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***Cheiroseius (Posttrematus) kargi* n. sp. (Acari, Ascidae) from Poland**

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Abstract

This work presents a new species of the genus *Cheiroseius*, whose females have been recorded in the Białowieża National Park, eastern Poland.

Zusammenfassung

Cheiroseius (Posttrematus) kargi n. sp. (Acari, Ascidae) aus Polen – Eine neue Art der Gattung *Cheiroseius* aus dem Białowieża Nationalpark in Polen wird beschrieben.

1. Introduction

The majority of species of the genus *Cheiroseius* inhabit the upper layer of soil or litter, between tree roots, in organic litter and moss. They are encountered in humid or extremely humid habitats such as marshes, alder swamps, banks of rivers and streams. Some species have been recorded in arable soils, especially in black turf soils and clay soils (KARG 1981). The occurrence of species of the genus *Cheiroseius* in such microhabitats is closely related to the their feeding source. As predators, they most frequently hunt for Nematoda and Collembola, which also show a liking for humid habitats (KARG 1979).

The humid microhabitats of Białowieża National Park (eastern Poland) were found to be the home for a new species of the genus *Cheiroseius*. The species is described below and compared with species showing greatest similarity, namely *Ch. furcatus* Karg, 1973 and *Ch. laelaptoides* (Berlese, 1887).

Chaetotaxy and number of setae is described after EVANS (1958).

2. Description of female

Cheiroseius (Posttrematus) kargi n. sp.

Length of idiosoma 580 µm, width 410 µm. Shape widely oval, widest in medial part. All setae on holodorsal shield simple, although their length varied. Shortest setae are J5 (18 µm). Longer (among others) are i1 (25 µm), i4 = i5 = z2 (30 µm), i3 = z3 = J1 (38 µm), Z1 (40 µm), s1 (50 µm), J2 (52 µm), Z2 = Z3 = Z4 (55 µm), i2 = J3 (65 µm), with J4 (70 µm) being the longest. Posterior part of holodorsal shield, below setae J1, bearing delicate, reticular sculpture. Most setae in row »S« situated on well-defined protuberances.

On ventral side there is a sternal shield with three pairs of setae st1 – st3. Setae st4 situated on metasternal shield, st5 on genital shield. Between genital and ventri-anal shield there are six post-sternal shields. Ventri-anal shield (215 x 295 μm) with four pairs of setae and three anal setae, situated below anus. Shortest of them are JV1 = JV2 (28 μm),

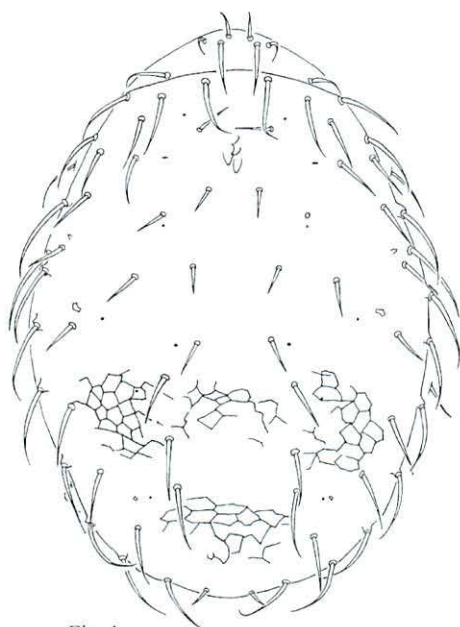


Fig. 1

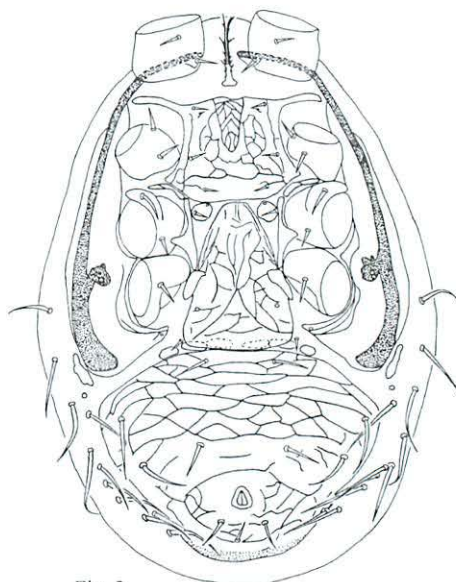
100 μm 

Fig. 2

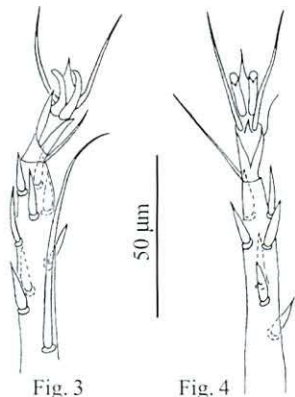
100 μm 

Fig. 3

Fig. 4

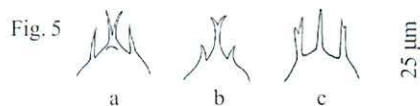


Fig. 5

a

b

c

25 μm

Fig. 1 *Cheiroseius kargi* n. sp., female: dorsal view

Fig. 2 *Cheiroseius kargi* n. sp., female: ventral view

Fig. 3 *Cheiroseius kargi* n. sp., female: tarsus II

Fig. 4 *Cheiroseius kargi* n. sp., female: tarsus IV

Fig. 5 Tectums of female:

a) *Ch. furcatus* (after Karg 1973)

b) *Ch. laelaptoides* (after Karg 1973)

c) *Ch. kargi*

while ZV2 (62 μm) are the longest. Both sternal, genital and ventri-anal shields with a well-defined sculpture. Peritrema long, extending above coxae I on one side and below coxae IV on the other. Stigma at level of coxae IV. Metapodal shields are situated alongside broad peritrematic shields. Leg I 500 μm long (coxa 50, trochanter 40, femur 95, genu 70, tibia 95, tarsus 150) and markedly shorter than idiosoma. Tarsus II and tarsus IV bearing setae characteristic for the genus *Cheiroseius* (Fig. 3 and 4). Tectum terminating in three tips, of which only the central one is sharply pointed (Fig. 5c).

3. Type material

Holotype: female, E Poland, Białowieża National Park (52° 43' – 52° 47' N, 23° 48' – 23° 56' E) litter from a dried-up marsh, 10.7.1996, leg. D. J. Gwiazdowicz. Paratype: female, E Poland, Białowieża National Park, litter collected from a clump of trees sticking out over the water surface, 30.6.1992, leg. D. J. Gwiazdowicz. Holotype and paratype are deposited in the author's collection.

4. Etymology

The species is dedicated to the outstanding acarologist Prof. Wolfgang Karg, Kleinmachnow.

5. Differential diagnosis

Cheiroseius kargi is similar to *Ch. furcatus* Karg, 1973 and *Ch. laelaptoides* (Berlese, 1887). One of the features which differentiate individual species within the genus *Cheiroseius* is the length of the first pair of legs (KARG 1973). Leg I in *Ch. furcatus* is of same length as body (590 μm), while in *Ch. kargi* it is considerably shorter (500 μm). The structure of tectum also reveals differences (Fig 5a-c). In *Ch. furcatus*, tectum consists of three tips, of which the two external ones are pointed, and the central one has a deep incision. Similarly, in *Ch. laelaptoides*, although the incision in the central tip is considerably smaller, while the external ones are by far shorter. On the other hand, in *Ch. kargi* two external tips of tectum have shallow incisions, while the middle one is sharply pointed. Also, in *Ch. kargi*, setae on dorsal side vary in terms of length similarly as in *Ch. furcatus*, while in *Ch. laelaptoides* they are almost of the same length, eg. in *Ch. kargi*, setae i2 is more than twice as long as i4, while in *Ch. laelaptoides* i2 = i4. According to BREGETOVA (1977) setae on ventri-anal shield *Ch. laelaptoides* are of the same length, while setae situated in proximity to the shield are shorter. Sternal shield features a characteristic oval-shaped pattern. Ventri-anal shield in *Ch. kargi* has setae of various length, and setae situated in proximity to shield are markedly longer. The pattern on sternal shield wedge-shaped, with the anterior edge of sternal shield considerably elongated and extending to the end of coxae I.

Descriptions of *Ch. laelaptoides* made by various authors show considerable differences when it comes to body structure. For example, according to EVANS & HYATT (1960), tectum in *Ch. laelaptoides* has three tips, each with several (two or three) denticles. These differences may suggest the need for a closer study of their morphological variability, as they may be representatives of separate species.

6. Acknowledgement

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