

SUBFAMILY ARCTOSEIINAE (ACARI, MESOSTIGMATA) IN THE MUSEUM FÜR NATURKUNDE BERLIN

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Abstract. Representatives of the mesostigmatid mite subfamily Arctoseiinae (Acari: Mesostigmata: Gamasina: Ascidae) held in the Museum für Naturkunde Berlin are documented. This material stems from the extensive Wolfgang Karg collection and originates primarily from (eastern) Germany, as well as Sweden, Chile and New Caledonia in the Pacific. Here, we record seventeen Arctoseiine species in Berlin, including type material of the following seven species: *Arctoseius brevichelis* Karg, 1969, *A. dendrophilus* Karg, 1969, *A. pristinus* Karg, 1962, *A. resinae* Karg, 1969, *A. sessiluncus* Karg, 1965, *Zerconopsis apodius* Karg, 1969 and *Iphidozercon validus* Karg, 1996.

Key words: mites, Acari, *Arctoseius*, *Iphidozercon*, *Zerconopsis*, Museum für Naturkunde

INTRODUCTION

Acarological taxonomy encounters many problems, since the recommendations of the International Code of Zoological Nomenclature have not always been observed by workers in this field. Examples include simplified or incomplete descriptions and figures of new species. As a result revisions, redescriptions, and species variability analyses rely heavily on both type material and additional museum specimens collected in various geographical areas. Difficulties can arise here due to a lack of information about where such material is located, or what its current condition is. One of the largest collections of mesostigmatid mites (Acari: Mesostigmata) is the Karg collection held in the Museum für Naturkunde Berlin. This internationally significant collection was assembled since the 1960s till by Prof. Dr. Wolfgang Karg (Kleinmachnow, near Berlin) and comprises over 7,500 mesostigmatid slide preparations – plus additional alcohol material – including type specimens of at least 600 mesostigmatid species.

Here we concentrate on one particular mesostigmatid family: Arctoseiidae. It is aimed to document the Berlin holdings of this group as the first stage of taxonomic research which is hoped to lead to a worldwide revision. Arctoseiinae is represented

in the Palearctic region by over forty species [Gwiazdowicz 2007]. The material in Berlin belongs to three genera, *Arctoseius* Oudemans, 1905, *Iphidozercon* Berlese, 1903 and *Zerconopsis* Hull, 1918, and brief accounts of the characteristics of these genera are provided. The material listed here stems primarily from eastern Germany – the former German Democratic Republic – as well as Sweden, Chile and New Caledonia, and further locality details are provided. In total, the Karg collection comprises seventeen Arc-toseiine species from Germany, including type material of seven species described by Wolfgang Karg himself [Karg 1962, 1965, 1969, 1993]. In detail, the study aimed to verify this material, e.g. checking whether the species on a microslide corresponds to the name on the label. In addition, current species names and/or synonyms have been verified and in the case of holo- and paratypes, geographical coordinates of the collection area (*terra typica*) are given.

MATERIAL AND METHODS

Specimens were examined by the authors and compared to data in the appropriate museum catalogues. All specimens have been assigned a museum inventory number under the traditional acronym “ZMB” (for Zoologisches Museum Berlin), and additionally bear Karg’s original slide number as “Karg Coll. No.”. All material consists of slide-mounted material unless stated otherwise. Unless noted otherwise, material originates from Germany and the current federal state (or Bundesland) has been added in the hope of assisting future efforts to digitize species distributions. The genders of adult specimens are given and in the few cases where this could be determined, but was not given on the original label, genders have been added here in the text. Additional abbreviations: D = deutonymph, P = protonymph, L = larva. Where known, brief data on the ecology and habitat preferences of the various species have been noted based on the studies of the senior author and/or the literature.

SYSTEMATICS

Ascidae Oudemans, 1905

Arctoseiinae Evans, 1963

Remarks. Members of this subfamily are characterised by having legs II to IV with the median lobe of the pulvillus broadly rounded and para-anal setae inserted anterior to the hind margin of the anus, where they are usually shorter than the postanal seta. Furthermore, the maximum number of setae on genera I-II-III-IV is 12-10-8-7 respectively; on the tibiae it is 12-9-7-7. Seta pd-3 is absent on genu and tibia I, pl-2 is absent on genu and tibia II, and al-2 absent on genua and tibiae III-IV [Lindquist and Evans 1965].

***Arctoseius* Thor, 1930**

Remarks. Mites of the genus *Arctoseius* usually have a schizodorsal shield with clearly visible incisions in the central region of the dorsal side. There are 30-34 pairs of setae on the shield, of which 14 pairs are located posteriorly. Marginal setae occur on the lateral integument. The dorsal setae are smooth, simple and not paddle-shaped. Ornamentation is usually poorly-defined and most frequently alveolate, areolate or colliculate. Three pairs of setae occur on the sternal shield and setae st4 is located on a membrane. The St5 setae lie outside the genital shield. In females the anal shield bears three setae. Endopodal plates between coxae II and III are usually fused to the sternal shield; rarely are they free or absent. The hypostomal groove bears seven denticulate rows. The tectum is bi- or tri-ramous, its margins are smooth, but have denticulate process tips in some species. The movable digit of the chelicera is usually bi-dentate, but the dentition of the fixed digit varies from three well-separated teeth to a row of small, closely-set teeth. The palp lacks macrosetae on the tarsus [Lindquist 1961, Lindquist and Evans 1965, Karg 1973, Halliday et al. 1998].

***Arctoseius brevichelis* Karg, 1969**

Material. ZMB 37203, Karg Coll. No. 2542, 1 ♀, NSG "Gr. Wasserburg" Spreewald Erlenbruch (52°02' N, 13°51' E), 1967, **holotypus**; ZMB 37204, Karg Coll. No. 2543, 1 ♀, Kickelhahn, 1967; ZMB 37205, Karg Coll. No. 2544, 1 ♀, Oechsen Rhön., 1967; ZMB 37206, Karg Coll. No. 2545, 1 ♂, Thür., 1967.

Remarks. Epistome tri-ramous, seta Z5 at least three times longer than J5, ventri-anal shield small, longer than wide, sternal and genital shields without sculpture [Gwiazdowicz 2007]. Occurs in litter, humus, moss and between tree roots [Karg 1969].

***Arctoseius cetratus* (Sellnick, 1940)**

Material. ZMB 37382, Karg Coll. No. 2567, 1 ♂, Stahnsdorf b. Berlin; ZMB 37383, Karg Coll. No. 2568, 1 ♂, Stahnsdorf b. Berlin [gender not given on original label]; ZMB 37384, Karg Coll. No. 2569, 1 P, Kleinmachnow b. Berlin, 1958; ZMB 37385, Karg Coll. No. 2570, 1 L, Kleinmachnow b. Berlin, 1958; ZMB 37386, Karg Coll. No. 2571, 1 ♀, Stahnsdorf b. Berlin, 1958; ZMB 37387, Karg Coll. No. 2572, 1 ♀, Stahnsdorf b. Berlin, 1957; ZMB 37388, Karg Coll. No. 2573, 1 ♀, Stahnsdorf b. Berlin, 1957; ZMB 37389, Karg Coll. No. 2574, 1 ♀, Stahnsdorf b. Berlin, 1958; ZMB 37390, Karg Coll. No. 2575, 1 ♂, Stahnsdorf b. Berlin, 1957; ZMB 37391, Karg Coll. No. 2576, 1 P, Stahnsdorf b. Berlin, 1958; ZMB 37392, Karg Coll. No. 2577, 1 P, Stahnsdorf b. Berlin, 1958; ZMB 37393, Karg Coll. No. 2578, 1 P, Stahnsdorf b. Berlin, 1959; ZMB 37394, Karg Coll. No. 2579, 1 ♀, Kleinmachnow b. Berlin, 1958; ZMB 37395, Karg Coll. No. 2580, 1 ♂, Kleinmachnow b. Berlin, 1958; ZMB 37396, Karg Coll. No. 2582, 1 P, Kleinmachnow b. Berlin, 1958; ZMB 37397, Karg Coll. No. 2584, 1 L, Kleinmachnow b. Berlin, 1958; ZMB 37398, Karg Coll. No. 2581, 1 D, Kleinmachnow b. Berlin, 1961; ZMB 37399, Karg Coll. No. 2583, 1 P, Kleinmachnow b. Berlin; ZMB 37400, Karg Coll. No. 2585, 2 L, Bärenrade, Harz, 1962; ZMB 37401, Karg Coll. No. 2586, 1 ♀, Rübenfeld, 1959; ZMB 37402, Karg Coll. No. 2587, 2 ♀, Rübenfeld, 1959; ZMB 37403, Karg Coll. No. 2588, 1 ♀, Rübenfeld, 1959; ZMB

37404, Karg Coll. No. 2589, 1 ♀, Rübendorf, 1959; ZMB 37405, Karg Coll. No. 2590, 1 ♀, Rapsfeld, 1959; ZMB 37406, Karg Coll. No. 2591, 1 ♀, Rheinsberg-Linow, 1959; ZMB 37407, Karg Coll. No. 2592, 1 ♀, Erfurt, 1961; ZMB 37408, Karg Coll. No. 2593, 1 ♂, Vessertal, Thür., 1967, [noted as ♀ on original label]; ZMB 37409, Karg Coll. No. 2594, 1 ♀, Potsdam, 1964, [gender not given on original label]; ZMB 37410, Karg Coll. No. 2595, 1 D, Manschnow, 1959; ZMB 37411, Karg Coll. No. 2596, 1 D, Lemsel, 1959; ZMB 37412, Karg Coll. No. 2597, 1 ♂, Cerro el Rable, Cordillera de la Costa, Chile, 1965; ZMB 37413, Karg Coll. No. 2598, 1 ♂, Cerro el Rable, Cordillera de la Costa, Chile, 1965.

Remarks. Epistome bi-ramous, setae J2, Z1, Z2 and S1, S2 short, not reaching bases of following setae. Occurs in agricultural land, compost, the litter of various stands of trees, humus and rotting wood [Bregetova 1977, Karg 1993]. The greatest number of specimens has been reported from pastures, as well as anthills, bark beetle galleries and bird nests [Gwiazdowicz 2007].

Arctoseius dendrophilus Karg, 1969

Material. Karg Coll. No. 2533, 1 ♀, Park v. Wiesenburg (Fläming) (52°07'0" N, 12°26'59" E) 1965, **holotypus**; Karg Coll. No. 2534, 1 ♀, Park v. Wiesenburg (Fläming), 1965; Karg Coll. No. 2535, 1 ♀, Park v. Wiesenburg (Fläming), 1965; Karg Coll. No. 2536, 1 ♂, Park v. Wiesenburg (Fläming), 1965; Karg Coll. No. 2537, 1 ♂, Park v. Wiesenburg (Fläming), 1965.

Remarks. Dorsal shield without lateral incisions, anal shield width approximately equal to its length, at least part of dorsal shield covered with punctulate sculpture, most dorsal setae spiniform. Occurs in litter, e.g. beech trees, and in rotting wood [Karg 1969].

Arctoseius eremitus (Berlese, 1918)

Material. ZMB 37716, Karg Coll. No. 2599, 1 ♀, Stiege-Ilfeld, Harz, 1965; ZMB 37717, Karg Coll. No. 2600, 1 ♀, NSG Elsterhang b. Röttis, 1967 [gender not given on original label].

Remarks. Epistome tri-ramous, seta Z5 at least three times longer than J5, ventrianal shield large, distinctly wider than long. Occurs in litter, humus, lichens, rotting wood and also in the nests of small mammals and wolf excrement [Bregetova 1977, Gwiazdowicz 2007].

Arctoseius insularis (Willmann, 1952)

Material. ZMB 38138, Karg Coll. No. 2602, 1 ♀, Müncheberg, 1958; ZMB 38139, Karg Coll. No. 2603, 1 ♀, Fichtelberg, 1967; ZMB 38140, Karg Coll. No. 2604, 1 ♀, NSG Krägenriß westl. Wörlitz, 1967; ZMB 38141, Karg Coll. No. 2605, 1 ♀, NSG Schönitzer See b. Wörlitz, 1967; ZMB 38142, Karg Coll. No. 2607, 1 ♀, NSG Schönitzer See b. Wörlitz, 1967; ZMB 38143, Karg Coll. No. 2606, 1 ♀, Wörlitzer Park, 1967; ZMB 38144, Karg Coll. No. 2608, 1 ♀, Bärenrode, Harz, 1962; ZMB

38145, Karg Coll. No. 2609, 1 ♀, NSG Darß-Buch, 1967; ZMB 38146, Karg Coll. No. 2610, 1 ♀, Insel Usedom, 1966; ZMB 38147, Karg Coll. No. 2538, 1 ♀, Insel Rügen, 1971; ZMB 38148, Karg Coll. No. 2539, 1 ♂, Insel Rügen, 1971 [noted as ♀ on original label]; ZMB 38149, Karg Coll. No. 2540, 1 ♂, Insel Rügen, 1971; ZMB 38150, Karg Coll. No. 2541, 1 ♂, Insel Rügen, 1971.

Remarks. Epistome tri-ramous, setae Z5 same length as J5 or slightly longer, setae in row R spiniform, presternal plates absent. Occurs in both agricultural and forest soils. In forests it has usually been reported in litter, moss, rotting wood and in the nests of birds [Kalúz and Fenda 2005, Gwiazdowicz 2007].

Arctoseius magnanalis Evans, 1958

Material. ZMB 38416, Karg Coll. No. 2611, 1 ♀, Hasselfelde, Harz, 1965; ZMB 38417, Karg Coll. No. 2612, 2 ♀, Potsdamer Forst, 1961; ZMB 38418, Karg Coll. No. 2613, 1 ♂, Potsdamer Forst, 1962; ZMB 38419, Karg Coll. No. 2614, 1 ♂, Colbitzer Heide, 1962; ZMB 38420, Karg Coll. No. 2615, 1 D, Colbitzer Heide, 1962; ZMB 38421, Karg Coll. No. 2616, 1 P, Colbitzer Heide, 1962.

Remarks. Setae st5 outside genital shield, ventri-anal shield with five setae. Occurs in a variety of forests, most frequently in litter, humus, moss and the nests of rodents [Bregetova 1977, Gwiazdowicz 2007].

Arctoseius minutus (Halbert, 1915)

Material. ZMB 38495, Karg Coll. No. 2551, 1 ♀, Vessertal, 1967; ZMB 38496, Karg Coll. No. 2552, 1 ♀, Güntersberge-Stiege, Harz, Erlenbruch, 1965; ZMB 38497, Karg Coll. No. 2553, 1 ♂, Güntersberge-Stiege, Harz, Erlenbruch, 1965; ZMB 38498, Karg Coll. No. 2554, 1 ♂, Güntersberge-Stiege, Harz, Erlenbruch, 1965; ZMB 38499, Karg Coll. No. 2555, 1 ♀, Darß-Weststrand, 1966; ZMB 38500, Karg Coll. No. 2556, 1 ♀, Darß-Weststrand, 1966; ZMB 38501, Karg Coll. No. 2557, 1 ♀, NSG Darß (Neudarß), 1966; ZMB 38502, Karg Coll. No. 2558, 1 ♀, NSG Darß (Neudarß), 1966; ZMB 38503, Karg Coll. No. 2559, 1 ♀, NSG Darß (Neudarß), 1966; ZMB 38504, Karg Coll. No. 2560, 1 ♀, Insel Usedom, 1966; ZMB 38505, Karg Coll. No. 2561, 1 ♀, Langer See b. Neustrelitz, 1965; ZMB 38506, Karg Coll. No. 2562, 1 ♀, Vessertal, 1967; ZMB 38507, Karg Coll. No. 2601, 1 ♀, Darnsdorf, 1981.

Remarks. Dorsal shield without lateral incisions, anal shield width approximately equal to its length, at least part of dorsal shield covered with punctulate sculpture, most dorsal setae simple. Occurs in litter, moss, rotting wood and the nests of small mammals [Bregetova 1977, Karg 1993]. Gwiazdowicz [2007] reported *A. minutus* in bark beetle galleries.

Arctoseius pristinus Karg, 1962

Material. ZMB 38931, Karg Coll. No. 2563a, 1 ♀, Kleinmachnow b. Berlin (52°24' N, 13°13' E) 24.04.1958, **holotypus**; ZMB 38932, Karg Coll. No. 2563b, 2 ♀, Potsdamer Forst, 1961; ZMB 38933, Karg Coll. No. 2564, 1 ♀, Forst Wallitz, Gühlen, 1965;

ZMB 38934, Karg Coll. No. 2565, 1 ♀, Erzgebirge, Fichtelberg, 1967; ZMB 46133, Karg Coll. No. 2566, 1 L, Leutratal b. Jena, 1971.

Remarks. Epistome tri-ramous, setae Z5 same length as J5 or slightly longer, setae in row R simple, presternal plates absent. Occurs in agricultural land and in the litter of various stands of trees [Karg 1962].

***Arctoseius resinae* Karg, 1969**

Material. ZMB 39052, Karg Coll. No. 2549, 1 ♀, Nähe Hasselfelde, Harz (51°41' N, 10°51' E), 1969, **holotypus**.

Remarks. Epistome tri-ramous, seta Z5 at least three times longer than J5, ventri-anal shield small, longer than wide, sternal shield with reticulate sculpture, genital shield with punctulate sculpture. Occurs most frequently in litter and in rotting wood [Karg 1969].

***Arctoseius semiscissus* (Berlese, 1892)**

Material. ZMB 39149, Karg Coll. No. 2521, 1 ♀, Stahnsdorf b. Berlin, 1958; ZMB 39150, Karg Coll. No. 2522, 1 ♀, Stahnsdorf b. Berlin, 1958; ZMB 39151, Karg Coll. No. 2523, 1 ♀, Stahnsdorf b. Berlin, 1958; ZMB 39152, Karg Coll. No. 2524, 1 ♀, Kleinmachnow b. Berlin, 1964; ZMB 39153, Karg Coll. No. 2525, 1 ♀, Potsdamer Forst, 1961; ZMB 39154, Karg Coll. No. 2526, 1 ♀, Erfurt, 1958; ZMB 39155, Karg Coll. No. 2527, 1 ♀, Vessertal, 1967; ZMB 39156, Karg Coll. No. 2528, 1 ♀, Berlin-Wartenberg, 1971; ZMB 39157, Karg Coll. No. 2529, 1 ♀, Berlin-Wartenberg, 1971; ZMB 39158, Karg Coll. No. 2530, 1 ♀, Chile, Misituni (Prov. Tarapaca), 1965; ZMB 39159, Karg Coll. No. 2531, 1 ♀, Sweden; ZMB 39160, Karg Coll. No. 2532, 1 ♀, Sweden [gender not given on original label].

Remarks. Epistome bi-ramous, setae J2, Z1, Z2 and S1, S2 long, reaching bases of following setae. Occurs in litter, humus, compost, grass sods in meadows, rotting wood, and also in the nests of small rodents [Bregetova 1977, Karg 1993].

***Arctoseius sessiluncus* Karg, 1965**

Material. ZMB 39207, Karg Coll. No. 2546, 1 ♀, Müncheberg (52°30' N, 14°08' E), 1958, **holotypus**; ZMB 39208, Karg Coll. No. 2547, 1 ♀, Müncheberg, 1958; ZMB 39209, Karg Coll. No. 2548, 1 ♂, Müncheberg, 1958.

Remarks. Seta Z5 at least three times longer than J5, setae Z4 two times longer than Z3, setae S2 on membrane. Occurs in meadows [Karg 1965].

***Arctoseius venustus* (Berlese, 1916)**

Material. Karg Coll. No. 2508, 1 ♀, Sachsendorf, Frankfurt O., 1960; Karg Coll. No. 2509, 1 P, Sachsendorf, Frankfurt O., 1960; Karg Coll. No. 2510, 1 L, Sachsendorf, Frankfurt O., 1960; Karg Coll. No. 2511, 1 L, Sachsendorf, Frankfurt O., 1960; Karg

Coll. No. 2512, 1 ♀, Mahndorf, Halberst, 1961; Karg Coll. No. 2513, 1 ♂, Mahndorf, Halberst, 1961; Karg Coll. No. 2514, 1 D, Mahndorf, Halberst, 1961; Karg Coll. No. 2515, 1 D, Mahndorf, Halberst, 1961; Karg Coll. No. 2516, 1 D, Mahndorf, Halberst, 1961; Karg Coll. No. 2517, 1 P, Mahndorf, Halberst, 1961; Karg Coll. No. 2518, 1 L, Mahndorf, Halberst, 1961; Karg Coll. No. 2519, 1 ♀, Potsdamer Forst, 1961; Karg Coll. No. 2520, 1 ♀, Egel, 1968.

Remarks. Epistome tri-ramous, setae Z5 same length as J5 or slightly longer, setae in row R spiniform, pair of presternal plates present. Occurs in agricultural lands (e.g. in alfalfa crops) in forest litter, humus and rotting wood [Karg 1993, Gwiazdowicz 2007].

Arctoseius sp.

Material. ZMB 39053, Karg Coll. No. 2550, 1D, Stiege, Harz, 1967 [originally labelled *Arctoseius resiniae* Karg, 1969].

Iphidozercon Berlese, 1903

Remarks. According to Lindquist [1961], Lindquist and Evans [1965] and Halliday et al. [1998], typical features of *Iphidozercon* include a dorsal idiosoma with a holodorsal shield and a vertex curved towards the body venter. Due to this j1 (vertical) setae are sometimes not visible dorsally. The dorsal shield has 32 pairs of setae (18 + 14) and its ornamentation is punctulate, reticulate or areolate. The sternal shield has three pairs of setae, the genital shield is small and narrow and setae st5 is situated outside this shield. The peritrematal shield is wide with a long peritreme and the upper part of the peritreme curve inward. Aereolate metapodal plates are present behind the peritrematal shield; the anal shield has three setae. The hypostome has seven rows of 5-21 denticles; the fixed digit of the chelicera is tridentate and the movable digit bidentate. The epistome is tri-ramous and has denticles; the palptarsus bears a macroseta [Evans 1958, Gwiazdowicz and Halliday 2008]. *Iphidozercon* was further distinguished by Karg [1993] on the basis of, e.g., the absence of the lateral boundary of the hypostomal groove on the hypostome, where seven denticulate rows are present.

Iphidozercon gibbus (Berlese, 1903)

Material. ZMB 37949, Karg Coll. No. 2715, 1 ♀, Mahndorf, Halberstadt, 1961; ZMB 37950, Karg Coll. No. 2716, 1 ♀, Mahndorf, Halberstadt, 1961; ZMB 37951, Karg Coll. No. 2717, 1 ♀, Manschnow, Oderbruch, 1962; ZMB 37952, Karg Coll. No. 2718, 1 ♀, Manschnow, Oderbruch, 1962; ZMB 37953, Karg Coll. No. 2719, 1 ♀, Ostsee, Wustrow, 1967; ZMB 37954, Karg Coll. No. 2720, 1 ♀, NSG Darß, Erlenbruch, 1967; ZMB 37955, Karg Coll. No. 2722, 1 ♂, NSG Darß, Erlenbruch, 1967; ZMB 37956, Karg Coll. No. 2721, 1 ♂, NSG Darß, Erlenbruch, 1966; ZMB 37957, Karg Coll. No. 2723, 1 ♀, Oechsen Rhön, 1967; ZMB 37958, Karg Coll. No. 2724, 1 ♀, Vessertal, Thür., Löffeltal, 1967; ZMB 37959, Karg Coll. No. 2725, 1 ♀, Vessertal, Thür., 1967; ZMB 37960, Karg Coll. No. 2726, 1 ♂, Halberstadt, 1960.

Remarks. Peritrema ending at stigma, sternal shield narrow and not fused with the endopodals, vertex directed downwards so that vertical setae are not visible from above.

Occurs in forests, meadows and agricultural land. It prefers the surface layer of soil, litter, compost, rotting wood and rodents' nests. It was also reported in the nests of birds [Karg 1993, Kalúz and Fenda 2005].

***Iphidozercon validus* Karg, 1996**

Material. ZMB 45280, Karg Coll. No. 6710, Neu Kaledon., 1 ♀, Lifou, 1977, **holotypus**; ZMB 45281, Karg Coll. No. 6711, 1 ♂; ZMB 45282, Karg Coll. No. 6712, 1 ♀; all from New Caledonia (as "Neu Kaledon.") (20°57'59" S, 167°13'58" E), Loyalty Islands, Lifou, 1977.

Remarks. Part of peritreme reaching beyond stigma, dorsal shield with foveate sculpture. The ecology of this species from the Islands of the Pacific is unknown [Karg 1996].

***Zerconopsis* Hull, 1918**

Remarks. The dorsal shield of adult *Zerconopsis* is entire or has lateral incisions. Females have 37-42 pairs of setae; 19-22 pairs on the anterior region and 14 pairs on the posterior region of the dorsal shield, and 6-9 pairs on the lateral membrane. The dorsal setae are smooth, mostly simple, but some (invariably s4 and Z5, and usually Z3) are paddle-shaped. Females have genital setae on the membrane of the genital shield. The ventrianal shield has anal setae plus one to six pairs of ventral setae. The tectum is triramous, each process is denticulate and similar in size. The deuterosternum bears rows of denticles bordered by conspicuously or weakly-formed lateral lines. The palp lacks macrosetae on the tarsus [Lindquist and Evans 1965, Bregetova 1977, Kalúz and Fenda 2005].

***Zerconopsis apodius* Karg, 1969**

Material. ZMB 39871, Karg Coll. No. 2746, 1 ♀, Wiesenburg (52°07'0" N, 12°26'59" E), **holotypus**; ZMB 39872, Karg Coll. No. 2747, 1 ♂; ZMB 39873, Karg Coll. No. 2748, 1 ♂; ZMB 39874, Karg Coll. No. 2744, 1 ♀; ZMB 39875, Karg Coll. No. 2745, 1 ♀; all from Park v. Wiesenburg (Fläming) (52°07' N, 12°27' E), 1965.

Remarks. Legs I without claws. Occurs in the surface layer of soil, litter and rotting wood [Karg 1969, Gwiazdowicz 2007].

***Zerconopsis michaeli* Evans et Hyatt, 1960**

Material. ZMB 40746, Karg Coll. No. 2740, 1 ♀; ZMB 40747, Karg Coll. No. 2741, 1 ♀, both Müritz, 1965; ZMB 40748, Karg Coll. No. 2742, 1 ♀; ZMB 40749, Karg Coll. No. 2743, 1 ♀.

Remarks. Legs I with claws, dorsal shield with four pairs of spatulate setae. Occurs in litter, humus and rotting wood [Bregetova 1977]. Gwiazdowicz [2007] reported this species in fruiting bodies of *Deadalea quercina* L. ex Fr., *Fomes fomentarius* (L.: Fr.) Fr. and *Phellinus pini* (Thore ex Fr.) Pilat.

Zerconopsis remiger (Kramer, 1876)

Material. ZMB 41199, Karg Coll. No. 2739, 1 ♀, Müritz, 1965.

Remarks. Legs I with claws, dorsal shield with three pairs of spatulate setae. Occurs in litter, moss, rotting wood, and in humus between roots [Bregetova 1977, Gwiazdowicz 2007].

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**ROZTOCZE Z PODRODZINY ARCTOSEIINAE (ACARI, MESOSTIGMATA)
W KOLEKCJI MUSEUM FÜR NATURKUNDE W BERLINIE**

Streszczenie. W pracy przedstawiono wykaz roztoczy z podrodziny Arctoseiinae (Acari: Mesostigmata: Gamasina: Ascidae), które znajdują się w Museum für Naturkunde w Berlinie. Materiał ten pochodzi z bogatej kolekcji Wolfganga Karga, która była zbierana głównie we wschodniej części Niemiec, a także w Szwecji, Chile i Nowej Kaledonii na Pacyfiku. W pracy przeanalizowano 17 gatunków, w tym materiał typowy: *Arctoseius brevichelis* Karg, 1969, *A. dendrophilus* Karg, 1969, *A. pristinus* Karg, 1962, *A. resinae* Karg, 1969, *A. sessiluncus* Karg, 1965, *Zerconopsis apodius* Karg, 1969 and *Iphidozercon validus* Karg, 1996.

Słowa kluczowe: roztocze, Acari, *Arctoseius*, *Iphidozercon*, *Zerconopsis*, Museum für Naturkunde

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