

NEW SPECIES OF HOPLOSEIUS BERLESE 1914
(ACARI: GAMASIDA, ASCIDAE) FROM POLAND

D. J. GWIAZDOWICZ

*August Cieszkowski Agricultural University, Department of Forest and Environment Protection
Wojska Polskiego 71C, 60–625 Poznań, Poland, E-mail: dagwiazd@owl.au.poznan.pl*

This work presents a description and figures of a new species of the genus *Hoploseius*. The species was recorded in fungal fruiting bodies in West Poland. This is the first record of the genus in Europe.

Key words: mites, Acari, Gamasida, Ascidae, *Hoploseius*

INTRODUCTION

The genus *Hoploseius* was described by BERLESE (1914), who revised his own description of the species *Zercon cometa* of four years earlier (BERLESE 1910).

All species of the genus *Hoploseius* described so far are associated with fungal fruiting bodies or phoretic on insects found on fruiting bodies. They have been observed in Africa, North America, Australia and Asia. *Hoploseius cometa* (BERLESE, 1910) was collected from a brachycerous fly from Java and from polypores in Sumatra. *H. drosophili* CHANT, 1963 was observed on *Mycodrosophila* flies in North America, *H. bakeri* LINDQUIST, 1963 was collected from shelf fungi in the Congo, *H. tenuis* LINDQUIST, 1965 was recorded on coniferous bracket fungi in Mexico, *H. sitalaensis* BHATTACHARYYA, 1977 from “*Agaricus* sp.” in India, and *H. australianus* WALTER, 1998 from white polypore shelf fungus in Australia (CHANT 1963, LINDQUIST 1963, 1965, BHATTACHARYYA 1977, WALTER 1998).

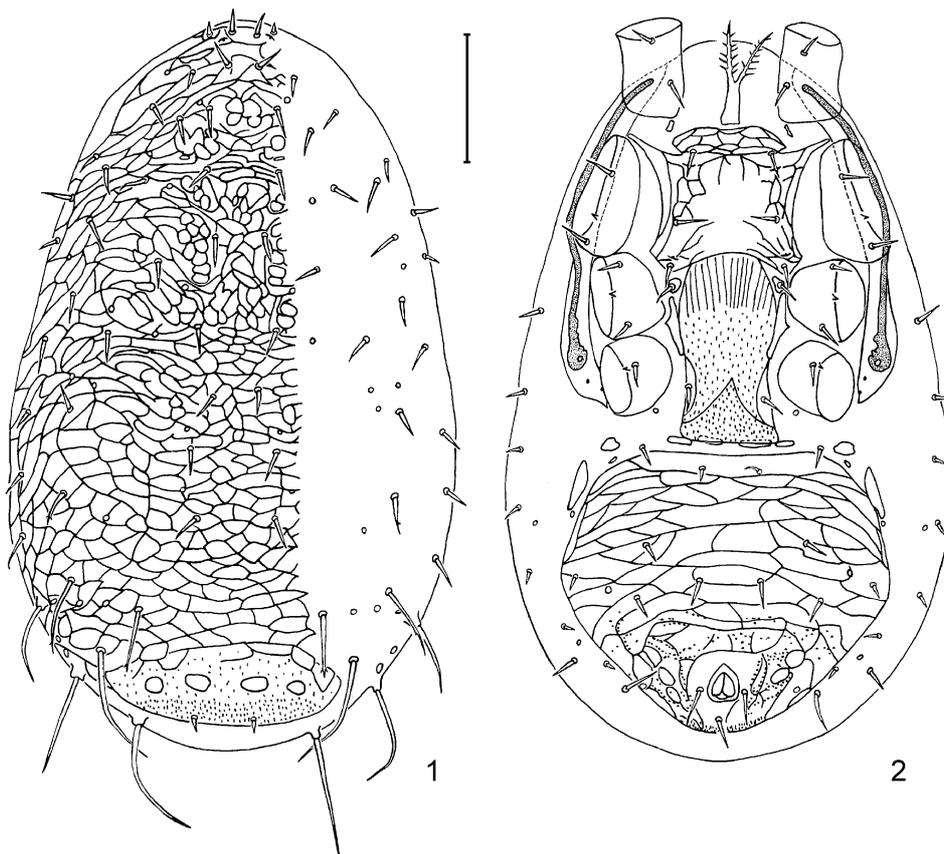
Fruiting bodies of several species of fungi collected in West Poland (Wałcz Forest District) (GWIAZDOWICZ & ŁAKOMY 2002) yielded a new species of the genus *Hoploseius* whose description is presented below. Until now, this genus has not been recorded in Europe (KARG 1993). Prof OLGA MAKAROVA observed one individual of this genus in North-eastern Europe, but it has not been published yet.

Hoploseius mariae sp. n.
(Figs 1–8)

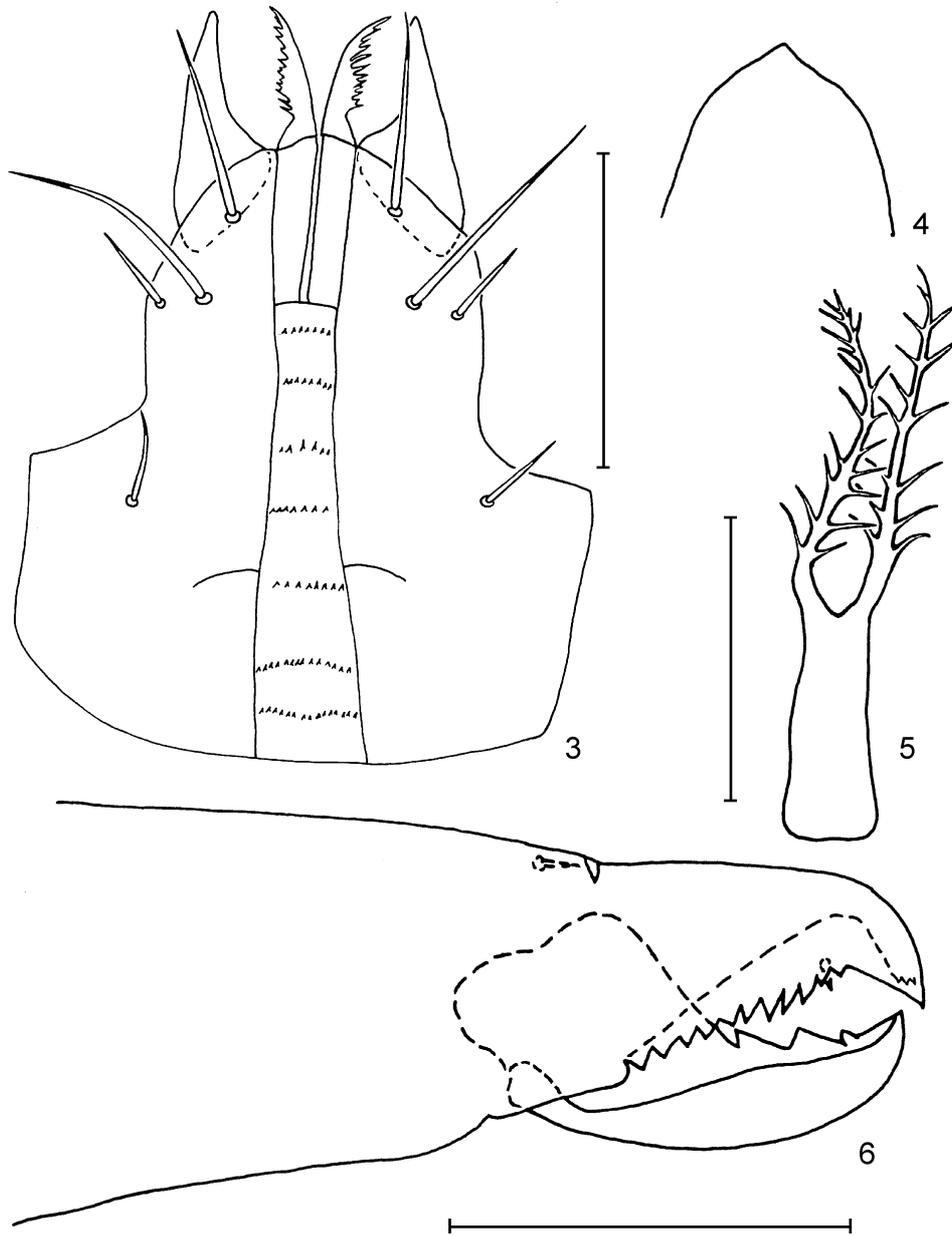
Holotype: 1 female collected from the fruiting body *Trametes versicolor* (L. ex Fr.) Pil. on 18.04.1998 in Wałcz Forest District, leg. P. Łakomy.

Paratypes: 327 females obtained from fruiting body *Trametes versicolor*, 144 females from fruiting body *Bjerkandera adusta* (Willd ex Fr.) P. Karst., 106 females collected from *Deadalea quercina* L. ex Fr., 22 females from *Fomitopsis pinicola* (Swartz ex Fr.) P. Karst. All fruiting bodies were obtained in Wałcz Forest District on 18.04.1998, leg. P. Łakomy. One female was extracted from a litter sample collected from the Karkonosze National Park (compartment 214 G), on 12.06.2000, leg. D. J. Gwiazdowicz.

Holotype and same paratypes are deposited in the author's collection; other paratypes in the Canadian National Collection of Insects and Arachnids.



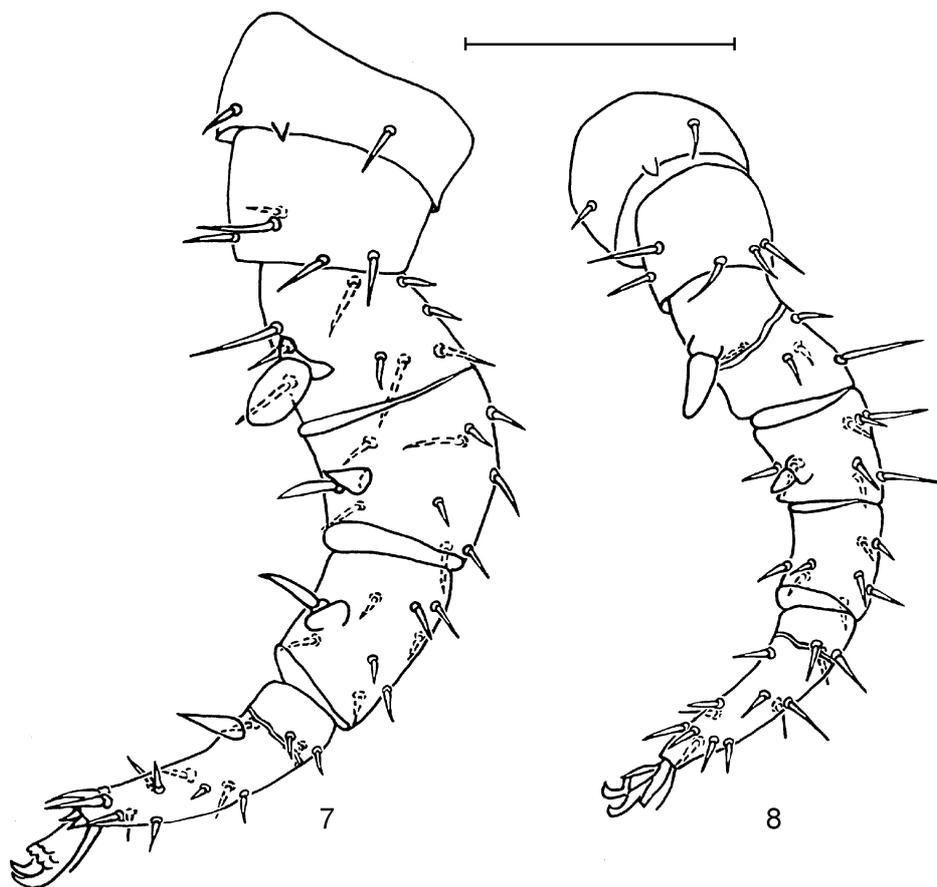
Figs 1–2. *Hoploseius mariae* sp. n., female: 1 = dorsal view, 2 = ventral view (scale: 100 μ m)



Figs 3–6. *Hoploseius mariae* sp. n., female: gnathosoma (scale: 50 μm), 4 = tectum, 5 = tritosternum (scale: 40 μm), 6 = chelicera (scale: 100 μm)

Description of female. Length of idiosoma 570–600 μm , width 350–370 μm . Body oval, egg-shaped, holodorsal shield with distinct ornamentation (Fig 1). Holodorsal shield bearing 35 pairs of setae. Most setae similar in length to that of *i4* (20 μm). Only setae *r1* and *J5*, with length 10 μm , are markedly shorter. Setae *Z2* (30 μm), *J4* (45 μm), *Z3*, *S4* (55 μm), *S5* (75 μm), *Z4*, *Z5* (90 μm) are longer. All setae are simple, only *Z2*, *Z3* and *J4* are occasionally weakly tricarinate. Pores, e.g. *ip3*, *ip4*, *zp1*, *JP3*, *JP2*, *ZP3*, *ZP4*, *SP4* situated typically for the genus *Hoploseius*.

Idiosomal venter with reticulate sternal shield, which bears simple setae *st1*–*3* and pores *stp1*–*2* (Fig. 2). Metasternal plates drop-shaped with simple seta *st4*. Epigynial shield punctured, bearing simple seta *st5*. Simple seta *ZV1* anterior to ventrianal shield on soft cuticle. Ventrianal shield (235 \times 270 μm) subcordate, reticulate, punctured in posterior third, with five pairs of simple ventral setae *JV1*–*3*, *ZV2*–*3*, paranal setae and postanal seta. Setae *JV1* (10 μm) markedly shorter than setae *JV2* (20 μm). Located posteriorly to anal opening is a narrow cribrum of two rows of denticles. Seta *JV5* (30 μm), posterior to ventrianal shield, is markedly longer than *JV4* (10 μm). Peritrema situated on peritrematic shield, which extends from coxa I to coxa IV. This shield is mark-



Figs 7–8. *Hoploseius mariae* sp. n., female: 7 = leg II, 8 = leg III (scale: 100 μm)

edly longer than peritrema and elongated below stigma. On peritrematic shield posterior to stigma there is a post-stigmatic pore.

Ventral side of hypostome (Fig. 3) with horn-like corniculi and 4 pairs of simple setae, the longest among them being C3 (40 μm), then C1 (30 μm), C2 and C4 (15 μm). Deutosternum with 8 distinct transverse rows, of which 7 have denticles Q1 (0), Q2 (5–8), Q3 (6–8), Q4 (6–8), Q5 (6–8), Q6 (6–9), Q7 (13–16), Q8 (13–16). Tectum (Fig. 4) is smooth and subtriangular. Tritosternum (85 μm) with strongly plumose laciniae (50 μm) (Fig. 5). Fixed digit of chelicera with row of 11 teeth and distal rasp with 3–4 teeth and spine-like pilus dentilis. Movable digit with three teeth (Fig. 6).

Legs of varying length, I (420 μm), II (360 μm), III (310 μm), IV (420 μm). Setation of leg I: coxa (2), trochanter (5), femur (12), genu (11), tibia (11); leg II: coxa (2), trochanter (5), femur (9+1), genu (10+1), tibia (9+1); leg III: coxa (2), trochanter (5), femur (5+1), genu (8+1), tibia (8); leg IV: coxa (1), trochanter (5), femur (7), genu (9), tibia (10). Femur II, genu II tibia II, tarsus II as well as femur III and genu III bearing spine-like setae (Figs 7, 8).

Hoploseius mariae sp. n. resembles *H. australianus* and *H. bakeri*. According to WALTER (1998), the major difference between these species are the spine-like setae on leg III. *H. bakeri* has no such setae on leg III. In *H. australianus* only femoral seta av is spine-like, while in *H. mariae* both femoral and genual seta av are spine-like. Moreover, the species differ in body size: *H. australianus* (480–540 μm), *H. bakeri* (447 μm), *H. mariae* (580–600 μm). These differences also concern setal length both on dorsal and ventral side, e.g. in *H. mariae* setae Z4 and Z5 are of equal length (length of up to 90 μm), while in *H. australianus* setae Z4 (90 μm) is markedly longer than Z5 (75 μm). In *H. australianus*, length of setae S4 equals that of S5 (50–60 μm), while in *H. mariae* S5 (75 μm) is markedly longer than S4 (55 μm).

Etymology: The species is dedicated to my daughter MARIA MAGDALENA GWIAZDOWICZ.

*

Acknowledgement – Special thanks to Dr. E. E. LINDQUIST for his assistance during the determination of material and for valuable comments concerning differences between *Hoploseius australianus* and *H. mariae*.

REFERENCES

- BERLESE, A. (1910) Brevi diagnosi di generi e specie nuovi di Acari. *Redia* **6**: 346–388.
BERLESE, A. (1914) Acari nuovi. Manipulus IX. *Redia* **10**: 113–150.
BHATTACHARYYA, S. K. (1977) New species of Hoploseius and Pseudoparasitus (Acarina: Mesostigmata) from India. *Indian J. Acarol.* **1**: 1–5.
CHANT, D. A. (1963) The subfamily Blattisocinae Garman (=Aceosejinae Evans) (Acarina: Blattisocidae German) (=Aceosejidae Baker & Wharton) in North America, with descriptions of new species. *Canadian J. Zool.* **41**: 243–305.

- GWIAZDOWICZ, D. J. & ŁAKOMY, P. (2002) Mites (Acari, Gamasida) occurring in fruiting bodies of Aphyllophorales. *Fragm. Faun.* **45**: 81–89.
- KARG, W. (1993) *Acari (Acarina) Milben Parasitiformes (Anactinochaeta), Cohors Gamasina Leach. Raubmilben*. Gustav Fischer Verlag, Jena, 523 pp.
- LINDQUIST, E. E. (1963) A taxonomic review of the genus *Hoploseius* Berlese (Acarina: Blattisociidae). *Can. Entomol.* **95**: 1175–1185.
- LINDQUIST, E. E. (1965) An unusual new species of the genus *Hoploseius* Berlese (Acarina: Blattisociidae) from Mexico. *Can. Entomol.* **97**: 1121–1131.
- WALTER, D. E. (1998) *Hoploseius australianus* sp. nov. (Acari: Mesostigmata: Ascidae), a unique element in the Australian acarofauna. *Australian Entomologist* **25**(3): 69–74.

Revised version received August 27, 2002, accepted December 16, 2002, published January 15, 2003