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 tibiotarsi; 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.
Literature cited


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