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## Abrolophus balkanicus sp. nov. from Montenegro, with redescriptions of *A. stanislavae* (Haitlinger, 1986) and *A. wratislaviensis* (Haitlinger, 1986) and notes on *A. podorasensis* (Haitlinger, 2007) (Acari: Erythraeidae)

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***Abrolophus balkanicus* sp. nov. from Montenegro, with redescrptions of *A. stanislavae* (Haitlinger, 1986) and *A. wratislaviensis* (Haitlinger, 1986) and notes on *A. podorasensis* (Haitlinger, 2007) (Acari: Erythraeidae)**

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**Abstract:** *Abrolophus balkanicus* sp. nov. is described and illustrated from larvae collected in Montenegro. *Abrolophus stanislavae* (Haitlinger) and *A. wratislaviensis* (Haitlinger) are redescrbed. New metric data for *A. podorasensis* (Haitlinger) are given. *A. podorasensis* is new to the fauna of Montenegro and *A. stanislavae* is new to the fauna of Bosnia and Herzegovina.

**Key words:** Taxonomy, new species, Trombidiformes, Prostigmata, *Abrolophus*, redescription, new records

## 1. Introduction

In the world the genus *Abrolophus* includes 41 species based on larvae or larvae and adults (Małkol & Wohltmann, 2012). The following species are known from Europe so far: *A. anzelmi* Haitlinger and Łupicki, 2013; *A. bohđani* (Haitlinger, 2003); *A. crimensis* Haitlinger, 2008; *A. dagmarae* (Haitlinger, 2012); *A. gracilentus* (Willmann, 1937); *A. hieronimi* Haitlinger and Łupicki, 2012; *A. humberti* (Haitlinger, 1996); *A. kazimierae* (Haitlinger, 1986); *A. kotorensis* (Haitlinger, 2007); *A. longicollis* (Oudemans, 1910); *A. marinensis* Haitlinger, 2007; *A. mirabelae* Haitlinger, 2007; *A. montenegrinus* Saboori, Šundić and Pešić, 2012; *A. nivalis* (Schmölzer, 1956); *A. norvegicus* (Thor, 1900); *A. nymindegabicus* Haitlinger, 2008; *A. parvum* Schweize and Bader, 1963; *A. petanovicæ* Saboori, Šundić and Pešić, 2012; *A. podorasensis* (Haitlinger, 2007); *A. qiusquiliarus* (Hermann, 1804); *A. rudaensis* (Haitlinger, 1986); *A. sardiniensis* (Haitlinger, 2007); *A. silesiacus* (Haitlinger, 1986); *A. stanislavae* (Haitlinger, 1986); *A. willmanni* (Schweizer, 1951); and *A. wratislaviensis* (Haitlinger, 1986) (Thor, 1900; Oudemans, 1910; Willmann, 1937; Schweizer, 1951; Schmölzer, 1956; Schweizer and Bader, 1963; Haitlinger, 1986, 2003a, 2007a, 2007b, 2007c, 2008a, 2008b, 2012a, 2010b; Beron, 2008; Małkol and Wohltmann, 2012; Saboori et al., 2012; Haitlinger and Łupicki, 2013a, 2013b).

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In this paper we describe the larvae of the new species *Abrolophus balkanicus*, collected in Montenegro. Moreover, redescrptions of *A. stanislavae* and *A. wratislaviensis* are given; descriptions of both species were incomplete and figures were restricted to the scutum and palp. *Abrolophus podorasensis* is noted for the first time from Montenegro and *A. stanislavae* is noted the first time from Bosnia and Herzegovina, and new metric and meristic data for *A. podorasensis* are given. Specimens from Serbia mistakenly identified as *A. stanislavae* (Haitlinger, 2012) belong to *A. podorasensis*.

## 2. Materials and methods

Thirty-five larvae were collected by M Šundić in Montenegro by sweep net on grasses from herbaceous plants; one specimen was collected from Poland and one specimen from Bosnia and Herzegovina by R Haitlinger, which were also from herbaceous plants. All specimens were preserved in 75% ethanol. Mite specimens were cleared in Nesbitt's solution and mounted in Hoyer's medium or Berlese's medium. Figures were drawn using a Carl Zeiss Axioscope A1. Measurements were made using a NIKON Eclipse 50i and all measurements are given in micrometers. The terminology and abbreviations follow Haitlinger (1999), Wohltmann et al. (2007), and Haitlinger et al. (2014). Additional measurements were: Prd (L), length of accessory claw; Prd (W), width of accessory claw.

### 3. Results and discussion

#### Family Erythraeidae Robineau-Desvoidy, 1828

#### Genus *Abrolophus* Berlese, 1891

#### *Abrolophus balkanicus* sp. nov.

**Material examined.** Holotype larva and five paratype larvae, Vitoja, 15 km east of Podgorica, June 2012, Montenegro, one paratype, Tuzi, June 2012, one paratype, Bijelopavlići n. Podgorica; all off hosts on grasses, collected by M Šundić. The holotype is deposited in the Museum of Natural History of Podgorica, Montenegro, and six paratypes are deposited in the Museum of Natural History, Wrocław University of Environmental and Life Sciences, Wrocław, Poland.

**Diagnosis.** fD 48 (45–48 paratypes), fV 20 (18–20), palpfemur with projection, odontus and accessory claw not divergent, Ta I 54 (51–58), Ti III 74 (70–79), IP 964 (950–1026).

**Description.** Larva (n = 8)

**Dorsum.** Idiosoma with 48 distinctly barbed dorsal setae (45–48 in paratypes). Eyes posterolateral to scutum, circular, not on platelets, 13 µm in diameter (Figure 1). Scutum longer than wide, with two pairs of barbed scutalae, AL > PL in holotype (longer, shorter, or equal in paratypes). Anterior sensillae (ASE) distinctly shorter than posterior sensillae (PSE), both with setules on their ½ distal part (Figure 2).

**Ventral side of idiosoma.** Sternal setae 1a, 2a, and 3a all barbed. Four setae between coxae I and II, 10 setae between coxae II and III, and 20 behind coxae III (18–20 in paratypes); all these setae barbed. Setae 1b > 3b > 2b; all setae barbed (Figure 3). NDV = 68 (64–68 in paratypes).

**Gnathosoma.** Dorsally with adoral nude setae cs and supracoxal peg-like setae elcp. Ventrally a pair of short

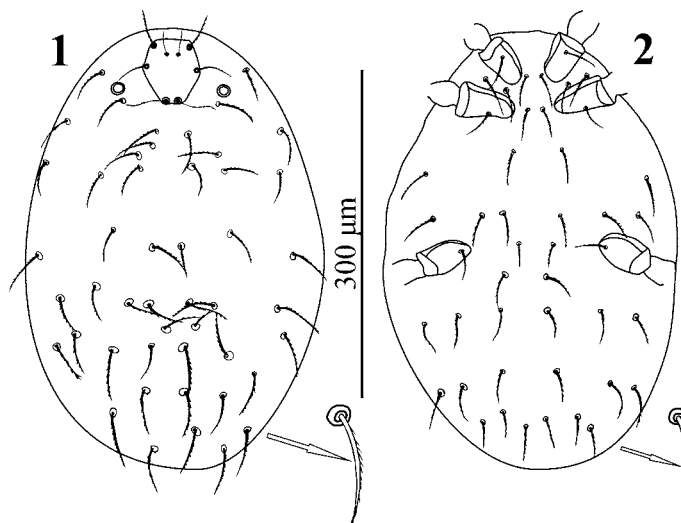
and nude setae as1, longer setulose setae as2, and setulose setae bs (Figure 4). Palpfemur with projection having rounded tip and two setulose setae. Palpgenu with two barbed setae and one nude seta, palptibia with two nude setae and a narrow accessory claw. Odontus and accessory claw not divergent. Palptarsus with 8 nude setae (including eupathidium and solenidion) (Figure 5).

**Leg setal formula:** Leg I: Ta 1ω, 1ε, 1Cp, 2ζ, 19; Ti 2φ, 1κ, 12; Ge 1σ, 1κ, 10 (11); Tf 8; Bf 4; Tr 2; Cx 1 (Figure 6). Leg II: Ta 1ω, 1Cp, 2ζ, 17 (18); Ti 2φ, 12; Ge 1σ, 9; Tf 5; Bf 4; Tr 2; Cx 1 (Figure 7). Leg III: Ta 1ζ, 19 (16); Ti 1φ, 11 (12); Ge 1σ, 8 (9); Tf 5; Bf 4; Tr 2; Cx 1 (Figure 8).

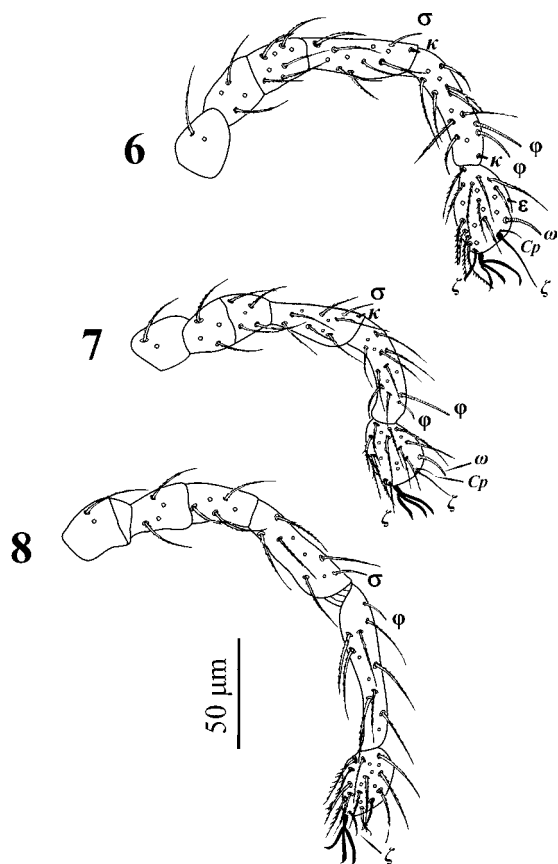
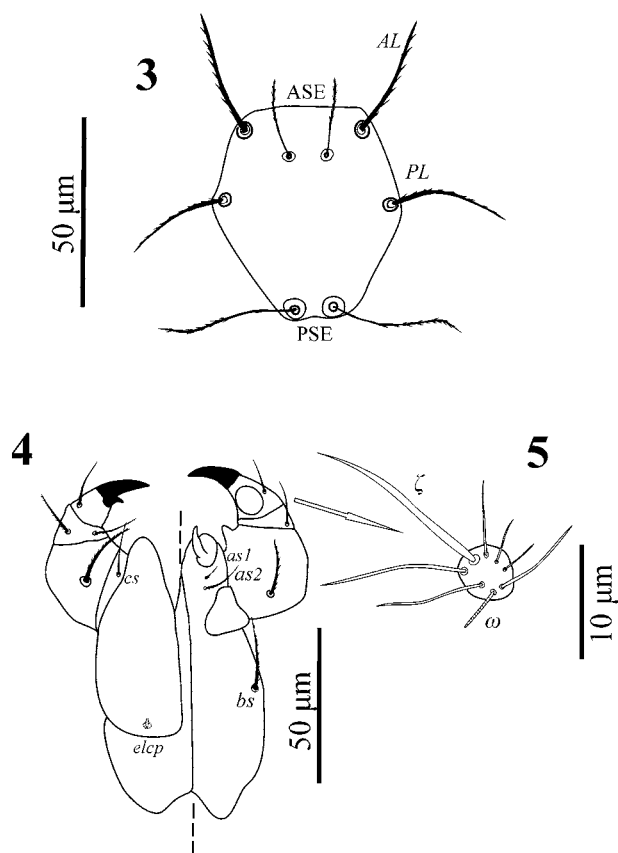
Measurements are given in Table 1.

**Etymology:** Named after its occurrence in Balkan Peninsula.

**Remarks:** *Abrolophus balkanicus* sp. nov. belongs to the *Abrolophus* species group having palptarsus without comb-like seta or setae with long setules and odontus and accessory claw not divergent (or very slightly divergent). This group includes: *A. norvegicus* (Thor, 1900); *A. gracilentus* (Willmann, 1937); *A. parvum* Schweizer and Bader, 1963; *A. kazimierae* (Haitlinger, 1986); *A. wratislaviensis* (Haitlinger, 1986); *A. viburnicolus* Fain and Çobanoğlu, 1998; and *A. baardi* (Haitlinger, 2004) (Thor, 1900; Willmann, 1937; Schweizer and Bader, 1963; Haitlinger, 1986, 2004; Fain and Çobanoğlu, 1998). *A. gracilentus* and *A. parvum* were described very incompletely and they cannot be compared with the new species. It differs from *A. norvegicus* in odontus entire vs. odontus very slightly divergent, the shorter L (58–65 vs. 67–88), W (49–59 vs. 58–84), AW (28–36 vs. 42–57), PW (42–49 vs. 62–80), PL (30–36 vs. 44–63), shorter longest dorsal setae (35–43 vs. 50–66), as2 (17–23 vs. 34–60), OD



**Figures 1–2.** *Abrolophus balkanicus* sp. nov. (larva). 1. Dorsal view of idiosoma; 2. Scutum.



**Figures 3–5.** *Abrolophus balkanicus* sp. nov. (larva). 3. Ventral view of idiosoma; 4. Ventral view (right) and dorsal view of gnathosoma (left); 5. Palptarsus.

**Figures 6–8.** *Abrolophus balkanicus* sp. nov. (larva). 6. Leg I; 7. Leg II; 8 Leg III.

**Table 1.** Metric data of *Abrolophus balkanicus* sp. nov. (larvae). H: holotype, P: paratypes.

	H	P	P	P	P	P	P	P	Range
IL	413	485	435	470	411	399	639	377	377–639
IW	276	318	312	277	240	283	362	227	227–362
L	58	65	62	61	58	62	58	63	58–65
W	53	59	56	50	49	57	50	52	49–59
AW	33	35	31	29	28	36	28	32	28–36
PW	46	48	47	44	42	49	43	44	42–49
AL	39	35	41	33	34	34	34	34	33–41
PL	35	34	36	34	30	33	34	33	30–36
ISD	41	46	43	43	43	49	42	42	41–49
AP	20	21	24	21	20	19	18	23	18–24
ASE	25	23	22	22	20	24		23	20–25
PSE	39	44	38	42	43	39	40	39	38–44
GL	84	87	89	92	82	86	87	87	82–92
DS	25–37	27–38	26–43	29–41	21–35	23–43	25–41	25–41	21–43
PsFd	33	39	35	37	32	34		31	31–39
PsGd	18	17	16	19	16	17	13	16	13–19

Table 1. (Continued).

	H	P	P	P	P	P	P	P	Range
<i>1a</i>	35	39	36	37	33	34	32	32	32–39
<i>2a</i>	31	33	31	33	29	32	26	31	26–33
<i>3a</i>	30	27	25	36	30	31	28	23	23–36
<i>1b</i>	40	37	36	36	37	40	33	34	33–40
<i>2b</i>	27	32	27	28	30	27	24	22	22–32
<i>3b</i>	32	34	36	31	31	35	32	28	28–36
AA	11	11	10	10	9	13	11	11	9–13
SB	11	12	11	11	11	11	11	10	10–12
<i>cs</i>	23	25	19	22	18	20	19	23	18–25
<i>as1</i>	6	7	5	7	5	8	9	7	5–9
<i>as2</i>	21	19	19	19	17	23	17	17	17–23
<i>elcp</i>	2	2		2	3	4	4	4	2–4
<i>bs</i>	34	36	32	34	30	31	36	28	28–36
PaFe (L)	33	37	34	37	32	33	34	32	32–37
PaFe (W)	27	31	27	34	26	25	30	29	25–43
PaGe (L)	12	12	13	15	12	11	13	15	11–15
PaGe (W)	19	24	21	27	18	18	22	21	18–27
OD	15	15	13	15	12	14	13	13	12–15
Prd (L)	8	8	7	8	7	7	8	7	7–8
Prd (W)	4	4	4	4	4	3	4	3	3–4
Ta I	54	58	56	55	52	51	54	53	51–58
Ti I	59	59	66	62	55	58	61	54	54–66
Ge I	55	55	55	55	52	55	56	48	48–56
Tf I	28	28	31	32	30	29	33	31	28–33
Bf I	44	42	43	42	42	42	42	41	41–44
Tr I	33	31	34	32	32	35	36	33	31–36
Cx I	51	55	48	51	44	50	59	52	44–55
Ta II	47	51	52	49	45	46	48	48	45–52
Ti II	58	58	61	54	52	57	60	54	52–61
Ge II	49	50	50	52	49	51	52	50	49–52
Tf II	23	27	26	26	26	22	27	26	22–27
Bf II	31	38	37	37	36	35	39	37	31–39
Tr II	35	33	35	33	34	33	36	37	33–37
Cx II	62	65	59	71	55	59	58	58	55–71
Ta III	46	47	50	52	49	47	52	47	46–52
Ti III	74	73	77	79	70	75	73	70	70–79
Ge III	61	59	62	63	57	63	62	57	57–63
Tf III	31	34	34	36	35	34	34	35	31–36
Bf III	35	41	38	44	40	43	43	37	35–44
Tr III	35	37	37	39	39	39	35	36	35–39
Cx III	53	58	54	62	56	57	56	54	53–62
Leg I	324	328	333	329	307	320	341	312	307–341
Leg II	305	322	320	322	297	303	320	310	297–322
Leg III	335	352	352	375	346	358	355	336	335–375
IP	964	1002	1005	1026	950	981	1016	958	950–1026

(12–15 vs. 18–33), and Prd (W) (3–4 vs. 7–12); from *A. kazimierae* in projection on palpfemur bluntly pointed vs. sharply pointed, the shorter AL (33–41 vs. 55–71), PL (30–36 vs. 45–65), ASE (20–25 vs. 33–50), PSE (38–44 vs. 61–86), GL (82–92 vs. 99–116), PsFd (32–39 vs. 40–65), OD (12–15 vs. 16–19), and shorter longest dorsal setae (35–43 vs. 65–77); from *A. wratislaviensis* in the presence of projection on palpfemur vs. palpfemur without projection, the longer AL (33–41 vs. 20–28), PL (30–36 vs. 22–30), *1a* (33–39 vs. 24–33), *2a* (26–33 vs. 18–24), *3a* (25–36 vs. 18–22), *2b* (24–32 vs. 18–23), *3b* (31–36 vs. 22–28), Ti III (70–79 vs. 52–70), shorter ASE (20–25 vs. 28–40), PSE (38–44 vs. 53–65), ISD (41–46 vs. 44–54), GL (82–92 vs. 99–108), PaFe (L) (32–37 vs. 39–48), and *bs* and *as2* setulose vs. *bs* and *as2* nude; from *A. viburnicolus* in entire odontus vs. odontus slightly divergent, palpfemur with projection vs. palpfemur without projection, fV (18–20 vs. 31), the shorter L (58–65 vs. 75), AW (28–36 vs. 42), ISD (41–48 vs. 63), AL (33–41 vs. 52), PL (30–36 vs. 45), shorter longest dorsal setae (35–43 vs. 69), Ti I (55–66 vs. 90) and Ti III (70–79 vs. 85), and longer AP (33–41 vs. 27); and from *A. baardi* in palpfemur bearing projection vs. palpfemur without projection, the shorter L (58–54 vs. 80–90), ISD (41–48 vs. 58–64), AP (18–24 vs. 26–30), AL (33–41 vs. 54–68), PL (30–36 vs. 54–64), ASE (20–25 vs. 48–54), PSE (38–44 vs. 80–98), GL (82–92 vs. 120–130), *1a* (32–39 vs. 46–54), *1b* (33–40 vs. 50–58), PsFd (32–39 vs. 46–58), PsGe (L) (11–15 vs. 18–24), Ta I (51–58 vs. 58–78), and Ti III (70–79 vs. 114–130).

***Abrolophus stanislavae* (Haitlinger, 1986)**

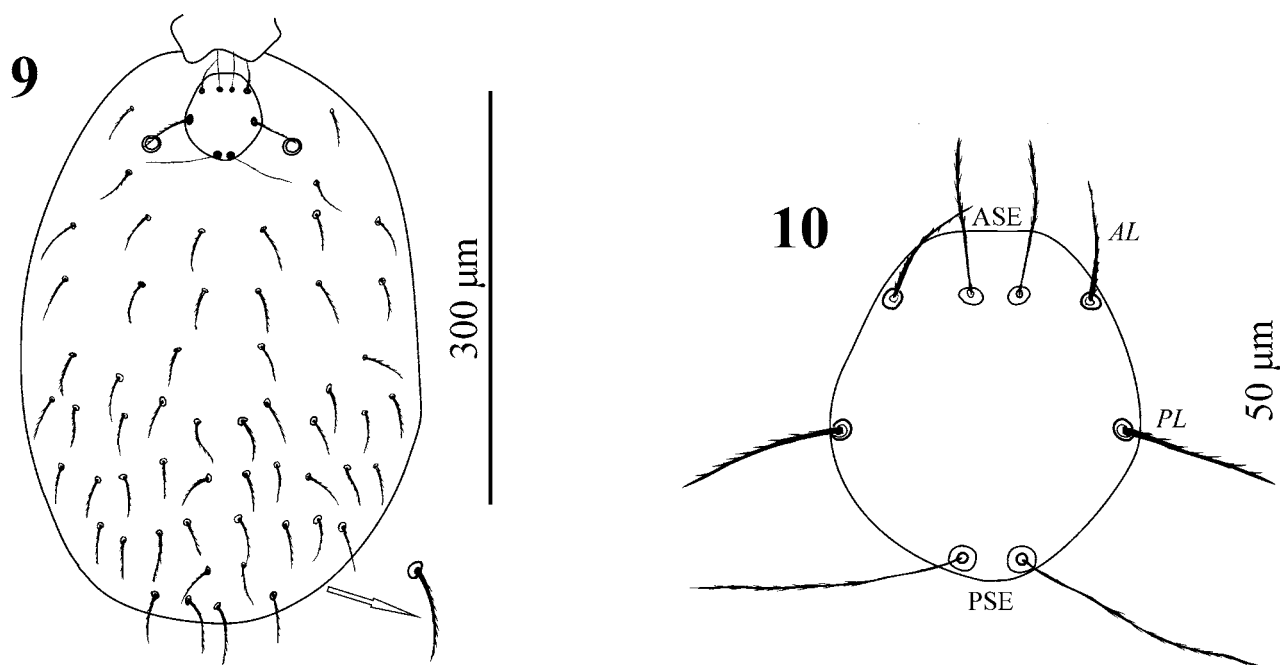
*Material examined.* New locality: Poland, Ochotnica Dolna, 800 m a.s.l., 5 July 1999, 1 larva, Bosnia and Herzegovina, Jajce, 25 June 2011, 1 larva; leg. R. Haitlinger. For measurements are also used other specimens collected in Austria, France, and Poland (Haitlinger 1986, 2007a, 2007d). First record from Bosnia and Herzegovina.

*Diagnosis.* Odontus and accessory claw bifurcate, fD 52–60, fV 18, ASE 24–30, PSE 40–46, Ta I 50–56, Ti III 65–85, IP 926–1103.

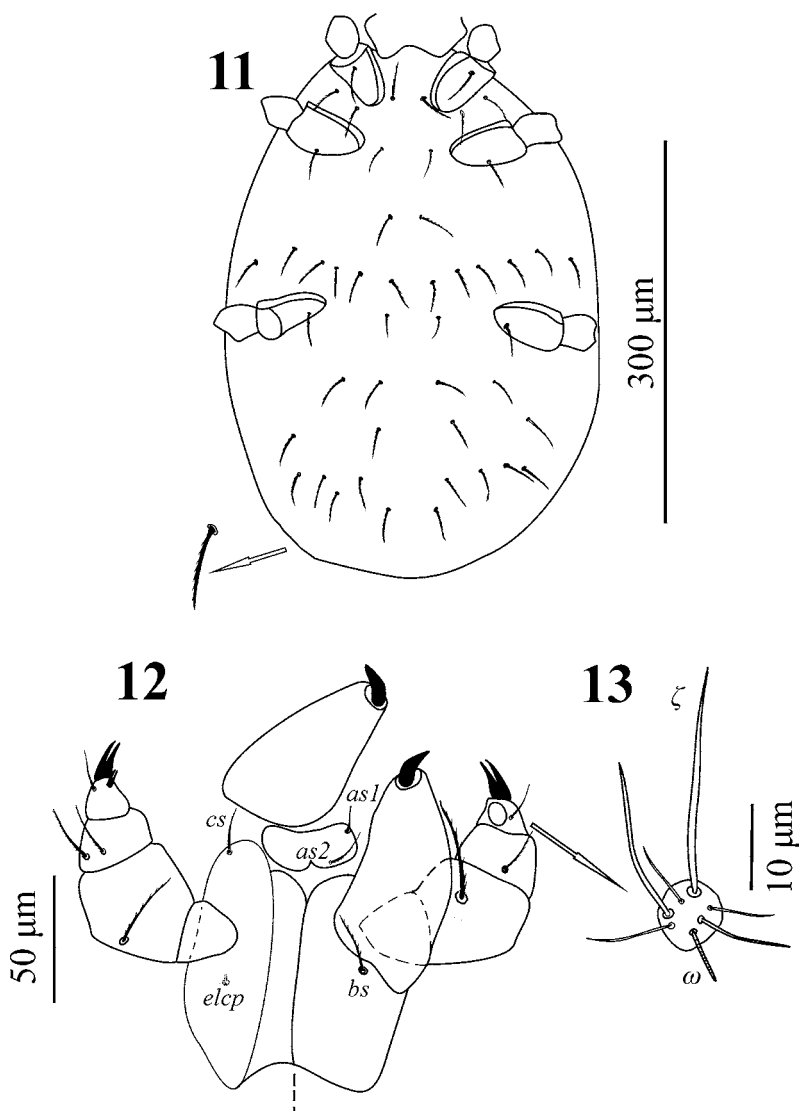
*Description.* Larva. *Dorsum.* Dorsal surface with 56 (52–60) barbed setae. Each side of scutum with one eye, circular, not on platelets; eyes 14 µm across (Figure 9). Scutum slightly longer than wide with two pairs of scutalae, both with barbs; AL < PL. Anterior sensillary setae (ASE) shorter than posterior sensillary setae (PSE), both setulose at distal half (Figure 10).

*Ventrum.* Ventral surface of idiosoma having six setulose sternalae *1a*, *2a*, *3a*, four setulose setae between coxae I–II, 14 setulose setae between coxae II and III and 18 setulose setae behind coxae III. Sternalae *1a* longer than sternalae *2a* and *3a*. Coxalae I–III setulose; *1b* > *2b* > *3b* (Figure 11). NDV = 74.

*Gnathosoma.* A pair of barbed adoral setae (*cs*), two pairs of hypostomal setae nude *as1* and barbed *as2*, *as2* > *as1* and a pair of barbed subcapitular setae (*bs*). Palpfemur with dorsal and ventral seta, both barbed, ventral seta 35 µm long. Genu with three barbed setae, palptibia with two nude setae and divergent accessory claw. Odontus distinctly divergent (Figure 12). Palptarsus with 7 nude setae (including eupathidium and solenidion) (Figure 13).



Figures 9–10. *Abrolophus stanislavae* (Haitlinger) (larva). 9. Dorsal view of idiosoma; 10. Scutum.



**Figures 11–13.** *Abrolophus stanislavae* (Haitlinger) (larva). 11. Ventral view of idiosoma; 12. Ventral view (right) and dorsal view of gnathosoma (left); 13. Palptarsus.

*Leg setal formula.* Leg I: Ta 1 $\omega$ , 1 $\epsilon$  (1Cp other specimens), 2 $\zeta$ , 21 (18–19); Ti 2 $\phi$ , 1 $\kappa$ , 13 (14); Ge 1 $\sigma$ , 1 $\kappa$ , 10 (11); Tf 7 (7–9); Bf 4; Tr 2; Cx 1 (Figure 14). Leg II: Ta 1 $\omega$ , 1Cp, 2 $\zeta$ , 20 (17–19); Ti 2 $\phi$ , 13 (12–13); Ge 1 $\sigma$ , 1 $\kappa$ , 9; Tf 5; Bf 4; Tr 2; Cx 1 (Figure 15). Leg III: Ta 1 $\zeta$ , 15 (14–15); Ti 1 $\phi$ , 12 (11–13); Ge 1 $\sigma$ , 9; Tf 5; Bf 4; Tr 2; Cx 1 (Figure 16).

Measurements are given in Table 2.

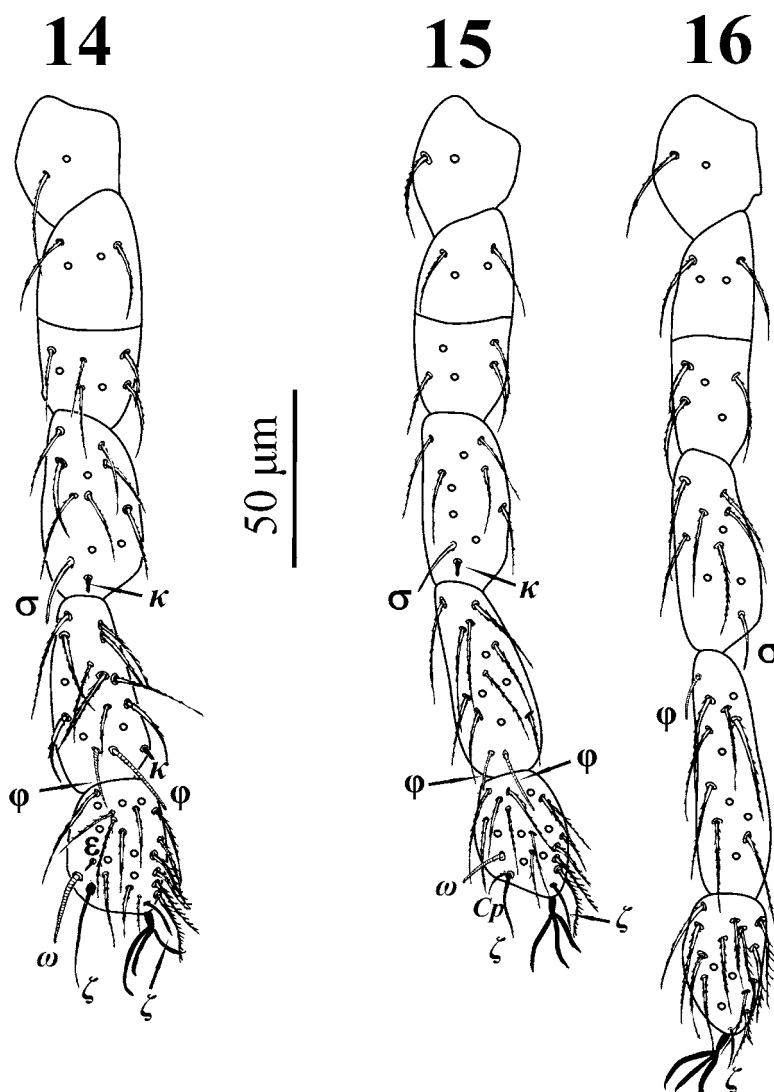
*Distribution.* Austria, Bosnia and Herzegovina, France, Poland, Slovakia (Małol and Wohltmann, 2012).

*Remarks.* *Abrolophus stanislavae* belongs to the *Abrolophus* species having palptarsus without comb-like seta or setae with long setules and odontus and accessory claw bifurcate. Only *A. podorasensis* has these characters. It differs from *A. podorasensis* in the longer ASE (24–30

vs. 15–24), PSE (40–46 vs. 21–37), longer longest dorsal setae (45–55 vs. 33–42), 1*b* (35–42 vs. 23–35), 2*b* (22–28 vs. 16–23), *cs* (18–22 vs. 11–18), *as2* (15–21 vs. 10–16), OD (15–17 vs. 10–15), Ta III (46–54 vs. 32–45), fD (52–60 vs. 36–50), IP (926–1103 vs. 769–899).

***Abrolophus podorasensis* (Haitlinger, 2007)**

*Material examined.* Montenegro: Nikšić, wet meadow of Krupac, 8 larvae, Risan, 16 larvae, Vojnik, 1450 m a.s.l., 1 larva, Grbavci, 1 larva, Rijeka Crnojevića, 1 larva, Tuzi, 2 larvae, all larvae collected 12–14 June 2011. For measurements were also used specimens collected in Bosnia and Herzegovina, Croatia, Montenegro, and Slovenia (Haitlinger, 2004, 2007a). It is the first record from Montenegro. The earlier record of two larvae from



Figures 14–16. *Abrolophus stanislavae* (Haitlinger) (larva). 14. Leg I; 15. Leg II; 16. Leg III.

**Table 2.** Metric data for *Abrolophus wratislaviensis* (Haitlinger, 1986)\* (1), *A. stanislavae* (Haitlinger, 1986)\*\* (2), and *A. podorasensis* Haitlinger, 2007 (3); B – Bosnia and Hercegovina, Croatia, Slovenia\*\*\*, M – Montenegro.

	H 1	1, n = 19	H 2	2, n = 8	B 3, n = 7	M 3, n = 13	Range
IL	330	330–550	435	355–556	286–532	343–481	286–532
IU	191	191–36	319	253–455	179–421	266–331	179–421
L	66	57–72	62	56–66	54–59	54–61	54–61
W	54	46–56	62	45–64	52–60	45–56	45–60
AW	32	30–36	39	30–40	32–36	28–35	28–36
PW	48	40–50	54	41–56	47–53	39–50	39–53
AL	24	20–28	20	18–25	16–22	14–17	14–22
PL	25	22–30	28	24–32	20–26	17–24	17–26
ISD	50	44–54	48	44–50	32–46	34–44	32–46
AP	28	22–30	22	19–25	16–20	14–24	14–24
ASE	30	28–36	26	24–30	18–24	15–20	15–24
PSE	61	53–65	42	40–46	26–37	21–37	21–37



Table 2. (Continued).

	H 1	1, n = 19	H 2	2, n = 8	B 3, n = 7	M 3, n = 13	Range
GL	103	99–111	86	77–95	74–84	71–85	71–85
DS	21–48	19–55	23–45	20–54	18–42	16–37	16–42
PsFd	50	33–42	32	30–36	26–37	27–33	26–37
PsGd	21	16–22	22	16–27	16–21	17–22	16–22
1a	31	24–39	20	20–32	20–24	17–30	17–30
2a	19	18–24	22	22–26	18–22	16–23	16–23
3a	19	18–22	18	21–23	17–23	16–22	16–23
1b	24	24–36	42	35–41	30–35	23–34	23–35
2b	19	18–23		22–28	16–20	17–23	16–23
3b	22	22–28	22	21–23	16–24	13–19	13–24
AA	10	8–11	10	9–13	8–11	6–12	6–12
SB	10	9–13	11	10–13	10–12	5–11	5–12
cs	28	23–29	20	18–22	12–17	11–18	11–18
asl	7	5–7	7	6–9	5–6	4–6	4–6
as2	14	11–22	17	15–21	11–16	10–14	10–16
bs	31	28–39	35	26–28	22–28	19–29	19–29
elcp		3–4	4	2–4	4	3–4	3–4
PaFe (L)	44	39–48	37	31–37	32–37	32–37	32–37
PaFe (W)	31	28–37	34	29–36	28–32	23–32	23–32
PaGe (L)	17	15–19	19	17–21	17–20	14–19	14–20
PaGe (W)	24	22–27	26	21–29	20–27	18–23	18–27
OD	13	13–19	15	15–17	12–15	10–14	10–15
Prd (L)	8	6–9	9	8–10	8–9	6–8	6–9
Prd (W)	4	4	3	3	3	3	3
Ta I	52	52–60	52	50–56	40–49	42–49	40–49
Ti I	49	49–63	53	50–67	50–58	48–58	48–58
Ge I	55	50–65	51	50–59	46–63	46–56	46–63
Tf I	28	24–36	28	24–29	24–26	23–28	23–28
Bf I	45	36–50	43	36–47	28–38	29–38	28–38
Tr I	32	28–42	36	30–39	24–34	28–35	24–35
Cx I	48	44–59	54	42–55	38–49	40–47	38–49
Ta II	42	42–55	47	43–53	36–45	38–45	36–45
Ti II	48	46–58	52	50–63	48–52	43–51	43–52
Ge II	50	46–59	50	47–56	40–47	42–52	40–52
Tf II	24	20–26	28	24–29	20–26	22–29	20–29
Bf II	32	28–41	35	28–46	22–36	26–34	22–36
Tr II	32	31–40	36	34–44	24–38	25–35	24–38
Cx II	60	56–74	64	54–64	48–60	49–63	48–63
Ta III	41	41–52	48	46–54	32–44	38–45	32–45
Ti III	57	52–70	72	65–85	60–68	58–67	58–68
Ge III	56	52–70	56	52–65	48–54	45–56	45–56
Tf III	29	23–37	34	28–36	23–30	26–30	23–30
Bf III	37	32–43	41	34–42	28–36	25–37	25–37
Tr III	35	35–43	37	36–43	26–37	27–34	26–37
Cx III	60	48–64	63	52–63	46–57	44–55	44–57
Leg I	309	306–349	317	298–349	260–298	261–298	260–298
Leg II	282	284–334	332	298–351	260–290	245–293	245–293
Leg III	315	315–360	351	333–403	274–305	263–303	263–305
IP	906	905–1038	1000	926–1103	867–899	769–889	769–899

\*Poland, 6 specimens; Czech Republic, 1; Estonia, 1; Denmark, 5; Norway, 1; Russia, 1; Slovenia, 1; Sweden, 1; Ukraine, 2.

\*\*Poland, 6; Austria, 1; Bosnia and Herzegovina, 1; France, 1.

\*\*\*Bosnia and Herzegovina, 6; Croatia, 1; Slovenia, 4.

Serbia (Haitlinger, 2012a) were due to misidentification with *A. stanislavae*.

**Distribution.** Bosnia and Herzegovina, Croatia, Greece, Montenegro, Serbia, Slovenia.

**Remarks.** Reexamination of holotype and other specimens revealed that on gnathosoma five setae present: setulose setae *cs*, *as2*, *bs*, and nude setae *as1* and peg-like seta *elcp*. Moreover, corrected leg setal formula is: Leg I: Ta 1 $\omega$ , 1 $\epsilon$ , 2 $\zeta$ , 1Cp, 18–23; Ti 2 $\phi$ , 1 $\kappa$ , 12–14; Ge 1 $\sigma$ , 1 $\kappa$ , 11, Tf 8; Bf 4; Tr 2; Cx 1. Leg II: Ta 1 $\omega$ , 2 $\zeta$ , 1Cp, 14–15; Ti 2 $\phi$ , 11; Ge 1 $\sigma$ , 1 $\kappa$ , 8–9; Tf 5; Bf 4; Tr 2; Cx 1. Leg III: Ta 1 $\zeta$ , 14–15; Ti 1 $\phi$ , 11 12; Ge 1 $\sigma$ , 8–9; Tf 5; Bf 4; Tr 2; Cx 1.

***Abrolophus wratislaviensis* (Haitlinger, 1986)**

**Material examined.** For measurements were used 19 specimens collected in the Czech Republic, Denmark, Estonia, Norway, Poland, Russia, Slovenia, Sweden, and Ukraine (Haitlinger, 1986, 2000, 2003b, 2003c, 2008a, 2008b, 2010).

**Diagnosis.** Odontus and accessory claw not divergent, fD 42 (42–50), fV 16–18, Ta I 52–60, Ti III 52–70, IP 905–1038.

**Description.** Larva. Dorsum with 42 (42–50) barbed setae. One pair of circular eyes (diameter 13  $\mu$ m) on lateral scutum (Figure 17). Scutum slightly longer than wide with pair of barbed scutalae and pair of sensillary setae.

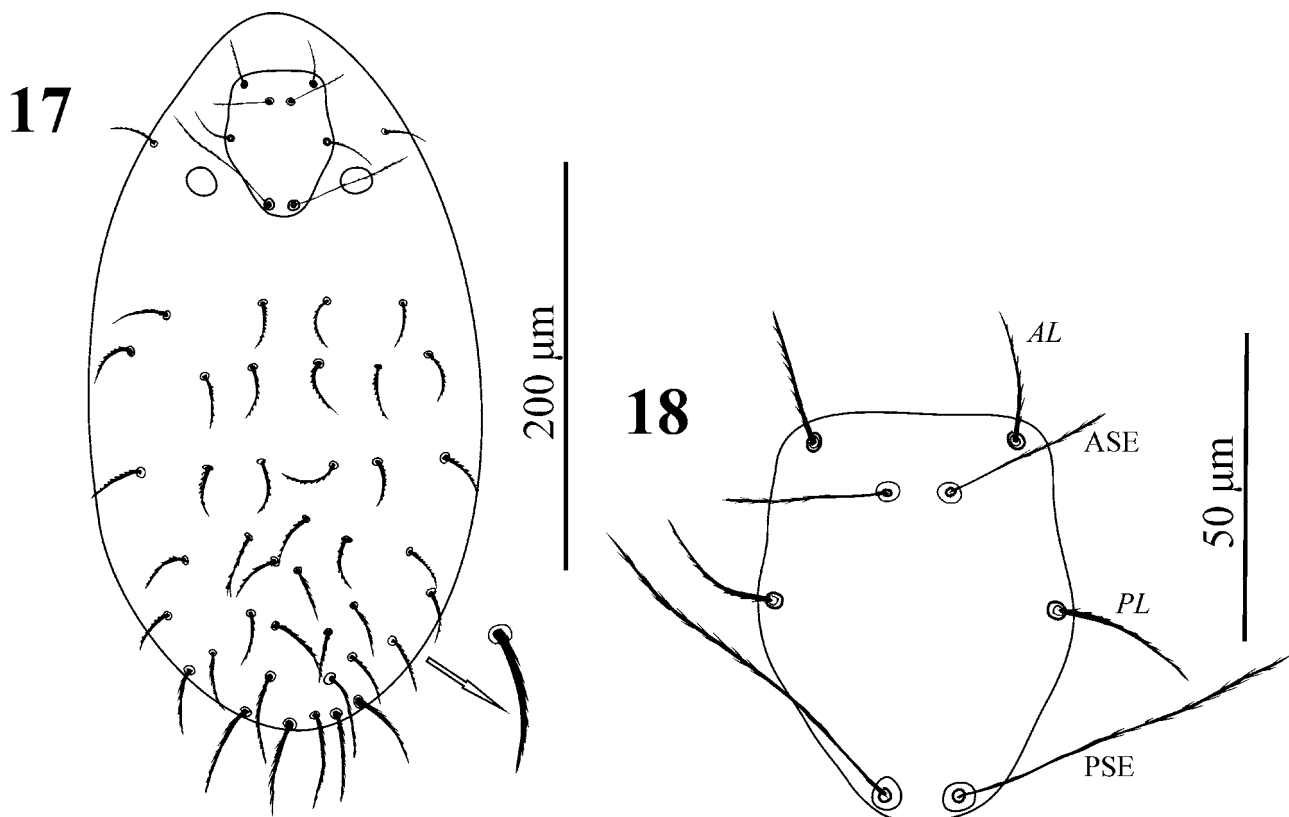
Anterior setae (AL) equal in length (in other specimens AL a little shorter than PL). Anterior sensillary setae (ASE) distinctly shorter than posterior sensillary setae (PSE), both with setules at distal half (Figure 18).

**Ventrum.** Ventral side of idiosoma with setal pair *1a*, *2a*, and *3a*, all slightly barbed. Between coxae I–II 4 setae, between coxae II–III 16 setae, and beyond coxae III 18 setae (16–19). Coxalae *1b* > *3b* > *2b*, all mentioned setae slightly barbed (Figure 19).

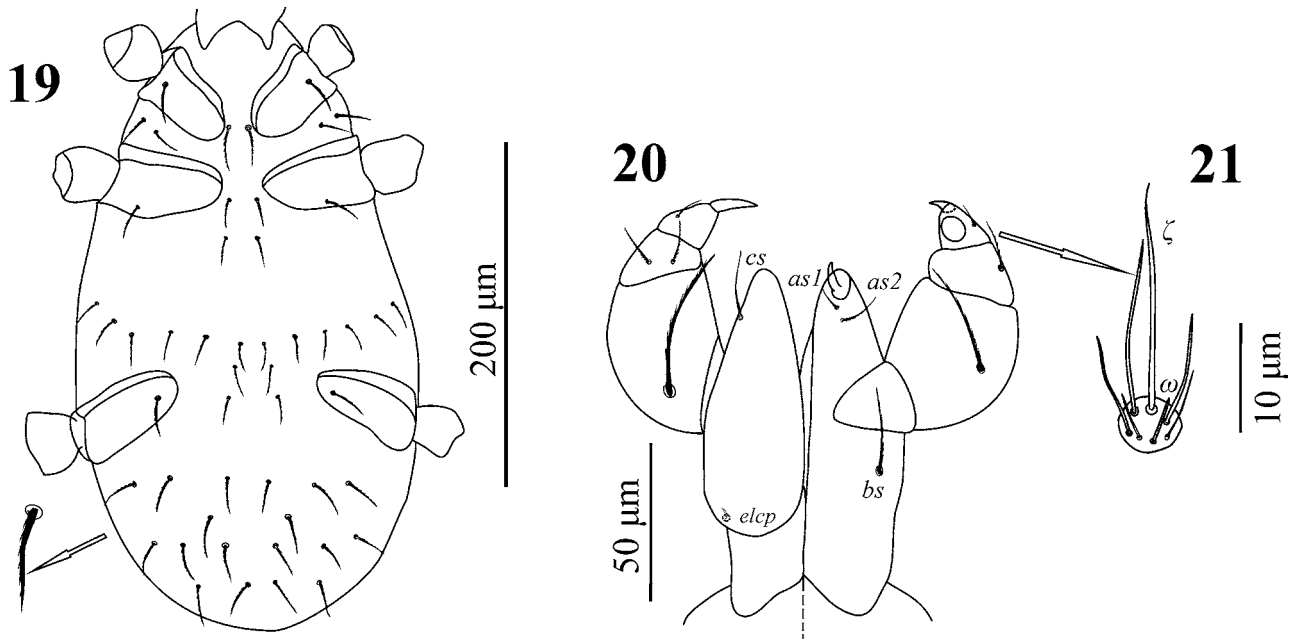
**Gnathosoma.** A pair of nude adoral setae *cs*, and a pair of club-shaped supracoxal setae (*elcp*). Ventrally two pairs of hypostomal setae nude *as1* and slightly barbed *as2* and barbed setae *bs*. Palpfemur with two setae, both slightly barbed. Palpgenu with 3 weakly barbed setae and palptibia with two nude setae and accessory claw. Palptibial claw not divergent (Figure 20). Palptarsus with 7 nude setae (including eupathidium and solenidion) (Figure 21).

**Leg setal formula:** Leg I: Ta 1 $\omega$ , 1 $\epsilon$ , 2 $\zeta$ , 17; Ti 2 $\phi$ , 1 $\kappa$ , 13; Ge 1 $\sigma$ , 1 $\kappa$ , 10; Tf 8; Bf 4; Tr 2; Cx 1 (Figure 22). Leg II: Ta 1 $\omega$ , 2 $\zeta$ , 13; Ti 2 $\phi$ , 11; Ge 1 $\sigma$ , 1 $\kappa$ , 9; Tf 5; Bf 4; Tr 2; Cx 1 (Figure 23). Leg III: Ta 1 $\zeta$ , 11; Ti 1 $\phi$ , 12; Ge 1 $\sigma$ , 9; Tf 5; Bf 4; Tr 2; Cx 1 (Figure 24).

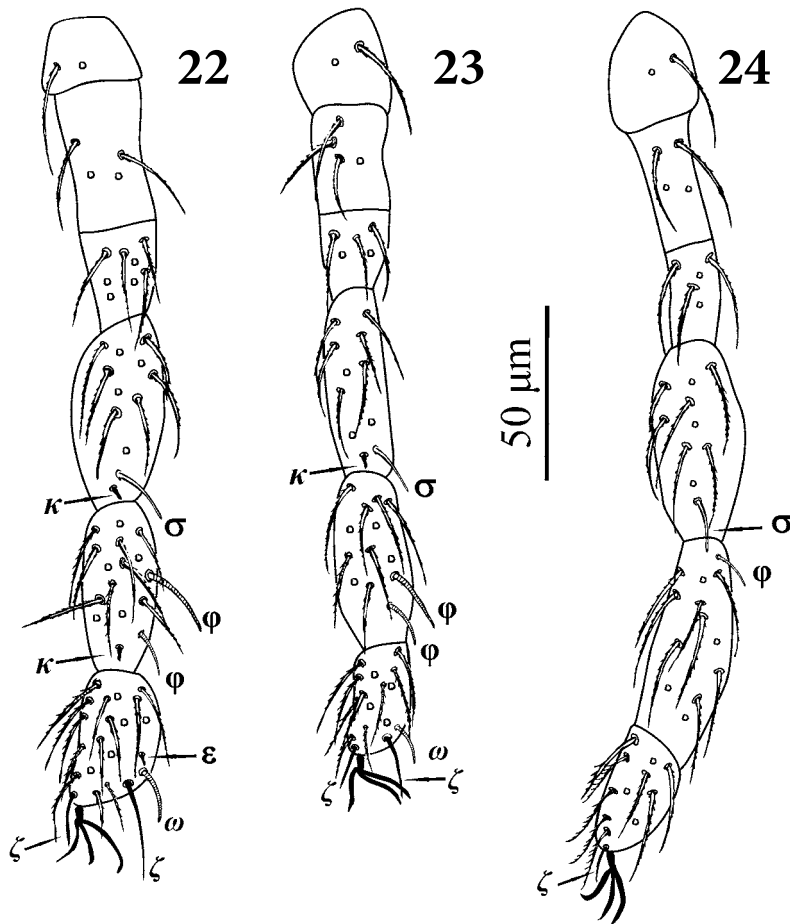
**Distribution:** Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Great Britain, Holland, Italy, Latvia, Lithuania, Luxembourg, Moldova, Norway, Poland,



Figures 17–18. *Abrolophus wratislaviensis* (Haitlinger) (larva). 17. Dorsal view of idiosoma; 18. Scutum.



**Figures 19–21.** *Abrolophus wratislaviensis* (Haitlinger) (larva). 19. Ventral view of idiosoma; 20. Ventral view (right) and dorsal view of gnathosoma (right); 21. Palptarsus.



**Figures 22–24.** *Abrolophus wratislaviensis* (Haitlinger) (larva). 22. Leg I; 23. Leg II; 24. Leg III.

Romania, Russia, Slovenia, Sweden, Switzerland, Ukraine (Maĳol and Wohltmann, 2012).

*Remarks.* *A. wratislaviensis* belongs to the *Abrolophus* species group having palptarsus without comb-like seta or setae with long setules and odontus and accessory claw not divergent (or very slightly divergent). This group includes 7 species mentioned in the remarks about *A. balkanicus*. Comparison with *A. balkanicus* is given in the remarks for this species. It differs from *A. norvegicus* in the shorter *W* (46–56 vs. 68–84), *AW* (30–36 vs. 42–57), *PW* (40–55 vs. 62–80), *PL* (22–30 vs. 44–63), *as2* (11–22 vs. 34–60), *OD* (13–17 vs. 18–33), and *Ti III* (52–70 vs. 84–108); from *A.*

*kazimierae* in palpfemur without projection vs. palpfemur with projection; from *A. viburnicola* in *fV* (18 vs. 31), *AW* (30–36 vs. 42), *AL* (20–28 vs. 52), *PL* (22–30 vs. 45), *ISD* (44–54 vs. 63), shorter longest dorsal setae (35–53 vs. 80), *1b* (26–36 vs. 48), *2b* (18–23 vs. 33), and *Ti III* (52–70 vs. 80); and from *A. baardi* in the shorter *L* (57–72 vs. 80–90), *W* (46–56 vs. 56–62), *AW* (30–36 vs. 38–46), *ISD* (44–54 vs. 58–64), *AL* (20–29 vs. 54–68), *PL* (22–30 vs. 54–64), *ASE* (28–36 vs. 48–54), *PSE* (54–65 vs. 80–98), *GL* (99–111 vs. 120–130), *1a* (24–33 vs. 46–54), *1b* (26–36 vs. 50–58), *2b* (18–23 vs. 28–36), *PsFd* (30–42 vs. 46–58), *Ta I* (42–60 vs. 68–78), and *Ti III* (52–70 vs. 114–1300).

## References

- Beron P (2008). Acarorum Catalogus I. Acariformes: Calyptostomatoidea (Calyptostomatidae), Erythraeoidea (Smarididae, Erythraeidae). Sofia, Bulgaria: Pensoft Publishers, National Museum of Natural History, Bulgarian Academy of Science.
- Fain A, Ćobanoĳlu S (1998). Two new larval Erythraeidae (Acari) of the genus *Hauptmannia* Oudemans, 1910 from Turkey. Bull Inst Roy Sci Nat Belg 68: 63–69.
- Haitlinger R (1986). The genus *Hauptmannia* Oudemans, 1910 (Acari, Prostigmata, Erythraeidae) in Poland. Pol Pismo Ent 56: 181–191.
- Haitlinger R (1999). Six new species of *Leptus* Latreille, 1796 (Acari: Prostigmata: Erythraeidae) from South-East Asia. Miscel Zool 22: 51–68.
- Haitlinger R (2000). Mites (Acari: Prostigmata: Erythraeidae, Trombidiidae) new to the fauna of Norway, Finland, Russia, Latvia and Lithuania, with a description of *Podothrombium roari* n. sp. Entom Fenn 11: 187–193.
- Haitlinger R (2003a). *Hauptmannia bohđani* n. sp. from Poland (Acari: Prostigmata: Erythraeidae). Genus 14: 603–607.
- Haitlinger R (2003b). New records of mites (Acari: Prostigmata: Erythraeidae, Trombidiidae, Microtrombidiidae) from the Czech Republic, with a description of *Podothrombium karlovaicus* n. sp. Ćas Nár Muz Řada PŘir 172: 5–12.
- Haitlinger R (2003c). New records of mites (Acari: Prostigmata: Erythraeidae, Trombidiidae, Microtrombidiidae, Calyptostomatidae) from Slovenia, with a description of *Campylothrombium nadbori* spec. nov. Scopolia 51: 1–11.
- Haitlinger R (2004). New records of mites (Acari: Prostigmata: Erythraeidae, Trombidiidae, Eutrombidiidae) from Croatia, with descriptions of three new species. Nat Croat 13: 143–169.
- Haitlinger R (2007a). New records of mites (Acari: Prostigmata: Erythraeidae, Trombidiidae, Eutrombidiidae) from the Balkan Peninsula. Biologia 62: 67–77.
- Haitlinger R (2007b). New records of mites (Acari: Prostigmata: Erythraeidae, Trombidiidae, Eutrombidiidae) from France, Liechtenstein and Switzerland. Syst Appl Acarol 12: 55–72.
- Haitlinger R (2007c). New records of mites from Corsica and Sardinia, with descriptions of five new species (Acari: Prostigmata: Erythraeidae, Trombidiidae, Eutrombidiidae). Genus 18: 429–543.
- Haitlinger R (2007d). New records of mites (Acari: Prostigmata: Erythraeidae, Johnstonianidae, Microtrombidiidae, Tanaupodidae, Trombidiidae) from Austria, Hungary, Italy and San Marino. Zesz Nauk Uniw Przyr Wroc Biol Hod Zwierz 55: 45–54.
- Haitlinger R (2008a). New records of mites (Acari: Prostigmata: Erythraeidae, Johnstonianidae, Microtrombidiidae, Trombidiidae) from Moldova and Ukraine. Biologia 63: 383–394.
- Haitlinger R (2008b). New records of mites (Acari: Prostigmata: Erythraeidae, Johnstonianidae, Trombidiidae) from west and north Europe, with the description of *Abrolophus nymindegabicus* sp. n. Zesz Nauk Uniw Przyr Wroc Biol Hod Zwierz 56: 51–64.
- Haitlinger R (2010). New records of mites (Acari: Prostigmata: Erythraeidae, Calyptostomatidae, Erythraeidae, Johnstonianidae, Microtrombidiidae, Podothrombidiidae, Trombidiidae) from Estonia, Latvia and Lithuania. Zesz Nauk Uniw Przyr Wroc Biol Hod Zwierz 61: 49–55.
- Haitlinger R (2012a). New records of mites (Acari: Erythraeidae, Microtrombidiidae Tanaupodidae) from southern Italy, with descriptions of two new species. Pers J Acarol 1: 41–51.
- Haitlinger R (2012b). New records of mites (Acari: Prostigmata: Erythraeidae, Trombidiidae) from Albania, Macedonia, Montenegro and Serbia. Syst Appl Acarol 17: 339–345.
- Haitlinger R, Kekeunou S, ĳupicki D (2014). *Charletonia cameroneensis* Haitlinger & Kekeunou sp. nov. and the first record of *C. justynae* Haitlinger, 1987 (Acari: Erythraeidae) from Cameroon with redescription of the species. Zootaxa 3760: 39–53.
- Haitlinger R, ĳupicki D (2013a). A new species of *Abrolophus* (Acari: Prostigmata: Erythraeidae) and the first record of *Erythraeus (E.) picaforticus* from Sicily, Italy. Pers J Acarol 1: 41–47.

- Haitlinger R, Ľupicki D (2013b). *Abrolophus anzelmi* nov. sp. (Acari, Prostigmata, Erythraeidae) from Sicily, Italy. *Linzer Biol Beitr* 45: 681–687.
- Mąkol J, Wohltmann A (2012). An annotated checklist of terrestrial Parasitengona (Actinotrichida: Prostigmata) of the world, excluding Trombiculidae and Walchiidae. *Ann Zool* 62: 359–562.
- Oudemans A (1910). *Acarologische Anteekeningen XXXI*. Ent Bericht 3: 47–51.
- Saboori A, Šundić M, Pešić V, Hakimitabatr M (2012). Two new species of *Abrolophus* (Acari: Erythraeidae) from Montenegro. *Zootaxa* 3205: 53–62.
- Schmölzer K (1956). Landmilben aus dem Dauphiné (Acarina terrestria). *Öster Zool Zeits* 6: 542–565 (in German).
- Schweizer J (1951). Die Landmilben des Schweizerischen Nationalparks, 2 Teil: Trombidiformes Reuter 1909. *Ergebn Wissensch Untersuch SNP*, 3 (N.F.): 51–172 (in German).
- Schweizer J, Bader C (1963). Die Landmilben der Schweiz (Mittelland, Jura und Alpen) Trombidiformes Reuter. *Denkschr Schweiz Naturfor Ges* 84: 209–378 (in German).
- Thor S (1900). Første undersøgelse af Norges Rhyncholophidae. *Christiania* 3: 1–11 (in Danish).
- Willmann C (1937). Beitrag zur Kenntnis der Acarofauna der ostfriesische Inseln. *Anh Naturw Ver Bremen* 30: 152–169 (in German).
- Wohltmann A, Gabryś G, Mąkol J (2007). Terrestrial Parasitengona inhabiting transient biotopes. In: Gerecke R, editor. *Chelicerata, Acari I*. Munich, Germany: Spektrum Elsevier, pp. 158–240.