Notes

Isohypsibius woodsae, a New Species of Eutardigrada (Tardigrada) from British Columbia

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A new species of eutardigrade was found during a study of the tardigrades of Vancouver Island, British Columbia. *Isohypsibius woodsae* n. sp. differs from other species in the genus by the number and arrangement of dorsal gibbosities, reticulated pattern of the cuticle, buccopharyngeal apparatus and claw characters.

Key words: Tardigrada, *Isohypsibius woodsae* n. sp., British Columbia.

A survey of tardigrades of five mountains on Vancouver Island, B.C., was conducted during 1986 and 1987. Although the primary purpose was to study the relationship of tardigrade species to moss species, and to altitude, a new species of *Isohypsibius* was discovered in the course of the work. Prior to this survey, a total of only 18 species of tardigrades had been reported from British Columbia, by Richters (1908) and Murray (1910). In this paper *Isohypsibius woodsae*, new species, is described from Mt. Arrowsmith. Two other new species from the Vancouver Island area are described elsewhere (Kathman and Nelson 1989; Kathman, *in press*).

Materials and methods

The specimens of *Isohypsibius woodsae* were collected in the moss *Dicranum fuscescens* Turn. at 1057 m on Mt. Arrowsmith, 10 July 1987.

Samples of moss were placed in paper bags and air-dried for several months. Each sample was then removed from the bag, placed in a stoppered funnel and allowed to soak in water for eight hours, after which the moss was removed and shaken in a separate container of water several times. The water and its contents were poured through a 45 μm mesh sieve to retain the tardigrades, which were placed in a gridded petri dish and extracted using a stereomicroscope. Each tardigrade was placed in Hoyer's mounting medium on a microscope slide and sealed with a cover slip. After complete drying of the mountant the cover slip was ringed with nail polish to prevent further air penetratrion.

Identifications were made using a phase-contrast compound microscope with oil immersion. All measurements were made using a calibrated eyepiece micrometer. All drawings were done with a drawing tube attached to the compound microscope.

Taxonomic Account

Eutardigrada Marcus, 1927
Hypsibiidae Pilato, 1969
Isohypsibius Thulin, 1928
***Isohypsibius woodsae* n. sp.**
(Figure 1)

Description. Holotype. Length 392 μm, eyespots present. Cuticle reticulated with fairly wide-spaced polygons; 10 rows of gibbosities, with four in each row except row 10, which has two. Thin buccopharyngeal tube, length 39 μm, width 3.7 μm. Pharyngeal bulb round, with large apophyses and two rod-shaped macroplaccoids; first macroplacoid 3 μm long slightly constricted in the middle, second macroplacoid 2 μm long; microplacoids absent. Claw sequence 2121; doubleclaws on each leg of different size; with two accessory points on the primary branch; lunules present on claws on all legs but most obvious on those of leg IV; small sclerotized bar present near the internal claw on legs I-III. USNM #235445.

Paratype. Total length 310 μm; buccopharyngeal tube 37.5 μm long, 2.5 μm wide; remainder of description the same as the holotype. 1 specimen, Kathman collection.

Type locality. Northwest aspect of Mt. Arrowsmith at 1057 m, Vancouver Island, British Columbia, Canada.

Etymology. Named for Roberta Woods, who helped collect these and many other specimens of tardigrades.

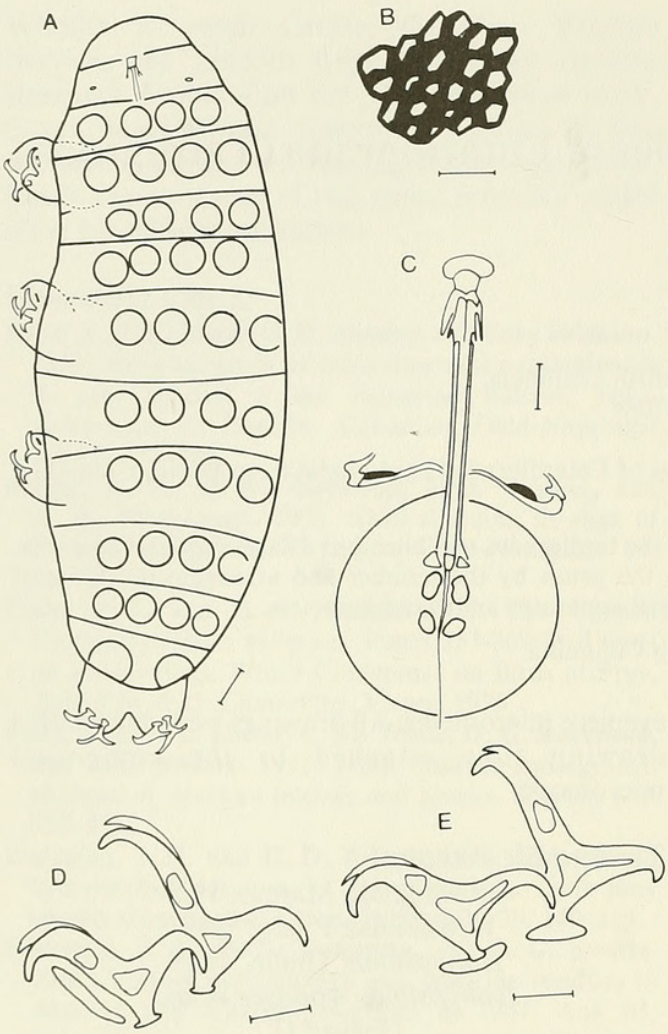

FIGURE 1. *Isohypsibius woodsae*. A, Entire animal, dorsal view; B, Reticulated pattern of cuticle, covering entire dorsal surface; C, Buccopharyngeal apparatus; D, Claws of leg III; E, Claws of leg IV. Scale bars in μm as follows: A, 20; B, 4.8; C, 6; D, 4.8; E, 6.

Discussion. Approximately half of the nearly 100 species in the genus *Isohypsibius* have gibbosities and a sculptured cuticular pattern. However, only five species have a similar number of rows of gibbosities as *Isohypsibius woodsae* with an even number of gibbosities in each of these rows and a reticulated (versus granulated or smooth) cuticle. *Isohypsibius josephi* (Iharos, 1964) has a maximum size of 300 μm, nine rows of gibbosities, a short wide buccopharyngeal tube, and a long sinuous sclerotized bar in all four pairs of legs. *Isohypsibius neoundulatus* (Durante Pasa and Maucci, 1975) is small (< 220 μm), has 18-24 transverse rows but with gibbosities in only the dorsolateral positions on six rows, has doubleclaws of equal size, and no sclerotized bars on the claws. *Isohypsibius pratensis* (Iharos, 1964) has nine rows of gibbosities with two in rows 1 and 6, four in rows 2, 4, 5, 8 and 9, and six in rows 3 and 7; the cuticle is finely granulated as well as reticulated; and, presumably, there are no bars on the claws although this is not specifically mentioned. *Isohypsibius rudescui* (Iharos, 1966) is < 225 μm long, has 10 rows of gibbosities with two in rows 1, 2, 4 and 10, and four in rows 3, 5, 6, 7, 8 and 9, with some gibbosities noticably larger than others, and presumably has no bars on the claws. *Isohypsibius woodsae* exhibits several characters which distinguish it from the only other species which has 10 rows of four gibbosities in each row except the tenth which has two. *Isohypsibius bartosi* (Iharos, 1966) is a smaller animal (240-270 μm) than *I. woodsae* (310 and 292 μm), eyespots are absent and the cuticle is finely granulated in *I. bartosi*. Although the description of *I. bartosi* states that the doubleclaws are of different length, the illustration (Iharos, 1966; in Ramazzotti and Maucci, 1983) indicated that this difference is minimal, whereas in *I. woodsae* there is a distinct difference between the external and internal claws. There is a distinct sclerotized bar near the internal claw of the first three pairs of legs and lunules are present on the claws of all legs in *I. woodsae*. The description of *I. bartosi* mentions neither of these characters.

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