

REVISION OF THE GENUS *TIPHYSA* MULSANT
(COLEOPTERA, COCCINELLIDAE, HYPERASPIDINAE)¹

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Abstract

The genus *Tiphysa* Mulsant, 1850 is revised and illustrations of pertinent characters are provided. This genus is transferred from Hyperaspidini to Brachiacanthini.

Mulsant (1850) proposed the genus *Tiphysa* including in it a single species, *T. plumbea* placed in “Hyperaspiens” and together with the genus *Hinda* in a sub-group, “Tiphysaires.” *Tiphysa* was characterized by the shape of the anterior legs, mainly the absence of a serrated anterior border and by the arcuate apical margin of clypeus and exposed labrum. Crotch (1874) designated *T. plumbea* as type-species, briefly redescribed the genus, and described a new species, *Tiphysa egae*. Chapuis (1876) redescribed the genus in “Hyperaspites,” including eight other genera.

Korschefsky (1931) and Blackwelder (1945) mentioned *Tiphysa* with two included species, *T. plumbea* and *T. egae* in Hyperaspini. Duverger (1989) placed the genus *Tiphysa* in a new subfamily, Hyperaspidinae. The geographic distribution of *Tiphysa* includes nearly all of South America.

The specimens examined in this study were provided by University Museum of Zoology, Cambridge (UMZC), England. The diagnostic characteristics of the male of *T. egae* were based on Crotch (1874).

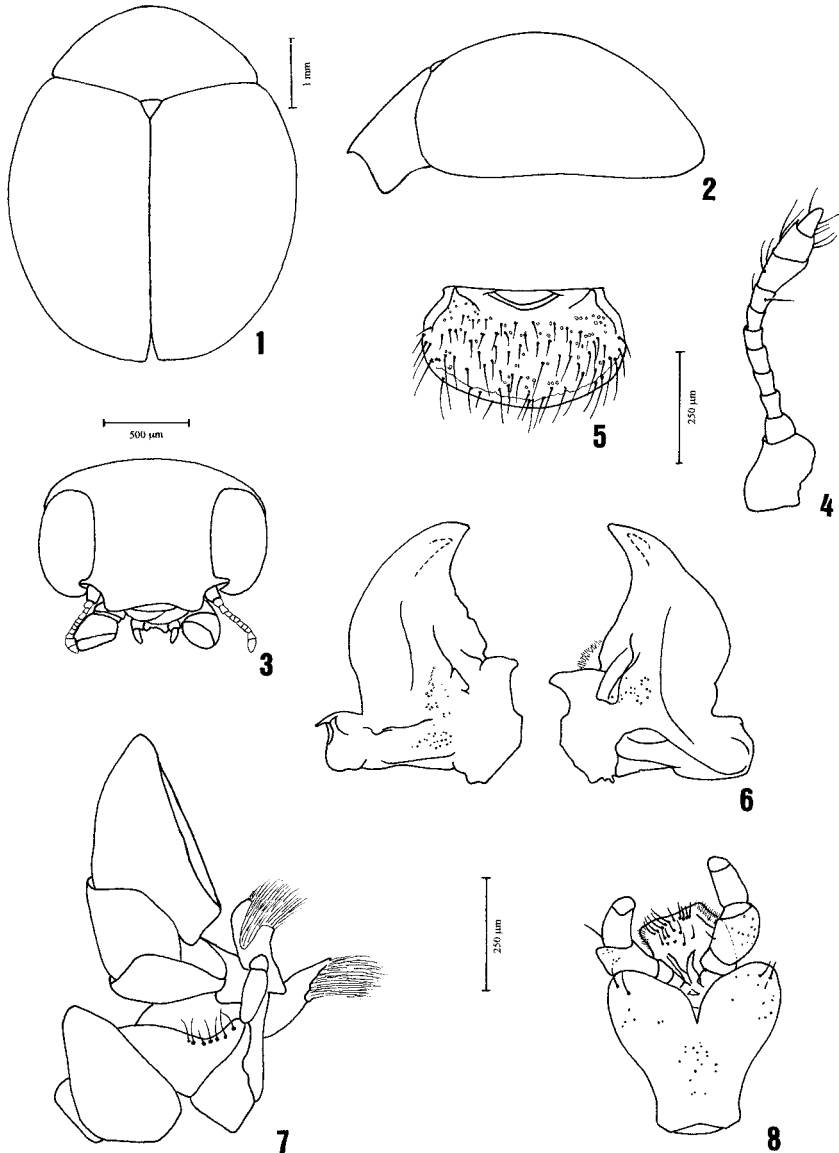
Tiphysa Mulsant
(Figs. 1–16)

Tiphysa Mulsant, 1850:517; Crotch 1874:210; Chapuis 1876:228, 232–233; Korschefsky 1931:208; Blackwelder 1945:449; Gordon 1987:26; Fürsch 1989:6, 20; 1990:4, 17, 62, 63; Duverger 1989:146.

Type-species. *Tiphysa plumbea* Mulsant, 1850 by monotypy.

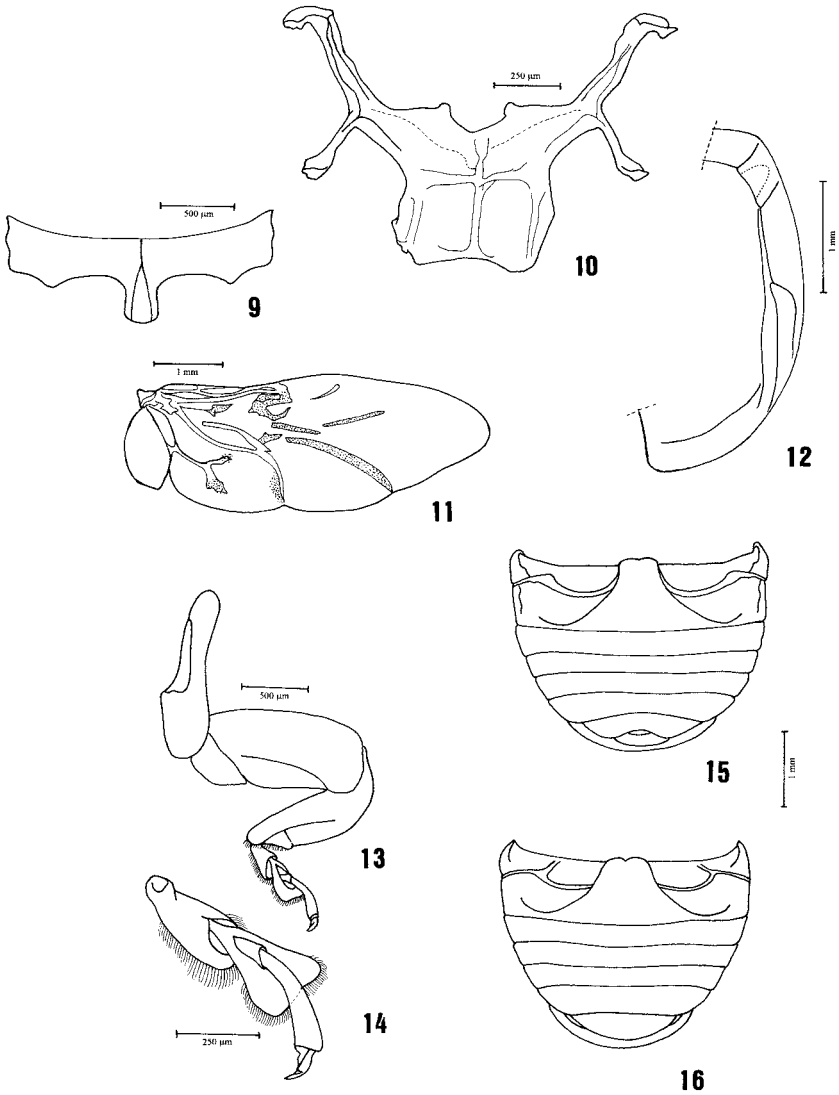
Redescription. Body oval, convex (Figs. 1, 2). Eyes finely faceted and glabrous, emarginate near antennal insertions (Fig. 3). Antennal insertions visible. Antennae short, composed of eleven antennomeres; scape twice as long as wide; with slight lateral lobe; pedicel quadrangular; antennomeres 3–8 slender, 9–10 longer; 11 conical (Fig. 4). Clypeus with apical margin arcuate and lateral margins rounded, short and projected (Fig. 3). Labrum rectangular in shape (Fig. 5). Mandible asymmetrical, large and robust, strongly sclerotized; with incisor teeth, apical and subapical, with pointed median molar (Fig. 6). Maxillae sclerotized; palpomere 4 securiform with sides that diverge strongly (Fig. 7). Labium having anterior margin of ligula densely covered with small spines, having ventral median portion of ligula with several long bristles; each labial palp with basal articles shorter, and the last narrower in the distal region. Mentum

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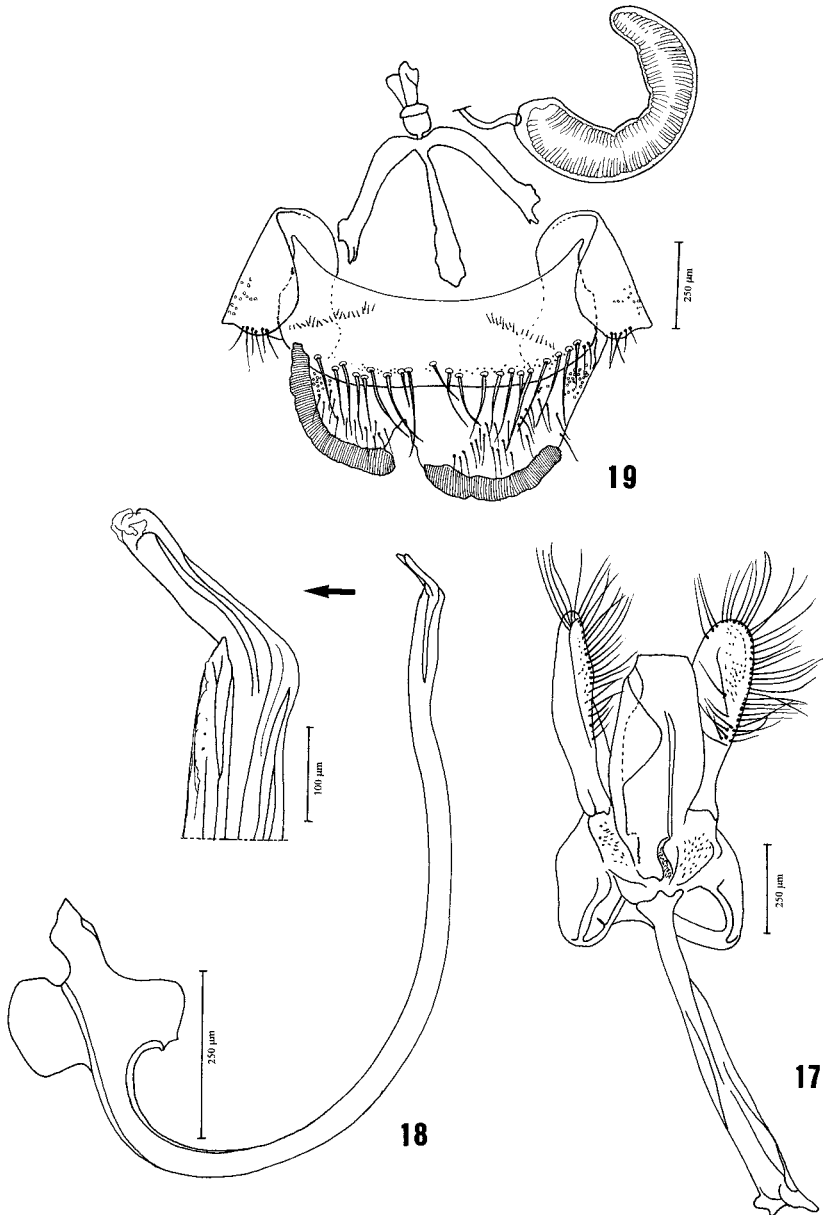
Figs. 1–8. *Tiphysa plumbea* Mulsant, 1850. 1) Dorsal view; 2) lateral view; 3) head, frontal view; 4) antenna; 5) labrum; 6) mandibles; 7) maxilla; 8) labium.

cordiform, with rounded apical projections; prementum truncate, with long bristles in median region between palps (Fig. 8). Pronotum transverse; prosternal carinae convergent and finishing together at base of prosternum; prosternal process with nearly parallel sides (Fig. 9). Metendosternite quadrangular, with straight lateral borders and



Figs. 9–16. *Tiphysa plumbea* Mulsant, 1850. **9)** Prosternal process; **10)** metendosternite; **11)** wing; **12)** epipleuron; **13)** anterior leg; **14)** tarsus; **15)** abdomen male; **16)** abdomen female.

very shallow V-shaped anterior border, with anterior arms nearly straight apically (Fig. 10). Wings with reduced alar venation; first and second anal veins and Ea, Eb and P evident (Fig. 11). Elytra oval with raised humeral callosity and with lateral margin not flattened (Figs. 1, 2); epipleuron with strong excavation to receive apex of medium and posterior femur (Fig. 12). Femur robust and deeply excavated to receive tibia. Anterior tibia thin and strongly excavated to receive tarsus (Fig. 13). Second tarsomere triangular in ventral view; tarsal claw appendiculate (Fig. 14). Abdomen with



Figs. 17–19. *Tiphysa plumbea* Mulsant, 1850. 17) Tegmen; 18) siphus; 19) female genitalia.

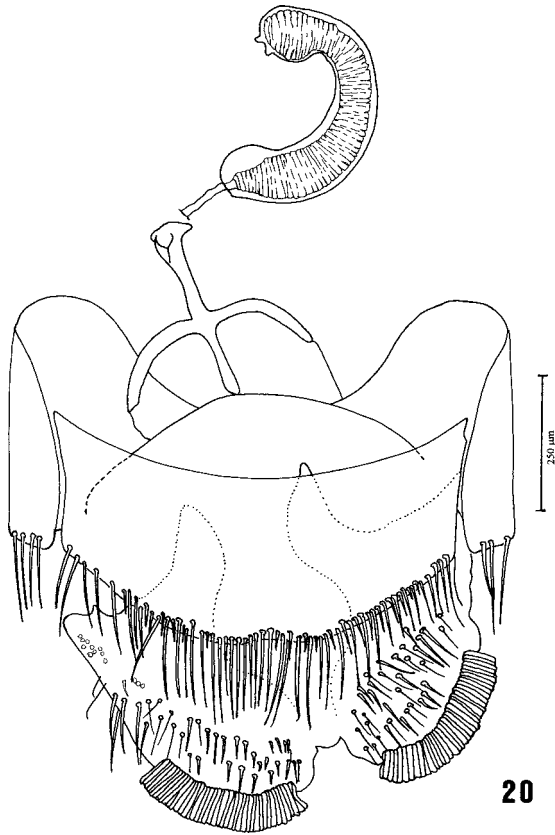
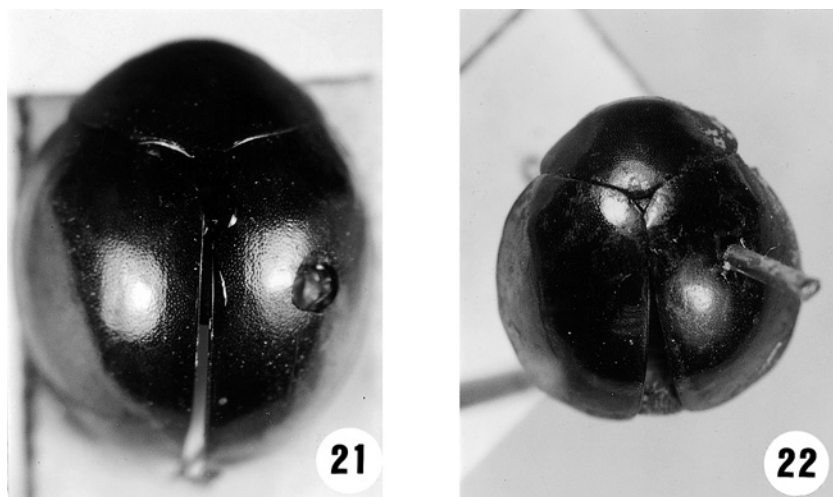


Fig. 20. *Tiphysa egae* Crotch, 1874, female genitalia.

incomplete post-coxal lines on the first visible sternite; seven visible segments present in the male, six in the female (Figs. 15, 16). Male genitalia: Median lobe asymmetrical, parameres longer than median lobe. Sipho strongly sclerotized, curved. Female genitalia: Spermatheca alantoid; infundibulum present; coxites wide with slender bristles, without stylus.

Type Material. The lectotype and paratype (Gordon 1987) were studied, and are located at the University Museum of Zoology, Cambridge University, Cambridge, England.

Remarks. The genus *Tiphysa* was included in the tribe Hyperaspini (=Hyperaspidini) by Duverger (1989) because of the rounded spermatheca and absence of infundibulum, but it was a mistake. We transferred here *Tiphysa* to Brachiacanthini, together with *Brachiacantha* Chevrolat in Dejean, 1837, *Hinda* Mulsant, 1850 and *Cyra* Mulsant, 1850. *Tiphysa* together with the other genera of Brachiacanthini, has integument glabrous; eyes emarginate near antennal insertions; eleven antennomeres; 4° maxillary palpomere securiform; 2° tarsomere triangular; six abdominal segments visible on female and seven in male; spermatheca alantoid and infundibulum present. It differs from *Brachiacantha* by presence of a sharp spine on



Figs. 21–22. Dorsal habitus. **21** *Tiphysa plumbea* Mulsant, 1850; **22** *Tiphysa egae* Crotch, 1874 (lectotype).

anterior tibia; and from *Hinda* by the strongly serrated anterior border of tibia (Almeida and Milléo 1999) and from *Cyra* by the thin unornamented tibia without ornamentation (Milléo *et al.* 1997). *Tiphysa* is similar to *Thalassa* Mulsant, 1850 of the tribe Hyperaspidini, in both color and size, but differs from *Thalassa* in the more rounded body; the absence of emargination of the eyes; shape of anterior tibia; male and female with six abdominal segments; spermatheca globular and absence of infundibulum.

Tiphysa plumbea Mulsant, 1850
(Figs. 17–19, 21)

Tiphysa plumbea Mulsant, 1850:517–518; Crotch 1874:210; Korschefsky 1931:208; Blackwelder 1945:449; Gordon 1987:26; Fürsch 1989:20; 1990:17; Duverger 1989:146.

Diagnosis. Pronotum, scutellum and elytron dark-green with metallic reflections and slight punctation (Fig. 21). Male with head black with one rectangular spot ferruginous on the frontoclypeal region and base of pronotum with yellow band. Thoracic venter black at middle, lateral margin and legs ferruginous. Abdomen of male ferruginous with seven visible segments. Length 5.08–5.25 mm; width 4.25–4.5 mm.

Male. Median lobe asymmetrical, shorter than parameres, with a truncate apex and membranous projections; parameres wide at apex with setae long (Fig. 17). Siphon long, curved, with narrow projections (Fig. 18).

Female. Head and base of pronotum without spots; six abdominal segments; spermatheca cylindrical, arched; infundibulum short, with three long arms (Fig. 19).

Types. Holotype of *T. plumbea*, from Cayenne, French Guiana. Gordon (1987) indicated, with doubt, that the type material should be located at the Muséum d'Histoire Naturelle, Lyon, France, but we inquired, and it could not be located there.

Specimens Examined. Without locality. Two specimens, Deyrollei (UMZC).

Tiphysa egae Crotch, 1874
(Figs. 20, 22)

Tiphysa egae Crotch, 1874:210; Korschefsky 1931:208; Blackwelder 1945:449; Gordon, 1987:26.

Diagnosis. Pronotum, scutellum and elytra dark blue with green metallic reflections and slight punctation (Fig. 22). Male with head black and labrum ferruginous; female with head black and oval spot ferruginous on fronto-clypeal region. Pronotum with wide yellow band on male, narrow on female. Thoracic venter and legs ferruginous (male) or black (female) with median and lateral region of abdomen ferruginous. Abdomen with six segments on female. Length 4.17–4.92 mm. Width 3.50–4.42 mm.

Male. Not examined.

Female. Spermatheca cylindrical, arched; infundibulum long, with three short arms (Fig. 20).

Variation. The paralectotype has a narrow band on anterolateral angle of pronotum and legs ferruginous.

Types. Lectotype and paralectotype of *T. egae*, from Amazonas, were examined and deposited in UMZC.

Specimens Examined. BRASIL. Amazonas: Tefé (Egae), two specimens (UMZC).

Acknowledgments

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