

## ***ISOTOMA (DESORIA) TRUNCATA*, A NEW SPECIES OF NEARCTIC SPRINGTAIL (COLLEMBOLA: ISOTOMIDAE)<sup>1</sup>**

**R.D. Waltz<sup>2</sup>, J.W. Hart<sup>3</sup>**

**ABSTRACT:** A new species of Nearctic springtail, *Isotoma truncata* is described from Indiana. The new species is nearest to *I. nixoni* but differs strikingly in the form of the truncate labrum, and in characters of the maxilla and labium.

In an ongoing survey of Indiana springtails (Hart 1970, 1971, 1973, 1974, Hart and Waltz, 1995, Waltz and Hart 1985, 1987, 1995a,b) a distinctive new isotomid species near *Isotoma nixoni* Fjellberg was encountered and is described below.

*Isotoma nixoni*, in the Nearctic, is a distinctive species identified by the shape of the quadridentate mucro, the presence of a lateral mucronal seta, and a single row of labral cilia. Fjellberg (1978) noted that it shared similar maxillary characters with *I. tigrina* (Nicolet) and another new species, *I. maxillosa* Fjellberg. *Isotoma nixoni*, however, differed from these species most strongly in its possession of a lateral mucronal seta.

Herein we describe a distinctive new species closely related to *Isotoma nixoni* but differing in several characters as described below. For consistency of published comparisons we have followed Fjellberg (1978) and included terminology presented by Fjellberg (1984).

### ***Isotoma (Desoria) truncata*, New Species**

**Color:** Gray or dark gray, almost charcoal color in darkly pigmented forms.

**Head:** 8+8 eyes; eyes G and H reduced. PAO (Fig. 1) approximately 2 times as long as nearest eye, about two times as long as broad. Ant. IV with a short peg-like subapical seta. Subapical pin seta simple, or with extremely small basal process. Ant. I with a ventrolateral row of a few (ca. 5-7) slightly thickened sensory setae. Prelabral setae apparently smooth. Labrum (Fig. 2) without folds or with very weak folds, but with truncate membranous extension covering and extending beyond the single row of ventroapical ciliation (compare *I. nixoni* Fig. 5). Maxillae (Fig. 4) with long ciliated lamellae: lamella number 1 with a fringe of long filaments along dorsal and ventral edges; lamella number 5 with very long, delicate filaments (*nixoni* has short denticles; compare Fig. 6). Labial hooks (Fig. 3) with stylus reduced (stylus is long in *nixoni*; compare Fig. 7), the two attending setae are much enlarged, extending well beyond the end of stylus (in *nixoni* these setae are subequal to or shorter than the end of the stylus; compare Fig. 7). head with 4+4 setae along ventral line.

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<sup>2</sup> IDNR, Division of Entomology and Plant Pathology, 402 West Washington, Room W-290, Indianapolis, IN 46204.

<sup>3</sup> 2809 Hiser Station Road, Milton, IN 47357.



**Body:** Abdominal segments V-VI separated. Clothing setae of body acuminate, smooth, similar in size except on Abd. VI where longer setae are present. Longest setae of Abd. VI smooth, acuminate, about twice as long as inner edge of claw. Tibiotarsi without differentiated setae; setae smooth and acuminate. Ventral tube with 2+2 basal, and 3 distal, lateral setae in a line on each side; 3+3 anterior setae; and 5-7 posterior setae. Manubrial thickening with pointed mesal, distal teeth; 2+2 (sometimes appearing as 3+3) distal short setae adjoining manubrial thickening (similar to Christiansen and Bellinger, 1980-81: Fig. 604). Manubrium with ca. 40-45 setae ventrally, arranged as a broad "V" with vertex proximal, and ca. 15-20 scattered setae dorsally. Dens slightly more than twice as long as manubrium (2.0-2.3X), usually with 16 dorsal setae. Mucro as in *I. nixonii* (Fig. 8), quadridentate, with lateral seta and elongate distal tooth; the basal pair of teeth at each side of midline. Tenaculum with 3-8 setae. Claws with weak median teeth, empodia with or without a small corner tooth.

**Size:** Largest specimens 1.0-1.2 mm.

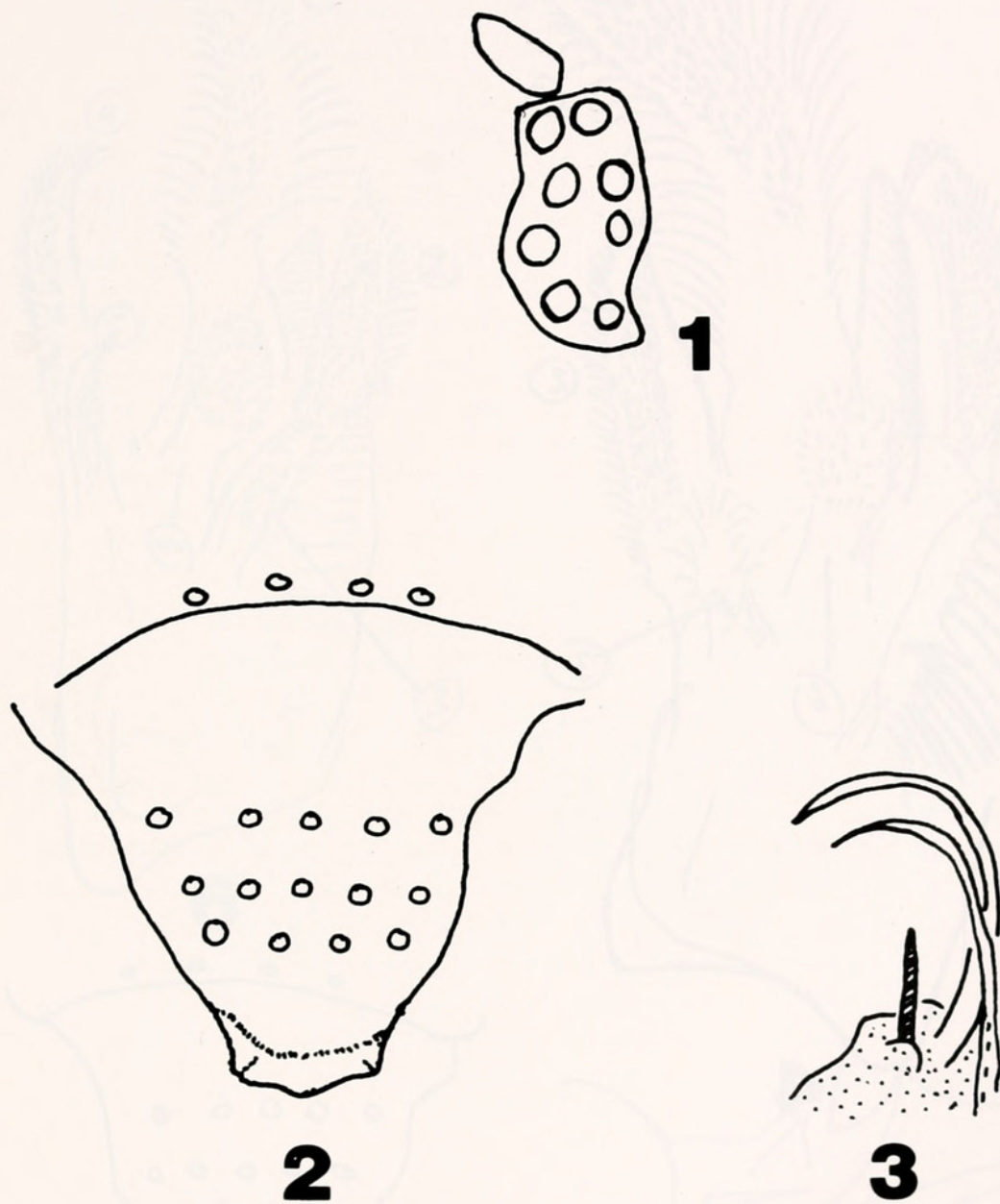
**Type materials. Holotype:** IN: Wayne Co., Culbertson's Swamp, 6-III-1980 (80-29), J.W. Hart, leg, [mounted in Marc Andre (water sol.)], deposited, Purdue Entomological Research Collection (PERC), Purdue University, West Lafayette, Indiana, USA.

**Paratypes:** 40 slides [Cited as Locale: individual slide dates from same collection site (collection number). Commas separate slides. Periods separate sites.] IN: Fayette Co., Manlove Woods, J.W. Hart, Leg. [mounted in Marc Andre (water sol.)]: 18-VI-1978 (816), 26-III-1980 (80-45C). IN: Wayne Co., Culbertson's Swamp, J.W. Hart, Leg. [mounted in Marc Andre (water sol.)]: 26-IV-1970 (024-2), 26-IV-1970 (024-1), 22-IV-1979 (903-2), 22-IV-1979 (903-1), three slides dated 15-I-1980 (80-80), four slides dated 6-III-1980 (80-29 C, E, F), three slides dated 3-IV-1980 (80-47 B, C-1, C-2), five slides dated 11-IV-1980 (80-53 B, D, E), 7-X-1984 (84-19E), three slides dated 10-X-1984 (84-21B, G). IN: Wayne Co., Hart Farm, J.W. Hart, Leg. [mounted in Marc Andre (water sol.)]: 19-I-1980 (80-1), 11-I-1980 (80-7), 18-III-1983 (83-25), 11-IV-1983 (83-33D), 4-V-1983 (83-43E), 7-VI-1983 (83-58E), three slides dated 26-VI-1983 (83-64 A-2, A-3, A-4), 5-VII-1983 (83-67D-2), 17-VII-1983 (83-71D2), 30-X-1983 (83-98D), 18-XII-1983 (83-112A-1), three slides dated 12-XI-1984 (84-26). Paratypes are deposited in PERC, Illinois National History Survey, Champaign Urbana; and US National Museum, Washington, DC.

## DIAGNOSIS

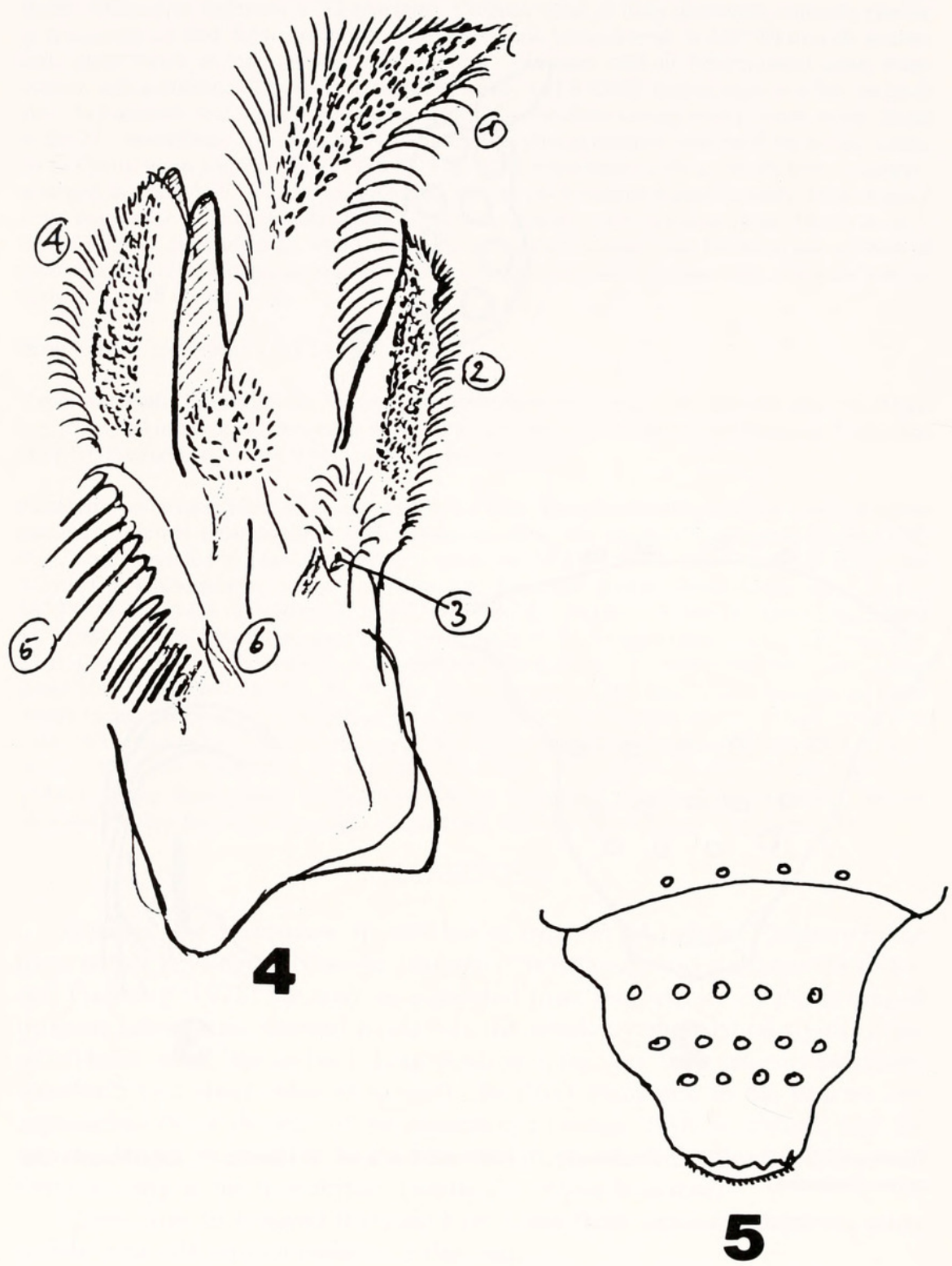
*Isotoma (D.) truncata* n. sp. will key to *Isotoma (D.) nixonii* Fjellberg in the most recent keys to the Nearctic *Isotoma* (Christiansen and Bellinger 1980-81; and Fjellberg, 1978) but may be separated from that species by the extended truncate labrum (not present in *nixonii*), the relatively short labial stylus of the labial hook setae (the stylus is long in *nixonii*), the very long setae of maxillary lamella 5 (vs. short setae of *nixonii*), the PAO compared to the nearest eye approaches twice the size of the nearest eye (versus 2-3X in *nixonii*), and the relative length of the dens to the manubrium, in which the dens is more than twice as long as the manubrium (versus 2x or less in *nixonii*).

Collections of *Isotoma truncata* have come from surface collections using pitfall traps taken in all months of the year.

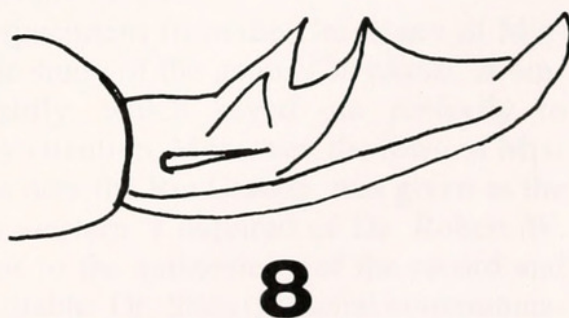
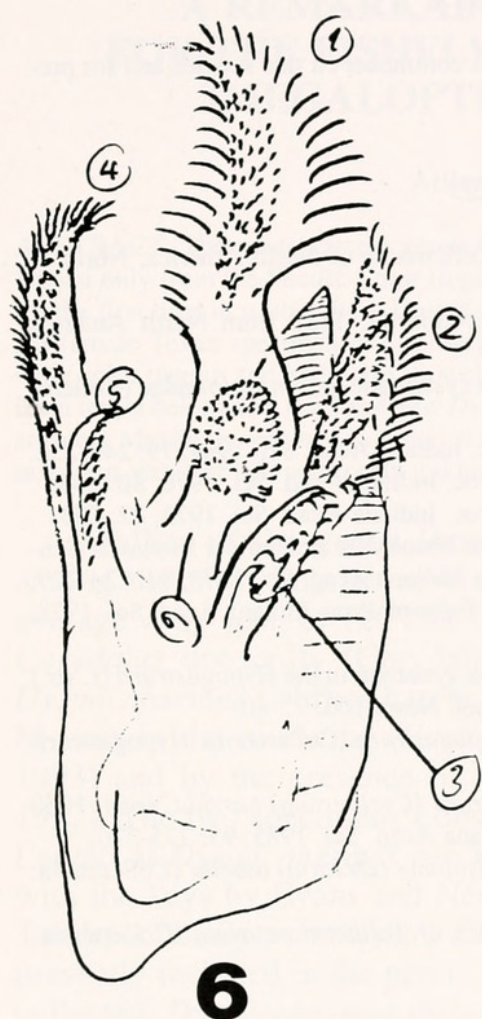


Figures 1-3. *Isotoma (D.) truncata* n.sp. 1. PAO and 8+8 eyes. 2. Labrum. 3. Labial hooks and stylus (darkened).





Figures 4-5. *Isotoma (D.) truncata* n.sp. 4. Maxilla. *Isotoma (D.) nixonii* Fjellberg. 5. Labrum.



Figures 6-8. *Isotoma (D.) nixonii* Fjellberg. 6. Maxilla. 7. Labial hooks and stylus (darkened). 8. Mucro, lateral (after Christiansen & Bellinger, 1980).



## ACKNOWLEDGMENTS

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