

**A new larval Microtrombidiidae (Acari) phoretic
on a Ceratopogonid Fly (Insecta Diptera)
from Southern China**

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Summary

A new larval Microtrombidiidae, *Asteritrombium yunnanense* gen. and sp. n. (Acari) is described from a Ceratopogonidae collected in the Yunnan Province of Southern China.

Keywords : Systematics. Acari. Microtrombidiidae. Larva. Phoretic. Ceratopogonidae. Diptera. China.

Résumé

Un nouveau Microtrombidiidae larvaire *Asteritrombium yunnanense* gen. et sp. n. (Acari), est décrit d'une mouchette de la famille Ceratopogonidae (Diptera) capturée en Chine, province du Yunnan.

Introduction

During investigations on the fauna of Acalyptrata (Diptera) in Southern China, the junior author collected from a small ceratopogonid fly, a single larva belonging to a new genus and species in the subfamily Microtrombidiinae (Microtrombidiidae) (Acari). This larva was fixed on the abdomen of the fly. It is described here.

SOUTHCOTT (1994), revised the Microtrombidiidae and recognized in it two subfamilies i.e. the Microtrombidiinae and the Eutrombidiinae. He provided a key to the larvae of 34 genera of Microtrombidiinae, many of them being represented only by their larval stage. Besides these genera this subfamily also includes numerous other genera represented only by their adult or deutonymphal stage.

GABRYS (1999) has published a comprehensive monography on all the post

larval stages of the family Microtrombidiidae. All the genera (89) based on postlarval stages are defined, illustrated and keyed and their systematic status discussed.

All the measurements are in micrometers (μm).

Family Microtrombidiidae THOR, 1935

Subfamily Microtrombidiinae THOR, 1935

Genus *Asteritrombium* gen. n.

Definition : Only the larva is known. *Idiosoma* : *Dorsum* : cuticle finely striated, with two finely punctate shields devoid of striations; anterior shield with anterior and lateral borders thickened, posterior border concave and forming

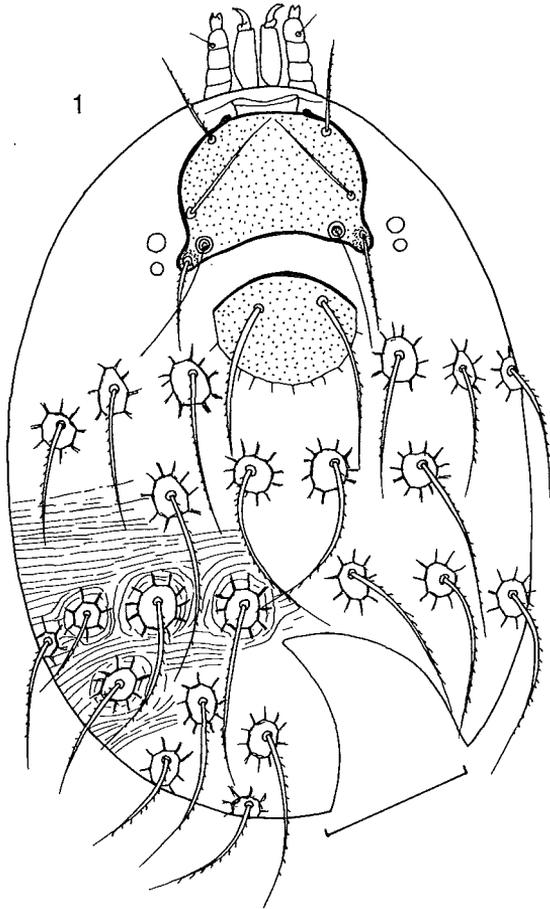
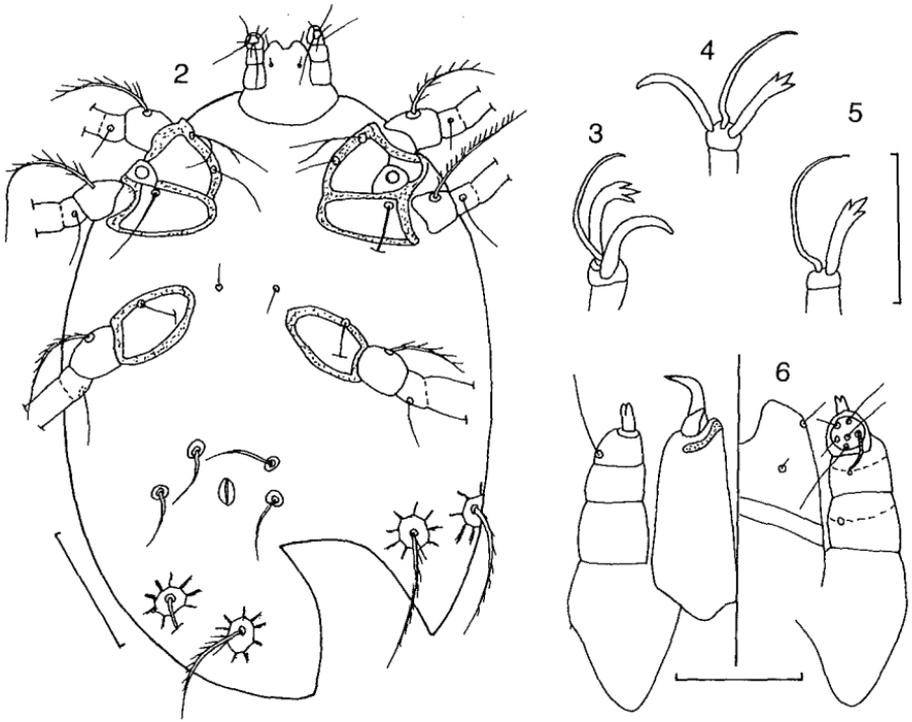


Fig 1. *Asteritrombium yunnanense* sp. n. Larva dorsally. Scale line 100 μm .



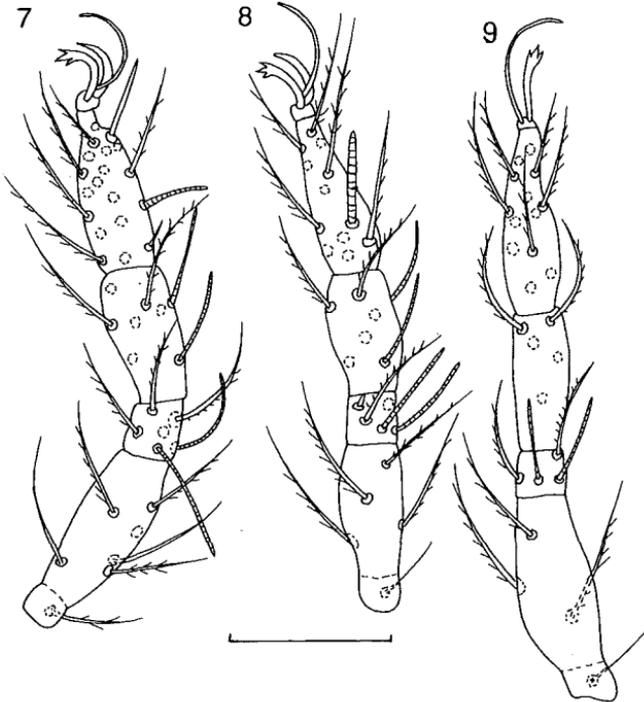
Figs 2-6. *Asteritrombium yunnanense* sp. n. Larva ventrally (2). Apex of leg I (3), II (4), III (5). Gnathosoma (6), in dorsal (to the left) and in ventral (to the right) view. Scale lines : 100 μm (fig. 2) and 25 μm (figs 3 to 6).

laterally two distinct rounded lobes bearing setae PL. This shield bears 3 pairs of shortly barbed setae and one pair of sensillae. Posterior shield more or less half moon-shaped but with anterior border convex and thickened, bearing one pair of strong barbed setae. With two pairs of unequal eyes, the anterior slightly larger than the posterior one. Behind the posterior shield the dorsal surface bears 22 barbed setae whose bases are inserted in small polygonal platelets whose margins bear 7 to 11 short lines irradiating perpendicularly and giving these platelets a stellate aspect (hence the name *Asteritrombium* proposed for this genus). *Venter* : Cuticle with striations visible only in the opisthogastric region. Coxae with 2-1-1 setae, external setae of coxae I with 1 or 2 rather long and thin setulae, other coxal setae incomplete; one pair of short and thin paramedian setae in front of coxae II. Uropore flanked with 2 pairs of smooth setae and more behind there are 2 pairs of setae similar to dorsal setae. *Gnathosoma* : very small; tibial claw incised at apex; palpal tarsus with 1 solenidion and 5 smooth setae. *Legs* : With 6 segments. Tarsi with 3-3-2 claws, anterior claws trifurcate, posterior claws I and II normal, posterior claw III lacking. Leg solenidia (number) : Tarsi 1-1-0. Tibiae 2-2-0. Genua 2-2-2.

Type species : *Asteritrombium yunnanense* sp. n.

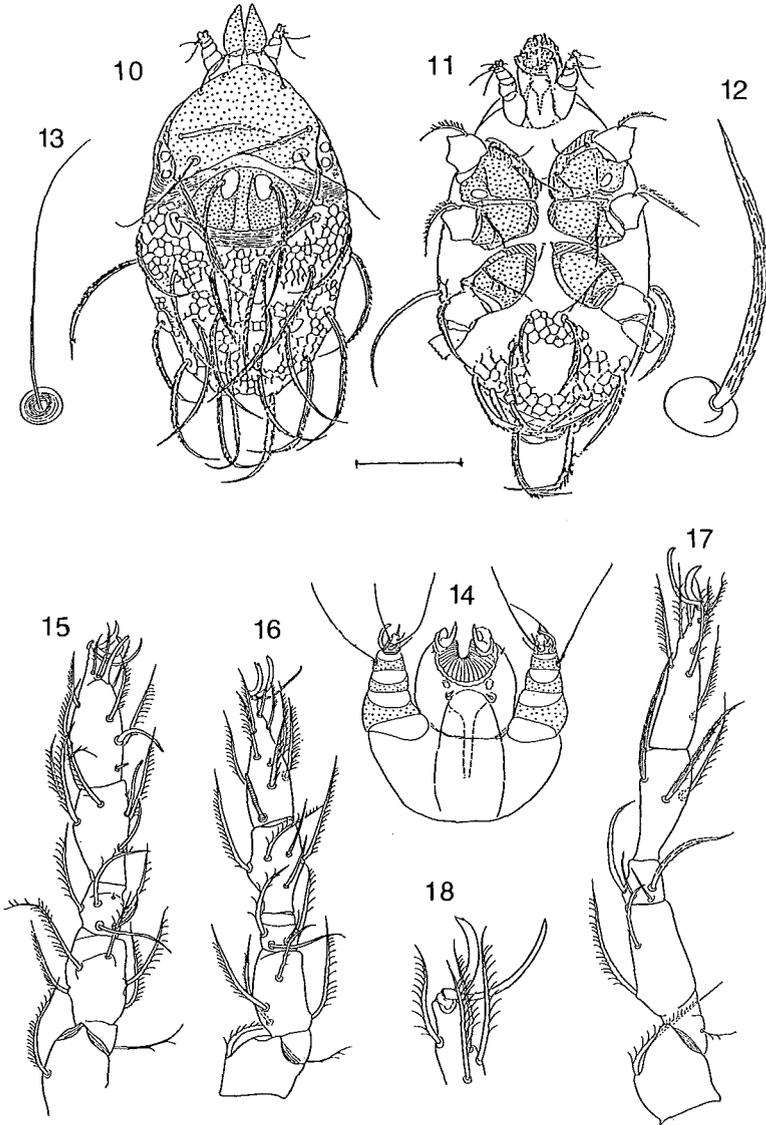
Asteritrombium yunnanense sp. n.

Larva, holotype (Figs 1-9) : Idiosoma strongly flattened, 420 long and 300 wide. Soft cuticle with faint striations on the entire dorsum and on the posterior half of venter. *Metric data* of shields : L 75, W 108, AM 45, AL 72, PL 53, SE 80, AMB 56, AW 96, PW 105, SB 78, MA, AP 30, PSW 85, PSL 66, QL 105, QW 30, PLN 15. Diameters of anterior eyes 14, of posterior eyes 12. Behind the shields the dorsum bears 22 strong, barbed setae 50 to 90 long. These setae are set on small platelets with thick polygonal and stellate outlines. These platelets are devoid of reticulum and they are generally slightly longer than wide. *Venter* : with a pair of thin and short setae a little in front of coxae III. *Opisthogaster* with a uropore 20 long, surrounded by 2 pairs of setae 40 long; more posteriorly and laterally there are 4 barbed setae set on stellate platelets. *Coxae I-III* with 2-1-1 setae, the inner seta of coxa is very thin and bears 2 rather long setules. Other coxal setae incomplete. *Gnathosoma* 60 long and 63 wide, with a very short and thin pair of setae on hypostome. *Palps* 30 long. *Palpal tarsus* with 5 thin simple setae and 1 solenidion 6 long. *Palpal tibia* with a short and thick apical spine divided apically, its base bears a thin dorsal seta 20 long. *Chelicerae* 40 long, with a well-developed movable digit. *Legs* of 6 segments. Lengths of segments : Tarsi 54-54-60, Tibiae 48-48-51.



Figs 7-9. *Asteritrombium yunnanense* sp. n. Larva : Leg I dorso-laterally (7); leg II dorso-laterally (8); leg III dorsally (9). Scale line 50 μ m.

Genera 21-18-22. Femora 58-60-68. Trochanters 36-33-40. Claws (see definition of genus). Anterior claws I-III 15-18-21, posterior claws I-II 16-18. Median claw 27-30-33. *Chaetotaxy of legs* (number of setulose setae) : Trochanters 1-1-1. Femora 6-5-4. Genua 4-2-2. Tibiae 6-5-5; Tarsi 21-16-14. *Soleni-*



Figs 10-18. *Reticulatrombidium serratum* SHIBA, 1976 : Larva in dorsal (10) and ventral (11) view. Dorsal seta (12) and sensilla (13). Gnathosoma ventrally (14). Leg I (15), leg II (16), leg III (17). Apex of leg III (18). Scale line 100 μ m (figs 10-11). (From Shiba, 1976).

diotaxy : Tarsus I with ωI 25, tarsus II with ωII 24, thicker than ωI . Tibia I and II with 2 solenidia φ (25), tibia III without φ . Genua I and II with 2 σ (25-30). Genu III with σ 25-30. *Eupathidia* : Tarsus I with 2 eupathidia, one ventral thin and shorter and one dorsal thick and longer (both situated apically). Tarsus II with a thin dorsal eupathidia. Other sensory setae : Tarsus I with ε (6 long); tibia I and genu II with a short seta κ .

Remarks : The new genus *Asteritrombium* is close to the genus *Reticulatrombidium* SHIBA, 1976 (Figs 10-18), described from the Malay Peninsula. It differs, however from the latter by the following characters :

1. Complete absence on the dorsum and venter of a reticulum formed of polygonal meshes. In *Asteritrombium* the cuticle is very finely striated and devoid of meshes.
2. In *Asteritrombium* the dorsal setae are set on polygonal shields whose margins bear 7 to 11 short lines giving to these platelets a stellate aspect (hence the name *Asteritrombium* proposed for this genus).

Host and locality : Holotype larva (and only known specimen) collected by P.G. from the abdomen of a small fly belonging to the family Ceratopogonidae. *Locality* : Mengyang, Yunnan Province, Southern China. Holotype deposited in the Institut royal des Sciences naturelles de Belgique.

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