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Annotated Checklist of the Diplura (Hexapoda: Entognatha) of California

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Abstract

The first checklist of California dipluran taxa is presented with annotations. New state and county records are reported, as well as new taxa in the process of being described. California has a remarkable dipluran fauna with about 8% of global richness. California hosts 63 species in 5 families, with 51 of those species endemic to the State, and half of these endemics limited to single locales. The genera *Nanojapyx*, *Hecajapyx*, and *Holjapyx* are all primarily restricted to California. Two species are understood to be exotic, and six dubious taxa are removed from the State checklist. Counties in the central Coastal Ranges have the highest diversity of diplurans; this may indicate sampling bias. Caves and mines harbor unique and endemic dipluran species, and subterranean habitats should be better inventoried. Only four California taxa exhibit obvious troglomorphy and may be true cave obligates. In general, the North American dipluran fauna is still under-inventoried. Since many taxa are morphologically uniform but genetically diverse, genetic analyses should be incorporated into future taxonomic descriptions. Natural Heritage Program conservation status ranks were recommended.

Key words: biodiversity, endogean, subterranean, troglobiont, troglomorphy, two-pronged bristletail

Introduction

We present here the first comprehensive checklist of the California dipluran fauna, building upon previous regional checklists by Hilton (1932), Condé & Thomas (1957), Bareth & Condé (1958), and Allen (1994, 2002). Diplurans, commonly known as two-pronged bristletails, are one of the most ancient groups of hexapods but their diversity is poorly documented. Globally, at least 800 species in 8 families are recognized, with many more taxa remaining to be described (Allen 2002). Diplurans have small segmented, pale bodies (most being a few millimeters in length), lack eyes and wings, and have two beaded antennae and two sensory tails (cerci). Due to their small size, cryptic habits, the loss of these appendages during collection, and the difficulty in identification (due to morphological homogeneity), diplurans are not well studied (Lock *et al.* 2010).

Methods

To build the checklist, we attempted an exhaustive literature review, examined museum collections, and queried various databases. The following data sources were particularly useful: California Academy of Sciences (CAS) Department of Entomology Collection Catalog Database; National Museum of Natural History (NMNH or USNM) Department of Entomology collections database; University of California at Berkeley Essig Museum of Entomology (EMEC); University of California at Davis Bohart Museum of Entomology (BME); and Natural History Museum of Los Angeles County (LACM). Of considerable importance were the unpublished determinations by L. Smith of slide mounted material that was curated by his associate, R. Schuster, former collections manager at BME. All records not directly attributed to others are new records of the authors. We did not refine taxonomic determinations of the material we summarize here, but taxonomic keys of families and subfamilies can be found in: ondé & Thomas (1957); Paclt (1957); Ferguson (1981a, 1990); and Allen (2002). The three superfamilies of diplura can easily be distinguished by the type of caudal cerci: Campodeoidea possess

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