

# A new larval *Abrolophus* Berlese, 1891 from Poland and Slovakia

(Acari, Trombidiformes, Erythraeidae)

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*Abrolophus poljankus* sp. nov. (Acari, Erythraeidae) is described from Slovakia and Poland. *Leptus (Leptus) molochinus* is new for the fauna of Slovakia. A list of terrestrial Parasitengona species for Slovakia is given.

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## Introduction

In this paper we describe the larvae of a new species *Abrolophus poljankus*, collected in Poland and Slovakia. This species belongs to the species group of *Abrolophus* Berlese, 1891 without comb-like setae on palptarsus, divergent tibial claw and entire parodontus. This group includes: *A. dagmarae* (Haitlinger, 2012), *A. marijanopolicus* Haitlinger & Šundić, 2018, *A. norvegicus* (Thor, 1900), *A. sardinensis* (Haitlinger, 2007), *A. silesiacus* (Haitlinger, 1986), *A. viburnicolus* Fain & Çobanoğlu, 1998 and *A. yanlingicus* Zheng, 2002 (Thor 1900, Haitlinger 1986, 2007, 2012, Fain & Çobanoğlu 1998, Zheng 2002, Haitlinger & Šundić 2018). The terrestrial Parasitengona fauna of Slovakia is very poorly known. Hitherto only 14 species were found (with new species, excluding Leeuwenhoekidae, Trombiculidae and Walchiidae). *Leptus (Leptus) molochinus* (C. L. Koch, 1937) is new to the fauna of Slovakia.

## Material and methods

The specimens were collected by a sweep net on herbaceous plants and preserved in 70 % ethanol. Mite specimens were cleared in Nesbitt's solution and mounted in Berlese medium. All measurements

are given in micrometers (µm) and calculated using a Carl Zeiss Axioscope A1 microscope and Carl Zeiss Imager A2 with differential interference contrast and phase contrast. The terminology and abbreviations follow Haitlinger (1999, 2013).

## Results

Family Erythraeidae Robineau-Desvoidy, 1828

Subfamily Abrolophinae Witte, 1995

Genus *Abrolophus* Berlese, 1891

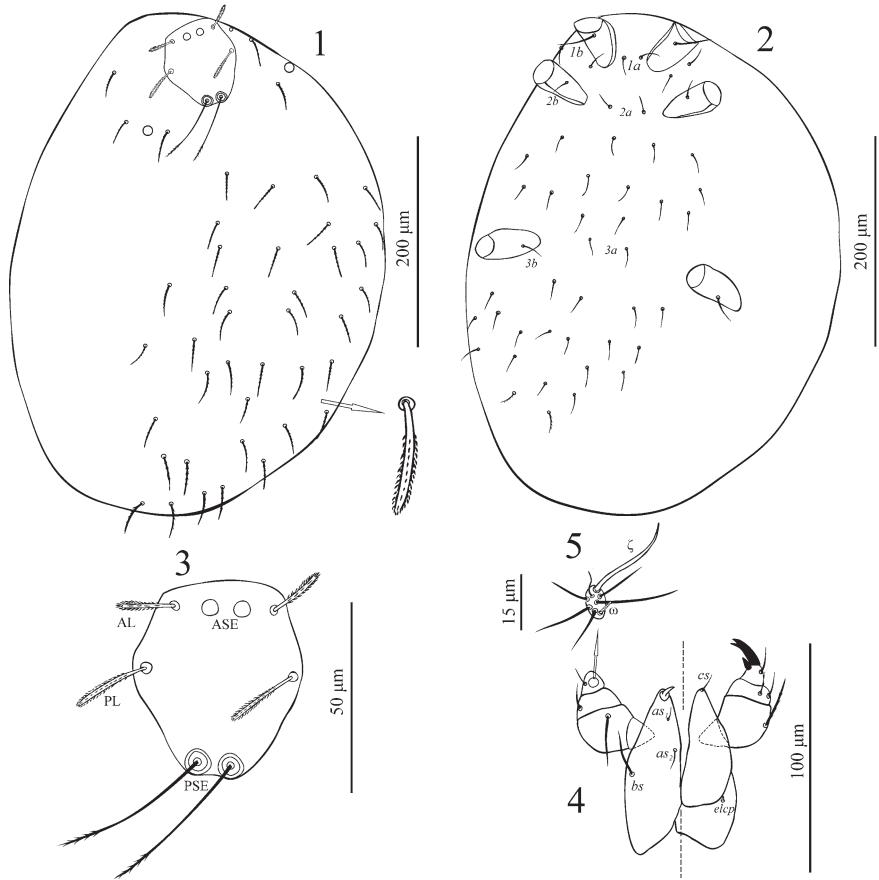
*Abrolophus poljankus* sp. nov.

Figs 1–8

**Diagnosis.** (n=4), fD 42 (40–46 in paratypes), odontus divergent, accessory claw not divergent, all palpal setae nude, Ta I 47–52, Ti III 64–71, IP 920–979.

**Description** (n=4) (based on holotype and three paratypes, larvae).

Dorsal surface with 42 (40–46 in paratypes) barbed setae; eyes posterolateral to scutum, circular, not on platelets, 14 (13 in paratypes) in diameter (Fig. 1). Scutum with two pairs of scutalae (AL, PL) with distinct setules and two pairs of sensillae (ASE, PSE both barbed on distal 1/4) (Fig. 3). Ventral side



**Figs 1–5.** *Abrolophus poljankus* sp. nov., larva: 1. idiosoma, dorsal view; 2. idiosoma, ventral view; 3. scutum; 4. gnathosoma; 5. palptarsus.

of idiosoma with setae  $1\alpha$ ,  $2\alpha$  and  $3\alpha$ , all nude. Six setae between coxae I-II and 14 setae between coxae II III, all nude; 20 setae behind coxae III (20–22 in paratypes), all nude, except two setae in posterior row of idiosoma. Coxalae  $1b$ ,  $2b$  and  $3b$  nude (Fig. 2).

Gnathosoma dorsally with adoral nude setae  $cs$ . Ventrally a pair of short and nude setae  $as_1$  and a pair of nude setae  $as_2$  and a pair of longer, nude setae  $bs$ . Palpfemur with two setae, both nude. Palpgenu with three nude setae ad palptibia with two nude setae and entire accessory claw (paradontus) (Fig. 4). Palptarsus with  $1\omega$ ,  $1\zeta$ ,  $6N$  (Fig. 5). Supracoxal seta peg-like (3–5).

#### Leg setal formula:

Leg I: Ta-1 $\omega$ , 2 $\zeta$ , 1Cp, 1 $\varepsilon$ ; 19; Ti-2 $\varphi$ , 1 $\kappa$ , 11; Ge-1 $\sigma$ , 1 $\kappa$ , 10; Tf-8; Bf-4; Tr-2; Cx-1 (Fig. 6).

Leg II: Ta-1 $\omega$ , 2 $\zeta$ , 16; Ti-2 $\varphi$ , 1 $\kappa$ , 13; Ge-1 $\sigma$ , 10; Tf-5; Bf-4; Tr-2; Cx-1 (Fig. 7).

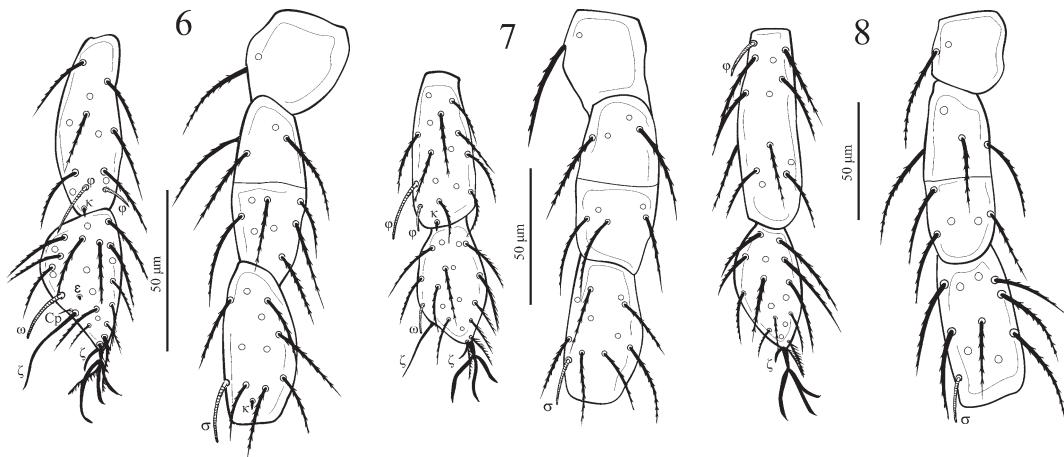
Leg III: 1 $\zeta$ , 16; Ti-1 $\varphi$ , 12; Ge-1 $\sigma$ , 10; Tf-5; Bf-4; Tr-12 Cx-1 (Fig. 8).

Measurements for the holotype and paratypes are given in Table 1.

**Etymology.** The name is derived from the name of the village Nižná Poljanka in Slovakia, where the species was collected.

**Type material.** Holotype larva, from herbaceous plants in Nižná Poljanka n. Bardejov (Slovakia), 25 June 2014; one paratype the same data; one paratype from Stefków n. Szydłowiec, 11 July 1991 and one paratype from Wrocław-Swojczyce, 21 June 1983, both from Poland; leg. R. Haitlinger. The holotype and one paratype are deposited in the Museum of Natural History, Wrocław University, Poland; two paratypes in collection of senior author.

**Remarks.** This species belongs to the larval species of the genus *Abrolophus* with divergent tibial claw, entire paradontus and lacking comb-like seta on palptarsus. This group includes: *A. dagmarae*, *A. gracilentus*, *A. marijanopolicus*, *A. norvegicus*, *A. sar-*



Figs 6–8. *Abrolophus poljankus* sp. nov., larva: 6. leg I; 7. leg II; 8. leg III.

*diniensis*, *A. silesiacus*, *A. viburniculus* (included in this group, however, according to Fain & Çobanoglu (1998) the palpal tibial claw is not forked at apex but bears a small preapical and ventro-lateral tooth) and *A. yanlingicus*. Description of *A. gracilentus* lacks detail and therefore cannot be compared with new species. Metric data for *A. silesiacus* and *A. dagmarae* are given by Haitlinger & Łupicki (2015). It differs from *A. dagmarae* in the shorter AW (29–34 vs. 39–48), PW (46–51 vs. 57–66), AL (19–21 vs. 25–33), PL (25–31 vs. 34–42), GL (74–84 vs. 101–118), Ta I (47–52 vs. 56–71), leg II (295–305 vs. 327–362), leg III (327–354 vs. 381–416) and narrower paradontus (prd) (2 vs. 8–11); from *A. mariapoliticus* in FD (40–46 vs. 54–66), behind coxae III 20–22 setae vs. 24–32 setae, Ge I–III formula: I 10 vs. 11, II 10 vs. 9, III 10 vs. 9, the shorter PW (46–51 vs. 53–65), GL (74–84 vs. 84–106), Ta I (47–52 vs. 53–53), Ti III (64–71 vs. 78–94), leg I (294–320 vs. 346–396), leg II (295–305 vs. 321–356), leg III (327–354 vs. 368–423), IP (920–979 vs. 1047–1169), setae on palpgenu 3N vs. 2B, 1N and setae 1b, 2b, 3b nude vs. setae 1b, 2b, 3b barbed; from *A. norvegicus* in the shorter L (59–65 vs. 67–88), W (53–61 vs. 68–84), PSE (46–50 vs. 52–89), AL (19–21 vs. 25–40), PL (25–31 vs. 42–63), AW (29–34 vs. 42–57), PW (46–51 vs. 62–80), GL (74–84 vs. 120–154), Ta I (47–52 vs. 56–75) and Ti III (64–71 vs. 84–108); from *A. sardiniensis* in the shorter GL (74–84 vs. 88), longer 1a (19–23 vs. 14), ISD (45–49 vs. 34), dorsal setae distinctly barbed vs. dorsal setae nude (two posterior setae slightly barbed), AL and PL barbed vs. AL and PL nude and fnGe I–III (10–10–10 vs. 8–8–8); from *A. silesiacus* in FD (40–46 vs. 72–78), all ventral setae (two posterior setae of idiosoma barbed) nude vs. all ventral setae barbed, seta bs nude vs. seta bs barbed, setae on palpgenu 3N vs. 2B, 1N, the shorter GL (74–84 vs. 98–125), leg

II (295–305 vs. 312–413), leg III (327–354 vs. 360–475) and IP (920–979 vs. 1026–1334); from *A. viburniculus* in the shorter AL (19–21 vs. 52), PL (25–31 vs. 45), ISD (45–49 vs. 63), and *as*<sub>1</sub> and *as*<sub>2</sub> nude vs. *as*<sub>1</sub> and *as*<sub>2</sub> barbed and from *A. yanlingicus* in FD (40–46 vs. 126), the shorter L (59–65 vs. 95), W (53–61 vs. 122), AW (29–34 vs. 83), PW (46–51 vs. 110), ISD (45–49 vs. 61), AL (19–21 vs. 73) and PL (25–31 vs. 117).

#### *Leptus (Leptus) molochinus* (C. L. Koch, 1837)

Nižná Poljanka n. Bardejov, Slovakia, 24 June 2014, 1 larva.

Species found throughout Europe. First record from Slovakia.

#### List of terrestrial Parasitengona found in Slovakia

Based on Beron (2008) and Makol & Wohltmann (2012), (excluding Leeuwenhoekidae, Trombiculidae and Walchiidae).

#### Erythraeidae Robineau-Desvoidy, 1828

1. *Abrolophus kazimiera* (Haitlinger, 1986)
2. *A. norvegicus* (Thor, 1900)
3. *A. poljankus* Haitlinger & Šundić, sp. nov.
4. *A. stanislavae* (Haitlinger, 1986)
5. *Balaustium nikae* Haitlinger, 1996
6. *Erythraeus (Erythraeus) regalis* (C. L. Koch, 1887)
7. *E. (E.) monikae* Haitlinger, 1987
8. *Leptus (Leptus) molochinus* (C. L. Koch, 1837)
9. *L. (L.) phalangii* (de Geer, 1778)
10. *L. (L.) trimaculatus* (Rossi, 1798)

**Table 1.** Metric data of *Abrolophus poljankus* sp. nov.

Character	Holotype	Paratypes		
IL	453	469	333	475
IW	376	314	220	317
L	59	61	63	65
W	56	53	61	59
AW	32	29	31	34
PW	48	47	51	46
AA	11	11	12	11
SB	14	13	13	12
AP	18	21	19	24
AL	19	21	21	20
PL	25	31	29	26
ASE	—	—	28	25
PSE	46	—	47	50
ISD	46	49	45	47
GL	75	74	84	83
DS	20–27	22–35	24–45	22–32
1a	19	22	20	23
2a	19	29	22	22
3a	18	26	22	—
1b	40	38	34	39
2b	18	25	24	—
3b	20	21	22	—
PsFd	29	28	29	26
PsFv	28	25	33	26
PaFe (L)	28	36	31	28
PaFe (W)	24	24	34	30
PaGe (L)	15	12	15	18
PaGe (W)	20	21	26	26
cs	18	14	21	14
bs	26	26	30	24
as <sub>1</sub>	7	6	6	—
as <sub>2</sub>	11	12	—	—
OD	11	12	14	14
1	22	24	22	21
Ta I	49	47	52	52
Ti I	—	56	59	54
Ge I	52	53	59	55
Tf I	26	29	29	26
Bf I	37	35	40	38
Tr I	34	30	33	26
Cx I	40	44	48	46
Ta II	42	41	48	46
Ti II	54	50	55	54
Ge II	51	52	52	51
Tf II	25	26	27	22
Bf II	33	32	35	33
Tr II	35	37	33	34
Cx II	55	61	55	56
Ta III	47	44	50	52
Ti III	70	67	71	64
Ge III	56	58	59	58
Tf III	30	33	36	30
Bf III	35	40	41	45
Tr III	38	33	36	37
Cx III	57	52	61	61
Leg I	—	294	320	297
Leg II	295	299	305	296
Leg III	333	327	354	347
IP	—	920	979	940

**Trombidiidae Leach, 1815**11. *Trombidium holosericeum* (Linnaeus, 1758)**Podothrombiidae Thor, 1935**12. *Podothrombium verae* Haitlinger, 1995**Johnstonianidae Thor, 1935**13. *Diplothrombium carpaticum* (Šorkan, 1938)14. *D. longipalpae* (Berlese, 1887)**References**

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