

Clinodiplosis costai, a new galler species (Diptera, Cecidomyiidae) associated with *Paullinia weinmanniaefolia* Mart (Sapindaceae)

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ABSTRACT. *Clinodiplosis costai*, a new species of Cecidomyiidae (Diptera) that induces galls on young leaves of *Paullinia weinmanniaefolia* is described (larva, male and female) based on material from Rio de Janeiro State (Brazil).

KEY WORDS. Gall-forming species, restinga, taxonomy.

RESUMO. *Clinodiplosis costai*, uma nova espécie galhadora (Diptera, Cecidomyiidae) associada com *Paullinia weinmanniaefolia* Mart (Sapindaceae). *Clinodiplosis costai*, uma nova espécie de Cecidomyiidae (Diptera) que induz galhas em folhas jovens de *Paullinia weinmanniaefolia* é descrita (larva, macho e fêmea) com base em material do Estado do Rio de Janeiro (Brasil).

PALAVRAS CHAVE. Espécie galhadora, restinga, taxonomia.

Paullinia weinmanniaefolia Mart (Sapindaceae) has been recorded only for Brazil (Bahia, Espírito Santo and Rio de Janeiro) at restinga areas. MAIA (2001a, b) described two kinds of Cecidomyiidae (Diptera) gall on this plant, both on leaves: conical gall and rolled young leaf, induced by *Paulliniomyia ampla* Maia, 2001 and *Clinodiplosis* sp., respectively. Morphological studies indicated that this is a new species of *Clinodiplosis* Kieffer, 1895, which is described in this paper.

MATERIAL AND METHODS

All studied material was obtained from restingas of Rio de Janeiro State (Carapebus and Maricá). Part of it was previously collected and reared by V.C. Maia during the period of 1997-1999. Other collections were made at Maricá during the year of 2003 in order to obtain more material. The rolled young leaves of *Paullinia weinmanniaefolia* were taken to the laboratory for rearing of the adults. As the pupation occurs in the soil, the galls were maintained in plastic pots containing a layer of restinga soil at the bottom and covered at the top with a fine screen. The pots were checked daily.

The adults obtained were first preserved in 70% ethanol and then mounted on slides following the methodology of GAGNÉ (1994). All specimens (including the types) were incorporated in the Diptera collection of Museu Nacional, Rio de Janeiro (MNRJ). It was adopted the terminology of GAGNÉ (1994).

Clinodiplosis costai sp. nov.

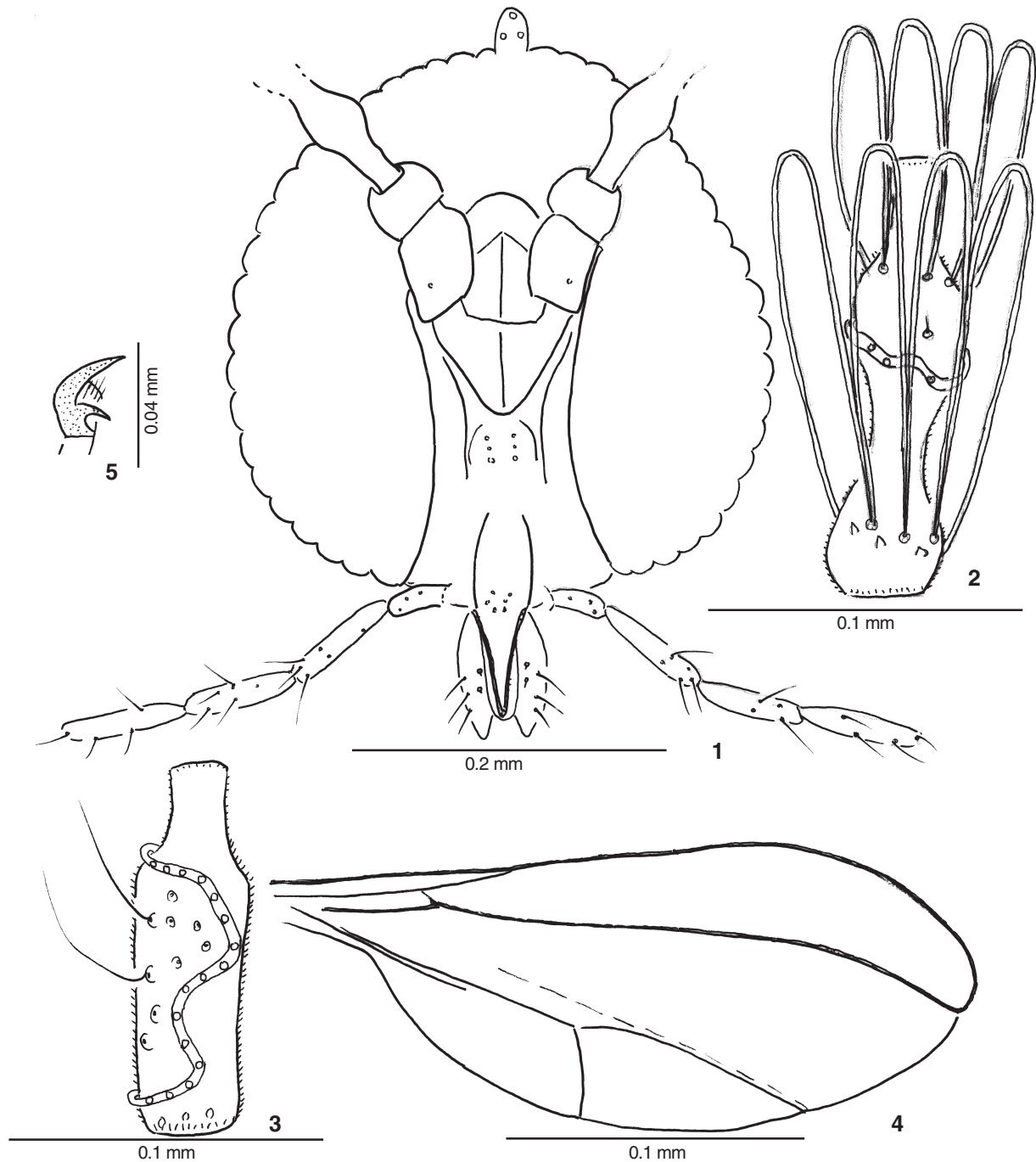
Figs 1-12

Adult. Body length: 1.5 -2.5 mm male (n = 4); 1.5-2.6 in female (n = 5). Head (Fig. 1): Occipital process present; eyes

facets circular, closely approximated. Antenna with scape rectangular, pedicel globose, male flagellomeres binodal and tricurcufilar; second circumfila reduced; female flagellomeres cylindrical with interconnected circumfila (Figs 2 and 3). Flagellomeres 1 and 2 connate. Flagellomere necks setulose. Flagellomere 12 with apical process. Frontoclypeus with 6 setae. Labrum long-attenuate with three pairs of ventral sensory setae. Hypopharynx of the same shape as labrum, with long, anteriorly directed lateral setulae. Labellae elongate-convex, each with several lateral setae and two short mesal sensory setae. Palpus with four setose crescent cylindrical segments. Thorax: Anepimeron setose, other pleural sclerites asetose. Wing (Fig. 4) length: 1.8-2.0 mm in male (n = 4); 1.5-2.4 mm in female (n = 4); R5 curved posteriorly to join C beyond wing apex; Rs weaker anteriorly; M3 fold present; CuP present. Tarsal claws toothed and bent near basal third; empodium short (Fig. 5).

Abdomen. Male (Fig. 6): tergites 1-6 rectangular with rounded margins, a complete row of caudal setae, two basal trichoid sensilla and elsewhere with scattered scales. Tergite 7 narrow with two basal trichoid sensilla and no setae. Tergite 8 linear with two trichoid sensilla. Sternites 2-8 rectangular with rounded margins, setae more abundant mesally, a complete row of caudal setae and two basal trichoid sensilla. Female (Fig. 7): tergites 1-6 similar to the male ones. Tergite 7 rectangular with rounded margins, a complete row of caudal setae, two basal trichoid sensilla and elsewhere with scattered scales same chaetotaxy. Tergite 8 as in male. Sternite 1 not sclerotized. Sternites 2-7 similar to the male ones. Sternite 8 not sclerotized.

Male terminalia (Fig. 8): gonocoxites wide and with a rounded mesobasal lobe; gonostylus elongate and abruptly attenuate near basal third; cercus acute, setose and wider than



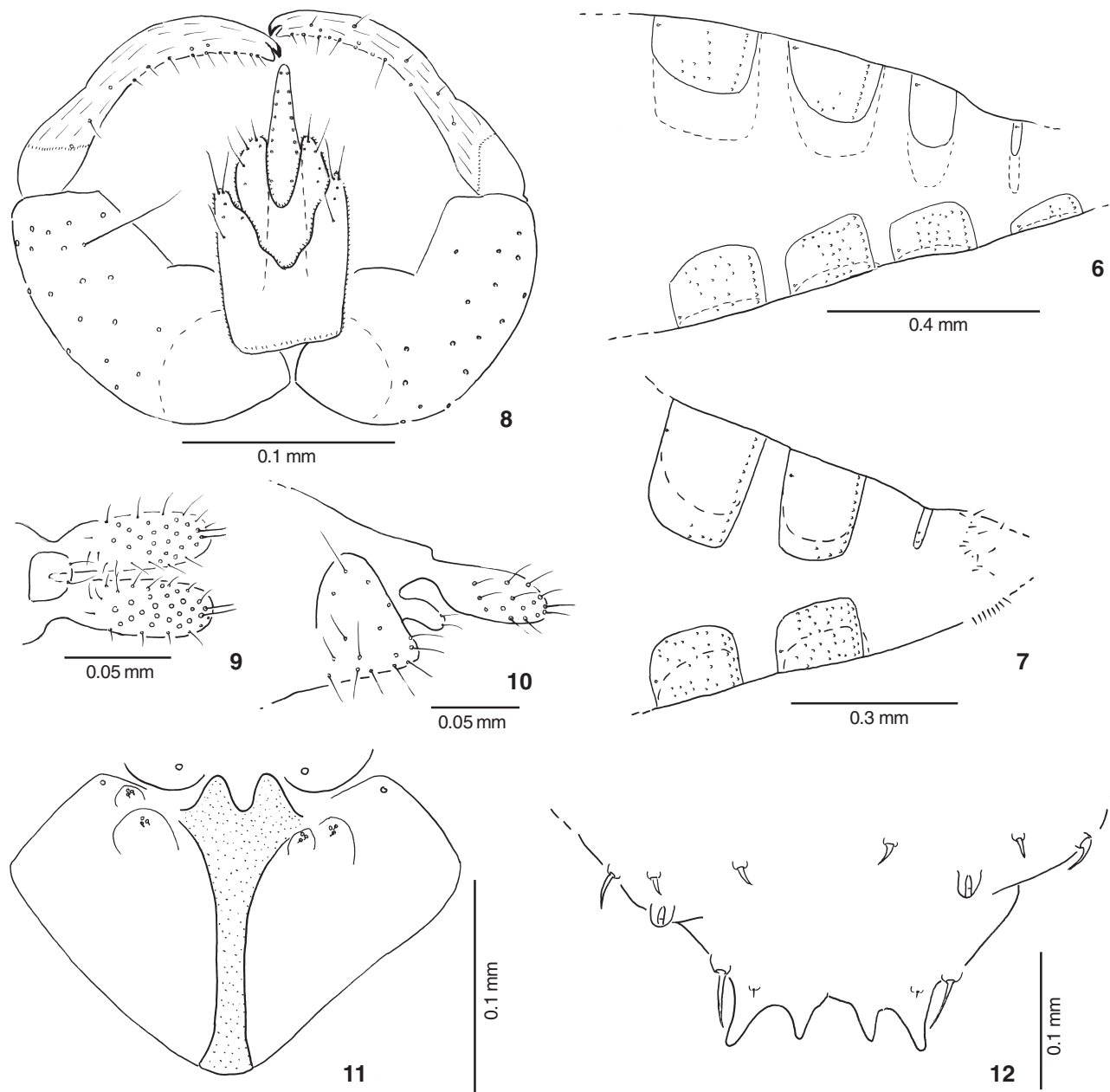
Figures 1-5. *Clinodiplosis costai* sp. nov.: (1) male, head, frontal view; (2) male, flagellomere 3; (3) female, flagellomere 4; (4) male, wing; (5) female, midleg, tarsal claw and empodium.

hypoproct; hypoproct deeply bilobed and setose, longer than cercus; aedeagus appreciably longer than hypoproct and tapering gradually to apex.

Ovipositor: slightly protrusible; female cerci separate,

elongate-cylindrical and setose (Figs 9 and 10).

Larva. Colour: yellow. Shape: fusiform. Length: 1.8-3.5 mm (n = 5). Integument rough. Spatula: length: 0.14-0.19 mm (n = 5); two-toothed; six lateral papillae in two groups of three



Figures 6-12. *Clinodiplosis costai* sp. nov.: (6) male, abdominal segment 5 to 8, lateral view; (7) female, abdominal segment 6 to 8, dorsal view; (8) male, terminalia, dorsal view; (9) female, cerci, ventral view; (10) female, cercus, lateral view; (11) larva, prothoracic spatula with lateral, sternal and ventral papillae; (12) larva, abdominal segment 8 and 9, dorsal view.

per side (two pairs setose) (Fig. 11). Four pairs of terminal papillae: three pairs corniform (one pair smaller than others) and one setiform pair (Fig. 12).

Material. Holotype male. BRAZIL, Rio de Janeiro: APA de Maricá, 22.VIII.2003, Costa & Maia leg., MNRJ. Paratypes: same

locality, date and collectors of the holotype, 4 males and 4 females; Same locality, 01.IX.1997, V. Maia leg., 4 larvae; 05.VI.1998, V. Maia leg., 1 male. Carapebus, 28.VI.1998, V. Maia leg. 1 male and 3 females; same locality and collector: 29.VIII.1998, 4 males and 1 female; 31.X.1998, 2 females; 09.II.1999, 1 larva.

Gall. Rolled young leaf on *Paullinia weinmanniaefolia* (Sapindaceae).

Etymology. The species is named after José Carlos Costa (Museu Nacional), who collected part of the galls and reared several specimens of the gall maker.

Remarks. *Clinodiplosis costai* **sp. nov.** differs from the other species mainly in having flagellomere necks setulose; male second circumfila reduced; male tergite 7 narrow with two basal trichoid sensilla and no setae. Besides, this is the unique species of *Clinodiplosis* associated with Sapindaceae.

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REFERENCES

- GAGNÉ, R.J. 1994. **The gall midges of the Neotropical region.** Ithaca, Cornell University Press, 352p.
- MAIA, V.C. 2001a. The gall midges (Diptera, Cecidomyiidae) from three restingas of Rio de Janeiro State (Brazil). **Revista Brasileira de Zoologia**, Curitiba, **18** (2): 583-629.
- MAIA, V.C. 2001b. New genera and species of gall midges (Diptera, Cecidomyiidae) from three restingas of Rio de Janeiro State, Brazil. **Revista Brasileira de Zoologia**, Curitiba, **18** (Supl. 1): 1-32.

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