

REVISION OF THE GENUS *EPICYPTA* WINNERTZ, 1863
IN THE NEOTROPICAL REGION
(DIPTERA, MYCETOPHILIDAE) (1)

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When we described the Neotropical species of *Epicypta* (see Lane, Dusenja, 2 (5): 327-340, 1951) generic characters were not mentioned because we intended to give them in a future publication together with Dr. Paul Freeman of the British Museum (Natural History).

Dr. Freeman and myself could not agree in this respect with the result that Dr. Freeman kindly consented to let us do this work alone after giving us invaluable help and many useful suggestions for which we are indebted to him and leave here our acknowledgements and thanks.

Since then we studied this genus comparing its species with those of *Mycetophila*. Such study convinced us that there are more species in *Epicypta* than we had supposed and that the best way to treat it would be to separate characteristic groups into subgenera.

The characters hitherto used for the separation of *Epicypta* and *Mycetophila* are the position of the veins called by Edwards M. 3 and Cu. 1 and by Shaw Cu. 1 and Cu. 2 and the relative size of the pleurotergites and pteropleurites. While the first of these characters is of considerable value the second is subject to variation.

Intending to find supplementary characters we made a comparative study of the wing, thoracic sclerites, legs and male genitalia. Such a study gave good results. The large number of species studied grouped themselves to such an extent that we deemed it necessary to create subgenera for a more natural division. Although we believe that the subgenera here created might be better separated

(1) Work of the "Departamento de Parasitologia e Higiene Rural da Faculdade de Higiene da Universidade de São Paulo". Received for publication August 2, 1954.

as full genera such a course is not taken because we feel that such groups should be further studied in other regions.

On the other hand we synonymized *Platurocypta*, *Plastacephala* and *Neopicypta* with *Epicypa*, s. str. Such a course was taken because the genotypes of these genera belonged to this group in its strict sense. *Epicypa*, s. str. could be further divided having, in the Neotropical region *E. oedipus* and *E. neotropicalis* as another subgenus. We have not done so because we do not consider the production of the costal vein beyond the tip of Rs as of sugeneric value. The same holds true as to the relative position of the forks of M. and Cu.

A study of the thoracic pleurites was made taking in consideration not only their relative size but also their shape. We found out that not only the tibial setae are of importance but also the distribution of the tibial setulae, a character which Edwards found of importance in the Keroplantinae. Genitalic characters are also of considerable help.

We realize that transitional species will be found in our grouping and that our work will be no exception to the rule. Such occurrences are common in most larger genera of Diptera and should not stand in the path of a better generic delimitation. As our work is done chiefly with the Neotropical species we would like to see if it is useful for other faunal regions. By what we know of them we believe that it will be.

The pleural chaetotaxy affords, in the anepisternite and pteropleurite characters of tribal importance. We have also noted that there are genera whose species generally have a dull, smooth mesonotum as *Zygomyia* and *Mycetophila*. Others like *Sceptonia* and a good number of *Epicypa* have a pitted and shining mesonotum. For the separation of genera the shape, size and position of the anepisternite, katepisternite and pteropleurite are important. The arrangement of setulae and setae on tibiae are very useful. In *Mycetophila*, s. str. the ventral setae are absent on mid tibiae. In *Epicypa* they are present. In *Epicypa* there is a group of species with two dorsal rows of setae on tibiae and we have called the more external ones the subdorsal row. Although we believe that there is a lot to learn about the male genitalia and that they will show good generic characters, we feel at present that this study cannot be done efficiently at present.

A large part of our material comprises a loan made by the British Museum (Natural History). These specimens came from Brasil, State of Santa Catarina, Nova Teutônia and were collected by Mr. Fritz Plaumann. All the types from this material have been

returned to the above mentioned Institution except paratypes which were retained in our collection and are mentioned in this paper.

The author takes great pleasure in expressing his thanks to the trustees of the British Museum (Natural History) for their help. He also takes this opportunity to thank all those who have contributed in the preparation of this paper. The drawings were all made by Mr. E. B. Ferraz with the aid of a camera lucida.

We further characterize the genus *Epicypa* and show its relations with the other genera by the key which is given below.

KEY FOR *EPICYPTA* AND RELATED GENERA.

- 1 - Anepisternite always with a row of strong setae along its posterior margin; pteropleurite with a few strong setae along its upper portion (some New Zealand and Chilean *Mycetophila* have these setae present but very weak) 2
 Anepisternite with or without a row of strong setae; pteropleurite without strong setae other genera
- 2 - Wing with only the anterior fork present; vein Cu. simple 3
 Wing with both the anterior and posterior forks present 4
- 3 - Thorax not showing a dorso-ventral compression; anepisternite and katepisternite of much the same size and square; pteropleurite not bulging; mesonotum smooth and dull *Zygomyia*
 Thorax with a dorso-ventral compression; anepisternite longer than broad, larger than the katepisternite; pteropleurite bulging; mesonotum shining and pitted; abdomen compressed; tibial setulae arranged in a line *Sceptonia*
- 4 - M.3 parallel with M.2 throughout and slightly divergent from Cu.1; mesonotum dull or with shining and pitted integument; pteropleurite phalanx-shaped; katepisternite always broader than long; tibial setulae irregularly distributed *Epicypa*
 M.3 slightly divergent from M.2 apically but parallel with or slightly convergent towards Cu.1; mesonotum always dull; pteropleurite generally strap-like, occasionally phalanx shaped; katepisternite always longer than broad or slightly broader than long; tibial setulae arranged in regular rows *Mycetophila*

KEY FOR THE SUBGENERA OF *EPICYPTA*

- 1 - Mesonotum with dull or slightly shining but always smooth integument 2
 Mesonotum with the integument always shining and pitted; mid tibia with or without subdorsal setae; anepisternite broader than long, narrowed anteriorly. Male genitalia with the fused lobes of basistyle broader than long; dististyle formed by a quadrate lobe *Epicypta*, s. str.
- 2 - Hind tibia with subdorsal setae, the three rows totaling 12/15 elements. Male genitalia with a protuberance in the middle of the fused lobes of basistyle. Dististyle with a short lobe with setae. Ninth tergites broad, stout, shorter than the basistyles *Boscmia*, n. subgn.
 Hind tibia without subdorsal setae so that only two rows are present. Male genitalia without a mesial protuberance in the middle of the fused lobes of basistyles. Dististyles elongate. Ninth tergites slender and longer than the length of the basistyles ... *Callicypta*, n. subgn.

Epicypta Winnertz, 1863

- 1863 — *Epicypta* Winnertz, Verh. Zool.-Bot. Ges. Wien, 13: 909 - type *Mycetophila scatophora* Perris, 1849.
 1890 — *Delopsis* Skuse, Proc. Lin. Soc. N. S. Wales, ser. 2, 5: 623 - type *Delopsis flavipennis* Skuse, 1890.
 1910 — *Platurocypta* Enderlein, Trans. Lin. Soc. London, (2) Zool., 14: 76 - type *Platurocypta limbatifemur* Enderlein, 1910.
 1911 — *Plastacephala* Enderlein, Ste. Ent. Zeitg., 72: 176 - type *Plastacephala planiventris* Enderlein, 1911.
 1937 — *Allophallus* Dziedzicki, An. Mus. Zool., 13: 31 - type *Allophallus nigrobasis* Dziedzicki, 1937.
 1949 — *Neopicypta* Coher, Rev. Ent., 20: 172 - type *Epicypta punctum* Stannius, 1831.
 1951 — *Epicypta* Lane, Dusenja, 2 (5): 327.

Epicypta and *Platurocypta* are synonymized because we do not believe that the relative fusion or separation of the pronotal lobes has generic importance. For the same reason we also synonymize *Neopicypta* as we do not believe the prolongation of the costal vein beyond Rs. sufficient. Coher (Rev. Ent., 20: 172 - 1949) showed that *Delopsis* is a synonym of *Epicypta*. The genotype of *Plastacephala* is a true *Epicypta*, s. str.

Besides the species treated in our paper (1951) we have included *P. neotropicalis* Lane, 1947.

CHARACTERS — Wing with short subcosta, moderate in a few species. Costal vein ending in Rs. except in *E. oedipus* and *E. neotropicalis*. Posterior fork variable. Petiole of M. equal or shorter than the length of r.-m. (longer in *guarani*, *nigrohalterata* and *neotropicalis*). An.1 at about the same level as posterior fork.

Mesonotum with shining and pitted integument. Posterior pronotum quadrate, separated from the anterior pronotum but sometimes nearly fused with it. Anterior pronotum with 3, sometimes 4/5 setae but with only 2 in *E. neotropicalis*. Anepisternite broader than long, sometimes nearly quadrate, with 3/4 or more strong setae on the posterior margin, the rest of its surface setulose. Katepisternite broader than long, narrowed anteriorly. Pteropleurite phalanx-shaped (except in *E. launensis*) with 3/4 strong setae on the upper margin.

Setular of mid and hind tibiae irregularly distributed and long but there may be two or three regular rows of setular near the dorsal setae. Mid tibia with dorsal setae, the subdorsals may also be present; three ventral and three external setae are always present in species seen by us.

MALE GENITALIA — Basistyles fused, broader than high and without a protuberance in the middle (except in *guarani*, *E. maculipennis* and *E. duanasi*). Dististyles and ninth tergites variable.

We have included here all species studied by us in 1951 as also the ones above mentioned.

Epicypta (Epicypta) neotropicalis (Lane, 1947)

1947 — *Platurocypta* Lane, Rev. Ent., 18: 450.

In our key for this genus (see Dusenja, 2: 328, 1951) this species falls in the same dichotomy as *E. oedipus* Edwards, 1934. It can be easily separated from this species by the yellow coxae besides other characters.

Boscmia, n. subgn.

This subgenus can be separated by the following characters: Wing with short and free subcosta. Costal vein ending in R.4. Posterior fork before the anterior one. Petiole of M. shorter or equal to that of r.-m. An. 1 longer than the stem of Cu. but a little shorter in *tristis*.

Posterior pronotum quadrate, separated from the anterior pronotum and setose. Anterior pronotum with 3/4 transversal setae. Anepisternite broader than long (quadrate in *tristis* and *arapascoi*).

with 3/4 posterior stout setae, setose and setulose on its upper portion (in *barai* not setulose). Katepisternite quadrate and approximately half the area of anepisternite. Pteropleurite phalanx-shaped and with 3/4 upper setae. Hypopleurite nude or with a few minute setulae. Mesonotum dull or slightly shining and setulose.

Mid and hind tibiae with irregularly distributed setae; hind tibia always bearing subdorsal setae and mid tibia frequently having subdorsal setae also. Mid tibia with 5 dorsal, 2/3 external and 2/3 ventral setae. Hind tibia with 12 to 15 setae in the dorsal, subdorsal and external rows.

MALE GENITALIA — Basistyle with the lobes fused and quite broader than long, the mesial portion forming a protuberance in which differentiated setae are inserted. Dististyle with the largest lobes quadrate and bearing differentiated setae at apex. Ninth tergite broad but shorter or longer than the length of the basistyle.

SUBGENOTYPE — We have selected *Epicypta (Boscmia) lenguasi*, n. sp. here described as the type species of this subgenus.

The following species have been included in this subgenus: *arapascoi*, n. sp., *barai*, n. sp., *boscii* (Lane, 1948), *iumensis*, n. sp., *lenguasi*, n. sp., *miltoni* (Lane, 1948), *nauesensis*, n. sp., *opaiei*, n. sp. and *tristis* (Lane, 1948).

KEY FOR THE SPECIES OF THE SUBGENUS *BOSCMIA* ⁽¹⁾

- 1 - Hind femur blackened at apex 2
Hind femur completely yellow *tristis* (Lane, 1948)
- 2 - Wing with a distinct mesial black spot; halter with white stem and black knob 3
Wing unicolorous; halter yellow or with white stem and black knob 4
- 3 - Mesonotum blackish, anterior and posterior corners yellow; scutellum blackish in the middle and yellowish on the sides; abdomen blackish; genitalia blackish, dististyle slender, elongate and ending in long setae *iumensis*, n. sp.
- Mesonotum brown due to the three mesial spots being fused and diluted; scutellum yellowish with a mesial black stripe; abdomen largely yellow basally, tergite I yellow with a posterior black band, other tergites brown with broad basal yellow bands on II-IV; genitalia brown, dististyle broad with six or seven stout black setae along its upper margin ... *lenguasi*, n. sp.

(1) There is quite a lot of variation as to the coloration of females. The male genitalia is the safest for a precise specific diagnosis.

- 4 - Halter yellowish or tinged with brown at base of knob 8
Halter with white stem and black knob 5
- 5 - Hypopleurite yellow 7
Hypopleurite brownish black; scutellum yellow with a broad mesial black longitudinal stripe; mesonotal anterior markings small and tending to be diluted ... 6
- 6 - Male genitalia with a long, pointed mesial protuberance in the middle having long setae at apex; dististyle with two lobes *nauesensis*, n. sp.
Male genitalia with a broad, rounded protuberance in the middle bearing numerous setae; dististyle with a single lobe *arapascoi*, n. sp.
- 7 - Mesial protuberance of male genitalia knob-shaped and short; secondary lobe of basistyle with slender curved setae *opaiei*, n. sp.
Mesial protuberance of male genitalia elongate and pointed at apex; secondary lobe of basistyle without slender curved setae *boscii* (Lane, 1948)
- 8 - Abdomen dark or with narrow bands 9
Abdomen of female with broad basal yellow bands on tergites III to apex; male genitalia with the mesial protuberance quadrate; setae at apex of dististyle broad and spatulate *miltoni* (Lane, 1948)
- 9 - Narrow bands of abdomen from III to apex; male genitalia as above *boscii* (Lane, 1948)
Narrow bands on segments IV-V; male genitalia with the mesial protuberance ending in two points forming a fork; long and pointed setae at apex of dististyle *barai*, n. sp.

Epicypta (Boscmia) arapascoi, n. sp.

Length of body 3 mm.; wing 3.2 mm.

MALE — Palpus yellowish brown. Antenna with yellowish scape, torus and first four flagellar segments, the rest dark brown. Occiput dark brown with dense yellow hairs.

Thorax: Mesonotum blackish brown except two large anterior yellow marks with shining integument on humeral region and uniting in front, also postero-lateral yellowish marks; prescutellar region blackish; hairs dense, long and golden. Scutellum with the base and

a median longitudinal line blackish, the rest yellowish. Pleura blackish, apex of pteropleurite lighter also part of katepisternite; hypopleurite brownish-black and nude.

Legs: Coxae yellow. Femora yellow except apex of mid one and narrowly at base of hind one which has also a broad black distal band. Tibiae yellow. Mid and hind tibiae darkened at base and apex. Mid tibia with 5 d., 4 subdorsal, 1+3 e., 3 long v. and 2 i. setae. Hind tibia with 5 d., 2/3 subdorsal and 4/5 e. setae.

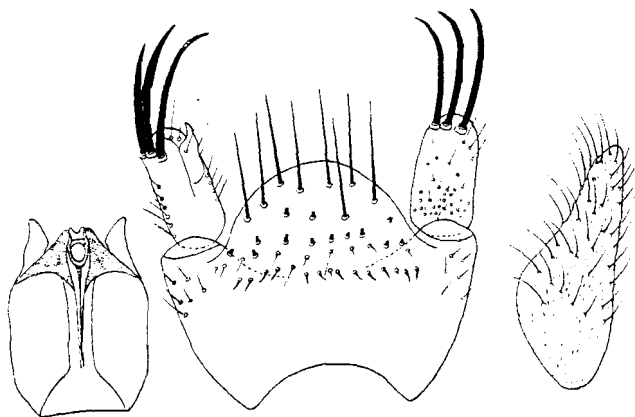


Fig. 1 — *Epicypta (Boscmyia) arapucosoi*, n. sp.

Wing smoky, a faint indication of a mesial spot. Posterior fork distinctly before the anterior one, their veins reaching the wing margin. Halter with whitish stem and black knob.

Abdomen blackish except segments III and IV which are very narrowly banded with yellow at base.

Genitalia: (fig. 1). Basistyle with lobes fused, mesially with a broad, rounded protuberance which is darker and ornamented with many long and differentiated shorter setae below. Dististyle elongate apically with a weakly sclerotized protuberance and three stout, curved, preapical setae. Mesosome and ninth tergites as in the figure.

FEMALE — Unknown.

TYPES — Holotype male and a male paratype retained in our collection under number 8.038.

TYPE LOCALITY — Brasil: State of Santa Catarina, Nova Teutônia, VII and IX-1938 (Fritz Plaumann col.).

Epicypta (Boscmyia) barai, n. sp.

MALE — Palpus yellowish. Antenna with scape, torus and base of first two flagellar segments yellow, the rest darkened. Occiput dark brown with dense hairs.

Thorax: Mesonotum dark brown in the middle anteriorly and on the sides with a broad whitish yellow band which reaches the scutellum, covered with dense, longish, golden hairs. Scutellum with a broad median longitudinal line which is diluted at base and apex,

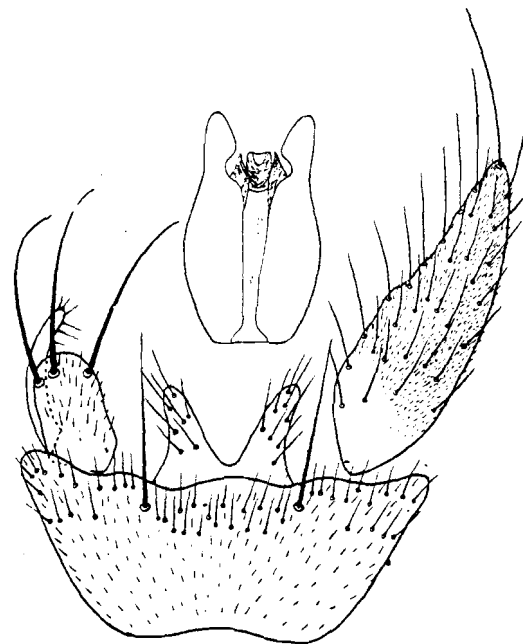


Fig. 2 - *Epicypta (Boscmyia) barai*, n. sp.

the rest yellowish. Pleura light brown; margin of pleurotergite blackish; hypopleurite yellow with 2/3 minute hairs.

Legs yellow but hind femur darkened on distal fifth. Mid tibia with 5 d., 3 subdorsal, 1+2 v., 3/4 d. and 2 i. setae. Hind tibia with 5/6 d., 4 subdorsal and 6/7 e. setae.

Abdomen blackish, extensively yellow underneath.

Genitalia: (fig. 2). Basistyle with lobes fused; in the middle a forked and setose protuberance, below a stout seta. Dististyle short,

with three stout preapical setae and a posterior elongation. Mesosome and ninth tergites as in figure.

FEMALE — Unknown.

TYPES — Holotype male; paratypes four males. Two paratypes registered under numbers 8.019 and 8.020.

TYPE LOCALITY — Brasil: State of Santa Catarina, Nova Teutônia, VI-VIII-1938 (Fritz Plaumann col.); one paratype from Boracéia, VIII-1949 (M. P. Barretto col.).

NOTE — We have two females which seem to belong to this species but hesitate to describe them.

Epicypta (Boscmia) boscii (Lane, 1948).

1948 — *Delopsis* Lane, Rev. Ent., 19: 266.

In this series we have noted variation as to the color of the mesonotum, one specimen being blackish. The halteres may also be yellow and the wing have a mesial spot. Such an amount of variation indicates the possibility of subspecies but insufficient material detains us from describing them.

DISTRIBUTION — Nine males, five from N. Teutônia, VI-VII-VIII-1938 (Fritz Plaumann col.) and four from Costa Rica, San Mateo, Higuato, (Pablo Schild col.).

Epicypta (Boscmia) iumensis, n. sp.

MALE — Palpus yellowish. Antenna with yellow scape and torus as well as first two or three flagellar segments, the rest gradually darkened. Occiput dark brown in the middle lighter on the sides.

Thorax: Mesonotum blackish brown except a large mark on humeral region and, behind root of wing to scutellum which are yellow; with long yellow hairs and a few short brown setae. Scutellum blackish brown only the sides yellow. Pleura dark brown; katepisternite and base of pteropleurite lighter; hypopleurite brown with 2/3 minute hairs.

Legs yellow except trochanters, base and apex of fore and mid femora and apex of tibiae which are blackish. Mid tibia with 5 d., 4 subdorsal, 3 e., 3 long v. and 2 i. setae. Hind tibia with 6 d. 3 subdorsal and 5/6 e. setae.

Wing yellowish with a mesial brown spot from Rs. to fork of M. that is somewhat diluted and small. Posterior fork before the anterior one, the veins reaching wing margin. Halter with yellowish stem and black knob.

Abdomen blackish.

Genitalia blackish (fig. 3). Basistyle with lobes fused, quite broader than long, a large elongate rounded protuberance in the middle. Dististyle a single long finger shaped lobe which is expanded at apex and more than twice as long as basistyle, superiorly with very long setae besides two short differentiated ones. Mesosome and ninth tergite as in figure.

FEMALE — Similar to male. Abdomen with indistinct basal brownish bands, the cerci slender and small.

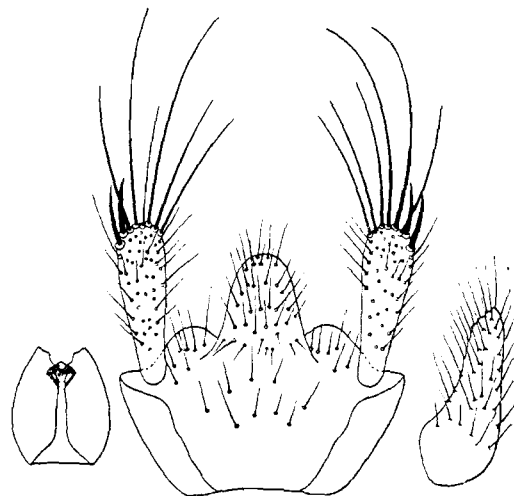


Fig. 3 - *Epicypta (Boscmia) iumensis*, n. sp.

TYPES — Holotype male; allotype female; paratypes ten males and twelve females. Six paratypes registered under numbers 9.424 to 9.429.

TYPES LOCALITY — Brasil: State of Santa Catarina, Nova Teutônia, V-VI-VII-X-1938 (Fritz Plaumann col.).

NOTE — One male paratype has the costal vein ruptured near the base and corresponding portion of R.1 and R.5 strongly bent. Such a lesion must have taken place before the hardening of adult chitin took place.

Epicypta (Boscmia) languasi, n. sp.

MALE — Palpus yellow. Antenna with scape, torus and most of the first flagellar segment yellow, the other four of five segments

yellowish at base, the rest darkened. Occiput brown, darker in the middle, with golden hairs.

Thorax: Mesonotum brown in the middle due to the fusion of the three marks, extensively whitish yellow on the side, specially in front; prescutellar region dark brown; with yellow hairs and scattered short brown setae. Scutellum yellowish with a central broad longitudinal stripe which is black, the rest yellowish. Pleura yellowish, some portions darker; hypopleurite yellow and nude.

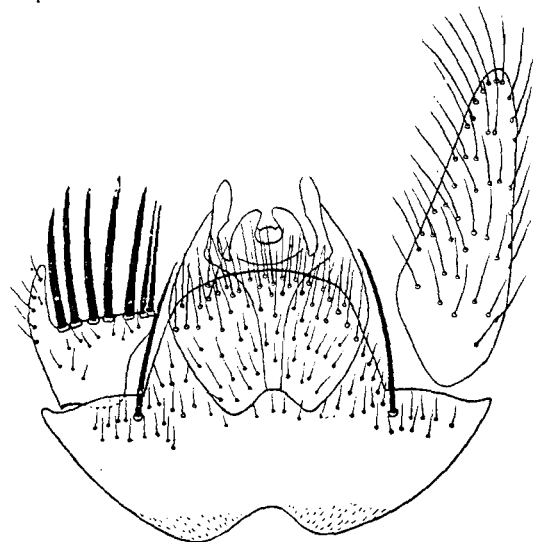


Fig. 4 - *Epicypta (Bosomyia) languasi*, n. sp.

Legs yellow except apex of hind femur which is dark-brown. Mid tibia with 5 d., 4 subdorsal, 3 e., 3 v. and 1 i. setae. Mid tibia with 6 dorsal, 4 subdorsal and 4/5 e. setae.

Wing yellowish, with a central diluted brown spot from R.1 to fork of M. Posterior fork before the anterior one, their veins reaching wing margin. Halter with white stem and black knob.

Abdomen with first tergite yellow with a blackish band, the other tergites dark brown with broad basal yellow bands on II to V.

Genitalia invaginated and dark brown (fig. 4). Basistyle with lobes fused, broader than high, a quadrate hairy protuberance in the middle and a seta at its lateral base. Dististyle with a protuberance on external side, five stout setae and some slender ones on upper margin. Mesosome and ninth tergites as in the figure.

FEMALE — Similar to male but abdominal bands broader.

TYPES — Holotype male; allotype female; paratypes ten males and nine females. Six paratypes registered under numbers 9.417 to 9.423.

TYPES LOCALITY — Brasil: State of Santa Catarina, Nova Teutônia, VI-VII-VIII-1938 (Fritz Plaumann col.). Two paratypes from State of S. Paulo, Boracéia, VI-1948 (Rabello & Travassos col.).

Epicypta (Bosomyia) miltoni (Lane, 1948)

1948 — *Delopsis* Lane, Rev. Ent., 19: 270.

Six males from N. Teutônia, I-1937 and VI-VII-1938 (Fritz Plaumann col.). One of these has been selected as the allotype of

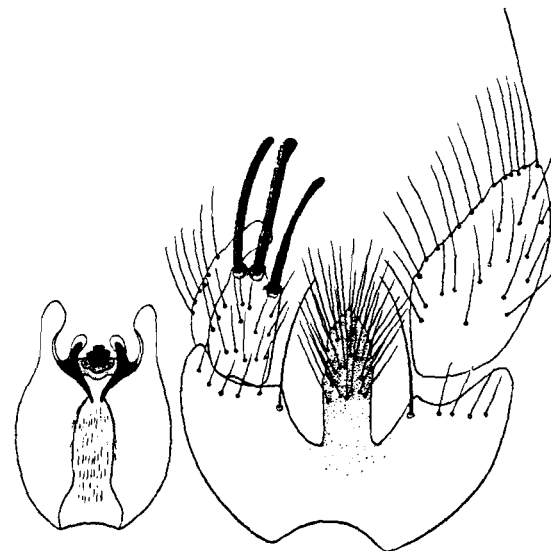


Fig. 5 - *Epicypta (Bosomyia) miltoni* (Lane, 1948).

this species and is described below. Two females from Costa Rica, San Mateo, Higuito, (P. Schild col.).

MALE — Similar to the female.

Genitalia: (fig. 5). Basistyle with the lobes fused, mesially a long, slender, setose protuberance; on each side a strong seta. Dististyle with lobe short, quadrate, behind it a protuberance, the

upper margin with three stout, blunt, striated setae. Mesosome and ninth tergites as in the figure.

TYPE — The above mentioned male which has been registered under number 8.035.

Epicypta (Bosomyia) nauesensis, n. sp.

MALE — Palpus yellowish brown. Antenna with scape, torus and first 3/4 flagellar segments yellowish, the rest darkened. Occiput brown.

Thorax: Mesonotum brown due to the fusion of the three marks, anteriorly and posteriorly whitish, with brown hairs. Scutellum broadly blackened in the middle, more so posteriorly, yellowish on the sides. Pleura blackish brown, hypopleurite nude.

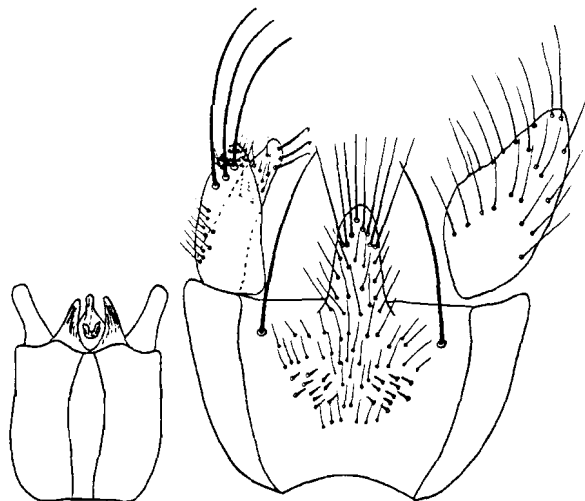


Fig. 6 - *Epicypta (Bosomyia) nauesensis*, n. sp.

Legs yellow except hind femur which has the distal seventh blackish. Mid tibia with 5 d., 3 subdorsal, 3 e., 1+2 v. and 1 i. setae. Hind tibia with 5/6 d., 4 subdorsal and 4/5 e. setae.

Wing unicolorous. Posterior fork before the anterior. Halter with whitish stem and black knob.

Abdomen blackish.

Genitalia: (fig. 6). Basistyle with lobes fused; an elongate, pointed, setose protuberance in the middle, below the protuberance

numerous short setae forming a dense patch; at each side a long seta. Dististyle broad with three long, stout, subapical setae; a lightly sclerotized structure behind, bearing three lateral setae at apex. Mesosome and ninth tergites as in figure.

FEMALE — Unknown.

TYPES — Holotype male; paratypes thirteen males. Four paratypes registered under numbers 9.489 to 9.492.

TYPE LOCALITY — Brasil: State of Santa Catarina, Nova Teutônia, VII-VIII-1938 (Fritz Plaumann col.); one paratype from Boracéia, VI-1947 (J. Lane col.).

NOTE — The markings of mesonotum are variable.

Epicypta (Bosomyia) opaiei, n. sp.

MALE — Palpus yellowish. Antenna with scape and torus yellow, the first three or four flagellar segments yellowish, the rest darkened. Occiput blackish.

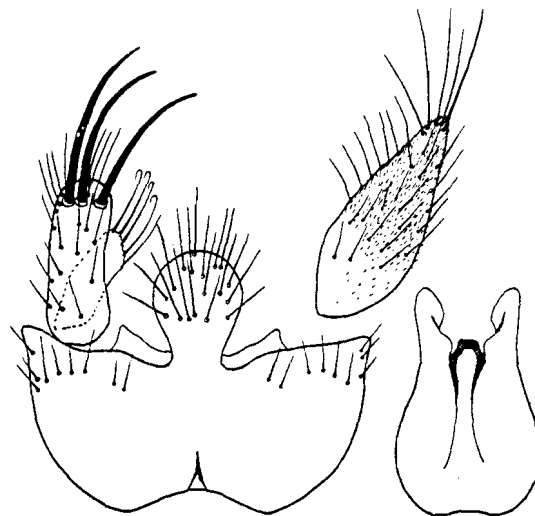


Fig. 7 - *Epicypta (Bosomyia) opaiei*, n. sp.

Thorax: Mesonotum with blackish integument which is slightly shining, the anterior portion is largely whitish, the posterior narrowly so, covered with golden hairs. Scutellum blackish in the middle lon-

gitudinally, the sides yellowish. Pleura blackish brown; hypopleurite yellow with minute setae.

Legs yellowish, mid femur narrowly blackish at extreme apex, the hind one with the whole distal fourth blackish. Mid tibia with 5 d., 4 subdorsal, 3 e., 3 v. and 2 i. setae. Hind tibia with 5/6 d., 3 subdorsal and 6 e. setae.

Wing unicolorous with a slight yellowish tinge. Posterior fork slightly before anterior one. Halter with yellowish stem and black knob.

Abdomen blackish.

Genitalia: (fig. 7). Basistyle with lobes fused, subquadrate, with a large mesial protuberance, nearly as high as basistyle, subdivided, the larger lobe elongate, with three long, thick setae, one of them displaced, also shorter pile; second lobe curved, broad, ending in five setae which are curved at apex. Mesosome and ninth tergites as in the figure.

FEMALE — Unknown.

TYPES — Holotype male; paratypes fifteen males. Six paratypes registered under numbers 8.041 to 8.044 and 9.415 to 9.416.

TYPE LOCALITY — Brasil: State of Santa Catarina, Nova Teutônia, VII-1938 (Fritz Plaumann col.); one paratype from the State of S. Paulo, Capital, VI-1949 (E. I. Coher col.).

Epicypta (Bosomyia) tristis (Lane, 1948)

1948 *Delopsis tristis* Lane, Rev. Ent., 19: 271.

Syn. 1948 *Delopsis lugubris* Lane, Rev. Ent., 19: 272.

The opportunity of studying a large series of specimens has convinced us that it is better to synonymize *E. lugubris* with *E. tristis* because we have noted quite a lot of variation in the specimens at hand. A male from Boracéia, IX-1947 (J. Lane col.) has been selected as the allotype of this species.

Further study of our specimens has shown that the mid and hind tibia bear subdorsal setae and that ventral ones are present on mid tibia. The mesonotum is variable. In the female there is the V-shaped mark while in the males it is sometimes absent. The katepisternite is yellow. The knob of halteres is generally blackish but may be infuscated at apex. Mid tibia has 5 d., 2 subdorsal, 3 e. and 1+2 v. setae. Hind tibia has 6 d., 3 subdorsal and 6 e. setae.

MALE — Similar to female except for mesonotal variations.

Genitalia: (fig. 8). Basistyle with the lobes fused and broader than long, a mesial stout protuberance with long setae. Dististyle as long as basistyle, a median lobe with three horizontally placed

setae, apex attenuated; apical portion slightly sclerotized and with setae on margin. Mesosome and ninth tergites as in the figure.

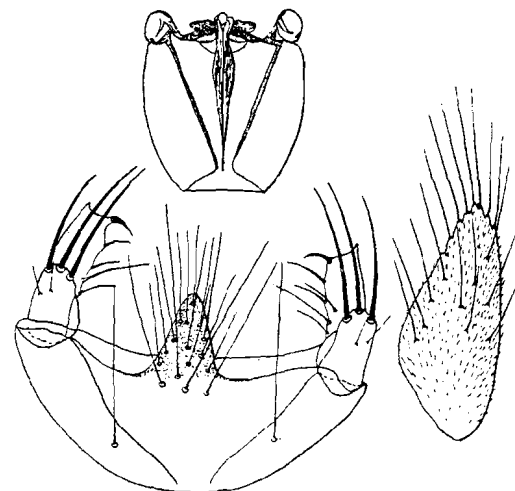


Fig. 8 — *Epicypta (Bosomyia) tristis* (Lane, 1948)

TYPE — Allotype male, registered under number 8.031.

DISTRIBUTION — An additional male from Boracéia, IX-1947 (J. Lane col.) and fourteen specimens from Nova Teutônia, IX-X-1938 (Fritz Plaumann col.).

Callicypta, n. subgn.

CHARACTERS — Wing with subcosta short and free. Costal vein usually ending at Rs. but beyond in the species mentioned in the key. Posterior fork before the anterior one in most species; petiole of M. equal or shorter than the length of r.-m. (longer in *ornata*). An. 1 before fork of Cu. in most species but after in *chiriguanai*, *macunai* and *ornata*.

Anterior pronotum with 3/4 stout setae, occasionally 2. Anepisternite broader than long, with 3/5 posterior setae. Mesonotum dull, setose, in a few species setulose also. Pteropleurite phalanx-shaped, with 3/5 upper setae, usually 4. Hypopleurite nude, in some species setose.

Legs with tibial setulae irregularly distributed in the external surface of mid and hind tibiae (in *paulistensis* they seem to form rows but material is insufficient); mid and hind tibiae without sub-

dorsal setae; mid tibia with 1+2 ventral setae (in *bacairisi* with 1+3).

Male genitalia with basistyles fused at base, broader than long, with long setae on mesial portion. Dististyle with one or two lobe, elongate and bearing apical setae (short in *couasi*, *johannseni*, *macunai* and *paulistensis*). Ninth tergites slender and always longer than height of basistyles.

SUBGENOTYPE — *Epicypta* (*Callicypta*) *lunata* (Lane, 1948).

The following species have been ascribed to this subgenus: *chiriguanai*, n. sp., *coheri*, n. sp., *couasi*, n. sp., *inornata* (Lane, 1948), *johannseni* (Lane, 1946), *kuicurusi*, n. sp., *lunata* (Lane, 1948), *macunai*, n. sp., *ornata* (Lane, 1948), *paulistensis* (Lane, 1948), *siusisi*, n. sp. and *rabelloi* (Lane, 1948).

KEY FOR THE SPECIES OF THE SUBGENUS *CALLICYPTA*

- 1 - Costal vein distinctly beyond Rs 2
Costal vein ending in Rs. 7
- 2 - Wing unicolorous 4
Wing with a mesial dark spot 3
- 3 - Halter with white stem and black knob *kuicurusi*, n. sp.
Halter yellowish *paulistensis* (Lane, 1948)
- 4 - Mesonotum with a pattern 5
Mesonotum without a pattern; scutellum dull brown; abdomen with broad but indistinct yellow markings *inornata* (Lane, 1948)
- 5 - Mesonotum with lines or spots 6
Mesonotum with three large brown marks over a yellowish pattern *siusisi*, n. sp.
- 6 - Mesonotum with a pattern of brown connected stripes over a yellow ground color *ornata* (Lane, 1948)
Mesonotum with three incomplete and disconnected brown stripes besides a large black prescutellar mark, the rest yellowish *rabelloi* (Lane, 1948)
- 7 - Mesonotum with a mesial longitudinal line fused with the prescutellar mark 8
Mesonotum with other markings 10
- 8 - Posterior fork well before the anterior one 9
Posterior fork well after the anterior one *bacairisi*, n. sp.

- 9 - Mesonotal line very short and brown *couasi*, n. sp.
Mesonotal line reaching the middle of disk *chiriguanai*, n. sp.
- 10 - Mesonotum without a pattern or with three distinct marks but a faint V-shaped mark may be present . 12
Mesonotum with spots and marks 11
- 11 - Lateral spots forming a contorted pattern *lunata* (Lane, 1948)
Lateral spots separated, the mesial one brown, the anterior and posterior spots black *couasi*, n. sp.
- 12 - Wing with a large, diluted spot; scutellum blackish in the middle; mid tibia with 5 d. setae; pleurotergite yellowish, external margin blackish; ninth tergite more than twice as long as basistyle *johannseni* (Lane, 1948)
Wing unicolorous and without a spot; mesonotum dark brown with a prescutellar blackish mark; scutellum black at base and apex and contrasting with the whitish basic color; posterior fork before the anterior one *macunai*, n. sp.

Epicypta (*Callicypta*) *bacairisi*, n. sp.

MALE — Palpus yellow. Antenna with scape, torus and first three segments mostly yellow, the rest darkened. Occiput light brown in the middle, yellowish on the sides.

Thorax: Mesonotum light brown on top, yellowish laterally; a black quadrate mark on prescutellar region connected to a very short and brown longitudinal line; with coarse, hirsute brown hairs. Scutellum yellowish, blackish at base and darkened at apex. Pleura yellowish; hypopleurite brown, with very short hairs.

Wing unicolorous. Posterior fork distinctly beyond the anterior one. Halter yellow.

Legs yellow, hind femur very narrowly darkened at apex. Mid tibia with 5 d., 3+1 v., 3 e. and 3 i. setae. Hind tibia with 5 d. and 6 e. and 2 subdorsal setae at apex.

Genitalia: (fig. 9). Basistyle with the lobes fused, setose in the middle. Dististyle elongate, subtriangular, setose. Mesosome as in the figure. Ninth tergite slightly longer than basistyle and as in figure.

FEMALE — Unknown.

TYPES — Holotype male; paratypes three males. One paratype registered under number 9.501.

TYPE LOCALITY — Brasil: State of Santa Catarina, Nova Teutônia, VII-1938 (Fritz Plaumann col.).

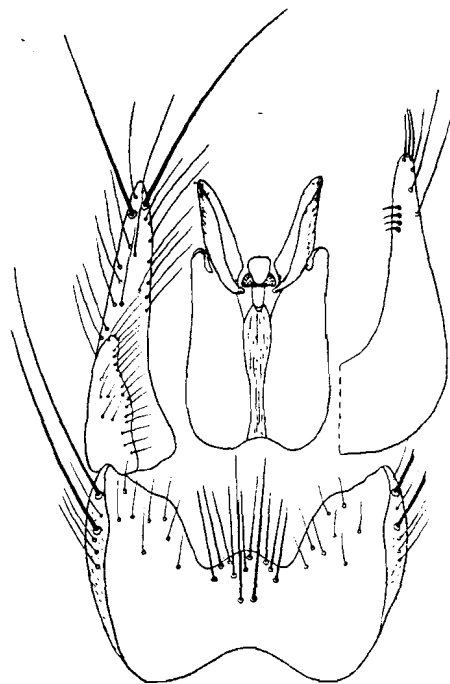


Fig. 9 - *Epicypta (Callicypta) bacairisi*, n. sp.

Epicypta (Callicypta) chiriguanai, n. sp.

MALE — Palpus yellow. Antenna with scape and torus yellow; first three basal segments mostly yellow, the rest darkened. Occiput brown in the middle, yellowish at the sides.

Thorax: Mesonotum yellowish except for a blackish line from a little beyond middle posteriorly to prescutellar region where it is connected to a black, quadrate mark; with dark brown hairs. Scutellum yellowish except at base, in continuation to the prescutellar mark where it is black and the free margin which is darkened. Pleura yellowish; hypopleurite yellow, with minute hairs.

Legs yellow. Mid tibia with 5 d. (one small e), 3 e., 1+2 v. and 2 small i. setae. Hind tibia with 6 d. and 6 e. setae.

Wing unicolorous. Posterior fork before the anterior one. Halter yellowish.

Abdomen dark brown, with indistinct apical bands.

Genitalia: (fig. 10). Basistyle with the lobes fused, a mesial protuberance with a double row of stout setae. Dististyle quite short-

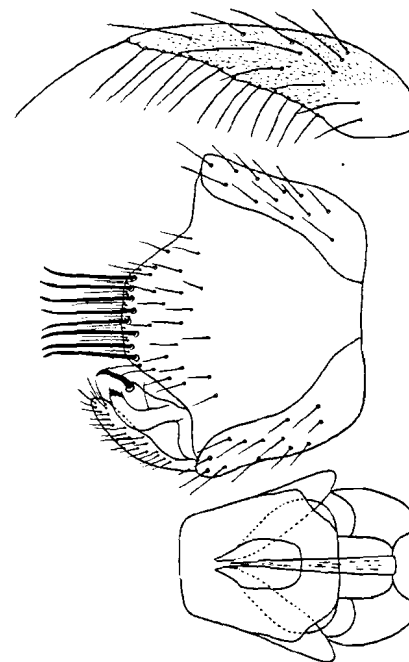


Fig. 10 - *Epicypta (Callicypta) chiriguanai*, n. sp.

ter than basistyle, an elongate structure ending in a stout, short seta, another ending in several lamellate teeth, externally setose. Mesosome and ninth tergites as in the figure.

FEMALE — Similar to male. Cerci united basally, elongate, yellowish.

TYPES — Holotype male; allotype female; paratypes six males and ten female. Four paratypes registered under numbers 9.485 to 9.488.

TYPE LOCALITY — Brasil: State of Santa Catarina, Nova Teutônia, VII-VIII-X-1938 (Fritz Plaumann col.).

Epicypta (Callicypta) coheri, n. sp.

MALE — Palpus yellowish. Antenna with scape and torus brown, the flagellum blackish. Occiput yellowish.

Thorax: Mesonotum yellowish, darker on top and with the following pattern: a stripe from middle to prescutellar region where it fuses with the prescutellar mark which is narrow; anteriorly a black mark; a large lateral subtriangular lateral spot fusing with the anterior black mark; an elongate brown spot beyond the root of

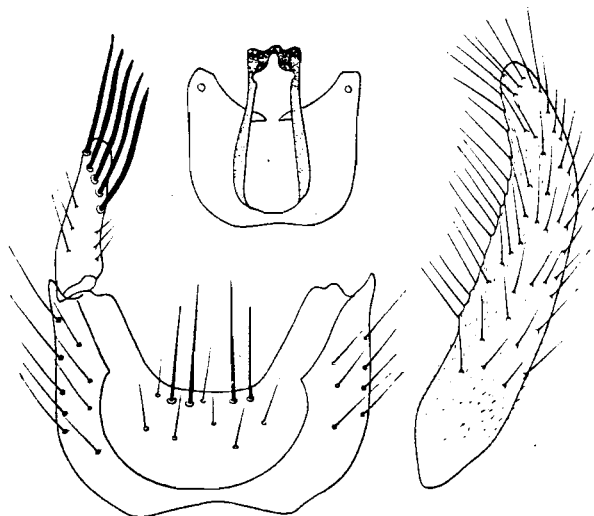


Fig. 11 - *Epicypta (Callicypta) coheri*, n. sp.

wing and nearly linked with the subtriangular spot and a small rounded brown spot above the wing base; with blackish hairs and a few golden ones. Scutellum yellowish, blackened near mesonotum and darkened in the middle. Postnotum darker in the middle. Pleura yellowish except on margins of katepisternite, anepisternite, pteropleurite and pleurotergite which are darkened; hypopleurite dark brown, with a few setae.

Legs yellowish, femora a little darker dorsally, the hind coxa blackish at base. Mid tibia with 5 d., 2 v., 3 e. and 1 i. setae. Hind tibia with 5 d. and 7 e. setae.

Wing yaline; the forks at about the same level. Halter yellowish. Abdomen blackish.

Genitalia: (fig. 11). Basistyle with the lobes fused, nearly one and a half times the greatest width. Dististyle shorter than basistyle, slender and with six long, thick, blackish setae on apical portion. Mesosoma as in the figure. Ninth tergite as in the figure, longer than both basistyle and dististyle.

FEMALE — Unknown.

TYPE — Holotype male. Registered under number 8.015.

TYPE LOCALITY — Brasil: State of São Paulo, Salesópolis, Boracéia, VIII-1948 (M. P. Barretto col.).

NOTE — This species is named in honor of my friend Mr. Edward I. Coher.

Epicypta (Callicypta) couasi, n. sp.

MALE — Palpus yellowish. Antenna with scape, torus and first three flagellar segments yellowish, the rest darkened. Occiput brown, slightly darker in the middle.

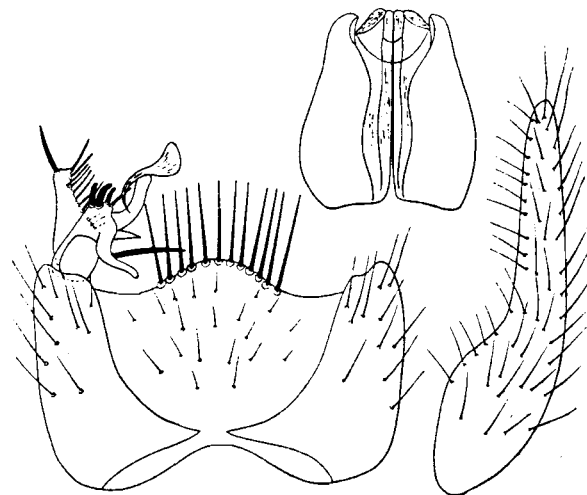


Fig. 12 - *Epicypta (Callicypta) couasi*, n. sp.

Thorax: Mesonotum yellowish, lighter at the sides, a large blackish subquadrate prescutellar spot and a very short brown line connected with it, with golden hairs. Scutellum yellowish. Pleura yellowish, the anepisternite with darker margin; hypopleurite light brown, setose.

Legs yellow. Mid tibia with 5 d., 3 e., 1+2 v. and 2 small i. setae. Hind tibia with 5 d. and 6 e. setae.

Wing hyaline. Posterior fork before the anterior one. Halter yellowish.

Abdomen (not seen).

Genitalia: (fig. 12). Basistyle with the lobes fused, subquadrate, slightly longer than broad, with differentiated setae at apex. Dististyle divided into two structures which are quite short and bear differentiated setae and filaments as shown in the figure. The middle with an ovoid structure which bears an apical row of strongly sclerotized setae. Mesosome as in figure. Ninth tergite nearly twice as long as basistyle and as in figure.

FEMALE — Unknown.

TYPE — Holotype male. Registered under number 9.473.

TYPE LOCALITY — Brasil: State of S. Paulo, Salesópolis, Boracéia, VIII-1947 (J. Lane col.).

Epicypa (Callicypa) inornata Lane, 1948

1948 *Epicypa* Lane, Rev. Ent., 19: 237.

We have selected a female from Nova Teutônia as the allotype of this species.

FEMALE — Similar to the male. The abdominal markings more extensive. Cerci small, elongate and yellowish.

TYPE LOCALITY — Brasil: State of Santa Catarina, Nova Teutônia, VI-VII-VIII-1938 (Fritz Plaumann col.). Eight specimens were captured together with the allotype.

Epicypa (Callicypa) johannseni (Lane, 1946)

1946 *Delapsis johannseni* Lane, Rev. Ent., 17: 354.

syn. 1948 *Mycetophila taunayi* Lane, ibd., 19: 249.

We have synonymized these two species for the same reason that we put *E. tristis* and *lugubris* in synonymy. The specimen of *E. johannseni* on further study was shown to be a female so that the allotype of this species is the male specimen of *E. taunayi*.

DISTRIBUTION — Brasil: State of S. Paulo, Campos do Jordão, VIII-1949 (J. Lane col.) five specimens; State of Santa Catarina, Nova Teutônia, VIII-1938 (Fritz Plaumann col.) four specimens.

Epicypa (Callicypa) kuicuruși, n. sp.

MALE — Palpus light brown. Antenna with yellow scape, torus and base of three or four flagellar segments, the rest darkened. Occiput brown.

Thorax: Mesonotum brown with yellow hairs and very short sparse setae. Scutellum yellowish. Pleura brown, spiracular sclerite, katepisternite and hypopleurite yellow, nude.

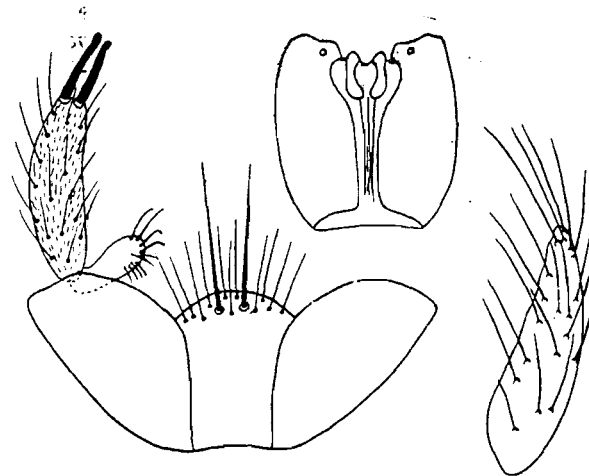


Fig. 13 - *Epicypa (Callicypa) kuicuruși*, n. sp.

Legs yellow but apex of mid and hind and base of hind tibiae darkened. Mid tibia with 5 d. (one small), 3 e., 1+2 v. and 0 i. setae. Hind tibia with 6 d. and 5 e. setae.

Wing with a mesial dilute spots from R.1 to fork of M. Posterior fork before the anterior one. Costa a little beyond Rs. Halteres with white stem and brown knob.

Abdomen blackish dorsally, the first segment yellow at base; first four tergites broadly marked with yellow laterally.

Genitalia invaginated (fig. 13). Basistyle with lobes fused, broader than long, with a small rounded protuberance with two long and stout setae. Dististyle with lobe longer than basistyle, finger-shaped and with two stout apical setae; a secondary short, rounded lobe which is strongly setose at apex. Mesosome and ninth tergites as in figure.

FEMALE — Similar to male. Forks at nearly the same level. Cerci short, broad and rounded.

TYPES — Holotype male; allotype female; paratypes a male and three females.

TYPE LOCALITY — Brasil: State of Santa Catarina, Nova Teutônia, VII-VIII-IX-1938 (Fritz Plaumann col.).

Epicypta (Callicypta) lunata (Lane, 1948)

1948 *Delopsis* Lane, Rev. Ent., 19: 267.

DISTRIBUTION — Brasil: State of Santa Catarina, Nova Teutônia, VII-VIII-1938 (Fritz Plaumann col.) three specimens, and State of S. Paulo, Campos do Jordão, VIII-1949 (J. Lane col.) two specimens.

Epicypta (Callicypta) macunai, n. sp.

MALE — Palpus yellowish. Antenna with scape, torus and first two segments yellowish, the rest progressively darker. Occiput dark brown.

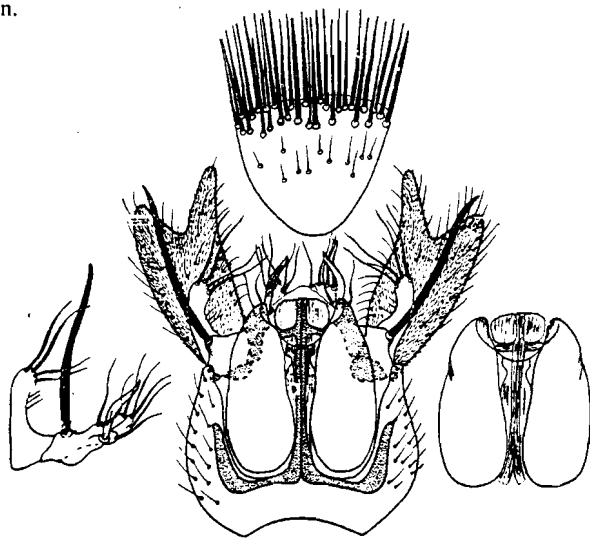


Fig. 14 - *Epicypta (Callicypta) macunai*, n. sp.

Thorax: Mesonotum yellowish with three reddish diluted spots which differ slightly from the ground color; prescutellar region with a distinct U-shaped black mark which invades the scutellum. Scutellum yellowish except for the basal dark mark and free margin which

is slightly darkened. Pleura brown; yellowish in part of pteropleurite; katapisternite and hypopleurite brown, nude.

Legs yellow, hind femur blackish at apex. Mid tibia with 5 d., 1+2 v., 3 e., and 1 i. setae. Hind tibia with 6 d. and 6 e. setae.

Wing unicolorous. Posterior fork before the anterior. Halter yellowish.

Abdomen blackish with apical darkening.

Genitalia: (fig. 14). Basistyle with lobes fused and having a rounded plate in the middle with very many strong setae. Dististyle very short with differentiated structures of which one has a long, strongly sclerotized seta. Mesosome as in figure. Ninth tergite as long as basistyle, very broad, with an internal filament which is notched in the middle.

FEMALE — Unknown.

TYPES — Holotype male; paratypes two males.

TYPE LOCALITY — Brasil: State of S. Paulo, Salesópolis, Boracéia, VII-XI-1949 (J. Lane col.).

Epicypta (Callicypta) rabelloi (Lane, 1948)

1948 *Delopsis* Lane, Rev. Ent., 19: 275.

We did not mention in the original description that the costal vein goes beyond Rs.

DISTRIBUTION — Brasil: State of S. Paulo, Salesópolis, Boracéia, IV-1948 (E. Rabello col.), and State of Santa Catarina, Nova Teutônia, VII-1938 (Fritz Plaumann col.).

Epicypta (Callicypta) siusisi, n. sp.

MALE — Palpus yellow. Antenna with scape and torus yellow; first ten segments yellow at base, dark at apex, the rest darkened. Occiput yellowish, brown in the middle.

Thorax: Mesonotum yellowish, with three brown marks, the mesial one cuneiform, the laterals oblong, attenuated in the middle; two black prescutellar spots; with brown hairs. Scutellum yellowish, a narrow mesial longitudinal line and base blackish. Pleura brown with some yellow; hypopleurite nude.

Wing unicolorous. Costa produced beyond Rs. Posterior fork before the anterior one. Halter yellowish.

Legs yellow. Mid tibia with 5 d., 3 e., 1+2 v., and 1 i. setae. Hind tibia with 5 d. and 6 e. setae.

Genitalia: (fig. 15). Basistyle with lobes fused, shallow, a stout seta in the middle. Dististyle with an elongate lobe, a mesial protuberance ending in a stout seta and a slender one; three or four stout, curved setae at apex. Mesosome and ninth tergites as in figure.

FEMALE — Similar to the male. Abdomen with broad basal yellow bands on segment II, narrower on III and IV. Cerci small, ovate and yellowish.

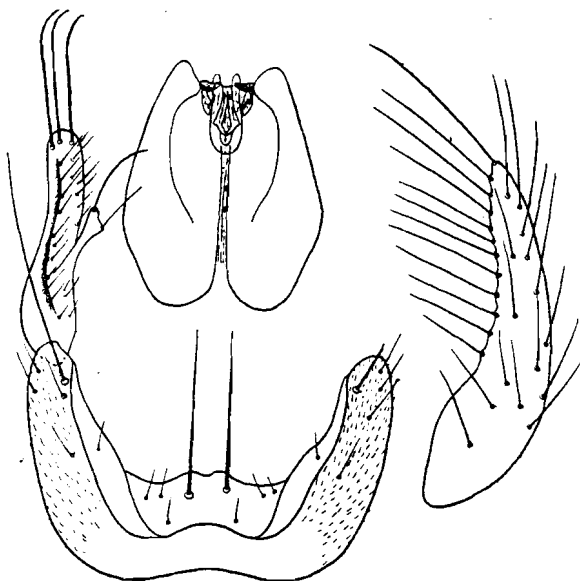


Fig. 15 - *Epicypta (Callicypta) siusisi*, n. sp.

TYPES — Holotype male; allotype female; paratypes two males and five females. Two paratypes registered under numbers 9.502 and 9.503.

TYPE LOCALITY — Brasil: State of Santa Catarina, Nova Teutônia, VI-VIII-1938 (Fritz Plaumann col.).

SUMMARY

The author delimits the genus *Epicypta* and creates two new subgenera, *Bosomyia* and *Callicypta*. In the first of these subgenera the following new species are described: *crapascoi*, *barai*, *iumensis*, *lenguasi*, *nauesensis* and *opaiei*. In *Callicypta* he describes as new the following species: *chiriguanai*, *coheri*, *couasi*, *kuicurusi*, *macunai* and *siusisi*. Keys are given for the separation of genera, subgenera and species. New synonymy is proposed and the allotypes of a few species chosen. New zoogeographical records are also mentioned.