

# A new *Tanaostigmodes* Ashmead (Hymenoptera, Tanaostigmatidae) from Brazil

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(With 4 figures)

## Abstract

*Tanaostigmodes horacioi* sp. nov. Perioto & Lara (Hymenoptera, Tanaostigmatidae) from Brazil is described and illustrated. *T. horacioi* is the second included species in the *insculptus* species group of *Tanaostigmodes* Ashmead, 1896. A key to species of the *insculptus* group is provided.

**Keywords:** Chalcidoidea, neotropical, taxonomy.

## Um novo *Tanaostigmodes* Ashmead (Hymenoptera, Tanaostigmatidae) do Brasil

### Resumo

*Tanaostigmodes horacioi* sp. nov. Perioto & Lara (Hymenoptera, Tanaostigmatidae) do Brasil é descrita e ilustrada. *T. horacioi* é a segunda espécie descrita do grupo de espécies *insculptus* de *Tanaostigmodes* Ashmead, 1896. É fornecida chave de identificação para as espécies do grupo *insculptus*.

**Palavras-chave:** Chalcidoidea, neotropical, taxonomia.

## 1. Introduction

Tanaostigmatidae is a small family of Chalcidoidea that occurs in all tropical regions of the world, although with most species known from the Neotropics. Most species are phytophagous and act as gall inducers or inquilines within galls induced by other species (La Salle, 2005, 2006). Trees or shrubs of Fabaceae (Mimosoidea) appear to be preferred host plants, although there are numerous records of other host plants (La Salle, 2006).

*Tanaostigmodes* Ashmead, 1896 includes 64 species (Noyes, 2012) and is the largest and most poorly defined of the tanaostigmatid genera. It is divided into twenty species groups, eight of them containing a single species (La Salle, 1987); the species now described belongs to one of these groups, *insculptus* (*sensu* La Salle, 1987).

The first citation of *Tanaostigmodes* from Brazil was made by Brèthes (1924). The fauna of the genera has become better known since the late 1980's, when La Salle (1987) described eight species. Perioto and Lara (2005) and Pentead-Dias and Carvalho (2008) described three additional species from Brazil.

## 2. Material and Methods

One specimen of *Tanaostigmodes* was collected in a Moericke trap placed in a coconut palm plantation as follows at Linhares, in the state of Espírito Santo, Brazil, by E.F. Comerio.

Observations and descriptions were made with a Leica MZ 9.5 stereomicroscope under a fluorescent light source. Colour images were obtained with Leica DFC295 digital camera attached to a Leica M205C APO stereomicroscope; the specimen was illuminated by a Leica LED5000 RL ring light. The serial images from different layers were combined with Helicon Focus software (version 5.1). The figures were prepared using Adobe Photoshop software (version 6.0).

The morphological terminology follows Gibson (1997), the sculpturing integument Harris (1979). The key proposed by La Salle (1987) was used for identification of species. Abbreviations are as follows: *Fn*, flagellomeres (*n* = number of the flagellomere); *OOL*, ocello-ocular distance; *POL*, postocellar distance; *CC*, costal cell; *MV*, marginal vein;

PMV, postmarginal vein; SV, stigmal vein, Mtn, metasomal tergum ( $n$  = number of the metasomal tergum).

REPOSITORY. MZSP Museu de Zoologia da Universidade de São Paulo (São Paulo, SP, Brazil). C.R.F. Brandão, curator.

### 3. Taxonomy

#### *Tanaostigmodes horacioi* sp. nov. Perioto & Lara

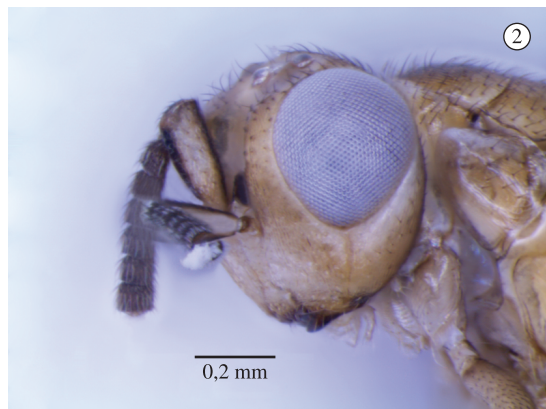
DIAGNOSIS. Female of *Tanaostigmodes horacioi* sp. nov. is distinguished from other species of *Tanaostigmodes* by the following characters: head and body light brown to yellow, interantennal projection small but present; scape 3.5 x as long as wide, with a slight ventral expansion; each successive funicular segment slightly wider than the preceding one; scutellum coriaceous; speculum separated from posterior margin of forewing by more setae (on the ventral surface of the wing) than a single line representing the subcubital vein; ventral margin of hind femur without a sub apical denticle.

Female (Figure 1). Length 2.5 mm. Head and body light brown to yellow; lateral margins of scape, pedicel, funicle, inferior margin of clypeus, mandible, oral fossa laterally, interantennal projection with a triangular spot dark brown; setae of body brown; metasoma brown.

*Head* (Figure 2) 1.25 as wide as high. OOL/POL = 0.98. Scrobal impression glabrate. Interantennal projection small with median ridge ventrally. Subocular sulcus complete. Face and frons imbricate with many minute, setiferous punctures. Antenna: scape 3.5 x as long as wide, with a slight ventral expansion; pedicel 2.0 x as long as wide; A1 about half length of A2 and subequal in width to A2; F1 as long as wide, each successive funicular segment slightly wider than preceding one; F6 subequal in length and width.

*Mesosoma* (Figure 3) with many minute, setiferous punctures. Mesoscutum imbricate to coriaceous. Scutellum coriaceous, with a longitudinal median glabrate strip bordered by strong setae. Propodeum short with plicae, and strong transverse carina along posterior margin connecting plicae. Mesopleuron glabrous. Sternopleural suture connected to mesopleural suture, not reaching anterior margin of mesopleuron. Ventral margin of hind femur without a sub apical denticle (Figure 4).

*Wings* hyaline, veins light brown to yellow. Forewing with marginal fringe extending to apex; basal cell with 45 setae; speculum separated from posterior margin by more setae (on ventral surface of wing) than a single line representing subcubital vein. Wing veins slender. CC/MV 2.4, MV/PMV 1.3, MV/SV 1.6, PMV/SV 1.2.



Figures 1-4. Holotype female of *Tanaostigmodes horacioi* sp. nov. 1) habitus; 2) head, anterolateral; 3) mesosoma, dorsolateral; 4) hind femur, lateral.

*Metasoma* coriaceous. Posterior margin of Mt2 with strong medial incision, posterior margin of Mt3-Mt5 with slight medial incision. Mt2-Mt5 with medial line.

Discussion. *Tanaostigmodes horacioi* sp. nov. is the second species placed in the *insculptus* species group (*sensu* La Salle, 1987). It is known only from a single female collected in a coconut palm plantation located at Linhares, in the state of Espírito Santo, Brazil. The *insculptus* group was defined from a single species, *T. insculptus* La Salle (1987), which has no ventral expansion of the scape, unlike of the species now described, which shows a slight ventral expansion. Thus, the definition of this group of species should be changed to house it.

A key is provided below to distinguish *Tanaostigmodes horacioi* sp. nov. from *T. insculptus*.

Male. Unknown.

Distribution. Brazil, (Espírito Santo).

Biology and hosts. Unknown.

Material examined. Holotype female, BRA[ZIL], *E[spírito] S[anto]*, Linhares, (19° 25' 6,959" S/40° 4' 30,026" W), 9.V.2008, Moericke [trap] in *Cocos nucifera* crop, E.F. Comério col. (MZSP). Clubs missing, apex of right forewing broken (on card). This species is known only from the holotype.

Etymology. The specific epithet honors Horácio Gomes, government official of the Estação Ecológica de Jataí, our great friend, *in memoriam*.

The key to species of *Tanaostigmodes* (La Salle, 1987, p. 18) was modified to accommodate the species described here:

17 (16) Interantennal projection absent (Figure 31). Toruli separated from each other by a distance distinctly greater than diameter of torulus. (*kiefferi* group) .....  
..... *kiefferi* (Mayr, 1905)

17' Interantennal projection small but present (Fig. 47). Toruli separated from each other by a distance only slightly, if at all, greater than diameter of torulus. (*insculptus* group) ..... 46

46 Ventral margin of hind femur with a sub apical denticle. Basal cell of fore wing with 32 setae. Al subequal in length A2. Scape without a ventral expansion. Marginal fringe of the forewing extending only as far as the postmarginal vein. Head and body dark brown to black .....  
..... *insculptus* La Salle, 1987

46' Ventral margin of hind femur without a sub apical denticle. Basal cell of forewing with 45 setae. Al about half

length A2. Scape with a slight ventral expansion. Marginal fringe of the forewing extending to apex of wing. Head and body light brown to yellow .....  
..... *horacioi* Perioto & Lara, sp. nov.

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## References

BRÈTHES, J., 1924. Description d'une galle de *Calliandra bicolor* et de l'Hyménoptère qui la produit. *Revista de la Facultad de Agronomía de La Plata*, vol. 15, no. 3, p. 23-26.

GIBSON, GAP., 1997. Morphology and terminology. In GIBSON, GAP., HUBER, JT. and WOOLLEY, JB. (Eds.). *Annotated keys to genera of Nearctic Chalcidoidea (Hymenoptera)*. Ottawa: NRC Research Press. p. 16-44.

HARRIS, RA., 1979. A glossary of surface sculpturing. *Occasional Papers in Entomology*, vol. 28, p. 1-31.

LA SALLE, J., 1987. New Word Tanaostigmatidae (Hymenoptera: Chalcidoidea). *Contributions of the American Entomological Institute*, vol. 23, p. 1-181.

-, 2005. Biology of gall inducers and evolution of gall induction in Chalcidoidea (Hymenoptera: Eulophidae, Eurytomidae, Pteromalidae, Tanaostigmatidae, Torymidae). In RAMAN, A., SCHAEFER, CW. and WITHERS, TM. (Eds.). *Biology, ecology, and evolution of gall-inducing arthropods*. Enfield: Science Publishers, Inc. p. 507-537.

-, 2006. Familia Tanaostigmatidae. In HANSON, PE. and GAULD, ID. (Eds.). *Hymenoptera de la Región Neotropical*. Gainesville: American Entomological Institute. p. 426-429.

NOYES, JS., 2012. *Universal Chalcidoidea Database*. Available from: <<http://www.nhm.ac.uk>>. Access in: 14 Mar 2012.

PENTEADO-DIAS, AM. and CARVALHO, FM., 2008. New species of Hymenoptera associated with galls on *Calliandra brevipes* Benth. (Fabaceae, Mimosoidea) in Brazil. *Revista Brasileira de Entomologia*, vol. 52, no. 3, p. 305-310. <http://dx.doi.org/10.1590/S0085-56262008000300001>

PERIOTO, NW. and LARA, RIR., 2005. Duas novas espécies de *Tanaostigmodes* Ashmead, 1896 (Hymenoptera, Tanaostigmatidae) obtidas de galhas de *Calliandra disysantha* Benht. (Leguminosae, Mimosoidea) do Brasil Central. *Biota Neotropica*, vol. 5, no. 1, p. 115-126.