



<http://dx.doi.org/10.11646/zootaxa.3641.4.7>

<http://zoobank.org/urn:lsid:zoobank.org:pub:4E0F9E95-E175-4A6B-AA78-8C67ACDA14E4>

On some mites (Acari: Prostigmata) from the Interior Highlands: descriptions of the male, immature stages, and female reproductive system of *Pseudocheylus americanus* (Ewing, 1909) and some new state records for Arkansas

MICHAEL J. SKVARLA¹, J. RAY FISHER² & ASHLEY P.G. DOWLING³

Department of Entomology, 319 Agriculture Building, Fayetteville, Arkansas 72701, USA. E-mail: mskvarla36@gmail.com

¹[urn:lsid:zoobank.org:author:E22F157C-FCE0-4AAA-AE95-44257AD6D49C](http://zoobank.org/urn:lsid:zoobank.org:author:E22F157C-FCE0-4AAA-AE95-44257AD6D49C)

²[urn:lsid:zoobank.org:author:2215070E-C3F2-4FCE-911A-DA45AE9EDC4E](http://zoobank.org/urn:lsid:zoobank.org:author:2215070E-C3F2-4FCE-911A-DA45AE9EDC4E)

³[urn:lsid:zoobank.org:author:CE4EB1F6-F9C0-4B40-80DD-AFCC2FED2062](http://zoobank.org/urn:lsid:zoobank.org:author:CE4EB1F6-F9C0-4B40-80DD-AFCC2FED2062)

[urn:lsid:zoobank.org:pub:12EBFD18-0E15-436B-80C9-EBA6A0DD7010](http://zoobank.org/urn:lsid:zoobank.org:pub:12EBFD18-0E15-436B-80C9-EBA6A0DD7010)

Abstract

The male and immature stages of *Pseudocheylus americanus* (Ewing, 1909) (Pseudocheylidae) are described and illustrated for the first time and the female is re-illustrated. The description of *Pseudobonzia reticulata* (Heryford, 1965) (Cunaxidae) is modified to include the presence of dorsal setae f_2 , which were not reported in the original description. In addition, *Bonzia yunkeri* Smiley, 1992 and *Parabonzia bdelliformis* (Atyeo, 1958) (Cunaxidae) are reported from the Ozark Mountains, *Caeculus cremnicolus* Enns, 1958 (Caeculidae) is reported from the Ozark and Ouachita Mountains, and *Dasythyreus hirsutus* Atyeo, 1961 (Dasythyreidae) is reported from Missouri and the Ouachita Mountains in Arkansas.

Key words: taxonomy, Interior Highlands, Ozark Mountains

Introduction

The Ozark Highlands comprise some of the oldest continuously exposed land worldwide and may have served as refugia during glaciation and flooding events throughout biological history (The Nature Conservancy, Ozarks Ecoregional Assessment Team, 2003). While many taxa are characteristic of Eastern and Midwestern North America, others are known from similar refugia, such as the Southern Appalachians and Sierra Madre in Mexico, but are absent from intervening areas. The Ozark Highlands, with more than 200 known endemic organisms, have thus been proposed as an area of hyperdiversity (Allen 1990; Redfearn 1986). In comparison to other areas of known or suspected hyperdiversity the Ozarks have received relatively little study (though see Robinson & Allen 1995). This trend is especially true for arthropods, for which species composition and biogeographic studies are virtually non-existent (but see Moulton & Steward 1996 and Poulton & Stewart 1991).

This study, which represents the latest in a recent effort (Fisher *et al.* 2011; Skvarla *et al.* 2011; Skvarla & Dowling 2012) to remedy this problem with prostigmatid mites, focuses on four families: Pseudocheylidae, Caeculidae, Cunaxidae, and Dasythyreidae. Below are brief introductions to each of these families.

Pseudocheylidae includes 14 species in three genera—*Anoplocheylus*, *Neocheylus*, and *Pseudocheylus*. All are predatory mites usually found under the bark of trees or in leaf litter and moss, though a few have been found in soil (Van Dis 1991). Van Dis (1991) provides the most up-to-date keys to genera and species. Except for the genital developmental sequence illustrated by Van Dis (1991) no pseudocheylid immatures have been described or illustrated to date. *Pseudocheylus* contains two species, *P. americanus* (Ewing, 1909) and *P. biscutatus* (Berlese, 1888), which have been found under tree bark in North and South America, respectively.

Caeculidae, commonly known as the rake-legged mites, are large (1,000–3,000 μm), slow-moving, heavily armored mites that are commonly dark in color. They are generally thought to be ambush predators, although a few