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Notes on the African limno-terrestrial tardigrade *Ramazzottius szeptycki* (Dastych, 1980) (Tardigrada) *)

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(with 1 figure)

Abstract

Supplementary description and morphometric data of the type material of the African tardigrade *Ramazzottius szeptycki* (Dastych, 1980) (Tardigrada), including remarks on its distribution, are provided.

K e y w o r d s: Tardigrada, *Ramazzottius szeptycki*, holotype, re-description, Africa.

Introduction

The genus *Ramazzottius* Binda & Pilato, 1986 is represented by 24 nominal species distributed worldwide. The description of the limno-terrestrial *Ramazzottius szeptycki* (Dastych, 1980), a very distinct species with markedly ornamented dorsum, was based initially on the only specimen (the type) collected by A. Szeptycki in South Africa. The taxon was reported subsequently from the Kilimanjaro (Kenia) and Ngorongoro (Tanzania) area by Van Rompu *et al.* (1991) and Pilato *et al.* (1991), respectively, who added some new morphological data to the original description.

Recent re-examination the holotype of *R. szeptycki* yielded further information, including calculation of some recently introduced morphometric indices (see Dastych 2006). These supplementary data are given in the present paper.

Material and methods

The holotype of *R. szeptycki*, the only existing type specimen, lodged at the Zoological Museum in Hamburg (ZMH Acc. No. A 55/93), is re-examined here. Although the microslide is more than 30 years old, the animal mounted in Faure's medium is still in very good condition. Sadly, some claws are not optimal positioned to allow measurements. The morphometric indices calculated here and abbreviations used are explained in Dastych (*l.c.*). The complementary characteristics, including indices' values presented below are new for the type. All measurements are in μm , all indices in %.

*) In memoriam of my recently deceased colleague, friend and the entomologist, Prof. Dr. Andrzej Szeptycki (formerly Institute of Systematic and Experimental Zoology, Polish Academy of Sciences, Cracow).

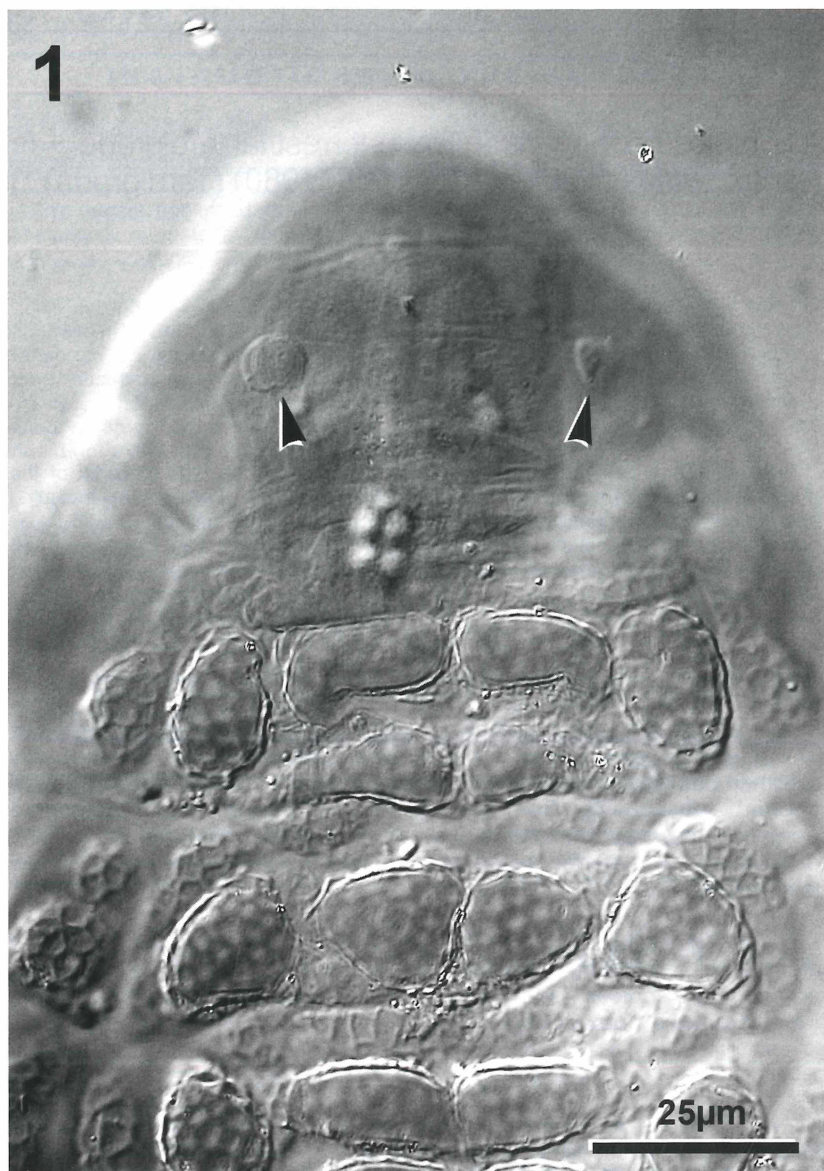


Fig. 1. *Ramazzottius szeptycki* (Dastych), dorso-anterior part of the body (arrowheads: head organs).

Supplementary data for type material

Ramazzottius szeptycki (Dastych, 1980)
(Fig. 1)

Hypsibius szeptycki: Dastych, 1980

Ramazzottius szeptyckii: Rompu et al. 1991

Ramazzottius szeptycki (sic): Pilato & Binda, 1991

Morphology

Sex unknown. Dorsum ornamented as originally described (Fig. 1), three tubercles without network. Head region dorsally with two head organs, structures which were discovered in *Ramazzottius* by Binda & Pilato (1986). Their presence in *R. szeptycki* was reported for the first time by Pilato *et al.* (1991). In the holotype these structures slightly oval (6.3 and 7.2 μm wide: Fig. 1, arrowheads), the distance between them, measured from the external lateral edges of each organ being 47 μm . The anatomy and function of these head organs is not known. Pharyngeal apophyses relatively large. Claws moderately sized, with relatively long light reflecting unit (LRU) of ca 27% of the length of the hind claw main branch, which is relatively thin. Accessory spines on external claw main branches hardly visible, they are small on internal claws. Lunulae-like structures poorly formed and only visible only at the base of some claws. Transversal bar-like thickening below the claws' bases on legs I-III absent. Eggs not known.

Morphometric data

1) Measurements (in μm)

Mouth cavity external width 4.1. Buccal tube length 30.4. SSA length (tube above stylet supports) 17.5, SSB length (tube below stylet supports) 12.6. Buccal tube (external) width 2.7, buccal tube (internal) width 1.4, macroplacoid row length 7.7, macroplacoid 1:4.0, macroplacoid 2:3.0. External claw 1: length 20.7, base height 10.8, main branch length 12.6. Internal claw 1: length 10.8, base height 7.2, main branch length 5.9. Hind claw (= external 4): length 24.3, base height 11.7, main branch length 15.3, secondary branch length 7.2, LRU main claw branch 4.1. Fore claw (= internal 4): length 11.7, base height 9.0; main and secondary branch length is not measurable.

2) Indices (in %)

a) *WTI* indices (= the whole tube length indices; = "*pt*" indices, Pilato 1981).

WT mouth cavity external width 13.5, *WTSSA* (= "*pt ss*") 57.6, *WTSSB* 41.4, *WT* buccal tube width (external) 8.9, *WT* buccal tube width (internal) 4.6, *WT* macroplacoid row length 25.3, *WT* macroplacoid 1 length 13.2, *WT* macroplacoid 2 length 9.9, *WT* claw 1 (external): length 68.1, base height 35.5, main branch length 41.4, *WT* claw 1 (internal): length 35.5, base height 23.7, main branch length 19.4, *WT* hind claw (= external 4): length 80.0, claw base height 38.5, main branch length 50.3, secondary branch length 23.7, *WT LRU* main branch length 13.5; *WT* fore claw (= internal 4): length 38.5, claw base height 29.6.

b) *PUI* indices (= the posterior tube unit length indices)

PU mouth cavity external width 32.5, *PU* buccal tube external width 21.4, *PU* buccal tube internal width 11.4, *PU* macroplacoid row length 61.1, *PU* macroplacoid 1 length 31.7, *PU* macroplacoid 2 length 23.8, *PU* claw 1 (external: length 164.2, base height 85.7, main branch length 100.0), *PU* internal claw 1: length 85.7, base height 57.1, main branch length 46.8, *PU* hind claw (= external 4): length 192.9, claw base height 92.9, main branch length 121.4, secondary branch length 57.1, *PU LRU* main branch length 32.5; *PU* fore claw (= internal 4): length 91.0, claw base height 71.4.

c) Other indices

Macroplacoid index (*MPLI*) 75.0, external claws index (*ECI*) 85.2, internal claws index (*ICI*) 92.3, claw main branch index (*MBI*) 82.3, hind claw base index (*HSBI*) 61.5, hind claw *LRU* index (*HLRUI*) 26.8.

Remarks on biology and distribution

Although the records of *R. szeptycki* from Kenya and Tanzania by Van Rompu *et al.* (1991) and Pilato *et al.* (1991) significantly expanded the known area of distribution of the species, the information available on its biology is limited to the habitat data. In South Africa, apart from the type locality in Hendriksdaal (Dastych 1980), the species also has been found in the Central Drakensberg Mts and Karkloof, both Natal. The latter localities have already been mentioned by Van Rompu *et al.* (*l.c.*), although details were then not published. The details are as follows:

- 1) Drakensberg Mts: the Cathedral Peak Area, the Indumeni Forest, ca 1600 m a.s.l., moss from rock, 30 May 1988, two specimens;
- 2) Karkloof Nature Reserve, at Rockwood House, lichens and mosses on a shadowed tree bark, 9 December 1987, one specimen (all *leg. et det.* H. Dastych): the material is lodged at the Natal Museum, Pietermaritzburg.

The accumulated scarce data on *R. szeptycki* indicate a rather sub-montane or montane character and supposedly wide ecological preferences of this species, as judged from the different spectra of microhabitats from which it has been reported. Among these is the presence of the species in a limnic (benthic) sample from a river in rain forest at 1500 m a.s.l. on Kilimanjaro slope (Van Rompu *et al.*, *l.c.*) of particular interest.

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