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## **New data on Xantholinini from China. 19°. Five new species of *Mahavana* from Yunnan (Coleoptera, Staphylinidae) 240° contribution to the knowledge of the Staphylinidae**

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**A b s t r a c t :** New species of the genus *Mahavana* BORDONI 2002 are described from Yunnan (*M. schuelkei* nov.sp., *M. acinosa* nov.sp., *M. caeca* nov.sp., *M. evestigata* nov.sp., *M. rhododendri* nov.sp.). The knowledges on this genus are summarized.

**K e y w o r d s :** Coleoptera, Staphylinidae, Xantholinini, *Mahavana*, new species, Yunnan.

### **Introduction**

The genus *Mahavana* BORDONI 2002 was known for a little number of species distributed in the Indochinese Peninsula [*M. antennalis* (CAMERON 1932) from North Burma; *M. anoter*a BORDONI 2002 from North Thailand; *M. esophthalma* BORDONI 2002 from North Vietnam and *M. miranda* BORDONI 2002 from Cameron Highlands in Malaysia (BORDONI 2002); all these species with large eyes], and Yunnan (*M. watanabei* BORDONI 2009, *M. gaoligong* BORDONI 2010, *M. daliana* BORDONI 2010). In Yunnan it consists of two groups of species, one with big eyes and one sub-anophthalmus.

The species occurs in the mountain ranges from 1600 to about 3000 m, in the vegetal debris and moss, especially in *Pinus* forests.

This contribution refers to some specimens from the collection of Michael Schülke (Berlin) and from my private collection.

### **Acronyms**

cB .....coll. Bordoni, Firenze

cS .....coll. Schülke, Berlin

### **Material**

#### ***Mahavana schuelkei* nov.sp. (Figs 1-5)**

**E x a m i n e d m a t e r i a l :** Holotype ♂: Yunnan, Dali Bai Aut. Pref., mount. range E Weishan, 12 km NE Weishan, 2630-2660 m, 25°17'02.15"N, 100°2'23.30"E, M. Schülke 15.IX.2009 (cS);

paratypes: same data, 3 ♂♂ (cB); Baoshan Pref., 10 km SE Kambaiti pass, 45 km NW Tengchong, 1700-1800 m, 25°21'13.29"N, 98°13'39.54"E, M. Schülke 29.VIII.2009, 1 ♀ (cS); same data, mount. range 25 km S Tengchong, 1900 m, 24°48'21"N, 98°13'39.54"E, M. Schülke 30.VIII.2009, 1 ♂ (cS), 1 ♀ (cB); same data, Gaoligong Shan, 32 km SE Tengchong, 2150-2250 m, 24°51'53"N, 98°45'E, M. Schülke 26.VIII.2009, 1 ♀ (cS); same data, W pass 5 km SE Tengchong, 2100 m, 24°50'18"N, 98°45'E, M. Schülke 25.VIII.2009, 1 ♀ (cS); Lincang Pref., Laobie Shan, Wei Bo Shan, pass, 2375 m, 24°08'16"N, 99°42'53"E, M. Schülke 8.IX.2009, 1 ♀ (cB).

**Description:** Body length 5,2 mm; length from anterior margin of head to posterior margin of elytra 2,3 mm. Body yellowish, depigmented, sub-anophthalmus, brachypterous. Head (Fig. 1) ovoidal, 0,74 mm long, with flat eyes, composed by very few ommatidia (in dorsal view the eyes are concave). Surface shiny, with polygonal micro-reticulation between the eyes, with large, deep and dense punctures, apart a median strip. Ocular grooves deep and long. Last three antennomeres as in Fig. 2. Pronotum a little longer than head, anteriorly dilated and there as wide as head, with very oblique anterior margins and obsolete anterior angles, with a little sinuate lateral sides, in the posterior half. Surface shiny, with punctures similar to those of the head, to the sides of a median strip and near the anterior angles. Elytra shorter and wider than pronotum, posteriad dilated, with few marked humeral angles. Surface a little rugose, with superficial punctures, finer than those of the pronotum, arranged in some more or less regular series. Abdomen rugose, with more or less polygonal micro-reticulation and fine and dense puncturation.

Tergite and sternite of the male genital segment as in Figs 3-4. Aedeagus (Fig. 5), 1,1 mm long, sub-spheric, with very long, arched parameres; inner sac narrow, strictly folded on itself, covered by scales and with 4 large, sub-triangular spines in the proximal portion.

**Etyymology:** Patronymic. Dedicated to its collector, Michael Schülke.

**Geographical distribution:** Yunnan: Dali Bai Pref., Baoshan Pref., Lincang Pref.

**Bionomics:** The specimens were collected in "scrubs with pines and bamboo, litter; primary forest, litter and mushrooms; cleft with devast. primary for., litter and mushr.; devast. primary and second. for., litter, dead wood, mushr.; creek valley, devast. second. decid. for., litter and mushr."

**Note:** This is the species of which I have studied more specimens in this occasion, so I have compared the following species with *M. schuelkei*, apart *M. rhododendri* nov.sp., that have big eyes.

The new species is similar to *M. watanabei* BORDONI 2009 from Gaoligong Shan (Yunnan) for the colouration, structure of the male genital segment and shape of parameres, but differs for the following characters: body longer, different puncturation on head and pronotum, last three antennomeres with different structure, inner sac of aedeagus. *M. schuelkei* differs also from *M. daliana* BORDONI 2010 from Diancang Shan (Yunnan) by the longer body, pronotum without lateral and dorsal series of punctures, shape of tergite and sternite of the male genital segment, structure of parameres and inner sac of aedeagus.

***Mahavana caeca* nov.sp. (Figs 6-10)**

**Examined material:** Holotype ♂: Yunnan, Dali Bai Aut. Pref., mount. range E Weishan, 12 km NE Weishan, 2630-2660 m, 25°17'02.15"N, 100°22'23.30"E, M. Schülke 15.IX.2009 (cS); paratype: same data, 1 ♀ (cB).

**Description:** Body length 5,3 mm; length from anterior margin of head to posterior margin of elytra 2,4 mm. Similar to *M. schulekei* but with more rectangular head (Fig. 6). Ocular grooves superficial. Surface with polygonal and more distributed micro-reticulation and smaller and more distributed puncturation, with narrower median strip. Last three antennomeres as in Fig. 7. Pronotum, elytra and abdomen similar to those of *M. schuelkei* in shape, dimension and puncturation.

Tergite and sternite of the male genital segment as in Figs 8-9. Aedeagus (Fig. 10), 1,22 mm long, more or less ovoidal, with parameres of particular shape; inner sac narrow, folded one time on itself, covered by fine scales and with 5 large spines of particular shape.

**Etymology:** The specific epithet refers to the Latin *caecus -a -um* (blind).

**Geographical distribution:** This species is known only from the type locality.

**Bionomics:** The specimens were collected in "scrubs with pines and bamboo, litter", together with *M. schuelkei*.

***Mahavana acinosa* nov.sp. (Figs 11-15)**

**Examined material:** Holotype ♂: Yunnan, Lincang env., 2100 m, A. Tilli VIII.2008 (cB).

**Description:** Body length 5 mm; length from anterior margin of head to posterior margin of elytra 2,2 mm. Similar to *M. schuelkei* but smaller. Head (Fig. 11) shorter and narrower, with sub-rectilinear and sub-parallel sides. Eyes composed by more ommatidia, not so concave. Surface almost completely without micro-sculpture, with smaller and sparser puncturation, with median strip and posterior half nearly devoid of punctures. Last three antennomeres as in Fig. 12. Pronotum evidently longer and a little wider than head. Surface with sparse puncturation. Elytra with almost obsolete humeral angles. Abdomen with sparser puncturation.

Tergite and sternite of the male genital segment as in Figs 13-14. Aedeagus (Fig. 15), 1,1 mm long, more or less ovoidal, with parameres of particular shape; inner sac with 7-8 large scales in the distal portion, in the form of grape.

**Etymology:** The specific epithet refers to the Latin *acinus- i* (acinus), in relation to the shape of the scales of the inner sac of the aedeagus.

**Geographical distribution:** This species is known only from the type locality.

***Mahavana evestigata* nov.sp. (Figs 16-20)**

**Examined material:** Holotype ♂: Yunnan, Weishan, Weibaoshan Temple env., about 2000 m, A. Tilli VIII.2008 (cB).

**Description:** Body length 5,2 mm; length from anterior margin of head to

posterior margin of elytra 2,4 mm. Similar to *M. schuelkei* but with the head of different shape (Fig. 16), anteriorly dilated, with evident and protruding eyes, although small. Surface without micro-sculpture, with larger, denser and more distributed puncturation, whereby the median strip is narrower. Last three antennomeres as in Fig. 17. Pronotum longer and anteriorly wider than head, with obsolete anterior angles. Surface similar to that of *M. schuelkei*. Elytra proportionally longer than in *M. schuelkei*, sub-rectangular, with less marked humeral angles. Surface similar to that of *M. schuelkei*. Abdomen with transverse micro-striature and sparser puncturation.

Tergite and sternite of the male genital segment as in Figs 18-19. Aedeagus (Fig. 20), 1,48 mm long, with narrower parameres; inner sac with 10-12 large spines.

**E t y m o l o g y :** The specific epithet refers to the Latin *evestigatus -a -um* (discovered).

**G e o g r a f i c a l d i s t r i b u t i o n :** This species is known only from the type locality.

### ***Mahavana rhododendri* nov.sp. (Figs 21-26)**

**E x a m i n e d m a t e r i a l :** Holotype ♂: Yunnan, Lincang Pref., Xue Shan, 11 km ENE Lincang, 2510 m, 23°55'01"N, 00°11'17.5"E, M. Schülke 10.IX.2009 (cS).

**D e s c r i p t i o n :** Body length 4,2 mm; length from anterior margin of head to posterior margin of elytra 2,2 mm. Body winged and shiny, yellowish with head and abdomen yellow red. Characterized by the shape of the body (Fig. 26), with head anteriorly dilated, eyes very big and protruding, pronotum narrow and elytra exceptionally long. Head (Fig. 21) with fine and sparse puncturation on the sides, with dark and short setae; some spaced punctures with long more or less yellowish setae are on the median surface: two between the eyes, one on the posterior third and two near the posterior margin. Last three antennomeres as in Fig. 22. Pronotum with dorsal series of 9-10 more or less regular punctures and lateral series of 4 very spaced punctures. Elytra with fine and spaced puncturation, arranged in some series. Abdomen with polygonal micro-reticulation and fine and sparse puncturation.

Tergite and sternite of the male genital segment as in Figs 23-24. Aedeagus (Fig. 25), little, 0,74 mm long, more or less ovoidal, with parameres of particular shape; inner sac narrow, folded on itself, covered by fine spinulae and scales and with two triangular evident spines in the proximal portion.

**E t y m o l o g y :** The specific epithet refers to the habitat of collection, humus under *Rhododendrum*.

**G e o g r a f i c a l d i s t r i b u t i o n :** This species is known only from the type locality.

**B i o n o m i c s :** The specimen was collected in "second. pine forest with *Rhododendron*, small cleft with water, litter and mushrooms".

In Yunnan occurs also the following other species:

### ***Mahavana watanabei* BORDONI 2009**

This species is known from Yunnan, Dabei, Gaoligong Shan, 2240; Tengchong Xian, Huangsipu, 1950 m and Baoshan Xian, Lujiangba, 2290 m (BORDONI 2009).

***Mahavana gaoligong* BORDONI 2010**

This species is known from Yunnan, Gaoligong Shan, 2350 m (BORDONI 2010).

***Mahavana daliana* BORDONI 2010**

This species is known from Yunnan: Dali Bai, Diancang Shan, 2860 m and Baihualing, Gaoligong Shan, 2290 m (BORDONI 2010).

**Note:** In the contribution 227° (Linzer biologische Beiträge **44** (1): 427-436) the holotype of *Atopolinus eminens* nov.sp. from Yunnan (p. 431) is devoid, by omission, of depository. The holotype is preserved in the collection of Michael Schülke, in Berlin.

**Acknowledgements**

I wish to thank my colleague and friend Michael Schülke from Berlin for providing interesting material from Yunnan, and for the useful bionomic data.

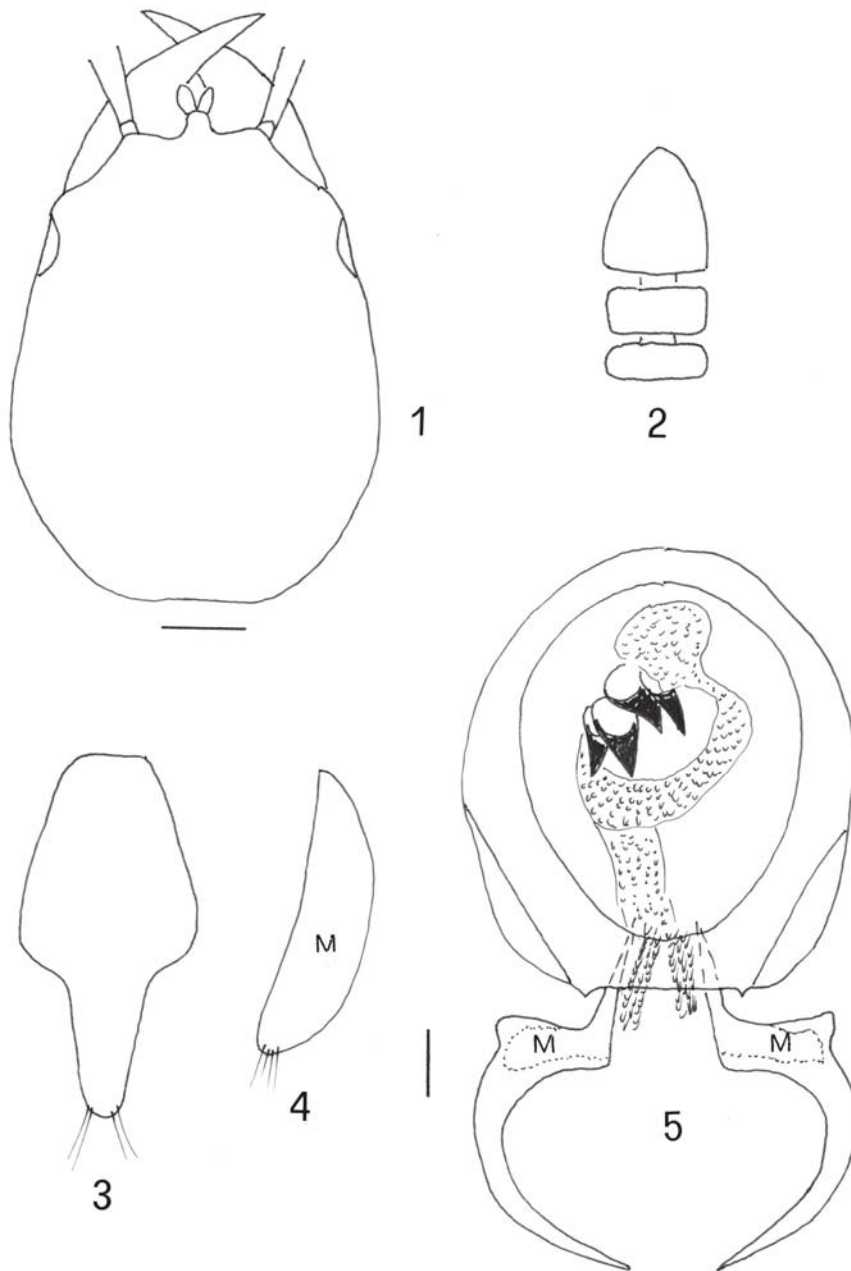
**Zusammenfassung**

Fünf Arten der Gattung *Mahavana* BORDONI 2002 werden aus der chinesischen Provinz Yunnan beschrieben: *M. schuelkei* nov.sp., *M. acinosa* nov.sp., *M. caeca* nov.sp., *M. evestigata* nov.sp., *M. rhododendri* nov.sp.

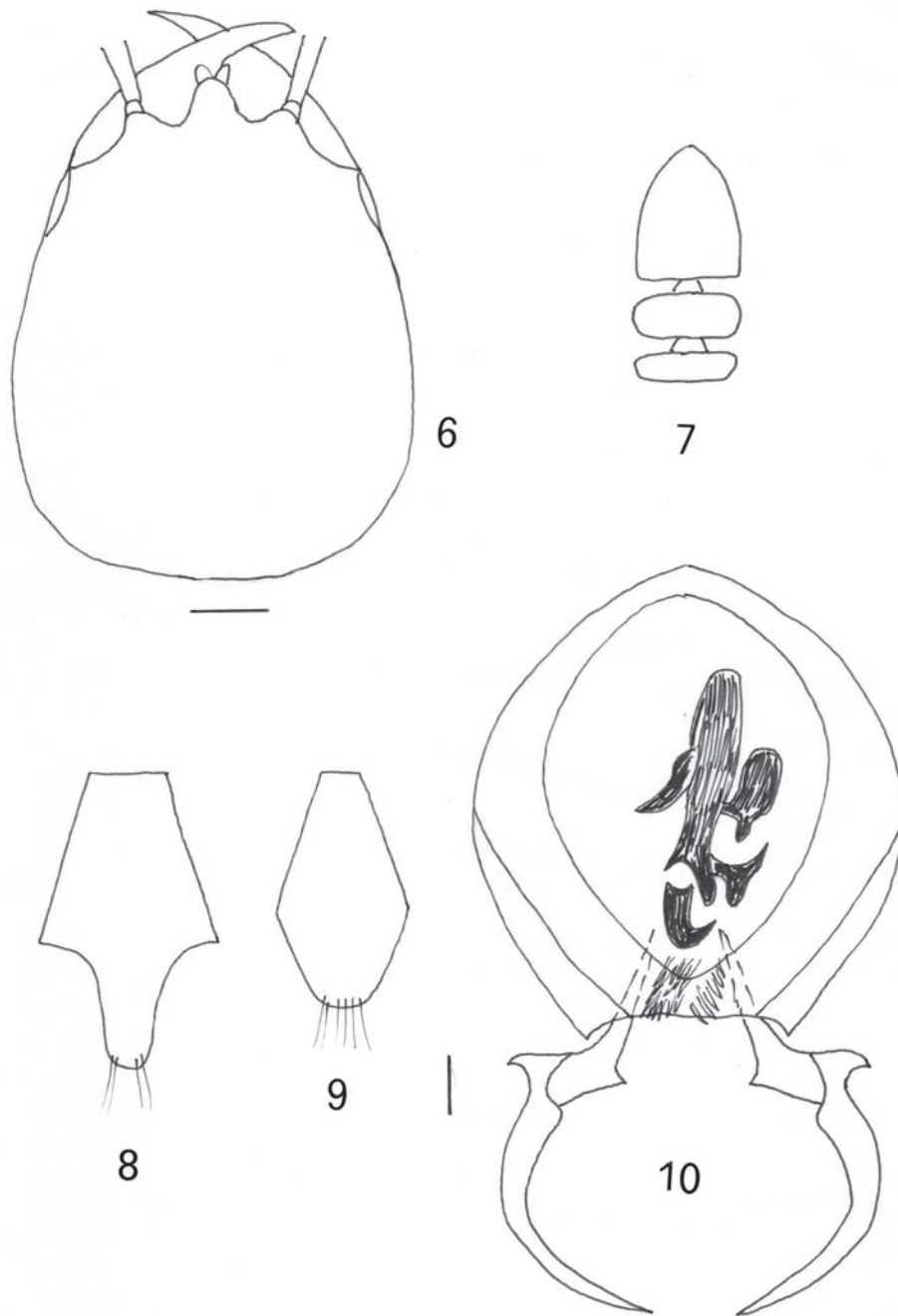
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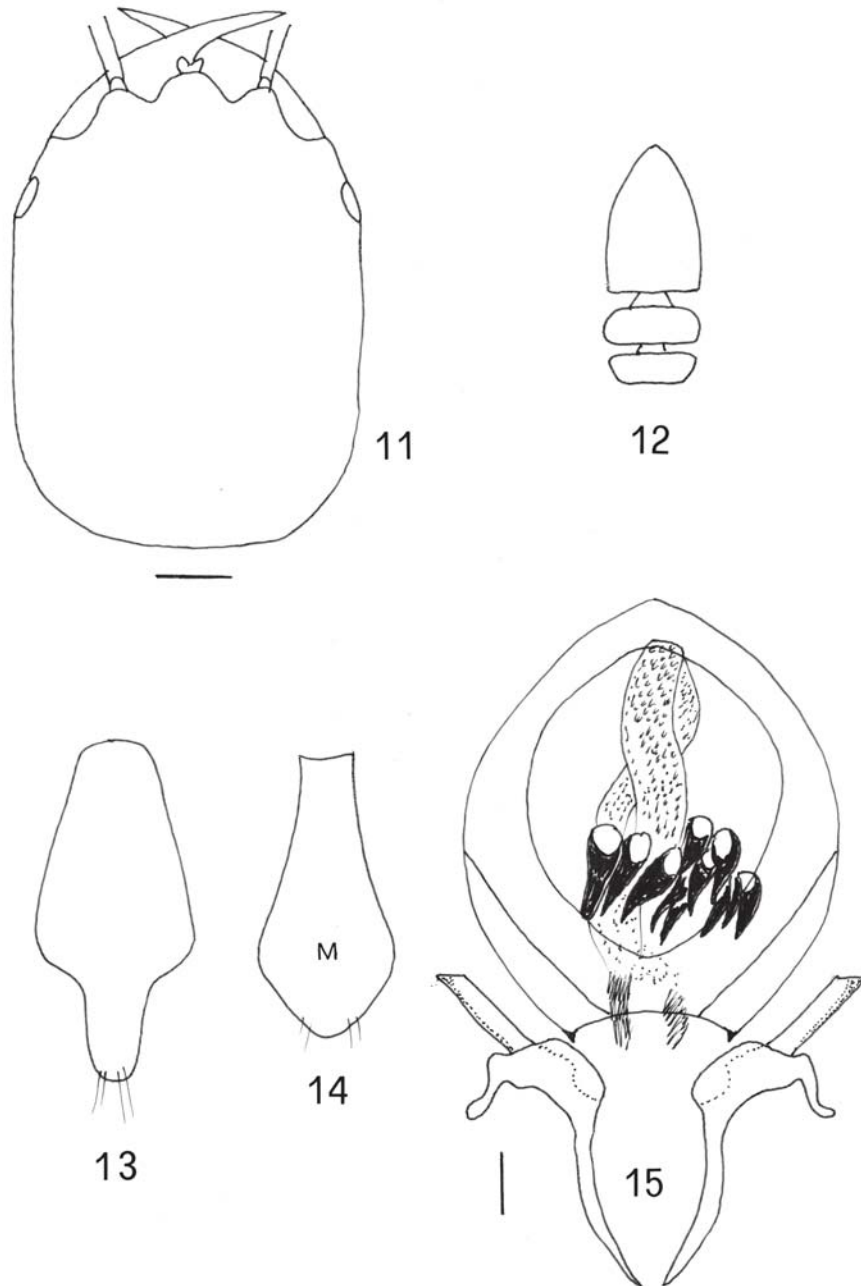
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**Figs 1-5:** head; last three antennomeres; tergite of the male genital segment; sternite of the same; aedeagus of *Mahavana schuelkei* nov.sp.: (scale bar: 0,1 mm; m= membranous).

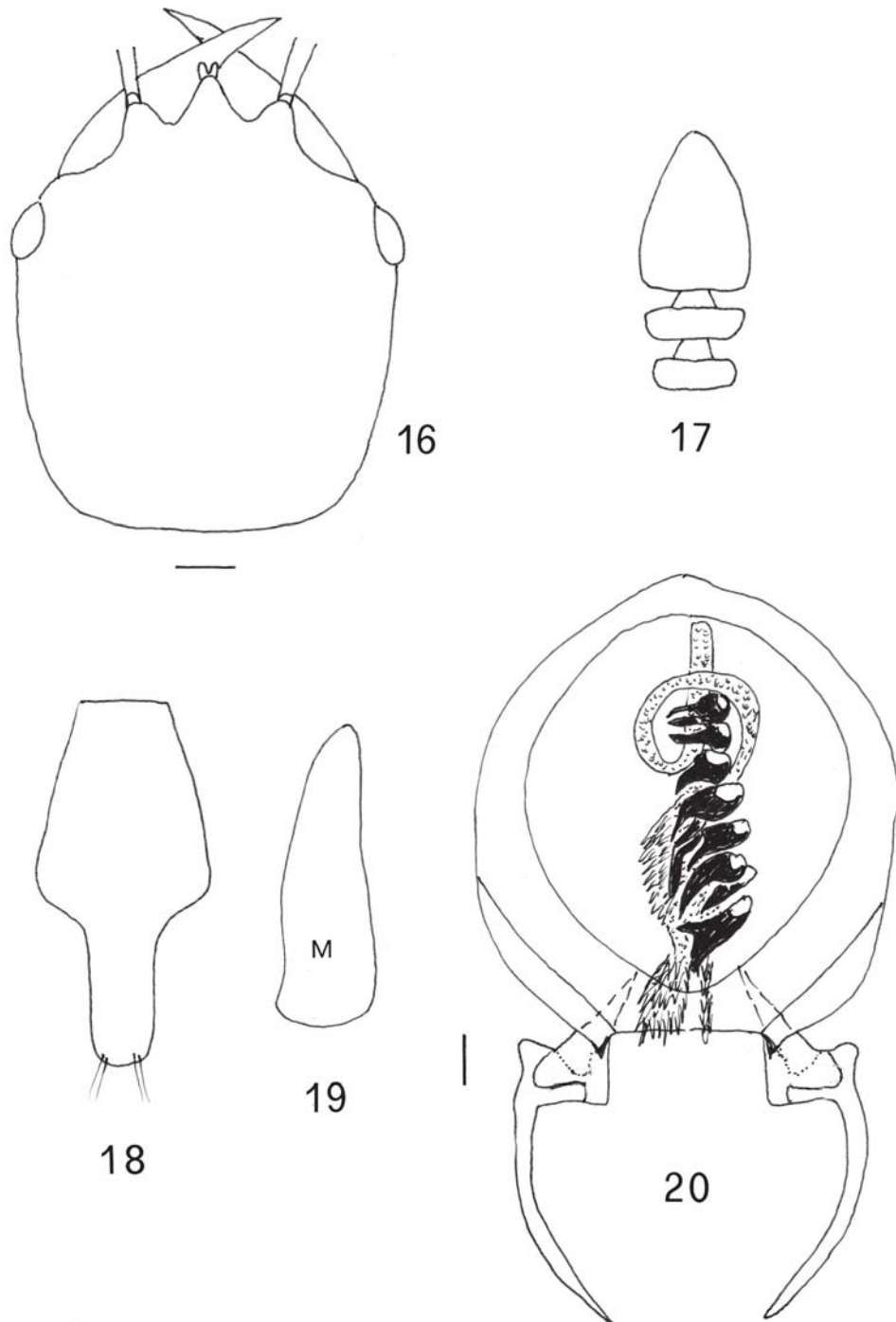


**Figs 6-10:** head; last three antennomeres; tergite of the male genital segment; sternite of the same; aedeagus of *Mahavana caeca* nov.sp. (scale bar: 0,1 mm).

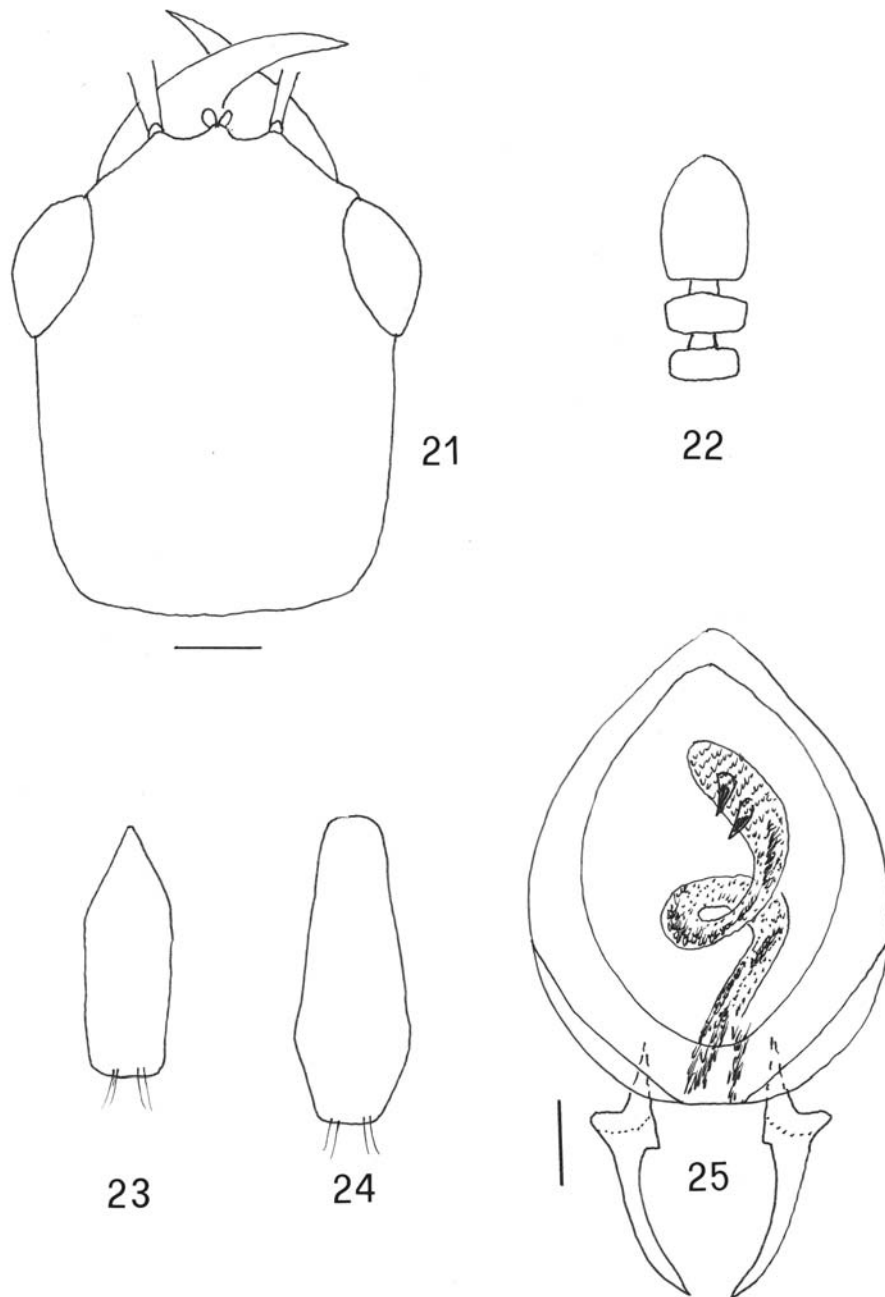


**Figs 11-15:** head; last three antennomeres; tergite of the male genital segment; sternite of the same; aedeagus of *Mahavana acinosa* nov.sp. (scale bar: 0,1 mm).



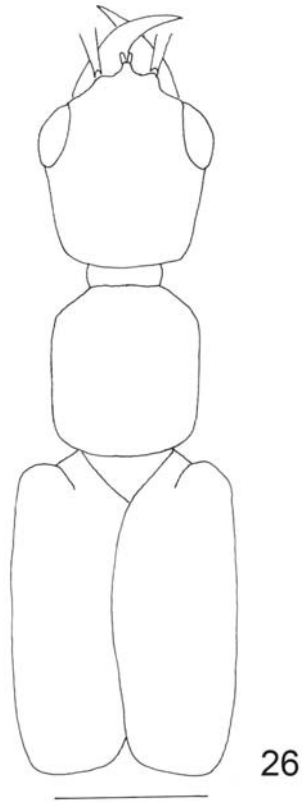


**Figs 16-20:** head; last three antennomeres; tergite of the male genital segment; sternite of the same; aedeagus of *Mahavana evestigata* nov.sp. (scale bar: 0,1 mm; m= membranous).



**Figs 21-25:** head; last three antennomeres; tergite of the male genital segment; sternite of the same; aedeagus of *Mahavana rhododendri* nov.sp. (scale bar: 0,5 mm).

277



**Fig. 26:** *Mahavana rhododendri* nov.sp.: forebody (scale bar: 0,5 mm).

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