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Katianna maryae n. sp. (Collembola: Katiannidae), a southern Appalachian species of a Gondwanan genus

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Abstract

Katianna maryae n. sp. is described from turf and grassy fields in eastern Tennessee, USA. This species is the first of its genus to be noted from temperate North America. It is distinguished from other described *Katianna* spp. by a combination of the following characters: color pattern of body an intricate mosaic of purple-brown, yellow-orange and white; copper-brown median stripe between eye patches; fourth antennal segment annuliform but not subsegmented; region between interantennal and clypeal region devoid of setae, clypeal region with six rows of setae; fore and middle feet with 8 clavate tenent hairs, hind foot with 6; apical filament of unguiculus long on fore and middle tibiotarsi, short on hind tibiotarsus; unguis with intricate multidentate pseudonychia; posterior face of dens with one proximal seta and a pair of subapical setae.

Key words: North America, taxonomy, temperate zone

Introduction

Katianna Börner, 1906 is a genus of some 40 known species (Bellinger *et al.* 1996–2013) distributed on several Gondwanan land masses, with 20 species described from South and Central America (Mari Mutt & Bellinger 1990), 11 from Australia (Greenslade 1994), six from New Zealand, two from southern Atlantic islands and one from Java. No species are reliably known from Africa. *Katianna australis* Womersley, 1932 was described from Australia and also has been reported from New Zealand, but a European presence (Bellinger *et al.* 1996–2013) was not indicated in a recent compilation (Bretfeld 1999). The most northern record in the western hemisphere is *K. puella* (Denis, 1933), described from Costa Rica.

Many species of *Katianna* are brightly colored and patterned (Bellinger *et al.* 1996–2013, Delamare Deboutteville & Massoud 1963, Womersley 1939), but despite its visual appeal the genus has never been studied as a whole; the only recent key is derived from the literature and covers only South America (Heckman 2001). The most recently recognized species are those described nearly a half-century ago by Najt (1967).

Katianna differs from *Sminthurinus* Börner, 1901 in having 2+2 or 3+3 heavy spines on the postocular lobes, whereas *Sminthurinus* spp. have typical thin setae. *Katianna* spp. also have cephalic seta sd1 enlarged and spinelike, rather than slender as in other Katiannidae. *Katianna* spp. have a subsegmented Ant. IV, or at least the segment is expanded (annuliform) at the setal whorls (see Delamare Deboutteville & Massoud 1963), and they lack the abdominal neosminthuroid seta. On the small abdomen seta a0 is simple, not bifurcate. *Katianna* also is similar to the North American *Neokatianna* Snider, 1989, but lacks a spur on the cephalic posterior and has a simple seta a0 on Abd. VI; in *Neokatianna* a0 is bifurcate (Snider 1989). Over a span of several years numerous specimens that fit the current concept of *Katianna* were collected in several areas of eastern Tennessee. The purpose of this paper is to describe these specimens as a new species.

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