

A NEW GENUS AND SPECIES OF ISOTOMIDAE (COLLEMBOLA)¹

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In the course of an investigation of the soil fauna of some localities in Connecticut², a number of species of Collembola were found which do not appear to have been described. One of these is the subject of the present paper. Others will be dealt with in future contributions, as sufficient material becomes available.

Micrisotoma, gen. nov.

Vestiture generally of short simple setae; a few curved, strongly serrate setae on all body segments, and some long simple setae on the last tergite. Fourth antennal segment with blunt, cylindrical sensory hairs dorsally. Postantennal organ broadly oval, with a thick border divided into equal arcs by four fine partitions. Eyes absent. Unguis and empodial appendage untoothed. Tibiotarsus with a distal subsegment defined by an indistinct suture. Tenent hairs absent. Fifth and sixth abdominal segments ankylosed. Manubrium with two pairs of setae ventrally. Dentes dorsally crenulate. Mucro bidentate. Pigment absent.

Generotype: *M. achromata*, sp. nov.

Micrisotoma achromata, sp. nov.

(Plate 2)

Numerous short, simple, curved setae on the head, tergites, and appendages. Outstanding, curved, serrate setae

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are distributed as follows: one on each side of each thoracic tergite; one on the base of the prothoracic leg; two to five on the bases of the mesothoracic and metathoracic legs; two or more pairs on each abdominal tergite, becoming more numerous posteriorly. These setae (fig. 6) bear a small number of strong, well spaced teeth.

The characteristic vestiture of the fused fifth and sixth abdominal segments is as follows (fig. 8): mixed simple and serrate setae in a line at the anterior border of the tergite, and at the sides posteriorly; dorsally, behind this line, a straight transverse row of eight long, straight, simple, blunt-tipped setae (fig. 7); behind this row five similar setae in a W-shaped line, two anterior and three posterior; along the posterior margin a straight row of five long, straight, simple, sharp-pointed setae. Among the first two rows are scattered a number of very fine hairs; two additional fine hairs, of which the anterior is minute, are just inside and in front of each of the two lateral blunt setae of the third row. On each side of the tergite, in the first row, is a short, broad sensory hair.

Antenna slightly longer than head; relative length of segments (expanded) 2:3:3:6. Fourth segment (fig. 1) enlarged, oval, ending in a blunt cone; dorsally with a number of blunt, cylindrical sensory hairs. Sense organ of third antennal segment with two short, curved rods directed anteromedial, and two adjacent guard hairs, the ventral one straight, the dorsal curved and somewhat posterior to the rods.

Postantennal organ (figs. 2, 3) longer than the greatest width of the second antennal segment (about 5:4), broadly oval with a border about $\frac{1}{3}$ of its greatest diameter in width; this border is interrupted at each end, and midway on each side, by fine partitions. Eyes absent.

Unguis (fig. 4) moderate in length, curved, untoothed. Empodial appendage three-winged, more or less triangular with acuminate apex; about $\frac{1}{2}$ length of unguis. Tenent hairs absent. Tibiotarsus with an incomplete distal subsegment; the suture is evident only ventrally.

Ventral tube with about eight ventral setae. Rami of tenaculum quadridentate; corpus with one seta.

Manubrium ventrally with two pairs of strong setae near the distal margin. Dens twice length of manubrium; dorsally crenulate in the middle third only, with about 16 folds; bearing a few fine setae dorsally and many ventrally. Mucro (fig. 5) bidentate, the apical tooth much the larger and strongly curved; a medial lamella runs to the tip of the proximal tooth.

Fifth and sixth abdominal segments wholly ankylosed. Female genital opening a transverse slit, with anterior and posterior lips each bearing a pair of setae. Male genital opening not seen.

Pigment wholly absent, except for the amber-colored mouth parts.

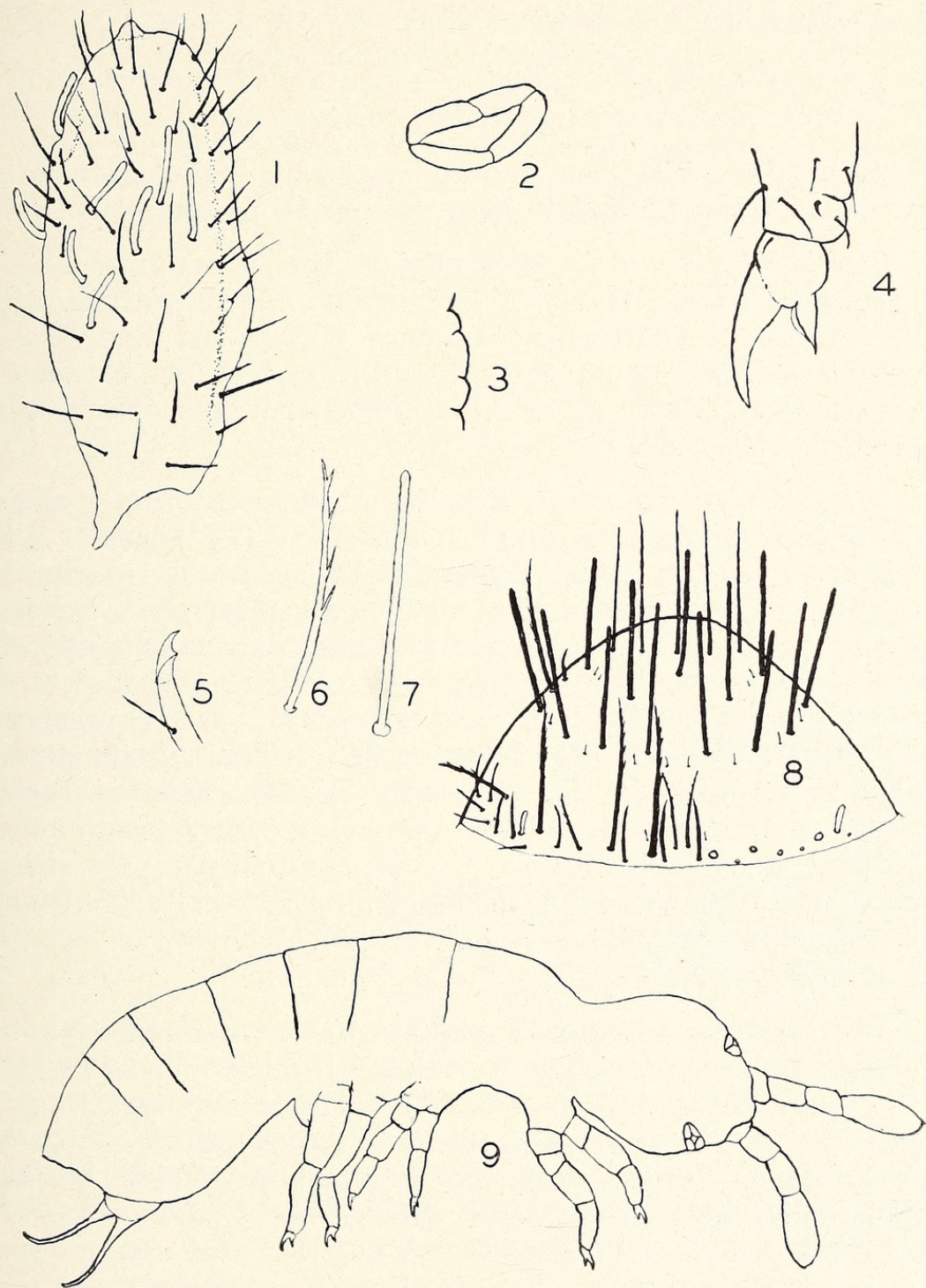
Length of holotype 0.65 mm. Range (12 specimens) 0.4 to 0.75 mm. The relative proportions of the segments may be judged from fig. 9; unfortunately specimens tend to be somewhat distorted in mounting, and the normal proportions cannot be determined.

The number of sensory hairs on the fourth antennal segment varies from eight to eleven. The number of serrate setae varies somewhat also, but these are easily detached and part of the variation may be apparent only. In one specimen one ramus of the tenaculum is quinquedentate.

Holotype: "Cathedral Pines", Cornwall, Litchfield Co.,

EXPLANATION OF PLATE 2

Micrisotoma achromata. Magnifications approximate. Fig. 1. Dorsal view of left fourth antennal segment, holotype (700 X). Fig. 2. Right postantennal organ, paratype (700 X). Fig. 3. Right postantennal organ, paratype, transverse optical section (700 X). Fig. 4. Left hind claw and distal part of tibiotarsus, holotype (700 X). Fig. 5. Left mucro and end of dens, paratype (700 X). Fig. 6. Serrate seta from second abdominal segment, holotype (700 X). Fig. 7. Blunt seta from sixth abdominal segment, holotype (700 X). Fig. 8. Fused fifth and sixth abdominal segments showing arrangement of setae; somewhat diagrammatic (350 X). Fig. 9. Holotype; outline, setae omitted. (120 X).



Connecticut; taken in humus in a mature white pine-hemlock stand, 19 December 1950.

Paratypes: same locality, October and December 1950; February, May, and August 1951. Eleven specimens.

Also taken once in humus under cedars in the outer zone of an acid bog, Bethany, New Haven Co., Connecticut.

The holotype will be deposited in the Museum of Comparative Zoology, Harvard University. One paratype will be sent to the California Academy of Sciences, San Francisco, Calif., and one to the United States National Museum, Washington, D. C. The remaining paratypes are in the author's collection.

Micrisotoma cannot be distinguished from other genera of Isotomidae by any single character. The form of the postantennal organ will distinguish it from other isotomids in the holarctic region, but *Isotomina interrupta* Schott, from Camercons, is said to have a similar organ (Stach 1947; the original description is not available to me), and some species of *Proisotoma* approach it in this respect (Folsom 1937, figs. 245, 246, and 273). The subsegmented tibiotarsus allies it to *Proisotoma* Börner, and the fused abdominal segments and absence of eyes to *Proisotomina* Salmon; from both genera it is distinguished by the presence of serrate setae. In vestiture and general appearance it resembles *Isotomiella* Bagnall, which, however, lacks a postantennal organ.

Micrisotoma achromata appears to be relatively uncommon in the two situations in which it has been found so far. It is possible that it is a marginal species in these areas, and that its environmental optimum is somewhat different. The species has not been seen alive; specimens in alcohol are indistinguishable from *Isotomiella minor* Schaffer, which is common in the same samples.

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MYSTRIMUM IN AUSTRALIA (HYMENOPTERA: FORMICIDAE).

On July 8, 1951, in the company of Mr. William Bateman, Forest Officer for the Northern Territory of Australia, I collected three workers of *Mystrium camillae* Emery at the Howard River, north of Howard Springs, Northern Territory. This locality, southeast of Darwin, bears vegetation of the type known as "tall open monsoon forest," made up of the co-dominant trees *Eucalyptus miniata* and *E. tetradonta*, with cycads and various tall grasses conspicuous in the understories. The ants were found beneath a dry log very close to a termite colony. They lay feigning death for at least thirty seconds before being put into alcohol.

The particular log from which the collection was made lay near, but not within, gallery forest of the type common along watercourses in the Darwin area. In such forest are found many species of Indomalayan trees growing close to the permanent moisture; these belong to such widespread genera as *Terminalia*, *Pandanus*, etc., and are intermingled with large specimens of the paperbark, *Melaleuca leucodendron*. (I am grateful to Mr. Bateman for the botanical information here greatly condensed.) This is the first time the genus *Mystrium* has been taken in the Australian region. *M. camillae* has been taken at several points in southeastern Asia, from Burma through the East Indies and the Philippines, and is the sole species found in this area. Several closely related species of the *M. mysticum* group occur on Madagascar.—WILLIAM L. BROWN, JR., Museum of Comparative Zoology, Harvard University.



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