



A synopsis of the subterranean asellids of Maryland, U.S.A., with description of *Caecidotea alleghenyensis*, new species (Crustacea: Isopoda: Asellota)

JULIAN J. LEWIS¹, THOMAS E. BOWMAN² & DANIEL J. FELLER³

¹Lewis & Associates--Cave, Karst & Groundwater Biological Consulting LLC 17903 State Road 60, Borden, IN 47106 U.S.A.
E-mail: lewisbioconsult@aol.com

²Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. (deceased)

³Maryland Department of Natural Resources, 301 Braddock Road, Frostburg, MD 21532 U.S.A. E-mail: dfeller@dnr.state.md.us

Abstract

Nine species of asellid isopods are reported from groundwater habitats in Maryland. Three of these species are habitually found in springs: *Lirceus brachyurus*, *Caecidotea kenki*, and *C. alleghenyensis*, n. sp. The latter, described herein, is a member of the *hobbsi* group known only from the Allegheny Mountains in Garrett Co. Six species are obligate inhabitants of subterranean waters and are found primarily in Appalachian caves, although some have broad ranges that span non-cavernous areas. The obligate subterranean species are *Caecidotea pricei*, *C. franzi*, *C. holsingeri*, *C. mausi*, *C. vandeli* and *C. nordeni*.

Key words: Asellidae, *Lirceus brachyurus*, *Caecidotea kenki*, *Caecidotea pricei*, *Caecidotea franzi*, *Caecidotea holsingeri*, *Caecidotea mausi*, *Caecidotea vandeli*, *Caecidotea nordeni*

Introduction

The state of Maryland spans several physiographic regions (Fig. 1) that provide a variety of groundwater habitats with concomitant subterranean fauna. The best known of Maryland's subterranean habitats are the caves associated with the Appalachians in the western part of the state. The majority of caves and springs known in Maryland occur in the area known as the Appalachian Valley and Ridge (Franz & Slifer 1971), so not surprisingly six groundwater asellid species have been found there in Washington and Allegany counties. Four of the six are obligate subterranean species (stygiobiotic): *Caecidotea nordeni* Lewis, 2010, *C. mausi* Lewis & Bowman (Lewis 2009), *C. vandeli* (Bresson, 1955) and *C. pricei* Levi, 1949. The other two species are spring inhabitants, *Caecidotea kenki* (Bowman, 1967) and *Lirceus brachyurus* (Harger, 1876).

Of these six species all but two are relatively wide-spread, despite their subterranean habitats. *Caecidotea nordeni* remains endemic to Maryland, where it is known only from the type-locality in Washington Co. (Lewis 2010). *Caecidotea mausi* is known from two localities about 80 km apart in Washington Co., Maryland and Warren Co., Virginia (Lewis 2009).

In far-western Maryland the cavernicole *Caecidotea holsingeri* is known from a single cave in Garrett County, in the Allegheny Mountains of the Appalachian Plateaus. This locality and another in adjacent West Virginia represent the northern edge of the range of the species as it is currently known. The stygiobiotic *C. franzi* (Holsinger & Steeves, 1971) also occurs in a small cluster of sites in western Maryland, and adjacent Mineral Co., West Virginia. Populations of *C. franzi* in central Pennsylvania and southeastern Kentucky are geographically disjunct, but morphologically indistinguishable (Lewis 2010). A third species of *Caecidotea* known only from springs in Garrett Co., Maryland is described herein.

The only region in Maryland where obligate subterranean isopods remain unknown is the Coastal Plain. The stygomorphic *C. phreatica* Lewis & Holsinger, 1985 and *C. jeffersoni* Lewis, 2009 occur in the Coastal Plain region of Virginia. We predict that these or another *hobbsi* group species will eventually be found in the Maryland