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A NEW GENUS AND SPECIES OF PENTHALEID MITE (ACARINA: PENTHALEIDAE) FROM NEW ZEALAND

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Abstract. *Linopenthaloides novazealandicus,* n. gen., n. sp. is here described from a limestone cave on the west coast of South Island, New Zealand. Included is a key to the genera of Penthaleidae.

Dr D. C. M. Manson of Levin, New Zealand recently sent me 2 specimens of a distinctive new species of eupodoid mite from a limestone cave near Charleton, New Zealand. The specimens key readily to the family Penthaleidae in Krantz' *Manual of Acarology* (1970) but are unique in having the coxae contiguous, rather than in 2 widely separated groups. In my judgment, they represent a new genus which I propose to call *Linopenthaloides* and characterize as follows.

Linopenthaloides Strandtmann, **new genus**

Globular, soft-bodied, long-legged; prominent epivertical lobe bearing 2 setae; trichobothria hairlike, very slender; prominent ocellus each side of propodosoma; dorsal transverse groove not prominent; dorsal setae nude, ventral setae pubescent, both numerous; solenidia on tarsi I and II and on tibiae I–III erect and not in special fields; excretory pore terminal; coxae I–IV contiguous, not in 2 groups; moveable digit of chela strong, short, curved, bluntly tipped; pedipalpal segments short, thick.

Type-species: *Linopenthaloides novazealandicus,* n. sp.

Because of the short, blunt pedipalps, polytrichy of legs and body, and terminal position of the excretory pore, it is clear that the new genus belongs to the family Penthaleidae (see Krantz 1970). In general appearance it resembles *Linopenthaleus* Willmann (1951), hence the name. Unfortunately, Willmann made no mention of tarsal solenidia, but the 2 genera differ in other respects as can be seen in the key to genera of Penthaleidae that is given later in this paper.

Linopenthaloides novazealandicus Strandtmann, **new species** Fig. 1–14

A large, globular, soft-bodied mite with very long, slender legs. All legs 6-segmented beyond coxae, femora being divided. Two prominent eyes. Transverse suture inapparent.

♀. Length, exclusive of gnathosoma, 1600 μm. *Dorsum* (Fig. 1) smooth, without ornamentation. Propodosoma with 4 pairs of setae, *ie,* internal and external verticals, each 130 μm; trichobothria, about 150 μm; and the scapulars, 130 μm, near the ocelli. Hysterosoma with 60–70 nude setae, from 80–120 μm long. *Venter* (Fig. 2). Very little separation between coxae II and III. Coxae IV widely separated, directed posteriorly, almost at right angles to coxae III. Coxa I with 3 ciliated setae; coxa II, 5–7 ciliated setae; coxa III with 6–8 nude setae laterad, plus 10–16 ciliated setae mediad (the latter may not be true coxal setae); coxa IV with 10–12 smooth setae. Venter otherwise with about 50 ciliated setae, mostly shorter than the coxal setae. Genitalia about midway between coxae IV and end of body, nearly circular, with 2 pairs of genital knobs and numerous, ciliated internal genital setae. Each genital cover with 11–12 ciliated setae.

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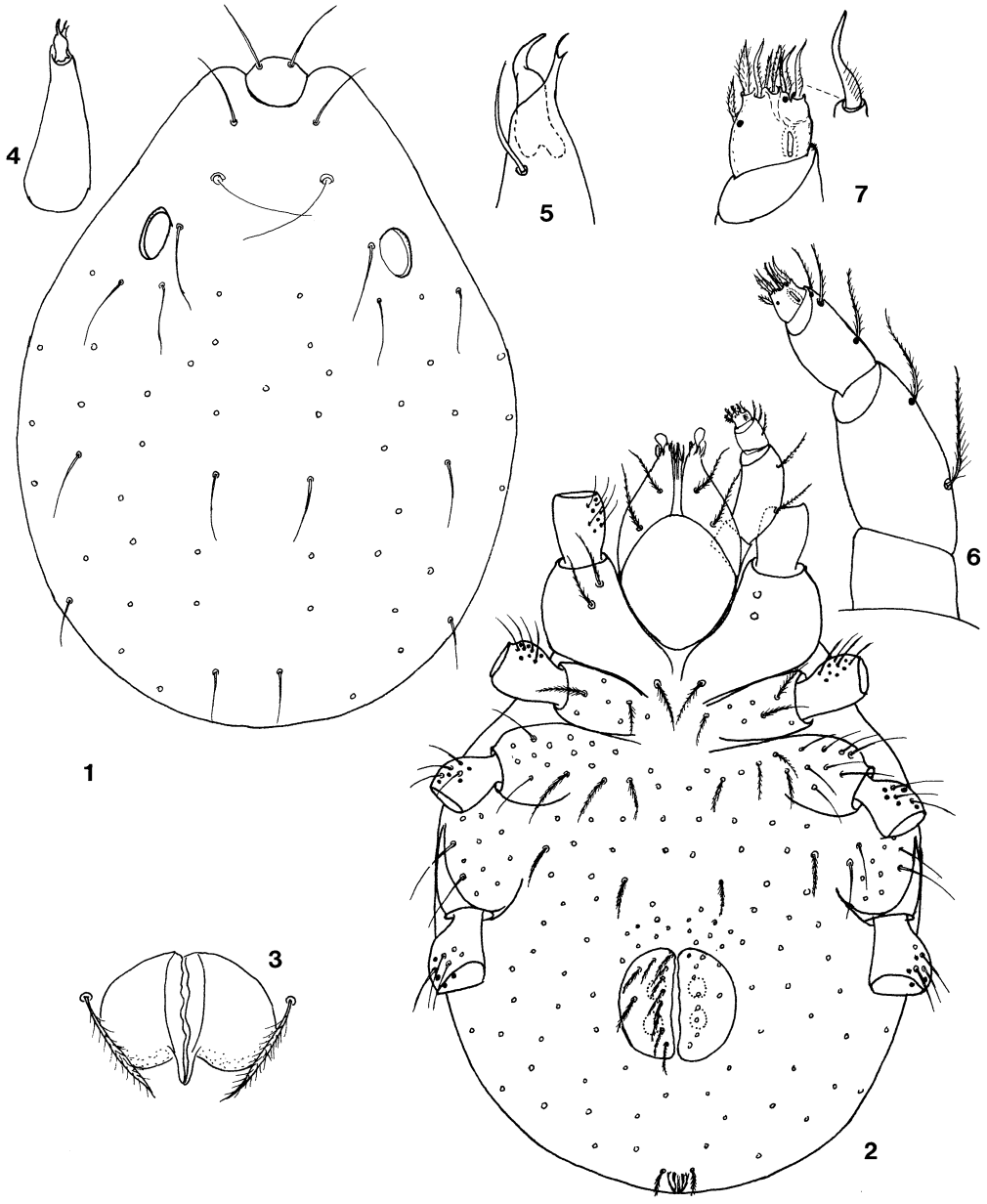

FIG. 1–7. *Linopenthaloides novazealandicus*, ♀: **1,** dorsum, with only some of the setae shown; **2,** venter, with many setae omitted; **3,** excretory pore, enlarged; **4,** ventral view of chelicera; **5,** enlarged dorsal view of chela; **6,** pedipalp; **7,** palp tibiotarsus, enlarged.

Excretory pore terminal or ventriterminal, in a small shield (Fig. 3). *Gnathosoma.* Hypostome (Fig. 2) with 2 pairs long, ciliated setae, 1 pair medioapical, the other mediobasal. Chelicerae (Fig. 4) tapered, about 320 μm, pubescent, capable of lateral movement. Chela (Fig. 5) with movable arm basally strong and thick, tapered to a curved, slender, bluntly tipped tooth. Immovable arm slender, weak, tapered to 2 almost

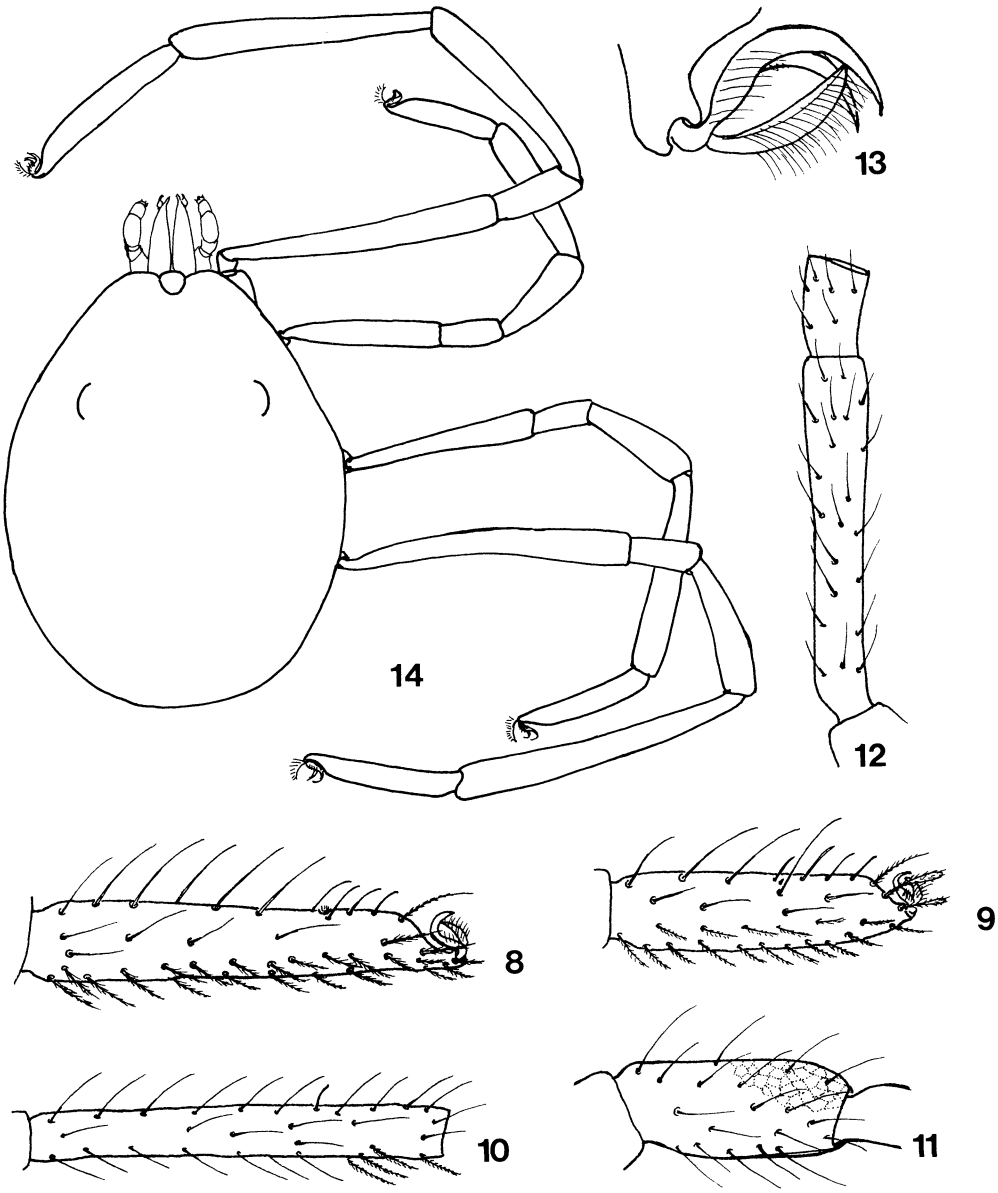

FIG. 8–14. *Linopenthaloides novazealandicus*, ♀: **8,** lateral view of tarsus I; **9,** lateral view of tarsus II; **10,** lateral view of tibia I; **11,** lateral view of genu II; **12,** lateral view of femur II; **13,** tarsal claw and empodium; **14,** sketch showing relative length of legs and leg segments.

setalike points. Cheliceral seta on the dorsal (immovable) arm, slender and nude. Pedipalp (Fig. 6), short, thick, about 250 μm long; chaetotaxy 0-2-3-9; all setae ciliated. Palptarsus (actually the fused tibiotarsus) (Fig. 7) very short and blunt, with a basal solenidion on the outer side lying in a depression and 8 short, ciliated setae, mostly clustered at the apex and at least 3 borne on tubercles. At least 2 of the setae slightly

curved, blunt-tipped, and only partially ciliated. *Legs.* Hirsute, slender, all longer than body, with legs I and IV more than 2× as long as body. Apical and basal setae of all tarsi, and a few ventriapical setae of tibiae, hirsute. All other leg setae smooth, slender, and rigid. Tarsus I (Fig. 8) with 4 slender, erect, blunt-tipped solenidia in a ragged row, with a stellate seta between the basal 2. Tarsus II (Fig. 9) with a row of 4 erect, hollow, bluntly tipped solenidia, plus what appears to be a small spine near base of 4th solenidion. Tibiae I (Fig. 10), II and III each with single dorsal solenidion generally anterior of midpoint. Genua II (Fig. 11), III and IV each have a dorsoapical patch of faint reticulations. All femora distinctly divided at about apical ¼ (Fig. 12). Trochanters (Fig. 2) each with 7–10 smooth setae on anterior margin. All legs terminate in 2 basally ciliated claws and padlike, ciliated empodium (Fig. 13). Length of legs exclusive of trochanters: I, 3750 μm; II, 2100; III, 2500, IV, 3450. Fig. 14 indicates the relative lengths of the legs and of the leg segments.

♂ *and immatures.* Unknown.

Holotype ♀, NEW ZEALAND: South I: W coast, Charleton, ex Metro cave, Ananui catchment, XI.1979, C. Pugsley. Paratype, 1♀, same data as holotype. Types in the collection of the Plant Health Diagnostic Station, Advisory Services Division, Ministry of Agriculture and Fisheries, Levin, New Zealand.

Remarks. Although found in a cave, this species is not a true troglobite, as it has well-developed ocelli.

Key to the genera of Penthaleidae

1. Legs longer than body. Legs I, and sometimes also IV, more than 2× length of body 3
   Legs II and III not longer than body. Legs I not 2× body length 2
2. Excretory pore dorsal. Legs and body polytrichous, with many setae smooth ..... **Penthaleus**
   Excretory pore terminal. Polytrichy not pronounced. Most, if not all, setae hirsute ..... **Halotydeus**
3. Coxae II and III widely separated. Excretory pore dorsal. Propodosoma with more than 4 pairs of setae. Femora apparently undivided ..... **Linopenthaleus**
   Coxae II and III contiguous, or nearly so. Excretory pore terminal or ventriterminal. Propodosoma with 4 pairs of setae. All femora divided ..... **Linopenthaloides, n. gen.**

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