Note

Redescription of *Microcyclops rechtyae* Lindberg, 1960 (Crustacea, Copepoda)

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Abstract

Microcyclops rechtyae Lindberg, 1960, a poorly known species, is redescribed from ricefields of Uzbekistan. Data on variability and the first description of a male are given.

Introduction

Microcyclops rechtyae Lindberg, 1960 was originally described from Afghanistan on the basis of only one female (Lindberg, 1960). Until now this was the only record of this species. In this note, the redescription of female and the first description of male of this poorly known species are given, using specimens from Uzbekistan.

Materials and methods

This species, relatively rare in Uzbekistan, has been found only in ricefields (Figure 1):

- Tashkent Region, Bekabad District, July 1993 (1 female);
- Tashkent Region, Yukori-Chirchik District, July 1996 (13 females and 6 males);
- Khoresm Region, July 1989 (10 females);
- Surkhandarya Region (on the border between Uzbekistan and Afghanistan), June 1992 (1 female);
- Karakalpakstan (northern Uzbekistan), July 1978
 (1 female). The material is preserved in 4% formaldehyde in the Institute of Zoology (Tashkent). All drawings were made using a camera lucida.

Microcyclops rechtyae Lindberg, 1960

Female. Body length (without caudal setae) 740-900 μ m. Antennule of 12 segments (the specimen from Karakalpakstan with 13 segments) (Figures 2, 3). Antenna endopod segment 2 with 8-9 setae (8 specimens with 8 setae, 3 specimens with 9 setae, and 5 specimens with 8 setae on one antenna and 9 setae on the another antenna) (Figure 4). Caudal side of basipodite of antenna with 2 groups of spinules (Figure 5). Mandible, maxilla, maxillular palp and maxilliped as in Figures 6-9. Inner spine of penultimate segment of maxilla with 3 teeth on inner side (Figure 7). Connecting plates of P1-P3 without ornamentation (Figures 10-12). Connecting plate of P4 with one row of spinules on caudal side (Figure 13). Free margin of connecting plates of P1-P4 with small rounded processes. Inner edge of P1-P3 basipodites with setules, those of P4 with short spinules (Figures 11-13). Inner edge of P1 basis with one long spine. Endoand exopodites of P1-P4 biarticulate. Spine formula 3.4.4.3, setal formula 5.5.5.5. P5 exopod with one long apical seta and tiny spinules on inner side (absent in some specimens) (Figures 14-15). Genital segment expanded anteriorly, with rounded lateral sides (Figures 15). Lateral lobes of seminal receptacle slightly curved posteriorly. Caudal margin of anal segment with spinules (Figures 16-17). Furcal rami parallel.





Figure 1. Localities sampled (•) and distribution of Microcyclops rechtyae Lindberg (•) in Uzbekistan.

Table 1. Measurements of *Microcyclops rechtyae* Lindberg (female). Letter designation of the furcal setae as in Figure 16. The numbers in parentheses taken from measurements of drawings.

	Khoresm region n = 10 min-max	x	Surkhan darya region $n = 1$	Tashkent regionYukori-Chirchik $n = 10$ min-max	x	Bekabad $n = 1$	Kara- kalpak- stan n = 1	Afghanistan (Lindberg, 1960)	Sri Lanka (Dussart & Fernando, 1985)
Body length, μm	740-815	789	867	775–900		_	775	826	660
Furca L:W	3.56-4.20	3.79	3.69	3.85-4.28	4.07	3.75	4.35	4.16	3.50
Seta a : L Fu	0.94-1.07	1.01	1.00	0.90-1.07	0.98	1.03	0.86	(1.05)	(0.96)
Seta a: seta b	0.22-0.24	0.23	0.24	0.21-0.23	0.22	0.27	0.20	0.26	0.22
Seta a: seta c	0.30-0.32	0.31	0.33	0.29-0.32	0.31	0.35	0.29	0.35	0.29
Seta a: seta d	1.30-1.60	1.43	1.25	1.19-1.38	1.31	1.42	1.18	1.45	1.25
Seta a: seta e	1.67-200	1.97	2.05	1.67-2.00	1.93	-	-	(1.65)	1.87
2EnpP4:									
L art.: W art.	2.14-2.38	2.24	2.15	1.90-2.18	2.00	1.82	-	1.93	2.20
Int. sp.: ex. sp.	1.87-2.11	1.97	1.78	1.76-2.00	1.84	1.78	-	1.83	2.00
Int. sp.:L art.	0.66–0.74	0.72	0.71	0.68–0.85	0.74	0.82	-	0.73	0.60

Implantation of external apical furcal seta provided with spinules. Biometrical data are given in Table 1.

provided6–7 setae (Figure 20). The morphology of legs and
furca is similar to that of female, but distal article of P4
endopodite relatively longer than in female, its length
2.3–2.6 times longer than wide (Figure 21). Outer seta

Male. Body length 600–700 μ m. Antennule as in Figures 18–19. Anntenna endopodite segment 2 with



Figure 2–9. Microcyclops rechtyae Lindberg (female). 2 – habitus; 3 – antennule; 4 – antenna, frontal side; 5 – basipodite of antenna, caudal side; 6 – mandible; 7 – maxilla; 8 – maxillular palp; 9 – maxilliped.



Figure 10-12. Microcyclops rechtyae Lindberg (female). 10 - P1; 11 - P2; 12 - P3.



Figure 13–17. Microcyclops rechtyae Lindberg (female). 13 – P4; 14 – P5; 15 – last thoracic and genital segments; 16 – furca; dorsal side; 17 – furca, ventral side.



Figure 18–23. Microcyclops rechtyae Lindberg (male). 18 – habitus; 19 – antennule; 20 – antenna endopod segment 2; 21 – Enp2P4; 22 – P6; 23 – furca, dorsal side.

of P6 1.6–1.8 times longer than inner spine (Figure 22). Furcal ramus 3.4–4.3 times as long as wide (Figure 23). Differential diagnosis. *Microcyclops rechtyae* differs from most *Microcyclops* species by the presence of spinules on the coupler of P4. It differs from *M*.

afghanicus Lindberg, 1948 (which also has long furcal rami) by spinules (setules in *M. afghanicus*) on inner edge of basipodite of P4, number of setae on antenna endopod segment 2 (7 in *M. afghanicus*), structure of maxilliped, and the number of segments of antennule (usually 11 in *M. afghanicus*) (Mirabdullayev et al., 1997).

Remarks. The morphology of *M. rechtyae* from Uzbekistan substantially agrees with the description given by Lindberg (1960) from the neighbouring Afghanistan. The samples examined represent the most northern record from this poorly known species. Described by Dussart & Fernando (1985) from Sri Lanka, *M. elegans* resembles *M. rechtyae* (Table 1) and is probably the same species.

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