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## A redescription of *Abrolophus silesiacus* (HAITLINGER, 1986) with notes on some other *Abrolophus* species (Acari, Prostigmata, Erythraeidae)

Ryszard HAITLINGER & Dariusz ŁUPICKI

**A b s t r a c t :** Larvae of *Abrolophus silesiacus* are redescribed and the neotype is designated. *A. amilberti* and *A. kotorensis* are synonymized with *A. silesiacus*. New localities and new measurements are given for *A. silesiacus*, *A. anzelmi* and *A. dagmarae*. *A. dagmarae* and *A. silesiacus* are not synonyms of *A. norvegicus*. *A. dagmarae* is new to the fauna of Madeira and *A. norvegicus* is new to the fauna of Sicily.

**K e y w o r d s :** Taxonomy, *Abrolophus silesiacus*, *A. dagmarae*, *A. norvegicus*, *A. anzelmi*, redescription, synonymization, new records, Sicily.

### Introduction

*Abrolophus silesiacus* (HAITLINGER, 1986) was described from Poland based on a single specimen. The description was very short and incomplete. Drawings were restricted only to scutum, palp and part of ventral side of idiosoma (HAITLINGER 1986). Later further three specimens were collected in Poland, 9 specimens in Slovakia and one specimen has been collected in France (HAITLINGER 1987, 2002a, 2003, 2007a). Standard measurements, based on 4 specimens from Poland and 3 specimens from Slovakia, were given by HAITLINGER (2007b). Now, new localities for *A. silesiacus*, *A. dagmarae* and *A. anzelmi* in Sicily are given. Recently *A. silesiacus* was synonymized with *A. norvegicus* (THOR 1900) (WOLTMANN & MĄKOL 2012, MĄKOL & WOHLTMANN 2012). *A. dagmarae* (HAITLINGER, 2012) was described from Sicily based on 5 larvae (HAITLINGER 2012). Also this species was synonymized with *A. norvegicus* (WOHLTMANN & MĄKOL 2012, MĄKOL & WOHLTMANN 2012). In this paper a redescription of *A. silesiacus*, based on neotype, is given (holotype is lost). *A. silesiacus* and *A. dagmarae*, both good species, are compared with *A. norvegicus* and characters differing these species are given. *A. amilberti* (HAITLINGER, 2010) and *A. kotorensis* (HAITLINGER, 2007) are synonymized with *A. silesiacus*.

## Material and methods

In this paper 67 larvae of *A. silesiacus* from nine countries, 10 larvae of *A. dagnarae* from Sicily, 3 larvae from Madeira and 33 larvae of *A. norvegicus* from Austria, Belgium, Czech Republic, Denmark, Estonia, Germany, Latvia, Liechtenstein, Lithuania, Moldova, Norway, Poland, Russia, Sicily, Slovakia and Sweden were studied. All larvae were collected by R. HAITLINGER in the period 1985-2014. Measurements (in micrometers  $\mu\text{m}$ ) were made using a microscope NIKON Eclipse 80i. Figures were drawings using the same microscope. The terminology and abbreviations follow HAITLINGER (1999, 2013) and WOHLTMANN et al. (2007). The neotype of *A. silesiacus* is deposited in Museum of Natural History, Wrocław University (MNHWU), Poland.

## Results

### Family Erythraeidae ROBINEAU-DESOVIDY, 1828

*Abrolophus silesiacus* (HAITLINGER, 1986)

*Abrolophus kotoensis* (HAITLINGER, 2007) syn. nov.

*Abrolophus amilberti* (HAITLINGER, 2010) syn. nov.

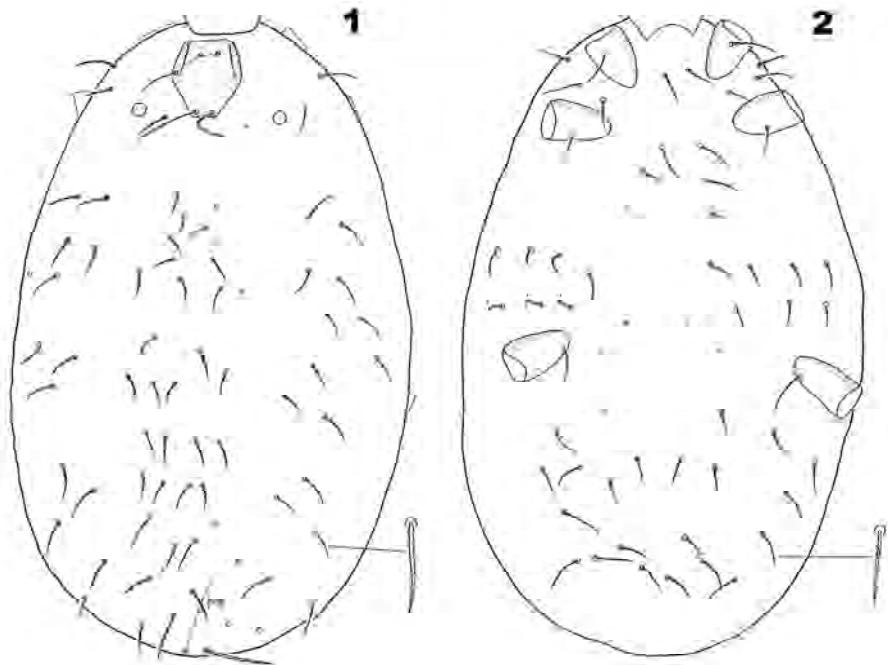
**D i a g n o s i s :** fD.74 (72-78), fV 22 (20-28), Ta I 62 (60-70), Ti III 87 (86-97), AL 37 (32-42), L 82 (76-90), W 63 (62-72), odontus (OD) divided to about  $\frac{1}{3}$ - $\frac{1}{2}$  its length, paradontus (Prd) not divergent.

In Sicily this species (as *A. kotoensis*) was known from five localities (HAITLINGER 2012). New localities are mentioned below.

**M a t e r i a l e x a m i n e d :** Larvae collected from herbaceous plants, 20 June 1993 in Stolec n. Ząbkowice, Lower Silesia, Poland is designated as neotype. It is deposited in MNHWU; leg. R. Haitlinger. Sicily, 3 km west of Corleone, one larva, 11 May 2010, Cantenuovo di Sicilia, five larvae, 4 May 2012, Salaparuta, one larva, 24 April 2012, Lago Villa Rosa, two larvae, 4 May 2012, Punta Zabbi, one larva, 19 April 2012, Bolognetta, one larva, 30 April 2012, Santa Margherita, one larva, 24 April 2012, Cefalu, one larva, 15 April 2012, 3 km north of Geraci, one larva, 2 May 2015, Giangi, two larvae, 9 May 2014, Piana di Albanesi, two larvae, 11 May 2014, Mendoza n. Trapani, one larva, 17 May 2014, 3 km west of Roccapalumba, two larvae, 10 May 2014, Graniti, one larva, 6 May 2014, 3 km west of Bivona, one larva, 11 May 2014; leg. R. HAITLINGER.

**D i s t r i b u t i o n :** Croatia, France, Greece, Italy, Montenegro, Poland, Slovakia, Slovenia, Turkey (HAITLINGER 1986, 2002, 2003, 2007a, BERON 2008). First record from Montenegro.

**D e s c r i p t i o n (l a r v a):** Dorsum with 74 (72-78) weakly barbed setae.(two pairs of setae on scutum level. Laterally of scutum one pair of eyes (Fig. 1). Scutum longer than wide with pair of weakly barbed scutalae, AL < PL, Anterior sensillary setae (ASE) shorter than the posterior ones (PSE), both covered with setules in distal part of the shaft (Fig. 3).



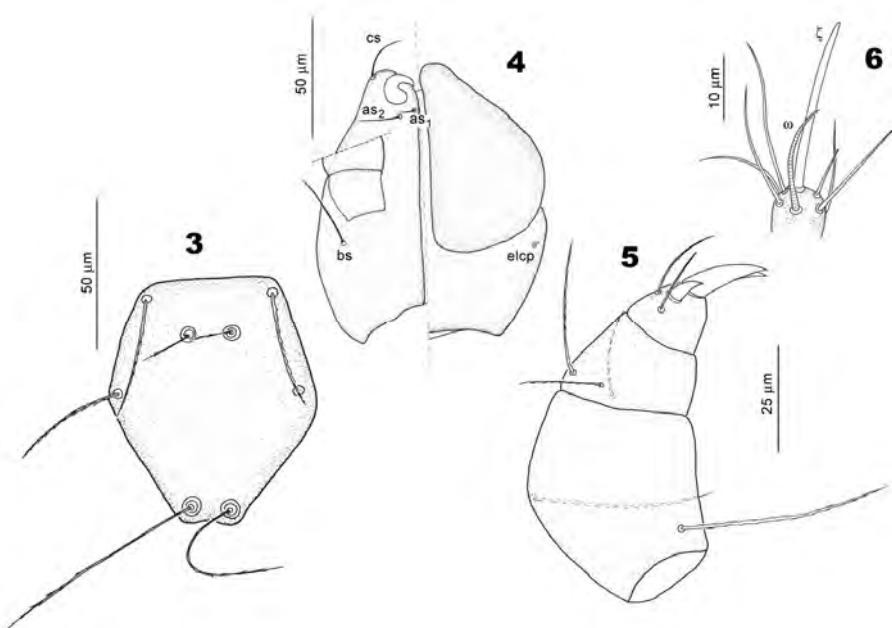
**Figs. 1-2.** *Abrolophus silesiacus* (HAITLINGER, 1986) (1) idiosoma, dorsal view; (2) idiosoma, ventral view.

Ventral surface of idiosoma with setae *1a* between coxae I, setae *2a* between coxae II and setae *3a* between coxae III. Between coxae I and II 6 setae, between coxae II and III 20 (24) setae and beyond coxae III 22 (20-28); all these setae are weakly barbed. Coxalae *1b* > *2b*; setae *2b* and *3b* subequal in length, all barbed (Fig. 2).

Gnathosoma with a pair of nude adoral setae *cs* 22; long (17-27), a pair of short club-shaped setae *elcp* 5 (4-6) in lateral position. Ventrally two pairs of nude hypostomal setae *as2* 24 (18-27) and setae *as1* 9 (7-14) and a pair of setulose setae *bs* 44 (37-59) (Fig. 4)..Palpfemur with twosetae, dorsal seta barbed, ventral seta nude, palpgenu with, two barbed setae and one nude seta. Palptibia has narrow 4 (4-5) and short 7 (9-12) parodontus and two nude setae.(Figs 5, 11). Palptarsus with 1 $\omega$ , 1 $\zeta$  and 6 nude setae (Fig. 6). Odontus divided to about  $\frac{1}{3}$ - $\frac{1}{2}$  its length, 21 (22-25) long.

Leg setal formula: Leg I: Ta 1 $\omega$ , 2 $\zeta$ , 1 $\epsilon$ , 1Cp, 24 (7B, 17N); Ti 2 $\varphi$ 1 $\kappa$ , 12N; Ge 1 $\sigma$ , 1 $\kappa$ , 11N; Tf 8N; Bf 4N; Tr 2N; Cx 1 (Fig.7). Leg II: Ta 1 $\omega$ , 2 $\zeta$ , 1Cp, 21 (10B, 11N), Ti 2 $\varphi$ 1 $\kappa$ , 13N; Ge 1 $\sigma$ , 1 $\zeta$ , 9N; Tf 5N; Bf 4N; Tr 2N; Cx 1 (Fig. 8). Leg III: Ta 1 $\zeta$ , 19, Ti 1 $\varphi$ , 13N; Ge 1 $\sigma$ , 9N; Tf 5N; Bf 4N; Tr 2N; Cx 1 (Figs 9, 10).

Other specimens (=8): Leg I: Ta 1 $\omega$ , 2 $\zeta$ , 1 $\zeta$ , 1 $\epsilon$ , 20-22, Ti 2 $\varphi$ , 1 $\kappa$ , 11-13; Ge 1 $\sigma$ , 0 (1 specimen)-1 $\kappa$ , 11-12; Tf 7-8; Bf 4; Tr 2; Cx 1.Leg II: Ta 1 $\omega$ , 2 $\zeta$ , 1 $\zeta$ , 17-19; Ti 2 $\varphi$ , 0 (2 specimens)-1 $\kappa$ , 10-14; Ge 1 $\sigma$ , 0 (5 specimens)-1 $\kappa$ , 9; Tf 5; Bf 4; Tr 2' Cx 1. Leg III: Ta 1 $\zeta$ , 14-18; Ti 1 $\varphi$ , 12-13; Ge 1 $\sigma$ , 7-10; Tf 5; Bf 4; Tr 2; Cx 1.

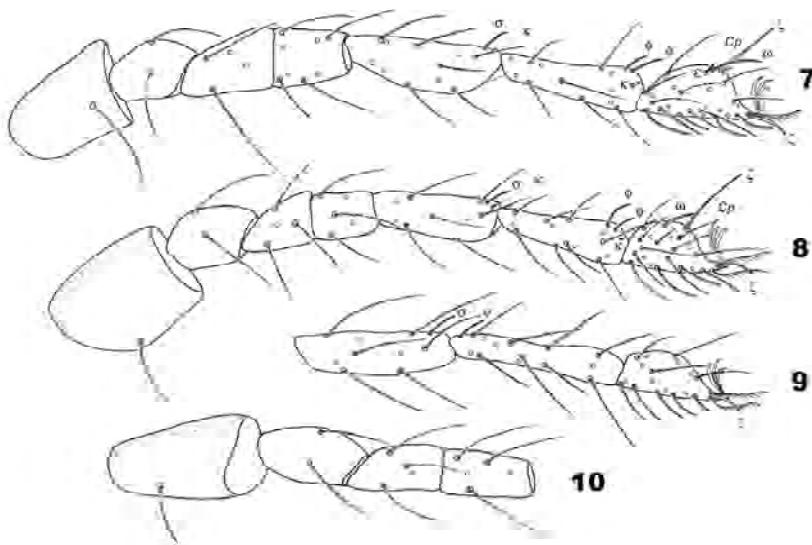


**Figs. 3-6.** *Abrolophus silesiacus* (HAITLINGER, 1986) (3) scutum; (4) gnathosoma; (5) palp; (6) palptarsus.

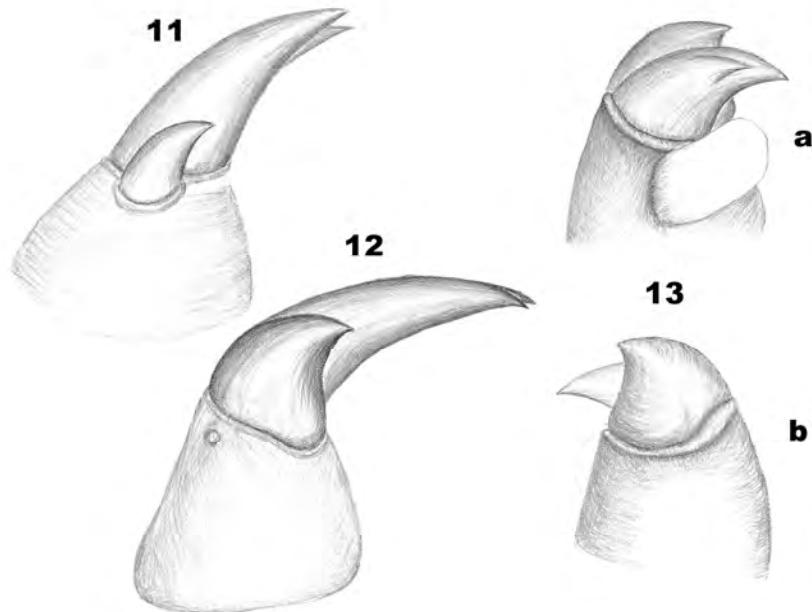
Leg lengths (including coxa, excluding claws): leg I 413 (409 – 453), leg II 370 (389 – 413), leg III 435 (422 – 475). IP = 1218 (1251 – 1334). Metric data are given in Table 1.

**R e m a r k s :** *A. silesiacus* belongs to the species group having odontus divided to about  $\frac{1}{3}$ - $\frac{1}{2}$  of its length. This group includes *A. stanislavae* (HAITLINGER, 1986), *A. podorasensis* (HAITLINGER, 2007), *A. sardiniensis* (HAITLINGER, 2007), and *A. dagmarae* (HAITLINGER 2012) (HAITLINGER 1986, 2007a, c, 2012). It differs from *A. stanislavae* and *A. podorasensis* in not divided paradontus. From *A. dagmarae* it differs in the longer L (68-89 vs. 48-67), AP (26-40 vs. 14-18), thinner Prd (W) (3-5 vs. 8-11), and fD (72-78 vs. 38) and from *A. sardiniensis* in fD (72-78 vs. 44), the longer L (68-89 vs. 54), W (56-74 vs. 48), PW (48-66 vs. 42), AP (26-40 vs. 12), AL (23-43 vs. 18), GL (98-125 vs. 88), 1a 24-46 vs. 14), PsFd (38-55 vs. 20), Ti I (63-84 vs. 54) and Ti III (70-101 vs. 48).

Recently *A. silesiacus* was synonymized with *A. norvegicus* by WOHLTMANN & MAKOL (2012). In their paper decision about synonymization *A. silesiacus* with *A. norvegicus* is restricted to following statement: "we have had an opportunity of studying the other specimen assigned to *A. silesiacus* and both, in the case of data provided in the original description and those calculated for the specimen at hand – the conspecificity of *H. silesiacus* with *A. norvegicus* is being confirmed". In reality metric data for *A. silesiacus* in majority are identical with *A. norvegicus*. (HAITLINGER, 1986, 2007b and Table 1). The following main characters differs *A. silesiacus* with *A. norvegicus*: odontus (OD) divided to about  $\frac{1}{3}$ - $\frac{1}{2}$  of its length vs. OD bifurcate at termination ( $\sim \frac{1}{8}$  its length), narrow



Figs. 7-10. *Abrolophus silesiacus* (HAITLINGER, 1986) (7) leg I; (8) leg II; (9) leg III, tarsus-genu; (10) leg III, telofemur-coxa.



Figs. 11-13a, b. Odontus and paradontus. (11) *Abrolophus silesiacus*; (12) *A. norvegicus*; (13a) *A. dagmarae*, external side; (13b) *A. dagmarae*, ventral side.

paradontus Prd (W) (4-5 vs. 9-12), narrow PaFe (W) (31-43 vs. 52-66), PaFe(L)/PaFe(W) (1.26-1.66 vs. 0.85-1.17), PaGe (W) (24-30 vs. 34-42), GL (108-122 vs. 121-154), PW (53-63 vs. 62-80), AP (30-37 vs. 16-23), fD (72-78 vs. 44-54) and as2 (14-27 vs. 34-60) (Figs 11, 12 1). Above mentioned characters indicate that *A. silesiacus* diametrically differs from *A. norvegicus* and can not be recognized as synonym of *A. norvegicus*. Two species *A. kotorensis* and *A. amilberti* have identical metric and meristic data with *A. silesiacus* and both are synonymized with *A. silesiacus* (Table 1).

### ***Abrolophus dagmarae* (HAITLINGER, 2012)**

This species was known only from 4 localities in Sicily (HAITLINGER 2012).

New localities: 2 larvae, 21 April 2012, Masteria Cagelotto n. Piana di Albanesi, 1 larva, 17 April 2012, Boletto n. San Giuseppe Jato (Palermo prov.), 1 larva, 24 April 2012, Salaparuta (Trapani prov.), 3 km east of Santo Stefano, 11 May 2014, all from herbaceous plants.

WOHLMANN & MĄKOL (2012) recognized this species as synonym of *A. norvegicus*. They compared metric and meristic data of both species stated small differences only between 6 metric features. Both species radically differs in the following characters (33 studied specimens of *A. norvegicus* were collected from Andorra, Austria, Belgium, Czech Republic, Denmark, Estonia, Germany, Latvia, Liechtenstein, Lithuania, Moldova, Norway, Poland, Russia, Sicily, Slovakia, Sweden and Ukraine): odontus (OD) divided to about  $\frac{1}{3}$ - $\frac{1}{2}$  of its length vs. OD bifurcate at termination (divided  $\sim\frac{1}{8}$  its length), the shorter OD, GL, ISD, L, ASE, SB, cs, as1, PaFe (W), PaGe (W) and PaTi (W) (Table 2). From Madeira 3 specimens were collected mistakenly determined as *A. neobrevicollis* ZHANG & GOLDARAZENA 1996 (HAITLINGER 2002b). Later *A. neobrevicollis* was synonymized with *A. norvegicus* (WOHLMANN & MĄKOL 2012). Specimens from Madeira have typical characters for *A. dagmarae* (Table 3). Now, *A. dagmarae* is known only from Sicily and Madeira and this species is not a synonym of *A. norvegicus*.

### ***Abrolophus norvegicus* (THOR, 1900)**

M a t e r i a l   e x a m i n e d : Sicily, Monreale n. Palermo, 27 may 2014, 1 larva from herbaceous plants.

D i s t r i b u t i o n : Europe. First record from Sicily.

This species is very common in Europe, but is very rare in Sicily. During four years only one specimen was collected. Measurements of the specimens (for comparison with *A. dagmarae*) are given in Table 3.

### ***Abrolophus anzelmii* HAITLINGER & ŁUPICKI, 2013**

M a t e r i a l   e x a m i n e d : Sicily, Graniti, 6 May 2014, 1 larva; 3 km west of Bivona, 11 May 2014, 1 larva, both from herbaceous plants

This species was described based on a single specimen (HAITLINGER & ŁUPICKI 2013). Measurements for two other specimens are given in Table 64. Species known only from Sicily.

## References

- BSRON P. (2008): Acarorum Catalogus I Acariformes: Calyptostomatoidea (Calyptostomatidae), Erythraeoidea (Smarididae, Erythraeidae). — Pensoft Publ. Nat. Mus. Nat. Hist., Sofia Bulg. Acad. Sci., Sofia-Moscow, 271 pp.
- HAITLINGER R. (1986): The genus *Hauptmannia* OUDEMANS, 1910 (Acari, Prostigmata, Erythraeidae) in Poland. — Pol. Pismo Entom. **56**: 181-191.
- HAITLINGER R. (1987): Dalsze informacje o występowaniu gatunków rodzaju *Hauptmannia* Oudemans, 1910 (Acari, Prostigmata, Erythraeidae) w Polsce. — Przegl. Zool. **31**: 159-164.
- HAITLINGER R. (1999): Six new species of *Leptus* LATREILLE, 1796 (Acari, Prostigmata, Erythraeidae) from South-East Asia. — Miscel. Zool. **22**: 51-68.
- HAITLINGER R/ (2002a): New records of mites (Acari: Prostigmata: Erythraeidae, Troimbiidae, Microtrombidiidae) from Slovakia. — Biologia **57**: 554-556.
- HAITLINGER R. (2002b): A new larval *Hauptmannia* OUDEMANS, 1910 and the first record of *Abrolophus neobrevicollis* ZHANG & GOLDARAZENA, 1996 (Acari: Prostigmata: Erythraeidae) from Madeira. — Syst. Parasitol. **53**: 115-119.
- HAITLINGER R. (2003): Występowanie gatunków z rodzajów *Hauptmannia* OUDEMANS, 1910 i *Rudaemannia* HAITLINGER, 2000 (Acari: Prostigmata: Erythraeidae) w Polsce. — Przegl. Przyr. **14**: 61-69.
- HAITLINGER R. (2007a): New records of mites (Acari: Prostigmata: Erythraeidae, Trombidiidae, Eutrombidiidae) from France, Liechtenstein and Switzerland, with descriptions of three new species. — Syst. Appl. Acarol. **12**: 55-72.
- HAITLINGER R. (2007b): New species and records of mites (Acari, Prostigmata: Erythraeidae, Trombidiidae, Eutrombidiidae) from the Balkan Peninsula. — Biologia **62**: 67-77.
- HAITLINGER R. (2007c): New records of mites from Corsica and Sardinia, with descriptions of five new species (Acari: Prostigmata: Erythraeidae, Trombidiidae, Eutrombidiidae). — Genus **18**: 529-543.
- HAITLINGER R. (2010): New records of mites (Acari: Prostigmata: Erythraeidae, Trombidiidae) from Turkey, with description of four new species. — Zesz. Nauk. Univ.Przyr. Wrocław. Biol. Hod. Zwierz. **60**, 577: 49-61.
- HAITLINGER R. (2012): New records of mites (Acari: Erythraeidae, Microtrombidiidae, Tanaupodidae) from southern Italy, with description of two new species. — Pers. J. Acarol. **1**: 41-51.
- HAITLINGER R. (2013): First record of *Leptus* (*Leptus*) *holgeri* (Acari: Prostigmata: Erythraeidae) from Vietnam, with redescription of the species. — Persian J. Acarol. **2**: 341-351.
- HAITLINGER R. & D. LUPICKI (2013): *Abrolophus anzelmii* nov. sp. (Acari, Prostigmata, Erythraeidae) from Sicily, Italy. — Linzer biol. Beitr. **45** (1): 681-687.
- MĄKOL J. & A. WOHLTMANN (2012): An annotated checklist of terrestrial Parasitengona (Actinotrichida: Prostigmata) of the world, excluding Trombiculidae and Walchiidae. — Ann. Zool. **62**: 359-562.
- WOHLTMANN A. & J. MĄKOL (2012): Morphology and life cycle of *Abrolophus norvegicus* (THOR, 1900) with notes on *Abrolophus* spp. (Actinotrichida: Prostigmata: Erythraeidae). — Ann. Zool. **62**: 69-97.
- WOHLTMANN A., GABRYŚ G. & J. MĄKOL (2007): Terrestrial Parasitengona inhabiting transient biotopes. — In: GERECKE R. (Eds): Süsswasserfauna von Mitteleuropa 7/2-1, Chelicerata, Acari I. Spektrum Elsevier, München [2006]: 158-240.

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**Table 1.** Metric data for *Abrolophus silesiacus* (HAITLINGER, 1986) (1). *A. kotoensis* (HAITLINGER, 2007) (= *A. silesiacus*) (2) and *A. amilberti* (HAITLINGER, 2010) (= *A. silesiacus*) (3). H – holotype, N – neotype, P – other specimens.

|      | 1 N   | 1 P n=34 | 2 n=20  | 3 n=12  | Range   |
|------|-------|----------|---------|---------|---------|
| II   | 658   | 288-790  | 385-814 | 413-711 | 288-814 |
| IW   | 415   | 203-489  | 279-580 | 241-438 | 203-580 |
| L    | 82    | 70-89    | 68-83   | 68-80   | 68-89   |
| W    | 63    | 60-74    | 56-68   | 56-64   | 56-74   |
| AW   | 43    | 37-51    | 36-45   | 38-40   | 36-51   |
| PW   | 59    | 51-66    | 50-60   | 48-56   | 48-66   |
| AA   | 15    | 12-17    | 11-15   | 8-12    | 8-17    |
| SB   | 13    | 12-16    | 12-15   | 10-12   | 10-16   |
| ISD  | 57    | 53-65    | 45-58   | 48-54   | 45-65   |
| AP   | 33    | 30-40    | 26-36   | 28-36   | 26-40   |
| AL   | 37    | 33-43    | 23-34   | 28-34   | 23-43   |
| PL   | 44    | 37-49    | 31-41   | 36-42   | 31-49   |
| ASE  | 34    | 30-36    | 17-38   | 24-32   | 17-38   |
| PSE  | 72    | 63-80    | 40-77   | 45-70   | 40-80   |
| GL   | 117   | 108-125  | 98-117  | 98-110  | 98-125  |
| DS   | 24-66 | 23-79    | 19-66   | 24-64   | 19-79   |
| PsFd | 53    | 46-55    | 38-46   | 38-52   | 38-55   |
| PsGd | 34    | 25-41    | 21-33   |         | 21-41   |
| 1a   | 34    | 31-46    | 24-39   | 26-40   | 24-46   |
| 2a   | -     | 31-43    | 27-38   |         | 27-43   |
| 3a   | 30    | 30-41    | 20-35   |         | 20-41   |
| 1b   | 48    | 40-61    | 36-50   | 40-52   | 36-61   |
| 2b   | 34    | 32-44    | 26-37   | 24-32   | 24-44   |
| 3b   | 37    | 31-43    | 24-40   | 28-36   | 24-43   |
| Ta I | 62    | 61-73    | 54-67   | 52-64   | 52-73   |
| Ti I | 75    | 73-84    | 63-75   | 70-82   | 63-84   |
| Ge I | 80    | 75-87    | 64-77   | 70-80   | 64-87   |
| Tf I | 38    | 34-44    | 28-40   | 30-40   | 28-44   |
| Bf I | 46    | 46-59    | 38-53   | 44-48   | 38-59   |
| Tr I | 47    | 39-51    | 32-47   | 36-44   | 32-51   |
| Cx I | 65    | 60-87    | 54-68   | 50-58   | 50-87   |

|            | 1 N  | 1 P n=34  | 2 n=20    | 3 n=12 | Range     |
|------------|------|-----------|-----------|--------|-----------|
| Ta II      | 54   | 55-64     | 48-59     | 46-54  | 46-64     |
| Ti II      | 64   | 64-74     | 54-68     | 58-72  | 54-74     |
| Ge II      | 67   | 63-72     | 52-64     | 64-70  | 52-72     |
| Tf II      | 29   | 29-39     | 24-43     | 30-38  | 24-43     |
| Bf II      | 40   | 36-49     | 34-44     | 32-52  | 32-52     |
| Tr II      | 43   | 40-51     | 36-45     | 38-42  | 36- 51    |
| Cx II      | 73   | 70-87     | 58-80     | 60-68  | 58-87     |
| Ta III     | 55   | 55-64     | 44-59     | 52-60  | 44-64     |
| Ti III     | 87   | 86-98     | 70-92     | 88-104 | 70-104    |
| Ge III     | 77   | 76-88     | 62-76     | 72-82  | 62-88     |
| Tf III     | 43   | 38-49     | 32-45     | 38-44  | 32-49     |
| Bf III     | 46   | 45-58     | 36-50     | 42-56  | 36-58     |
| Tr III     | 50   | 44-55     | 40-48     | 38-50  | 38-55     |
| Cx III     | 77   | 66-82     | 64-78     | 56-68  | 56-82     |
| OD         | 21   | 21-25     | 13-19     |        | 13-25     |
| Prd (L)    | 7    | 9-14      | 7-10      |        | 7-14      |
| Prd (W)    | 4    | 4-5       | 3-5       |        | 3-5       |
| PaFe (L)   | 59   | 50-62     | 43-52     |        | 43-62     |
| PaFe (W)   | 38   | 35-45     | 27-38     |        | 27-45     |
| PaGe (L)   | 24   | 21-26     | 20-25     |        | 20-26     |
| PaGe (W)   | 30   | 24-32     | 25-29     |        | 24-32     |
| <i>cs</i>  | 22   | 12-27     |           |        | 12-27     |
| <i>bs</i>  | 44   | 33-59     |           |        | 33-59     |
| <i>as1</i> | 9    | 7-14      |           |        | 7-14      |
| <i>as2</i> | 14   | 18-27     |           |        | 14-27     |
| Leg I      | 413  | 401-453   | 344-408   |        | 344-453   |
| Leg II     | 370  | 375-413   | 312-388   |        | 312-413   |
| Leg III    | 435  | 422-475   | 360-450   |        | 360-475   |
| IP         | 1218 | 1209-1334 | 1026-1231 |        | 1026-1334 |

**Table 2.** (1) Some differences between *Abrolophus dagmarae* (HAITLINGER, 2012) and (2) *A. norvegicus* (THOR, 1900).

|     | 1      | 2       |          | 1     | 2      |
|-----|--------|---------|----------|-------|--------|
| PL  | 34-42  | 44-63•  | as2      | 19-33 | 34-60• |
| ISD | 40-52  | 51-72   | ASE      | 22-29 | 30-50  |
| GL  | 97-118 | 120-154 | PaFe (W) | 27-48 | 49-66  |
| L   | 58-67  | 68-88•  | PaGe (W) | 25-31 | 32-42  |
| OD  | 11-15  | 18-33•  | PaTi (W) | 16-17 | 18-25  |
| SB  | 10-16  | 16-21   |          |       |        |

• - after WOHLTMANN & MĄKOL (2012) and own data

**Table 3.** Metric data for *A. dagmarae* from Sicily, 1 – holotype, 2 – other specimens, 3 – Madeira (3n), 4 – *A. norvegicus* – Sicily

|      | 1     | 2 n=9   | 3 n=3   | Range   | 4 n=1 |
|------|-------|---------|---------|---------|-------|
| IL   | 832   | 368-502 | 353-572 | 353-832 | 638   |
| IW   | 476   | 216-318 | 227-358 | 216-476 | 446   |
| L    | 62    | 58-67   | 63-67   | 58-67   | 81    |
| W    | 72    | 60-69   | 66-69   | 60-72   | 81    |
| AW   | 48    | 39-42   | 43-46   | 39-48   | 40    |
| PW   | 66    | 57-60   | 60-64   | 57-66   | 68    |
| AA   | 13    | 10-13   | 11-15   | 10-15   | 16    |
| SB   | 13    | 10-16   | 14-15   | 10-16   | 18    |
| ISD  | 52    | 40-51   | 47-49   | 40-52   | 57    |
| AP   | 16    | 14-18   | 18-22   | 14-22   | 18    |
| AL   | 32    | 31-33   | 25-29   | 25-33   | 36    |
| PL   | 36    | 34-42   | 37-42   | 34-42   | --    |
| ASE  | 23    | 22      | 24-29   | 22-29   | 37    |
| PSE  | 56    | 54-61   | 52-59   | 52-61   | 56    |
| GL   | 110   | 102-118 | 101-104 | 101-118 | 124   |
| DS   | 33-40 | 28-44   | 27-53   | 27-53   | 47-56 |
| PsFd | 33    | 36-39   | 37-38   | 33-39   | 39    |
| PsGd | 31    | 29-33   | 29-31   | 29-33   | 30    |
| 1a   | 38    | 29-34   | 29-30   | 29-38   | 38    |
| 2a   |       | 28-34   | 30-32   | 28-34   | 38    |
| 3a   |       | 24-30   | 27-31   | 24-31   | 36    |
| 1b   | 46    | 48-62   | 53-57   | 46-62   | 57    |
| 2b   |       | 31-34   | 27-31   | 27-34   | -49   |
| 3b   |       | 25-30   | 27-31   | 25-31   | 36    |
| Ta I | 70    | 56-66   | 63-71   | 56-71   | 65    |
| Ti I | 70    | 57-66   | 63-72   | 57-72   | 76    |

|          | 1    | 2 n=9     | 3 n=3     | Range     | 4 n=1 |
|----------|------|-----------|-----------|-----------|-------|
| Ge I     | 63   | 62-70     | 65-71     | 62-71     | 73    |
| Tf I     | 32   | 28-34     | 33-36     | 28-36     | 36    |
| Bf I     | 46   | 39-41     | 49-51     | 39-51     | 45    |
| Tr I     | 39   | 36-42     | 37-41     | 36-42     | 42    |
| Cx I     | 52   | 48-58     | 53-63     | 48-63     | 50    |
| Ta II    | 59   | 52-58     | 55-58     | 52-59     | 69    |
| Ti II    | 59   | 52-64     | 60-67     | 52-67     | 74    |
| Ge II    | 63   | 55-65     | 55-64     | 55-65     | 71    |
| Tf II    | 28   | 26-28     | 30-33     | 26-33     | 35    |
| Bf II    | 40   | 36-39     | 36-41     | 36-41     | 46    |
| Tr II    | 45   | 42-43     | 42-45     | 42-45     | 39    |
| Cx II    | 68   | 58-68     | 68-74     | 58-74     | 67    |
| Ta III   | 61   | 53-58     | 55-61     | 53-61     | 64    |
| Ti III   | 87   | 74-92     | 85-94     | 74-94     | 76    |
| Ge III   | 75   | 67-74     | 69-77     | 67-77     | 67    |
| Tf III   | 39   | 38-44     | 39-42     | 38-44     | 31    |
| Bf III   | 45   | 40-46     | 44-46     | 40-46     | 51    |
| Tr III   | 40   | 42-51     | 37-48     | 37-51     | 34    |
| Cx III   | 57   | 57-64     | 67-72     | 57-72     | 78    |
| cs       | 15   | 11-19     | 20-22     | 11-22     | 20    |
| bs       | 40   | 33-42     | 43-49     | 33-49     | 44    |
| as1      | 10   | 9-11      | 7-11      | 7-11      | 18    |
| as2      | 26   | 27-31     | 26-33     | 26-33     | 27    |
| elcp     | 4    | 4-5       | 4         | 4-5       |       |
| OD       | 14   | 11-15     | 14-15     | 11-15     | 21    |
| Prd (L)  | 8    | 7-11      | 8-11      | 7-11      | 12    |
| Prd (W)  | 10   | 8-11      | 10-11     | 8-11      | 7     |
| PaFe (L) | 60   | 42-62     | 51-53     | 42-62     | 53    |
| PaFe (W) | 41   | 27-47     | 46-48     | 27-48     | 49    |
| PaGe (L) | 25   | 21-27     | 22-23     | 21-27     | 21    |
| PaGe (W) | 29   | 25-31     | 32-31     | 25-31     | 33    |
| PaTi (L) | 16   | 15-17     | 15-16     | 15-17     |       |
| PaTi (W) | 17   | 16-17     | 17        | 16-17     |       |
| Leg I    | 372  | 335-374   | 367-397   | 335-397   | 387   |
| Leg II   | 362  | 327-355   | 354-374   | 327-374   | 401   |
| Leg III  | 404  | 381-416   | 410-434   | 381-434   | 421   |
| IP       | 1138 | 1043-1121 | 1131-1203 | 1043-1203 | 1209  |

Table 4. Metric data for *Abrolophus anzehni* HAITLINGER & LUPICKI, 2013

| Character | H     | 1     | 2     | Range   | Character | H    | 1    | 2    | Range     |
|-----------|-------|-------|-------|---------|-----------|------|------|------|-----------|
| IL        | 745   | 345   | 761   | 345-761 | PaFe(N)   |      | 40   |      |           |
| IW        | 535   | 230   | 513   | 230-535 | PaGe(L)   |      | 23   |      |           |
| L         | 81    | 87    | 79    | 79-87   | PaGe(N)   |      | 25   |      |           |
| W         | 75    | 89    |       | 75-89   | OD        |      | 38   | 30   | 30-38     |
| AW        | 58    | 52    | 43    | 43-58   | Prd(L)    |      | 20   | 15   | 15-20     |
| PW        | 68    | 57    | 53    | 53-68   | Tal       | 106  | 82   | 94   | 82-106    |
| AL        | 72    | 69    | 59    | 59-72   | Til       | 156  | 131  | 141  | 131-156   |
| PL        | 77    | 68    |       | 68-77   | GeI       | 119  | 107  | 101  | 101-119   |
| ASE       | 40    |       | 35    | 35-40   | ThI       | 63   | 64   | 54   | 54-64     |
| PSE       | 70    |       | 74    | 70-74   | BfI       | 86   | 71   | 70   | 70-86     |
| ISD       | 45    | 57    | 49    | 45-57   | TrI       | 64   | 47   | 35   | 35-64     |
| AP        | 25    | 29    | 20    | 20-29   | CxI       | 79   | 61   | 63   | 61-79     |
| AA        | 14    | 14    | 14    | 14      | TalI      | 91   | 76   | 79   | 76-91     |
| SB        | 17    | 14    |       | 14-17   | TilI      | 143  | 119  | 110  | 110-143   |
| GL        | 183   | 177   | 166   | 166-183 | GeII      | 98   | 86   | 85   | 85-98     |
| DS        | 43-71 | 45-67 | 35-50 | 35-71   | TrII      | 53   | 57   | 44   | 44-57     |
| PsfId     |       | 51    | 29    | 29-51   | BfII      | 72   | 61   | 47   | 47-72     |
| PsgGd     | 16    | 32    |       | 16-32   | TrII      | 58   | 46   | 46   | 46-58     |
| 1a        | 125   | 128   |       | 125-128 | CxII      | 95   | 75   | 79   | 75-95     |
| 2a        |       | 60    | 59    | 59-60   | TalII     | 100  | 81   | 81   | 81-100    |
| 3a        |       | 40    | 38    | 38-40   | TilII     | 190  | 167  | 174  | 167-190   |
| 1b        |       | 71    | 70    | 61      | GeIII     | 132  | 122  | 109  | 109-132   |
| 2b        |       | 48    | 59    | 48-59   | TrIII     | 81   | 76   | 68   | 68-81     |
| 3b        |       | 53    | 51    | 44      | BfIII     | 80   | 76   | 57   | 57-80     |
| cS        |       |       |       |         | TrIII     | 72   | 44   | 43   | 43-72     |
| as1       |       |       | 30    |         | CxIII     | 89   | 68   | 77   | 68-89     |
| as2       |       |       | 47    |         | LegI      | 673  | 563  | 563  | 563-673   |
| bS        |       |       | 44    |         | LegII     | 610  | 560  | 490  | 490-610   |
| elcp      |       |       |       |         | LegIII    | 744  | 634  | 609  | 609-744   |
| PaFe(L)   |       |       | 52    |         | IP        | 2007 | 1757 | 1662 | 1662-2007 |

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