

ARTÍCULO:

**New records of mites (Acari: Prostigmata: Erythraeidae, Trombidiidae, Microtrombidiidae) from Andorra, with description of *Campylothrombium soldeuensis* sp. n.**

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ARTÍCULO:

## **New records of mites (Acari: Prostigmata: Erythraeidae, Trombidiidae, Microtrombidiidae) from Andorra, with description of *Campylothrombium soldeuensis* sp. n.**

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### **Abstract:**

*Campylothrombium soldeuensis* sp. n. from Andorra is described and illustrated. *Hauptmannia brevicollis* Oudemans, 1910, *H. kazimierae* Haitlinger, 1986, *Erythraeus malwinae* Haitlinger, 1995 and *Podothrombium kordulae* Haitlinger, 1995 are new records to the fauna of Andorra. Additional measurements to *E. malwinae* from Andorra are also given.

**Key words:** Acari, Prostigmata, Erythraeidae, Trombidiidae, Microtrombidiidae, *Campylothrombium soldeuensis* sp. n., Andorra.

**Taxonomy:** *Campylothrombium soldeuensis* sp. n.

### **Nuevas citas de ácaros (Acari: Prostigmata: Erythraeidae, Trombidiidae, Microtrombidiidae) para Andorra y descripción de *Campylothrombium soldeuensis* sp. n.**

### **Resumen:**

Se describe *Campylothrombium soldeuensis* sp. n.. *Hauptmannia brevicollis* Oudemans, 1910, *H. kazimierae* Haitlinger, 1986, *Erythraeus malwinae* Haitlinger, 1995, *Podothrombium kordulae* Haitlinger, 1995 se citan por primera vez para la fauna de Andorra. Se dan medidas adicionales para *E. malwinae* de Andorra.

**Palabras clave:** Acari, Prostigmata, Erythraeidae, Trombidiidae, Microtrombidiidae, *Campylothrombium soldeuensis* sp. n., Andorra.

**Taxonomía:** *Campylothrombium soldeuensis* sp. n.

### **Introduction**

In Andorra mites belonging to the families Erythraeidae, Trombidiidae and Microtrombidiidae are unknown. In this paper, a new species *Campylothrombium soldeuensis* is described based on the larvae instar and four species are new to the fauna of Andorra.

### **Material and methods**

Mites were collected in Andorra, in 1-2 July 2003. A total of 8 larvae were obtained from herbaceous plants and 4 larvae from undetermined Diptera. The type material is deposited at the Museum of Natural History, Wrocław University (MNHU), Wrocław, Poland. The terminology and setal notation are based on Haitlinger (2000). Measurements are given in micrometers ( $\mu\text{m}$ ) in the tables I-II.

## Systematics

Erythraeidae Robineau-Desvoidy, 1828

*Hauptmannia* Oudemans, 1910

*Hauptmannia brevicollis* Oudemans, 1910

MATERIAL: 1 larva, 2.07.2003, La Caubella, 1950 m asl, from herbaceous plants.

DISTRIBUTION: Andorra, Austria, Czech Republic, Finland, Germany, Holland, Lithuania, Norway, Poland, Russia, Slovakia, Sweden. The most common species of *Hauptmannia* in Europe, associated with various Thysanoptera. It was obtained from high mountains in Slovenia (1400 m asl). In Europe, La Caubella is the highest locality for *H. brevicollis* (Haitlinger, 2000, 2002, 2003a, b). First record from Andorra.

*Hauptmannia kazimierae* Haitlinger, 1986

MATERIAL: 1 larva, 1.07.2003, Xixerella, 1500 m asl, from herbaceous plants.

DISTRIBUTION: Andorra, Poland, Slovakia, Slovenia. It is known from few localities in Europe. It was also obtained from high mountains in Slovenia (1400 m asl) (Haitlinger, 1986, 1987, 2002, 2003a). First record from Andorra.

*Erythraeus* Latreille, 1806

*Erythraeus malwinae* Haitlinger, 1995

MATERIAL: 1 larva, 2.07.2003, La Caubella, 1950 m asl, from herbaceous plants.

This species was known hitherto only from mountains in Germany (Garmisch-Partenkirchen) and submountains locality in Poland (Haitlinger, 1995a, 2000). Because measurements are known only for holotype, in Table I are given measurements also for specimens from Poland and Andorra. First record from Andorra.

Trombidiidae Leach, 1815

*Podothrombium* Berlese, 1910

*Podothrombium kordulae* Haitlinger 1995

MATERIAL: 1 larva, 1.07.2003, 1500 m asl; from herbaceous plants.

DISTRIBUTION: Andorra, Czech Republic, Germany, Poland, Russia, Slovakia. Common species in Europe (Haitlinger, 1995b, 2003b). First record from Andorra.

Microtrombidiidae Thor, 1935.

*Campylothrombium* Krause, 1916

*Campylothrombium soldeuensis* sp. n.

Figs 1-6.

### DIAGNOSIS:

Scutum and scutellum with longitudinal striae. Scutalae AL and PL weakly barbed. Pygidial setae 80 µm long. Claws I trifurcate. Tibia II and genu II, both without seta κ.

TYPE MATERIAL. Holotype larva (MNHWU); Soldeu, 1650 m asl, Andorra, 1.07.2003, from herbaceous plants;

leg. R. Haitlinger; paratypes: 7 larvae, from abdomen of undetermined Diptera, the same data as in holotype.

ETYMOLOGY: named according the place where the holotype was collected.

### DESCRIPTION BASED ON HOLOTYPE.

Measurements in Table II.

Dorsum with 20 setae arranged 4,4,6,4,2. Setae placed in the middle of idiosoma and four setae in posterior part of idiosoma are slightly barbed; other setae are nude. Two eyes on each side, both on platelet. Scutum longer than wide, posteriorly with lateral borders concave, posterior border almost straight. Whole area with longitudinal striae, punctate. Scutalae AL shorter than PL, both weakly barbed. Sensillae AM and S nude. Scutellum striated with two slightly barbed setae placed below of its middle (Fig. 1).

Idiosoma ventrally (Fig. 2) with weakly barbed setae 3a. Beyond coxae III six short setae and pair of long setae all barbed. All coxalae barbed. Pygidial setae 80 µm long.

Gnathosoma with two digitated hypostomalae. Palptibia with nude seta and odontus (Fig. 2). Palptarsus with 7 nude setae (including ω and ζ) (Fig. 3).

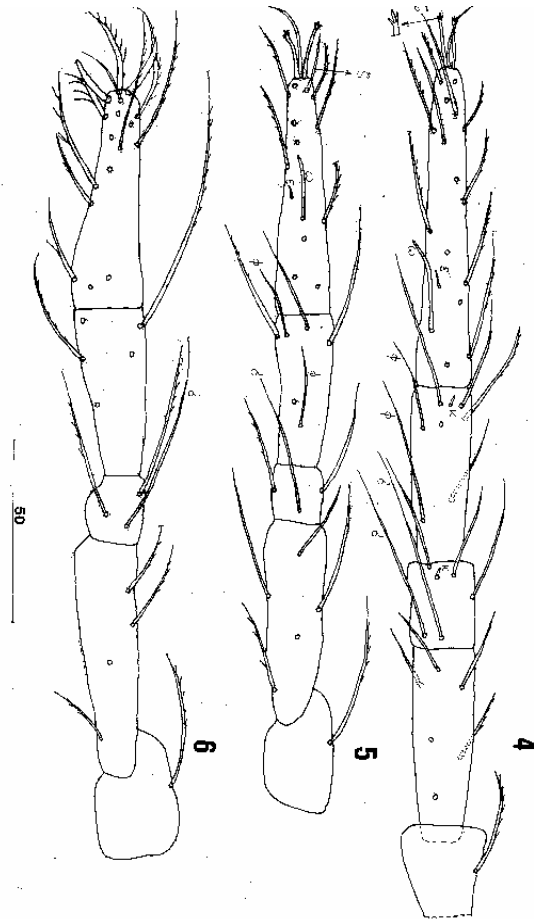
Leg setal formula. Leg I: Ta 1ω, 1ε, 1ζ, 6B, 6N; Ti 2φ, 1κ, 1B, 4N; Ge 2σ, 1κ, 3N; Fe 1B, 5N; Tr 1B; Cx 2B (Figs 2, 4).

Leg II: Ta 1ω, 1ε, 1ζ, 13B; Ti 2φ, 1B, 3N; Ge 1σ, 1B, 1N; Fe 1B, 4N; Tr 1B, Cx 1B (Figs 2, 5).

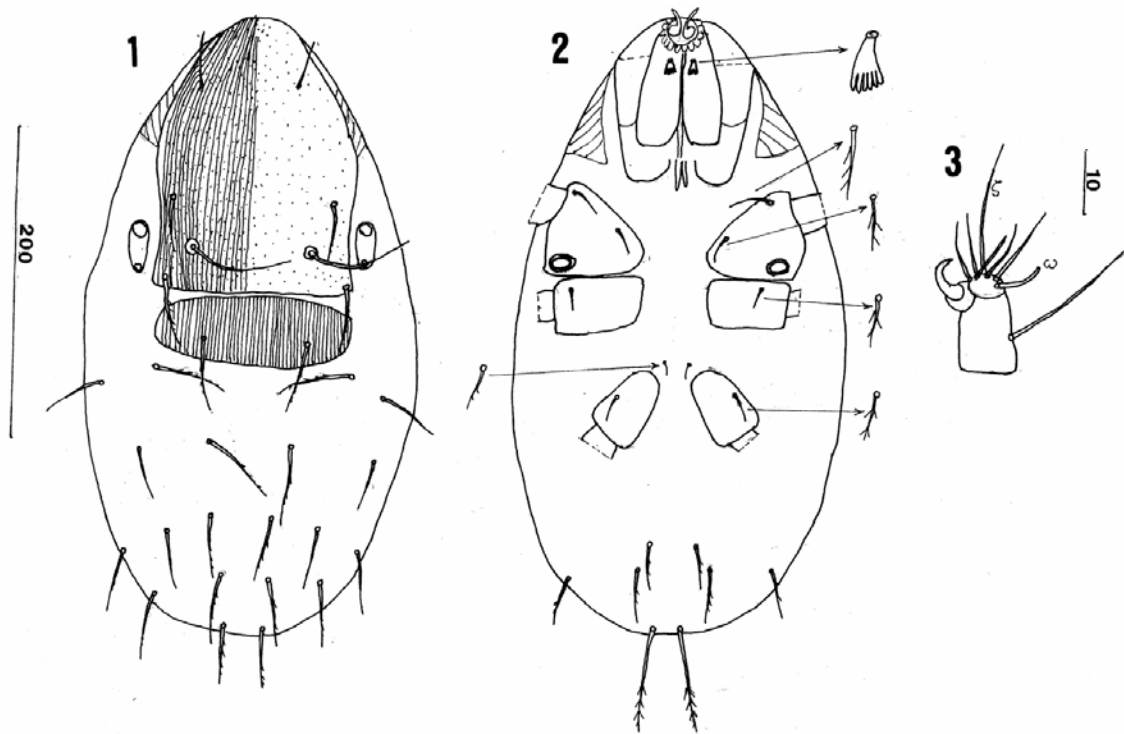
Leg III: Ta 15B; Ti 5B; Ge 1σ, 2B; Fe 4B; Tr 1B; Cx 1B (Figs. 2, 6). On left TaI seta ε placed distally to ω, on right TaI and in all paratypes this seta placed proximally to ω. Ip = 292, 248, 276 = 816 holotype, 276-304, 234-260, 254-268 = 778-822 paratypes.

REMARKS: In the genus *Campylothrombium*, eight species based on larvae have been described: *C. striaticeps* (Oudemans, 1904) from Belgium, France and Holland, *C. clavatum* (George, 1909) (= *C. barbarum* sensu Robaux, 1974, non *Trombidium barbarum* Lucas, 1846) from France (moreover based on adults this species is known from the Czech Republic, Germany, Finland, France, Hungary, Poland, Portugal, Romania, Spain, Switzerland and Yugoslavia), *C. schwangauensis* Haitlinger, 1995 from Germany, *C. lamberti* Haitlinger, 1998, *C. tomiri* Haitlinger, 1998 from Poland, *C. nadbori* Haitlinger, 2003 from Slovenia, *C. sulibori* Haitlinger, 2004 from Dominican Republic and *C. barilochensis* Haitlinger, 2004 from Argentina (Oudemans, 1904, Ewing & Hartell 1918, Robaux, 1974, Southcott, 1994, Haitlinger, 1995a, 1998, 2003a, 2004, Gabryš, 1999). *C. soldeuensis* n. sp. differs from *C. clavatum* in fD (20 vs 24), shorter AW (90-106 vs 120-129), PW (100-124 vs 144-160), SB (78-88 vs 100-110), LSS (136-148 vs 150-162), HS (40-46 vs 55-65), SL (40-52 vs 55-62), longer AL (34-42 vs 27-30) and TiIII and GeII both without seta κ; from *C. striaticeps* in fV (8 vs 12), all coxalae with short ciliae vs long ciliae, SA/SP (1.2-1.3 vs 2.0), from *C. schwangauensis* in shorter L (146-170 vs 196), W (110-

134 vs 168), AW (90-106 vs 134), MA (56-64 vs 84-86) and TaI (78-92 vs 96-100); from *C. lamberti* in shorter AW (90-106 vs 134), W (110-134 vs 188), L (146-170 vs 194), MA (56-64 vs 90) and SB (78-88 vs 120); from *C. tomiri* in shorter L (146-170 vs 190), W (110-134 vs ~150), AW (90-106 vs 132), MA (56-64 vs 92) and SB (78-88 vs 120); from *C. nadbori* in shorter PW (100-124 vs 144-146), W (110-134 vs 152-154), MA (56-64 vs 78-84), SB (78-88 vs 100-104), LSS (136-148 vs 196-204), HS (40-46 vs 60-64) and GL (96-106 vs 120-124); from *C. sulibori* in longer TaI (78-92 vs 66), MA (56-64 vs 46), LSS (136-150 vs 118), HS (40-46 vs 26) and S (60-66 vs 50) and from *C. barilochensis* in shorter GL (96-106 vs 120), longer HS (40-46 vs 32), LSS (136-150 vs 128), the presence of  $\epsilon$  on TaI and 2 $\phi$  on TiII vs 1  $\phi$ .



**Figs 4-6.** *Campylothrombium soldeuensis* sp. n.: 4. leg I, tarsus-trochanter; 5. leg II, tarsus-trochanter; 6. leg III, tarsus-trochanter.



**Figs 1-3.** *Campylothrombium soldeuensis* sp. n.: 1. idiosoma, dorsal view; 2. idiosoma, ventral view; 3. palptarsus.

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|     | G       | P       | A       |       | G   | P   | A   |
|-----|---------|---------|---------|-------|-----|-----|-----|
| IL  | 950     | 603     | 609     | PsFd  | 106 | 98  | 86  |
| IW  | 720     | 451     | 444     | PsGd  | 98  | 98  | 86  |
| AW  | 62      | 52      | 66      | TaI   | 228 | 230 | 218 |
| PW  | 140     | 144     | 136     | TiI   | 472 | 480 | 454 |
| AA  | 20      | 18      | 18      | GeI   | 290 | 302 | 292 |
| SB  | 22      | 24      | 22      | TfI   | 216 | 232 | 208 |
| ISD | 100     | 94      | 94      | BfI   | 232 | 246 | 210 |
| L   | 174     | 170     | 152     | TrI   | 90  | 90  | 90  |
| W   | 186     | 196     | 174     | CxI   | 106 | 100 | 114 |
| AP  | 84      | 74      | 76      | TaII  | 200 | 206 | 190 |
| AL  | 180     | -       | 150     | TiIII | 478 | 452 | 460 |
| PL  | 128     | 108     | 110     | GeII  | 238 | 238 | 224 |
| AM  | 80      | 68      | 66      | TfII  | 206 | 202 | 190 |
| S   | 132     | -       | 114     | BfII  | 214 | 224 | 200 |
| DS  | 108-140 | 102-140 | 102-136 | TrII  | 90  | 80  | 86  |
| Oc* | -       | -       | 82      | CxII  | 130 | 126 | 90  |
| GL  | 220     | 198     | 196     | TaIII | 238 | 200 | 230 |
| 1a  | 90      | 74      | 94      | TiIII | 674 | 670 | 630 |
| sc1 | -       | -       | 36      | GeIII | 294 | 326 | 300 |
| 1b  | 172     | 172     | 160     | TfIII | 276 | 288 | 262 |
| 2b  | 60      | 102     | 66      | BfIII | 260 | 260 | 240 |
| 3b  | 94      | -       | -       | TrIII | 100 | 90  | 94  |
|     |         |         |         | CxIII | 140 | 136 | 134 |

\* plate of eyes

**Table I.** Metric data (in  $\mu\text{m}$ ) for *Erythraeus malwinae* Haitlinger from Germany (holotype) (G), Poland (P) and Andorra (A).

**Table II.** Metric data (in  $\mu\text{m}$ ) for *Campylothrombium soldeuensis* n. sp.  
H - holotype, P - paratypes (n=7)

|      | H   | P        |       | H     | P       |
|------|-----|----------|-------|-------|---------|
| IL   | 394 | 482-1028 | PLN   | 24    | 20-24   |
| iW   | 210 | 305-701  | HS    | 42    | 40-46   |
| AW   | 104 | 96-106   | LSS   | 140   | 136-150 |
| PW   | 110 | 100-124  | SS    | 62    | 58-66   |
| L    | 170 | 140-160  | SL    | 40    | 44-52   |
| W    | 128 | 110-134  | DS    | 32-56 | 38-58   |
| MA   | 56  | 58-64    | TaI   | 84    | 78-92   |
| SB   | 80  | 78-88    | TiI   | 46    | 42-54   |
| ASB  | 142 | 116-130  | GeI   | 20    | 18-22   |
| PSB  | 28  | 24-32    | FeI   | 52    | 50-54   |
| AP   | 54  | 50-56    | TrI   | 34    | 32-36   |
| SA   | 34  | 32-38    | CxI   | 56    | 52-60   |
| SP   | 28  | 22-26    | TaII  | 64    | 56-70   |
| AM   | 30  | 24-34    | TiII  | 40    | 34-42   |
| AL   | 40  | 34-42    | GeII  | 16    | 15-18   |
| PL   | 44  | 38-50    | FeII  | 50    | 44-54   |
| S    | 62  | 60-64    | TrII  | 40    | 34-42   |
| GL   | 96  | 102-106  | CxII  | 56    | 46-56   |
| 3a   | 20  | 16-20    | TaIII | 54    | 50-60   |
| 1b*  | 16  | 16-22    | TiIII | 40    | 40-48   |
| 1b** | 22  | 22-26    | GeIII | 22    | 18-22   |
| 2b   | 18  | 16-20    | FeIII | 58    | 52-58   |
| 3b   | 24  | 20-32    | TrIII | 42    | 32-40   |
|      |     |          | CxIII | 60    | 50-54   |

\* proximal seta, \*\* distal seta

