

## Two new larval Erythraeidae (Acari) of the genus *Hauptmannia* OUDEMANS, 1910 from Turkey

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### Abstract

The larvae of two new species of mites of the genus *Hauptmannia* OUDEMANS, 1910 (Acari: Erythraeidae) are described from Turkey, i.e. *Hauptmannia viticola* n.sp. and *H. viburnicola* n.sp. They were found on plants *Vitis* sp. and *Viburnum lantana*, respectively. The insect hosts of these species are still unknown.

**Key words:** Taxonomy, Acari, Erythraeidae, Turkey.

### Résumé

Les larves de deux nouvelles espèces du genre *Hauptmannia* OUDEMANS, 1910 (Acari: Erythraeidae) sont décrites de Turquie. Il s'agit de *Hauptmannia viticola* n.sp. et de *H. viburnicola* n.sp., toutes deux trouvées sur des plantes. Les insectes hôtes sont inconnus.

**Mots-clefs:** Taxinomie, Acari, Erythraeidae, Turquie.

### Introduction

The larvae of two new species of the genus *Hauptmannia* OUDEMANS, 1910 are described from Turkey. They were collected from plants, the insect hosts are still unknown. *Hauptmannia viticola* was found on *Vitis* sp. and *H. viburnicola* on *Viburnum lantana*.

It is the first time that the genus *Hauptmannia* is recorded from Turkey.

**Abbreviation:** IRSNB = Institut royal des Sciences naturelles de Belgique. All the measurements are in micrometers ( $\mu\text{m}$ )

### STATUS OF THE GENUS *Hauptmannia* OUDEMANS, 1910

The status of the genus *Hauptmannia* OUDEMANS, 1910 has given rise to much controversy. GRANDJEAN (1947, p. 327), stated, but without providing descriptions, that

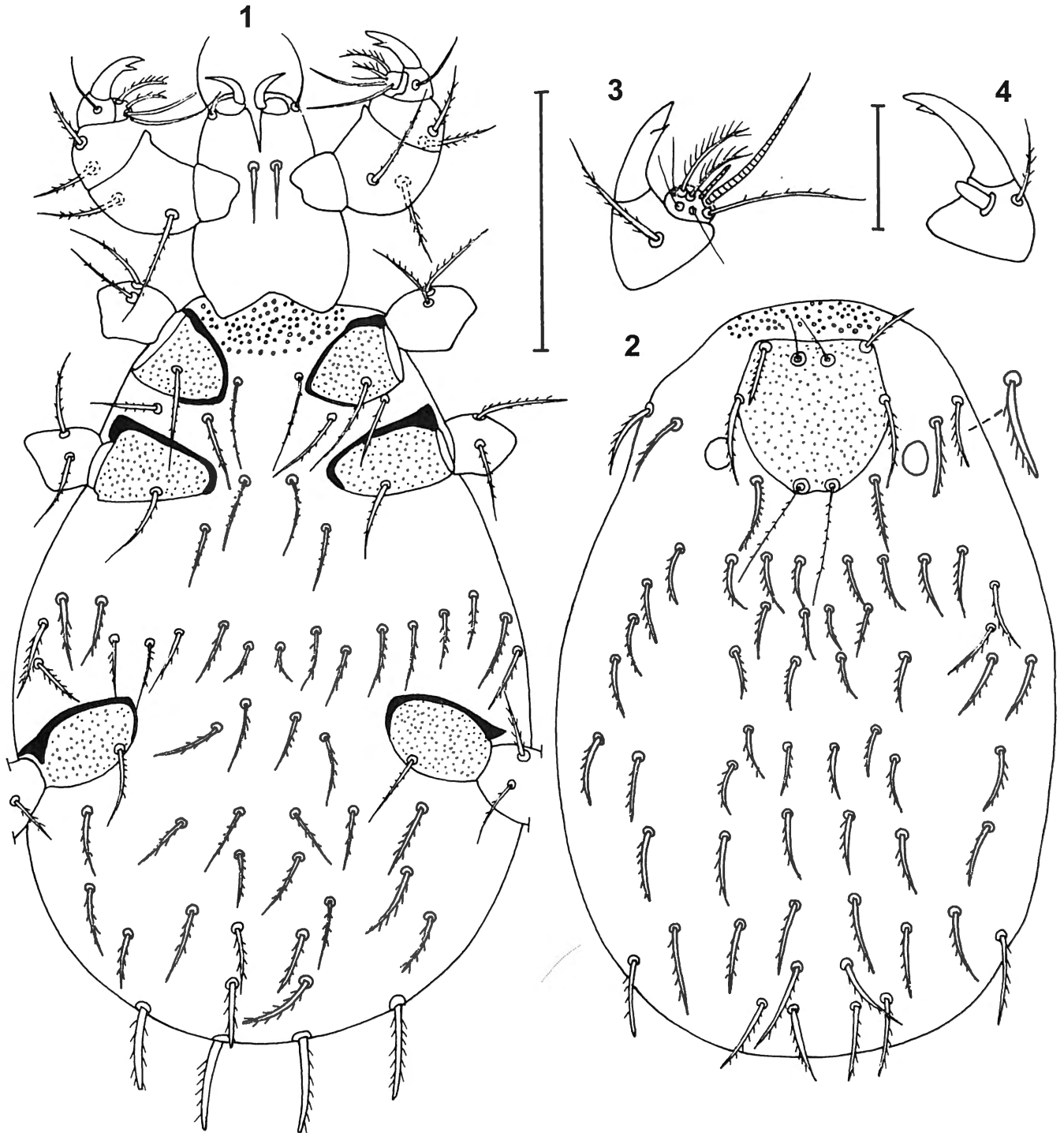
*Hauptmannia* is the larva of *Abrolophus* BERLESE, 1891. SOUTHCOTT (1961, p. 535) believed that: "In the interest of stability of nomenclature, it is preferable to retain the name *Abrolophus* for the postlarval forms, and the name *Hauptmannia* for the larval forms, until such time as evidence is provided of their relationship to the other definitive taxon in the life history." (SOUTHCOTT, 1961, loc.cit.)

Welbourn and Young (1987), studying the North American Erythraeidae, included in *Abrolophus* the larvae with palpal tibial claw distally bifurcate, palpal tarsus without comblike setae and palpal femur without hook-like projection and in *Hauptmannia* the larvae with palpal tibial claw entire, palpal tarsus with at least one comblike seta and palpal femur with nonsetiferous spine or hook.

Zhang and Lafuente (1996) followed the proposals of Welbourn and Young but noted that there are many exceptions to the combination of characters that were used to define these genera and they suggested that some of these characters are of specific rather than generic significance.

Haitlinger (1986, 1987 and 1996) described 7 new species of *Hauptmannia* from their larval stages, all from Poland. He agreed that the shape of the palpal tibial claw (entire or forked) was an important systematic character but he was more reluctant concerning the value of the two other characters mentioned by Welbourn and Young. He noted that in *H. kazimierae* HAITLINGER (1986 and 1996) the palpal tibial claw is entire whilst the palpal tarsus is devoid of combs and the palpal femur has a triangular projection (this last character was only mentioned in his paper of 1996)

We have observed similar exceptions to the combinations of these characters in the two new species that we describe here. In *H. viticola* the palpal tibial claw has the apex not divided, the palpal tarsus bears two comblike setae and the palpal femur bears a small triangular process. In the second species, *H. viburnicola*, the palpal tibial claw is not forked apically, the palpal tarsus has no comblike setae and there is no projection on the palpal femur. In both species the palpal tibial claw bears a small but very distinct preapical ventro-lateral tooth. It appears, from all these observations, that some palpal characters described above cannot be used at the generic level.



Figs. 1-4 – *Hauptmannia viticola* n.sp; Holotype larva in ventral view(1) and in dorsal view (2); palpal tibia and palpal tarsus in ventrolateral (3) and dorsolateral view (4). Scale lines: 100  $\mu\text{m}$  (figs 1-2) and 25  $\mu\text{m}$  (figs 3-4).

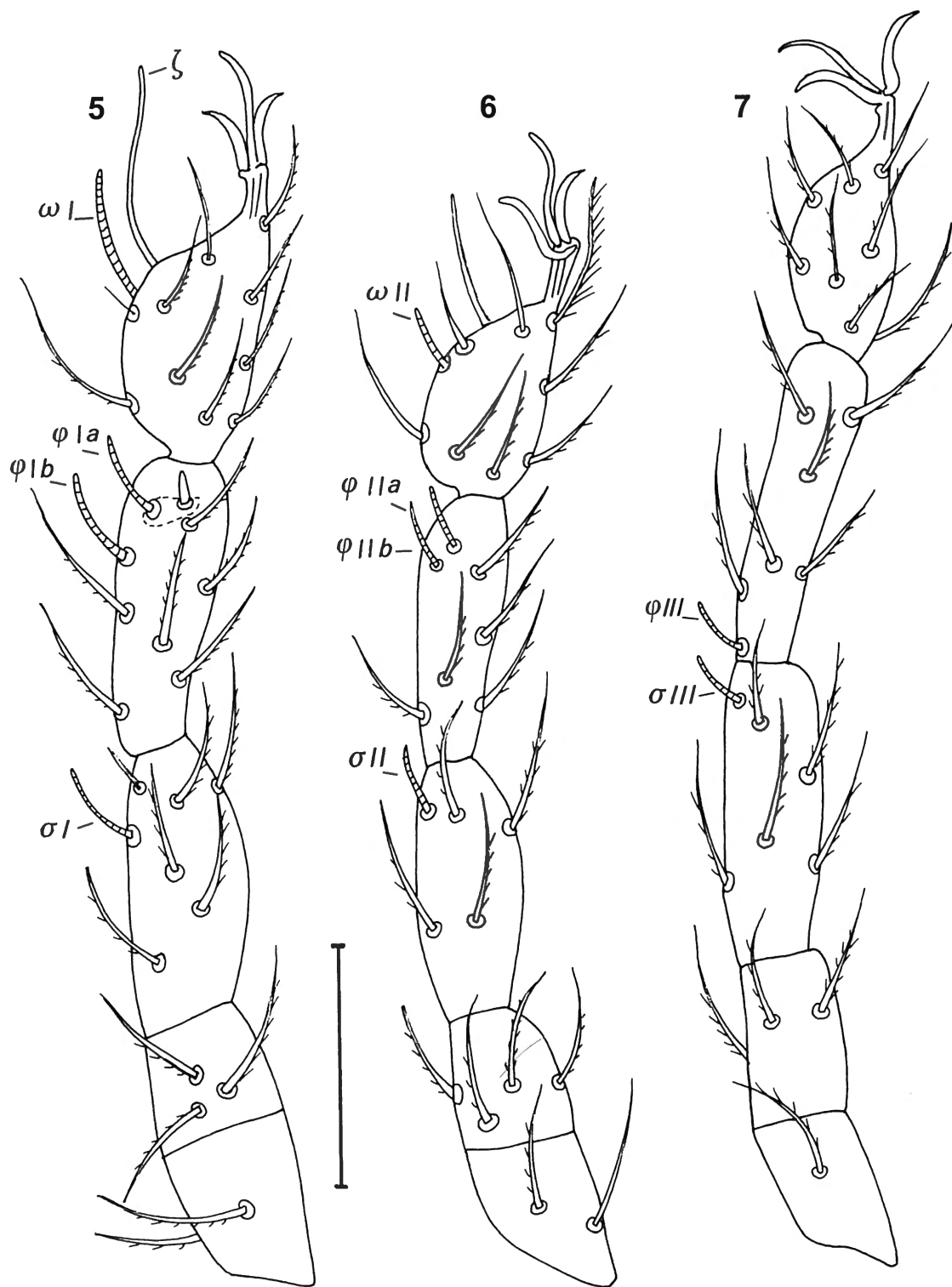
ERYTHRAEIDAE, CALLIDOSOMATINAE

Genus *Hauptmannia* OUDEMANS, 1910

*Hauptmannia viticola* nov.spec.

*Larva*, holotype (figs 1-7): Standard data: See table 1. Idiosoma 330 long and 225 wide. *Dorsum*: Shield punctate, almost as long as wide. The cuticle in front of the

shield is verrucous. Sensillae very thin, apparently smooth (or with indistinct setules?). Al and PL with very short poorly distinct setules. All dorsal setae with very short setules. Anterior region of dorsum with 3 pairs of setae, behind the scutum there are 9 rows of setae arranged as follows: 10-6-7-2-7-6-8-2-4 setae. *Venter*: With a total of 54 setae (coxal setae not included), 18



Figs. 5-7 - *Hauptmannia viticola* n.sp. Holotype larva. Legs I (5), II (6) and III (7) in dorso-lateral view. Scale line: 50  $\mu$ m.

to 36 long and arranged as follows: 2 pairs of sternalae (St I and St II), 2 pairs laterally between coxae I and II, 20 setae between coxae II and III, 1 pair between coxae III and 24 setae behind coxae III. All these setae with very short setules. Posterior setae of opisthogaster much thicker than the other setae. Diameter of eye-lenses 12. *Gnathosoma* 97 long, 72 wide, bearing 2 pairs of setae.

Palps strongly developed. Tarsi with 2 unequal comb-like setae with relatively long setules, the longest comb is 40, in addition there are 3 short smooth setae, one long (40) shortly setulose, 3 short smooth setae and 1 long (35) and 1 much shorter solenidion. Palpal tibial claw with a small preapical ventro-lateral tooth. Accessory claw not toothed and not forked apically. Palpal tibia with 2 setu-



Figs. 8-9 – *Hauptmannia viburnicola* n.sp. Holotype larva in dorsal (8) and ventral view (9). Scale line: 100  $\mu$ m.

lose setae. Palpal genu with 2 setulose setae. Palpal femur with a small projection. *Chaetotaxy of legs* (number of setae): Trochanters 2-2-2; Basifemora 4-4-4; Telfemora 8-6-6; Genua 11-9-9; Tibiae 15-14-12; Tarsi 26-24-20.

*Habitat and locality*: Holotype, the only known specimen; collected by S.C. from *Vitis* sp., at Canakkale, Borcaada (village Salubakae), Turkey, (n<sup>o</sup> 64; 21.05.1997). Holotype deposited in the IRSNB.

*Remarks*:

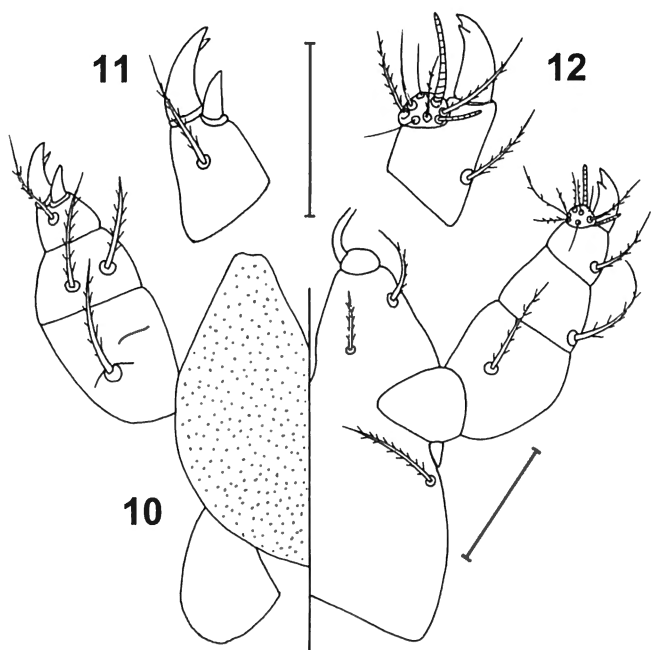
*Hauptmannia viticola* n.sp. is clearly distinguished from

all known species in the genus *Hauptmannia* by the combination of the following characters: Palpal tarsus bearing 2 well developed comblike setae unequal in length and with long (5) teeth extending through the whole length of the setae; palpal tibial claw with a preapical tooth; setae AL shorter than PL; PSE about 3 times as long as ASE; scutum rounded, except anterior border straight, about as long as wide; short tibiae I and II; numerous dorsal and ventral setae on idiosoma (58 and 54 respectively).

This species is the most close to *Hauptmannia longicollis* OUDEMANS, 1910 and 1912 (figs) but in this species

Table 1. – Metric data of *Hauptmannia viticola* n.sp. and *H. viburnicola* n.sp. (larvae).

	<i>Hauptmannia viticola</i> Holotype	<i>Hauptmannia viburnicola</i> Holotype		<i>Hauptmannia viticola</i> Holotype	<i>Hauptmannia viburnicola</i> Holotype
Character			Character		
AW	39	42	TaI	57	48
PW	63	51	TaII	45	50
SBa	12	15	TaIII	48	50
SBp	15	12	TiI	66	90
ISD	50	63	TiII	60	80
L	68	75	TiIII	75	85
W	65	54	GeI	60	80
L/W	1.04	1.38	GeII	54	70
AAS	16	15	GeIII	66	82
A-P	24	27	Solenidia		
AL	26	52	ωI	30	21
PL	36	45	ωII	13	16
ASE	18	30	φIa	15	15
PSE	51	49	φIb	18	45
PSE/ASE	2.83	1.63	φIIa	10	15
DS	21-36	34-69	φIIb	10	42
StI	35	36	φIII	14	15
StII	35	27	σI	15	22
CxI	50	48	σII	12	21
CxII	32	33	σIII	10	20

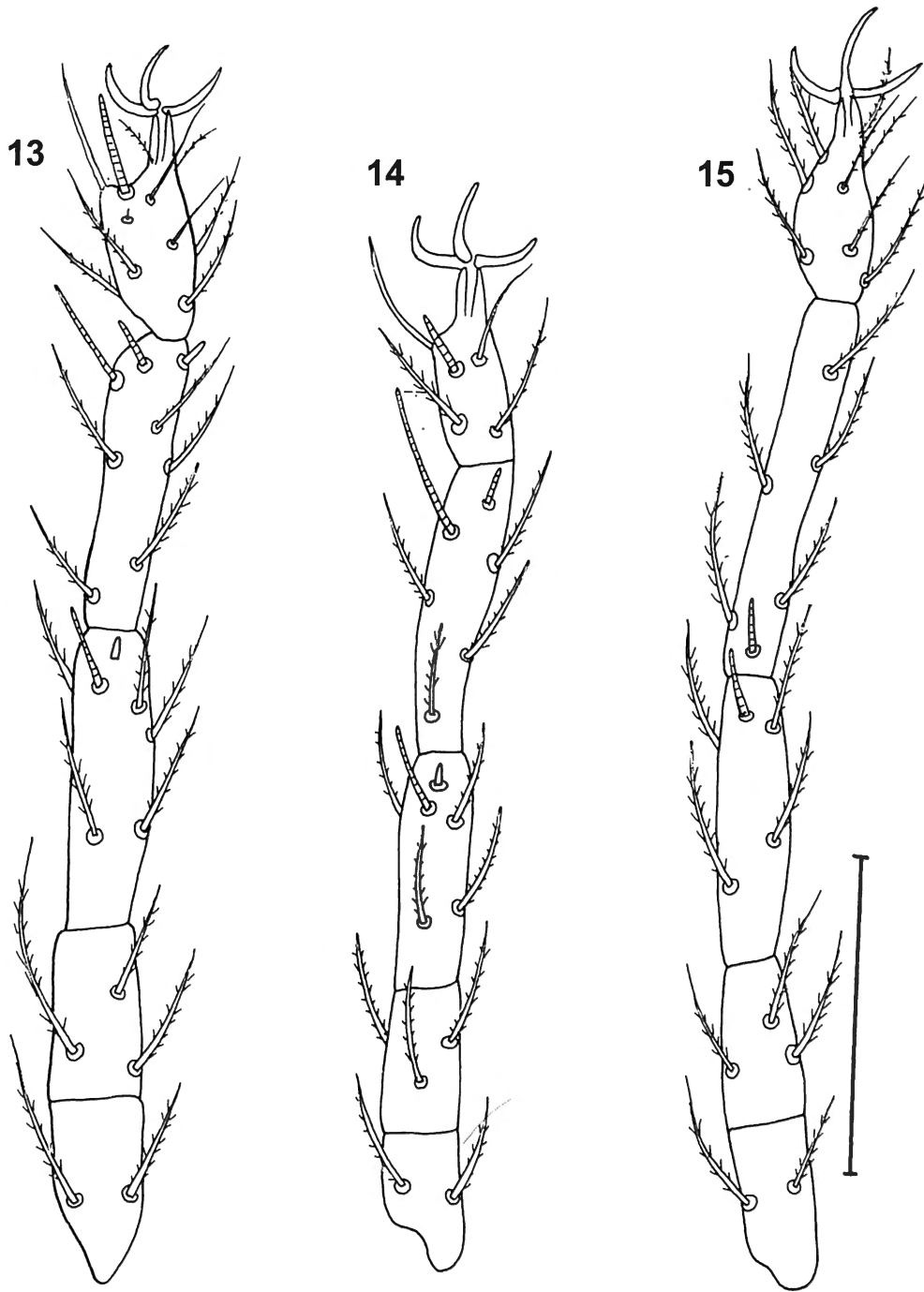


Figs. 10-12 – *Hauptmannia viburnicola* n.sp. Holotype larva: Gnathosoma (10), dorsally to the left and ventrally to the right. Palpal tibia dorsally (11), palpal tarsus and palpal tibia ventrally (12). Scale lines: 50  $\mu$ m (fig 10) and 25  $\mu$ m (figs 11 and 12)

the 2 comblike setae are strongly unequal in length and in shape and the teeth restricted to the basal half for the main comb and to the apical third in the short comb and on both combs the teeth are very short; sensillae subequal; AL and PL and tibiae I and II much longer, scutum larger and less rounded.

*Hauptmannia viburnicola* nov. spec.

*Larva*, holotype (figs 8-15): Standard measurements: see table 1. Idiosoma 675 long and 453 wide. *Dorsum*: Scutum roughly hexagonal, lightly punctate and distinctly longer than wide (ratio L/W 1.38). Sensillae very thin with very short setules. Setae AL and PL thick with short setules. Dorsum with 43 shortly setulose setae of which 6 in the scutal area; in the hysteronotal area the setae are arranged along 7 transverse rows of 4-7-6-6-6-6-2 setae (37 setae). Lengths of setae 34-69. *Venter* bearing in total 61 setae, most of them thin or very thin and almost smooth, except the setae between coxae I and II, some lateral setae in front of coxae III and the setae of posterior region of opisthogaster which are thicker and setulose. The longest setae of the venter are the 2 pairs in the posterior region of the body. These ventral setae are arranged as follows: 2 pairs of sternal setae I and II, 2 pairs of setae between coxae I and II, 20 setae between coxae II and III, 1 pair between coxae III and 31 setae behind coxae III. Lengths of setae in front of coxae III:



Figs. 13-15 – *Hauptmannia viburnicola* n.sp. Holotype larva: legs I (13), II (14) and III (15): dorsally. Scale line: 100  $\mu$ m.

31-30, those behind coxae III: 21-70. *Gnathosoma* 114 long and 75 wide, bearing ventrally 3 pairs of setae. Palpal tarsus without comblike setae. Apical claw of palpal tibia not forked but bearing a small preapical ventro-lateral tooth; accessory spine not bifurcate. Palpal femur without projection. Palpal genu with 3 setae. Chaetotaxy of legs (sensory setae not included): Trochanters 2-2-2; Basifemora 4-4-4; Telefemora 8-5-5; Genua 11-9-9;

Tibia 15-13-12; Tarsi 24-20-20. *Abnormality*: Tibia II bears 2 solenidia at one side and 3 solenidia at the other side.

*Habitat and locality*

Holotype larva, the only known specimen, collected by Z. Dürğünes, from a plant *Viburnum lantana* from Karagöl, Ankara, Turkey (15.07.1964). Holotype in the IRSNB.

*Remarks:*

*H. viburnicola* has the palpal tibial claw not forked at apex but it bears a small preapical and ventro-lateral tooth, the palpal tarsus is devoid of comblike setae, the additional tibial claw is entire and there is no projection on the palpal femur. Moreover there are 61 ventral setae, and the dorsal shield is much longer than wide (ratio L/W 1.38). No other species of *Hauptmannia* presents such combination of characters. In *H. gracilentia* Willmann (1937) the scutum is also relatively narrow (L/W 1.35) but in this species the palpal tibial claw is not toothed, the setae AL and PL are much shorter (20 and 30, respectively) the posterior sensillae are much longer, there are many more ventral setae, the scutum is more elongate and there are more setae on the palps.

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