan. ("This bee builds its nest in sandstone banks near Auckland; the mites are found crawling on the pollen store, larvae, pupae or faeces in about 5 per cent of nests excavated.") Eleven Paratypes: T-1064p-68: data as for the holotype.

Bakerdania novaezelandicus n.sp. Figs. 11–14.

Length: 240–262 μ ; width: 120–142 μ .

Dorsal side (Fig. 11): Propodosoma small, its hairs short and thin. All hysterosomatic hairs very robust, well discernibly ciliate. Setae humerales externae considerably longer than internae. Setae dorsales failing to reach points of origin of lumbal hairs. Setae lumbales internae and setae sacrales internae both longer than their external mates, of these latter ones, setae lumbales externae shorter than setae sacrales externae.

Ventral side (Fig. 14): Hairs of anterior sternal plate short, setae coxales II externae shorter than internae. Epimere 3 of posterior sternal plate thick, reaching line surrounding base of legs. Praesternal hairs long, extending to insertional points of setae poststernales internae. Setae poststernales basally slightly incrassate, externae reaching vulva. Three pairs of caudal hairs present, setae caudales internae longer than the other two pairs.

Legs: Tibiotarsus of leg I (Fig. 12) elongate, solenidium ω_4 considerably thicker than all other ones, solenidium ω_3 thin and straight. Shape of leg IV as shown on Fig. 13.

TYPE MATERIAL: Holotype: Waikato Province, Kaipaki loamy peat, July 27, 1968, collector, M. Luxton; 14 Paratypes: T-1066p-68: data as for holotype; 22 Paratypes: T-1067p-68: Waikato Province, near Hamilton, New Zealand, November, 1967, "0–4cm horizon of pasture on Kaipaki loamy peat".

REMARKS: The species belongs to the "*blumentritti*-group". The chaetotaxy of the dorsal side and the tibiotarsus of leg I distinguish the new species satisfactorily from all other species of the group.

Bakerdania tarsalis (Hirst, 1921).

The specimens from New Zealand agree in all details with European exemplars of the species.

LOCALITY: Near Hamilton, Waikato Province, New Zealand, July 27, 1967, collector, M. Luxton, Kaipaki loamy peat (pasture).

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