THE PRIMARY TYPES OF THE RICHARD M. BOHART MUSEUM OF ENTOMOLOGY, I. TARDIGRADA

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Abstract. — This paper lists the primary types of Tardigrada deposited in the Richard M. Bohart Museum of Entomology, University of California, Davis, California (UCD). A brief history of the museum is also given.

This is the first in a series of articles listing the primary type specimens in the collection of the Richard M. Bohart Museum, Department of Entomology, University of California, Davis, California (UCD).

All of the primary types listed here are holotypes. The Bohart Museum is presently responsible for 1438 primary types. Information was compiled from type labels, original descriptions, field notes and reexamination of type specimens.

Names listed for types and host species are as in the original description of the type. Changes in the name of a host species before original publication of the type are noted. Zoological or botanical synonomy are not established in this paper.

History of the Bohart Museum Collections

The research collections of the Department of Entomology, University of California, Davis were established in 1946. Mr. A. T. McClay, the first curator, enlarged the holdings from a Schmidt box each of Calliphoridae and honey bees to about 600,000 specimens, housed in California Academy style cabinets. The collection was particularly rich in Coleoptera donated from his personal collection.

Mr. McClay retired in 1966 and managerial responsibility was assumed by Mr. Robert O. Schuster. At that time the decision was made to maintain a type collection, and to broaden holdings of non-insectan arthropods because an invertebrate collection did not exist at the University of California, Davis. Prior to 1966 primary types were deposited with the California Academy of Sciences.

The collections have grown partly through active California-based field research programs, and the result is a rich selection of material from the Western United States and Mexico. In addition, the research interests of faculty and graduate students have led to significant cosmopolitan holdings in many taxonomic groups. In recognition of the rapid destruction of neotropical habitats, the collection and preparation of specimens from northern South America, Central America, and the West Indies is a high priority of the museum.

The various collections of insects and related arthropods were officially dedicated on 11 October 1983 as the Richard M. Bohart Museum of Entomology. The museum holds in excess of four million prepared specimens, includes from 50,000 to 100,000 uncataloged allotypes and paratypes, and is supported by the Department of Entomology and the Bohart Museum Society, founded in 1986. The acronym used for the Richard M. Bohart Museum of Entomology is UCD.

This list, the Tardigrada, contains 21 types resulting from the studies of Albert A. Grigarick, Robert O. Schuster, and Elizabeth C. Toftner at UC Davis, Donald S. (Woody) Horning, Jr., presently at Mcleay Museum,
University of Sydney, Australia, the late Franz Mihelčič, and Diane R. Nelson at East Tennessee State University. The tardigrade collection comprises 60,000 slides and is cosmopolitan with specimens from all continents excluding Asia. We felt it appropriate to list the Tardigrada separately from the rest of the primary types, as these invertebrates are not currently thought to be arthropods.

The Bohart Museum Tardigrada
Type Collection
Class Heterotardigrada
Family Oreellidae


Family Echiniscidae


Echiniscus (Bryodelphax) dominicanus Schuster & Toftner, 1982:225. Holotype is a female, UCD 1215, from Constanza, La Vega Province, Dominican Republic, collected by R. O. Schuster on Groutiella mucronifolia (Hooker & Greville, 1824:116) Crum & Steere 1950:146. Crum & Anderson 1981:738 state that “The type of Orthotrichum mucronifolium Hook. & Grev. 1824, collected by Guidling in the West Indies, is clearly the same as the Mexican type of O. apiculatum Hook. 1818, collected by Humboldt and Bonpland. It is obvious, therefore, that Groutiella mucronifolia belongs in the synonymy of G. apiculata.” The label data for the host plant for E. (Bryodelphax) dominicanus is probably incorrect, and Groutiella apiculata (Hooker, 1818:plate 45) Crum & Steere 1950:146 is the appropriate name for this moss.


Echiniscus cavagnaroi Schuster & Grigarick, 1966:321. Holotype sex is uncertain, UCD 94, from Old Bella Vista trail, Santa Cruz Island, Galápagos Islands, Ecuador, 90 m, collected by R. O. Schuster, on 4 Feb 1964, in mixture of Frullania sp., Parmelia sp., and Ramalina sp.

Echiniscus horningi Schuster & Grigarick, 1971:105. Holotype sex is uncertain, UCD 322, from Silver Falls State Park, Marion County, Oregon, collected by D. S. (Woody) Horning, Jr., on 10 Jan 1970.


Echiniscus kofordi Schuster & Grigarick, 1966:321. Holotype sex is uncertain, UCD 95, from Darwin Research Station, Santa Cruz Island, Galápagos Islands, Ecuador, less than 10 m, collected by R. O. Schuster on 21 Jan 1964, on Ramalina sp.


Echiniscus marginoporus Grigarick, Schuster, & Nelson, 1983:76. Holotype is a fe-


*Pseudoechiniscus goedeni* Grigarick, Mihelčič, & Schuster, 1964:5. Holotype sex is uncertain, UCD 90, from 6 mi SSW of Breitenbush Hot Springs, Marion County, Oregon, collected by K. Goeden, on 18 Oct 1962, in lichens on Douglas fir and cedar.

*Pseudoechiniscus raneyi* Grigarick, Mihelčič, & Schuster, 1964:6. Holotype sex is uncertain, UCD 91, from 46 mi E of Fresno on Hwy 189, Tulare County, California, 4300 ft, collected by A. A. Grigarick, on 31 Oct 1962, in mixed lichen and moss on pine.

Class Eutardigrada
Family Hypsibiidae


Family Macrobiotidae

*Macrobiotus grandipes* Schuster, Toftner, & Grigarick, 1977:118. Holotype is a female, UCD 959, from Pope Beach, Lake Tahoe, El Dorado County, California, collected by R. O. Schuster & E. C. Toftner, on 12 Sep 1975.


*Pseudodiphascon dubium* Schuster & Toftner, 1982:228. Holotype sex is uncertain, UCD 1216, from Cabrera, Sanchez Province, Maria Trinidad, Dominican Republic, collected by R. O. Schuster, on 1 Aug 1978, on *Lejeunea* sp.

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Literature Cited


———, R. O. Schuster, & D. R. Nelson. 1983. Het-


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1 Mr. Robert O. Schuster unexpectedly died on 15 August 1989, after this paper was submitted.