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Isohypsibius borkini, a new species of Tardigrada from Tien Shan
(Kirghizia)
(Eutardigrada: Hypsibiidae)

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ABSTRACT. A new Tardigrada species, *Isohypsibius borkini* n. sp., is described from a moss sample collected in Kirghizia. This species differs from others members of the genus in having wide massive bases of external claws of legs IV with developed lunules and without teeth.

Key words: Tardigrada, taxonomy, new species, *Isohypsibius borkini*, Kirghizia.

INTRODUCTION

In August 1998 a few moss samples were collected by Dr. L. J. BORKIN (Zoological Institute of the Russian Academy of Sciences, St. Petersburg), in the vicinity of Bishkek City, Kirghizia. Three specimens (one at the simplex-stage), representing a new species of the genus *Isohypsibius*, were found during the investigation of this material.

MATERIALS AND METHODS

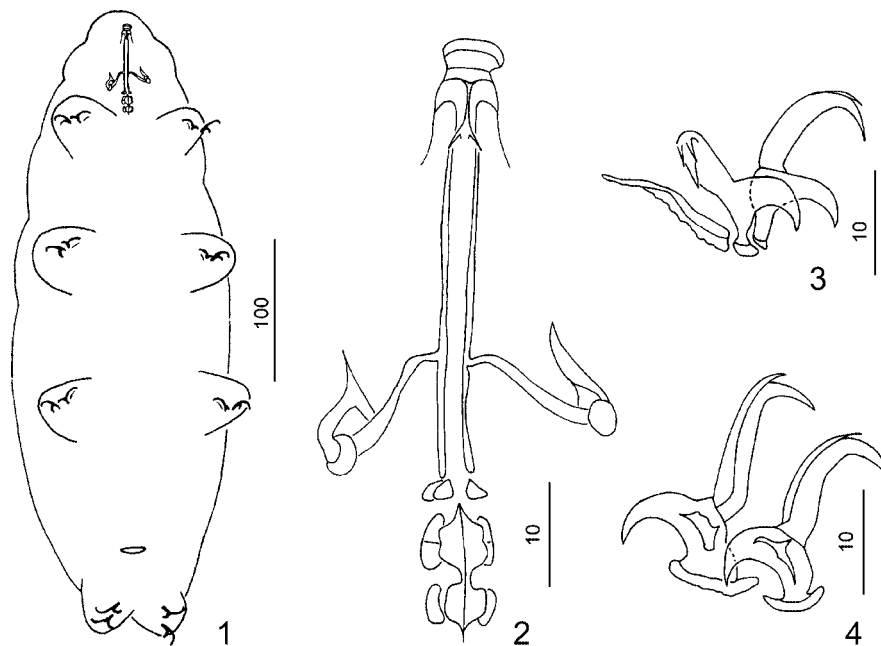
The examined material consisted of dried soil moss sample. Specimens were fixed with acetic acid and then mounted in Faure fluid. All specimens were examined with phase-contrast microscope. All measurements are given in micrometers [μm]. The pt index is the ratio of the length of a given structure to the length of the buccal tube expressed as a percentage (PILATO 1981).

Isohypsibius borkini sp. n.

DESCRIPTION

Total body length of holotype 425.6 (paratype 392.4) (fig. 1). Body colourless. Without eyes. Cuticle smooth. Dots and crests in buccal cavity absent. Buccal tube length without apophyses 40.0 (38.5). Buccal tube inner width 1.5 (2.2). Pt index for the insertion point of stylet supports 70.37% (69.23%). Pharyngeal bulb nearly spherical with apophyses and two macroplacoids (fig. 2). Microplacoids absent. First macroplacoid slightly constricted in the middle. Macroplacoid lengths: first - 5.2, second - 3.7 (5.2 and 3.7). Macroplacoid row length 11.1 (10.4)

Legs with claws typical of the genus *Isohypsibius* (figs 3, 4). Claws of legs IV larger than claws of legs I-III. External and internal claws of 1st pair of legs 17.0 and 12.9 long, respectively (14.8 and 11.1). External and internal claws of IVth pair of legs 20.7 and 18.1 long, respectively (20.7 and 15.2). All claws with well developed accessory points and lunules. Near bases of internal claws of legs I-III thin cuticular bars present. External claws of legs IV with wide (4.6-4.8), massive basal part. Eggs unknown.



1-4. *Isohypsibius borkini* n. sp.: 1 - habitus, 2 - bucco-pharyngeal apparatus, 3 - claws of leg III, 4 - claws of leg IV

ETYMOLOGY

This species is dedicated to Dr. L. J. BORKIN, who kindly collected the material for me in Kirghizia.

TYPE MATERIAL

Holotype and paratype. Slides' numbers: 193(1) and 193(2) (sex indet.). Kirghizia, Vicinity of Bishkek City, moss from soil, VIII.1998. Together with *Milnesium* cfr. *tetralamellatum*. Holotype and paratype are preserved at the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia.

DIFFERENTIAL DIAGNOSIS

Isohypsibius borkini n. sp. is mostly similar to *I. jakieli* DASTYCH, 1984 in the wide bases of the external claws of legs IV, smooth cuticle and two macroplacoids. It differs from this species in the longer buccal tube (29.0-31.0 in *I. jakieli* and 38.5-40.0 in *I. borkini*), in the absence of teeth on the claw bases and in the presence of lunules (DASTYCH 1984).

Isohypsibius borkini n. sp. is similar to *I. marcellinoi* BINDA et PILATO, 1971 and *I. dastychi* PILATO, BERTOLANI et BINDA, 1982 in having two macroplacoids and smooth cuticle. It is distinguished from these species by the evidently more massive claws of legs IV and by the absence of the crests in the buccal armature. It differs from *I. marcellinoi* in having long thin stylet supports which are short and robust in the former species (PILATO & BINDA 1988), and from *I. dastychi* in the lower pt value for the length of the external claws of legs IV (62.03% in *I. dastychi* and 51.85% in *I. borkini* holotype) (PILATO, BERTOLANI & BINDA 1982).

ACKNOWLEDGEMENTS

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