

Linzer biol. Beitr.	26/1	531-538	8.7.1994
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**Two new species of the genus
Podothrombium BERLESE 1910 (Acari, Prostigmata,
Trombidiidae) from Austria and Italy**

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Abstract: Two new larval species of the genus *Podothrombium* (Trombidiidae, Podothrombiinae) are described: *Podothrombium tymoni* n. sp. and *P. protii* n. sp. Both species were obtained from plants in mountain and submountain areas in Austria and Italy.

A key to all larval species is given.

Key words: Trombidiidae, *Podothrombium*, Austria, Italy, new species.

Introduction

The genus *Podothrombium* BERLESE 1910 belongs to subfamily Podothrombiinae (SOUTHCOTT, 1986a). In the genus were described species based on adults and larval stages. Up to date are known five species only from the larvae: *Podothrombium svalbardense* OUDEMANS 1928 from Svalbard, found on Aphidiidae (Homoptera), *P. crassicristatum* FEIDER 1968 from Romania, *P. shellhammeri* ROBAUX 1977 from California, USA, *P. piriformis* ROBAUX & SCHIESS 1982 from Switzerland and *P. paucisetarum* ZHANG & XIN 1989 from China, found on Aphidiidae (OUDEMANS 1928, FEIDER 1968, ROBAUX 1977, ROBAUX & SCHIESS 1982, ZHANG & XIN, 1989). The larvae probably are associated with Homoptera (OUDEMANS 1928, ZHANG & XIN 1989).

In this paper further two new larval species of the genus *Podothrombium* are described. Both species were found in mountain or submountain areas in Austria and Italy and were obtained from plants. A key to all larval

species is given. The terminology of structure and setal notation is adopted from Southcott (1986a, b).

The new species are deposited in the Museum of Natural History, Wrocław University (MNHWU).

All measurements are given in micrometers (nm).

Description

Podothrombium tymoni n. sp.

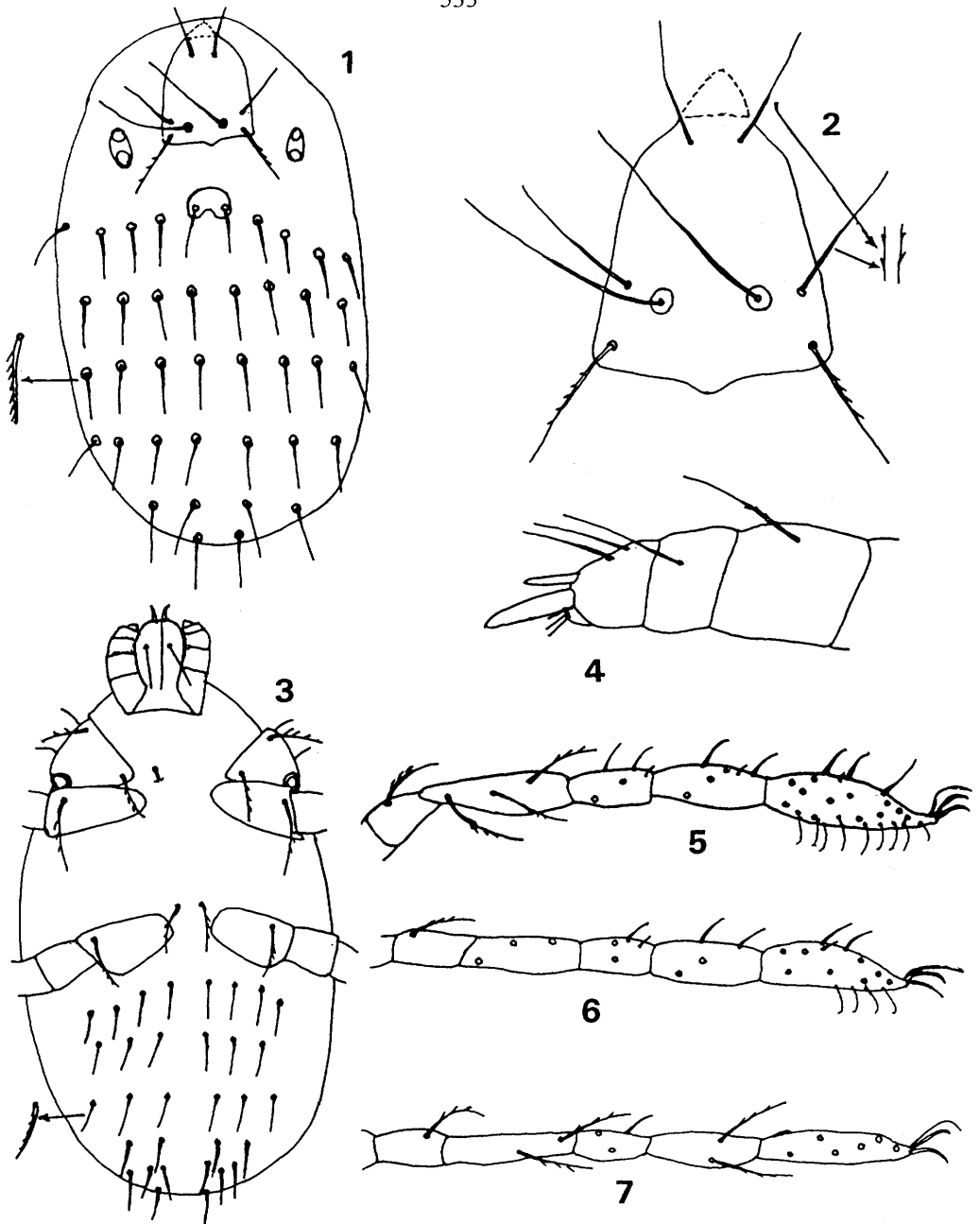
D i a g n o s e s : The first row of dorsal setae bears 8 setae, dorsum with 40 setae (including 2 setae on scutellum), palpfemorala barbed, palpgenuala and palptibialae are smooth, palptarsus with 8 setae of which 2 setae are barbed. Tarsus I with 2 So, 1 Fa and 40 other setae of which 10 are smooth. The length of dorsal setae 68-80. The length of tarsus I 174.

L a r v a : Dorsal setae arranged in 6 rows, the first row bears 8 setae. Dorsum bears 40 setae differing in length. All setae are barbed. Scutellum oval but its posterior margin is concave (Fig. 1). Scutum as in Fig. 2 bears distinctly barbed setae PL and weakly barbed setae AM and AL. PL>AL>AM. Posterior margin of scutum slightly convex; its anterior margin is badly visible (the tip is tucked).

Ventral side of idiosoma bears about 32 barbed setae behind coxae III. Posterior setae are longer than anterior setae. Sternalae III and all coxalae are barbed. Coxala II is longer than other ones (Fig. 3). Between coxae I one damaged seta is present (anomaly).

G n a t h o s o m a : Hypostomalae are smooth. Palpfemorala is weakly barbed, palpgenuala and palptibialae are smooth. Palptarsus bears 8 setae of which 2 are barbed (badly visible) (Fig. 4).

L e g I : Tarsus bears 2 So, 1 Fa and 40 other setae of which 10 are smooth. The setae formula: Ti- 2 So, 1 Vs, 5 B; Ge- 2 So, 1 Vs, 4 B; Fe- 5 B; Tr- 1 B (Fig. 5). Seta Vs on tibia is situated between both solenida near the first solenidion.



Figs. 1-7: *Podothrombium tymoni* n. sp.: 1: idiosoma, dorsal view; 2: scutum; 3: idiosoma, ventral view; 4: palp; 5: leg I, tarsus - trochanter; 6: leg II, tarsus - trochanter; 7: leg III, tarsus - trochanter.

Leg II: The setae formula: Ta- 2 So, 1 Fa, 27 other setae of which 4 are smooth; Ti- 2 So, 5 B; Ge- 1 So, 1 Vs, 3 B; Fe- 4 B; Tr- 1 B. Seta Fa placed somewhat behind second solenidion; seta Vs on genu placed before solenidion (Fig. 6).

Leg III: The setae formula: Ta- 25; Ti- 5 B; Ge- 1 So, 3 B; Fe- 4 B; Tr- 1 B (Fig. 7).

Metric data of holotype are given in Table 1.

Material examined: 11.

Locus typicus: Austria, Kitzbühel, ~ 760 m a. s. l., 18. June 1993, meadow, from plants; coll. R. Haitlinger. **Holotype** in MNHWU.

Etymology: The name of the species has been derived from the name Tymon.

Remarks: The new species is similar to *Podothrombium protin* sp. and *P. paucisetarum* ZH. & XIN. It differs from both species by longer tarsus III; from *P. protin* also by longer AW, PW, AL, PL, DS; from *P. paucisetarum* by longer AW, PW, SE, the presence of two solenidia on Ta I and smooth hypostomalae.

***Podothrombium protin* n. sp.**

Diagnosis: The first row of dorsal setae with 7-8 setae, dorsum bears less than 40 setae, all gnathosomal smooth (except one pair on the palptarsus). Scutal setae AL, PL, AM barbed. Tarsus with 2 So and 32-37 other setae, of which 7-9 are smooth. The length of tarsus I below 130.

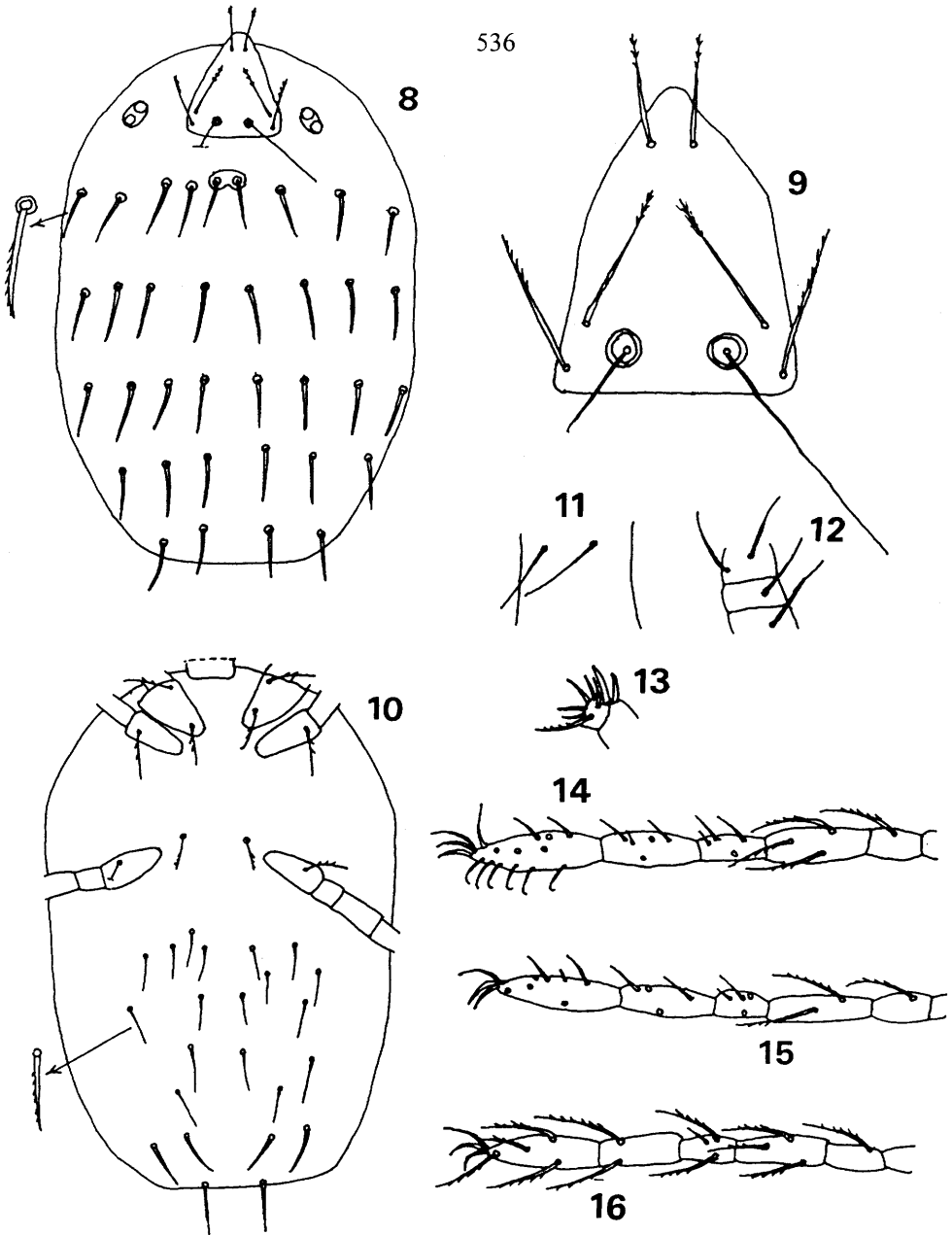
Larva: Dorsal setae arranged in distinctly separated four rows; 4-5 setae in posterior part of opisthosoma can be arranged irregularly. All setae are relatively short: 52-70 and barbed. Ocular sclerites are short. Scutellum with concave posterior margin (Fig. 8). Scutum as in Fig. 9 bears barbed setae AL, PL and AM. PL>AL>AM, in one paratype AL>PL>AM.

Ventral side of idiosoma bears 23-24 opisthosomal setae, all barbed. Sternalae III and all coxalae barbed (Fig. 10).

Gnathosoma with smooth setae, except one pair on palptarsus. Setae on palptarsus badly visible; probably there are 7 setae. Hypostomalae are smooth (in one paratype with two setules) (Figs. 11-13).

Table 1: Metric data for *Podothrombium tymoni* n. sp. and *P. protii* n. sp., holotype (H), paratypes (P).

	<i>P.tymoni</i>	<i>P. protii</i>					<i>P.tymoni</i>	<i>P. protii</i>					<i>P.tymoni</i>	<i>P. protii</i>				
	H	H	P	P	P		H	H	P	P	P		H	H	P	P	P	
Body length	816	728	584	600	1072	DS	68-80	58 -70	54 -66	52 -64	56 -70	Tr III	74	60	60	56	56	
Body width	464	440	384	~34 4	~624	Ocular sclerite	50	42	40	38	44	Cx III	110	88	90	84	84	
L	~186	140	~122	-	~166	Ta I	174	120	126	126	126	gd	30	24	-	28	30	
W	~134	~116	~110	-	~110	Ti I	116	82	76	76	82	fd	38	28	34	32	32	
AW	94	82	76	80	80	Ge I	84	56	60	58	54	Coxala Ia	68	66	74	68	68	
PW	120	102	96	104	94	Fe I	152	102	112	106	116	Coxala Ib	72	62	60	56	60	
AMB	728	24	-	-	24	Tr I	72	62	56	58	54	Coxala II	86	74	60	68	76	
AP	34	22	22	22	20	Cx I	110	92	96	90	80	Coxala III	74	-	58	750	60	
MA	86	80	72	74	76	Ta II	142	104	106	112	108	Ti I/Ge I	1,38	1,46	1,27	1,31	1,52	
LN	-	~28	-	-	-	Ti II	106	72	72	68	66	AW/AP	2,76	3,72	3,45	3,64	4,00	
ASB	-	120	104	-	126	Ge II	66	48	48	42	48	Ti III/AW	1,21	1,02	1,13	0,97	0,97	
PSB	54	~20	20	-	30	Fe II	124	82	84	88	92	AW/AL	1,14	1,17	-	1,14	1,00	
AM	76	54	68	-	64	Tr II	66	56	52	48	50	PSW	756	-	40	-	44	
AL	82	70	758	70	80	Cx II	116	86	94	86	84	GL	116	90	84	88	92	
PL	86	72	72	78	72	Ta III	160	116	120	118	114	Ta I (H)	40	38	40	42	42	
SE	140	120	~104	120	120	Ti III	114	84	86	83	82	St III	70	52	54	48	54	
MS	98	94	82	82	90	Ge III	70	48	50	48	46							
SB	52	42	44	44	44	Fe III	140	100	102	106	102							



Figs. 8-16: *Podothrombium protii* n. sp.: 8: idiosoma, dorsal view; 9: scutum; 10: idiosoma, ventral view; 11: hypostomalae; 12: palp, tibia - femur; 13: palptarsus; 14: leg I, tarsus - trochanter; 15: leg II, tarsus - trochanter; 16: leg III, tarsus - trochanter.

Leg I: Tarsus bears 2 solenidia and 32-37 setae; among them 7-9 are smooth. The setae formula: Ti- 2 So, 1 Vs, 5 B; Ge- 2 So, 1 Vs, 4 B; Fe- 5 B; Tr- 1 B. Setae Vs on tibia placed close behind the first solenidion. Seta Vs on genu placed before both solenidia (Fig. 14).

Leg II: The setae formula: Ta- 2 So, 1 Fa, 18-21 other setae without smooth setae (or with at most one such seta); Ti- 2 So, 5 B; Ge- 1 So, 1 Vs, 3 B; Tr- 1 B. Seta Fa placed between both solenidia; seta Vs placed on genu before solenidion (Fig. 15).

Leg III: The setae formula: Ta- 18-19 B; Ti- 5 B; Ge- 1 So, 3 B; Tr- 1 B (Fig. 16).

Metric data of holotype and paratypes in Table 1.

Material examined: 41.

Locus typicus: Italy, Garda, ~ 400 m a.s.l., 8 June 1993, on skirt a grove, from plants; coll. R. Haitlinger; MNHWU.

Etymologie: The name of the species has been derived from the name Prot.

Remarks: The new species is especially similar to *P. paucisetarum* ZH. & XIN. It can be separated by: 1) dorsum bearing less than 40 setae and NDV below 70 setae, 2) smooth palpgenuala and palptibialae, 3) Ta I with more than 24 ordinary setae.

Key for species determination

- 1 Length of tarsi I-III over 220 μm , Ip over 2200 μm
.....*P. shellhammeri* ROBAUX 1977; USA, California
- Length of tarsi I-III less than 190 μm , Ip less than 2000 μm 2
- 2 The first row of dorsal setae with more than 16 setae arranged irregularly3
- The first row of dorsal setae with no more than 12 setae arranged regularly...5
- 3 NDV less than 100, ratio Ta I/Ta III over 1,40, tarsus I bears over 50 ordinary setae*P. crassicristatum* FEIDER 1968, Romania
- NDV over 100, ratio Ta I/Ta III less than 1,20, tarsus I bears less than 40 ordinary setae4
- 4 Ventrum bears more than 52 setae behind coxae III, palptarsus with 8 setae (among them 3 B) *P. piriformis* ROBAUX 1982, Switzerland

- Venterum bears less than 50 setae behind coxae III, palptarsus with 8 setae (among them 2 B)*P. svalbardense* OUDEMANS 1928, Svalbard
- 5. Length of tarsus I over 160 μm *P. tymoni* n. sp.; Austria
- Length of tarsus I less than 140 μm 6
- 6. Dorsum bears less than 40 setae, NDV less than 70 setae, tarsus I with more than 24 ordinary setae*P. proti* n. sp., Italy
- Dorsum bears over 40 setae, NDV over 80 setae, tarsus I with less than 20 ordinary setae*P. paucisetarum* ZHANG & XIN 1989, China

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