



Misturasotoma, a new nearctic springtail genus (Collembola: Isotomidae)

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Abstract

Type specimens of *Desoria brucealla* (Wray), a western North American species, are transferred to *Misturasotoma* n.gen. The new genus differs from *Desoria*, *Heteroisotoma*, *Isotoma*, and *Parisotoma* by the following combination of characters: eyes absent, tibiotarsi with 11 setae in distal whorl, tenaculum with 9–15 setae, manubrium with apical spine-like setae, mucrones quadridentate, macrochaetae smooth, and sensilliform setae of abdominal segments IV and V short.

Key words: *Isotoma brucealla*, *Isotoma brucei*, North America, taxonomy, Utah, Washington

Introduction

In the course of revising *The Collembola of North America North of the Rio Grande (CONANRG)* we were unable to confidently place *Isotoma brucealla* Wray, 1953b in any genus of Isotomidae, based on the key of Potapov (2001). In earlier versions of *CONANRG* (Christiansen & Bellinger 1981, 1998) this species had been placed in the subgenus *Desoria* Agassiz & Nicolet. Type specimens were not available at the time and placement of this taxon in *Desoria* was based on specimens collected in a lava tube cave in Skamania County, Washington.

Wray (1953a) described *Isotoma brucei* from pocket gopher nests in Utah, but almost immediately realized that this name was preoccupied (Carpenter 1907). Therefore, he renamed the species *I. brucealla* (Wray 1953b). Recently the first author was able to borrow the type specimens of *I. brucealla* from the North Carolina Department of Agriculture Collection (NCDA) and examine them. The NCDA collection contained three specimens labelled “*Isotoma* n. sp./type series” with the locality, habitat, and collector corresponding to the collection data in the original 1953 paper. However, the collection also contained two specimens labelled “*I. brucealla*,” collected a few days earlier than the type series but from the same habitat and by the same collector. All of the slides are labelled in Wray’s hand. These latter two specimens agree well with the lava tube specimens from Washington.

All five specimens were difficult to study due to the old, dark-brown, cracked medium in which they were mounted. Each slide was placed in a moist chamber for two days to soften the old medium, then the cover slip was carefully lifted and the specimen was removed and placed in Andre I solution for 15–30 minutes. It was remounted in fresh Hoyer’s medium on the same slide with the original labels and the slide was placed in a 55°C oven for three days to harden the medium. The cover slip then was sealed with Glyptal.

According to Wray (1953a) this taxon lacks eyes, has a narrowly elliptical postantennal organ (PAO), possesses a prominent inner unguicular tooth, and has 10–15 setae on the tenaculum. Of the three “type series” specimens, one has 8 ocelli on each side, and none of the three possesses these differentiating characters. However, the two specimens labelled “*I. brucealla*” fit these characters closely, and so we consider them to be the actual type specimens. In our opinion, Wray probably confused the specimens in the labeling process, which led to an error in recording the collection data that related to the original description. Therefore, we designate a lectotype and paralectotype from the two specimens that fit Wray’s description.