

A New Species of *Onychiurus* (Collembola) from New Zealand.

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Family ONYCHIURIDAE Lubbock, 1867.

Sub-family ONYCHIURINAE Börner, 1906; Bagnall, 1935.

Genus ONYCHIURUS Gervais, 1841.

***Onychiurus novae-zealandiae* sp.nov.** Plate 12, figs. 1-7.

Colour: A uniform creamy white.

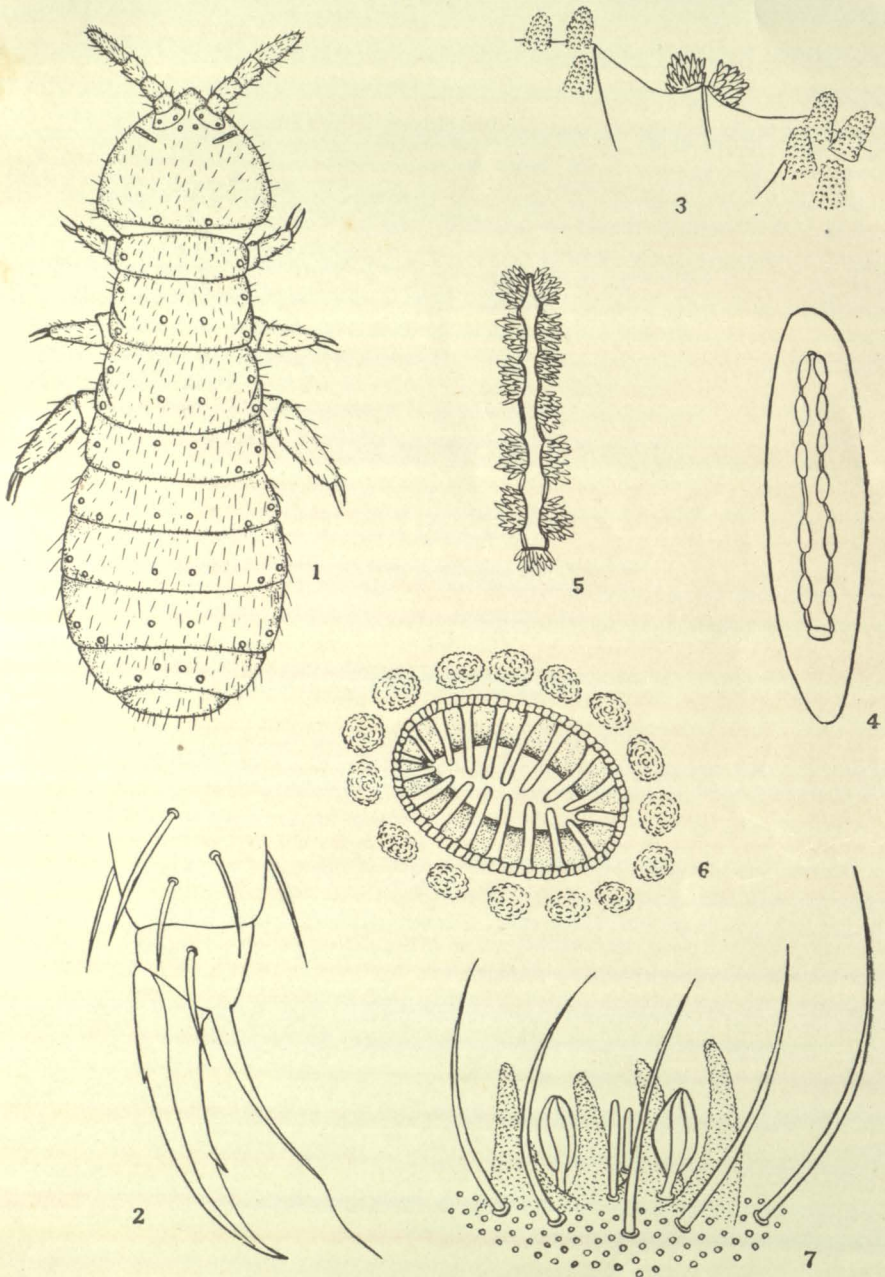
Body: Length up to 1.8 mm. Evenly clothed with very short, and moderately short, plain setae; the latter 2-3 times as long as the former. Cuticle finely tuberculate with the tubercles themselves finely granulate. Antennae shorter than the head in length, the relative proportions of the four segments being as 12:20:21:36-46. Sensory organ on Ant. III with four granulate cones, two plain central sense rods, two smooth sense clubs, one to each side, and five guard setae; the whole situated behind a low integumentary fold. There is a small sensory fold just below the tip of Ant. IV. Antennae with numerous short curved sensory setae, especially towards the apex. Postantennal organ consisting superficially of 10-15 small lobes, but the deeper structure is made up of 10-15 groups of tubercles joined in a chain around the summit of a prominent ridge which itself arises from the floor of a deep and wide groove. Pseudocelli are present as follows: Three at the base of each antenna, arranged in the form of a right-angled triangle, with the right angle on the inner anterior corner and the long side of the triangle running outward, two of these pseudocelli are on the antennal base and the third is just off it; one to each side of the posterior margin of the head; Th. I one to each side; Th. II and Th. III each with two centre-dorsal and two to each side, in the latter of which in each case one is anterior to the other; Abds. I, II, III, and IV each with two centre-dorsal and two to each side, the latter arranged obliquely; Abd. V with four centre-dorsal arranged as two oblique pairs; Abd. VI without pseudocelli. Anal spines absent. Ventral tube small.

Legs: Claw with one distinct tooth just past halfway down inner margin and two small outer lateral teeth, one to each side, at about one-third down. Empodial appendage needle-like, reaching to beyond inner tooth and projecting into a thin wavy filament which reaches beyond the apex of the claw. Tenent hairs absent.

Furcula: Absent.

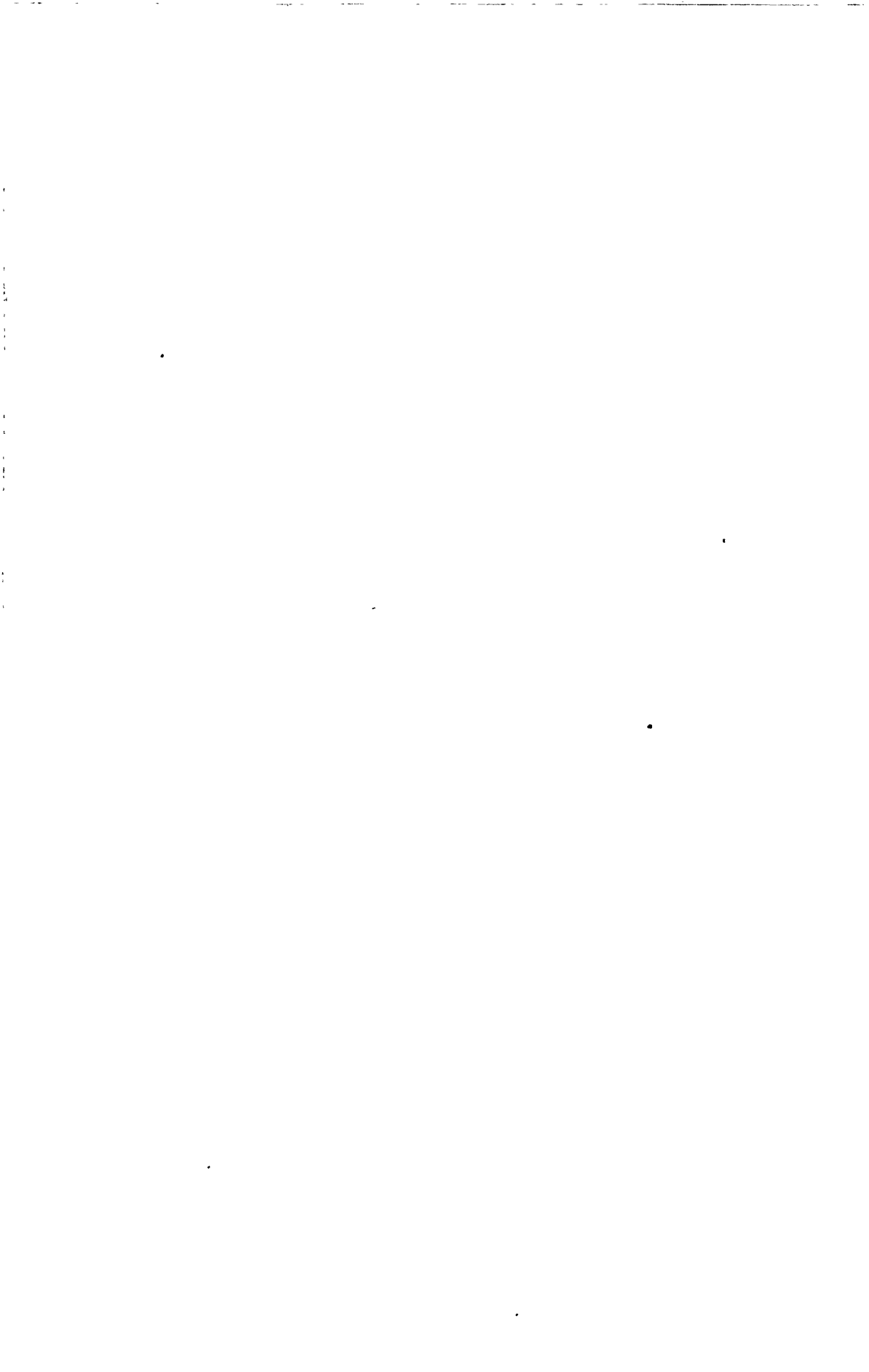
Locality: Buller's Bush, Levin, amongst leaf mould on bush floor; very common. Author's collection.

Type: Slide 3/1174 and Figured Paratypes slides 3/1175-6, Dominion Museum collection.



FIGS. 1-7—*Onychiurus novae-zealandiae* sp. nov. FIG. 1—Whole insect, $\times 40$. FIG. 2—Foot claw. FIG. 3—Postantennal organ, end view to show groove and ridge. FIG. 4—Postantennal organ, superficial appearance. FIG. 5—Postantennal organ, detailed structure. FIG. 6—Pseudocellus. FIG. 7—Sensory organ from Ant. III.

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Remarks: This species is closest related to *O. subcadaverinus* Denis from Costa Rica; *O. novae-zealandiae* differing from *subcadaverinus* principally in the number and arrangement of the pseudocelli. In *O. subcadaverinus* there are two pseudocelli on each side of the posterior margin of the head, none on Th. I, and only one lateral pseudocellus on each of Th. II and III and Abds. I–IV, while Abd. V has two. The New Zealand species is also, on the average, smaller, and has the postantennal organ more complicated than the Costa Rican species.

The occurrence of an indigenous species of *Onychiurus* in New Zealand is particularly interesting, as it supports the view which I put forward previously, that the cosmopolitan species of *Onychiurus* occurring in New Zealand were not necessarily introduced after European settlement began, but are part of an archaic element which reached New Zealand in early geological times (*Trans. Roy. Soc. N.Z.*, vol. 70, pp. 420–426). The fact that the nearest related form occurs in South America is interesting as affording further evidence for closer zoogeographical relationship between New Zealand and that country, a relationship which in the Collembola is particularly weak.

Buller's Bush, the only locality at present known for this species, is the isolated remains of a once very extensive lowland forest. It is possible that *O. novae-zealandiae* in the past enjoyed a very much wider range of distribution and may yet be found in other areas of the North Island, particularly in the gorges leading into the Tararua Ranges.