

The description of the male and the first host data of *Pseudophanerotoma (Pseudophanerotoma) alvarengai* Zettel, 1990 (Hymenoptera: Braconidae: Cheloninae)

A.M. Penteado-Dias, A.R. Nascimento & M.M. Dias

Penteado-Dias, A.M., A.R. Nascimento & M.M. Dias. The description of the male and the first host data of *Pseudophanerotoma (Pseudophanerotoma) alvarengai* Zettel, 1990 (Hymenoptera: Braconidae: Cheloninae).

Zool. Med. Leiden 82 (37), 20.vi.2008: 401-405, figs 1-16.— ISSN 0024-0672.

A.M. Penteado-Dias & M.M. Dias. Universidade Federal de São Carlos, Departamento de Ecologia e Biologia Evolutiva. CP 676, CEP 13 565-905, São Carlos, SP, Brazil. (angelica@power.ufscar.br)

A.R. Nascimento. Universidade Federal de São Carlos, Programa de Pós-Graduação em Ecologia e Recursos Naturais. CP 676, CEP 13 565-905, São Carlos, SP, Brazil.

Key words: Braconidae; parasitoid; *Pseudophanerotoma alvarengai*; *Cydia tonosticha*; Tortricidae; *Stryphnodendron*; Fabaceae; Brazil; savannah.

During the study of the insect fauna associated with fruits of Fabaceae from the Brazilian savannah, male and female specimens of *Pseudophanerotoma (Pseudophanerotoma) alvarengai* Zettel, 1990 (Braconidae: Cheloninae) were reared from *Cydia tonosticha* (Meyrick, 1922) (Lepidoptera: Tortricidae). This is the first time that a host species and males of *Pseudophanerotoma (P.) alvarengai* are found. The fruits, the parasitoid and the host are illustrated.

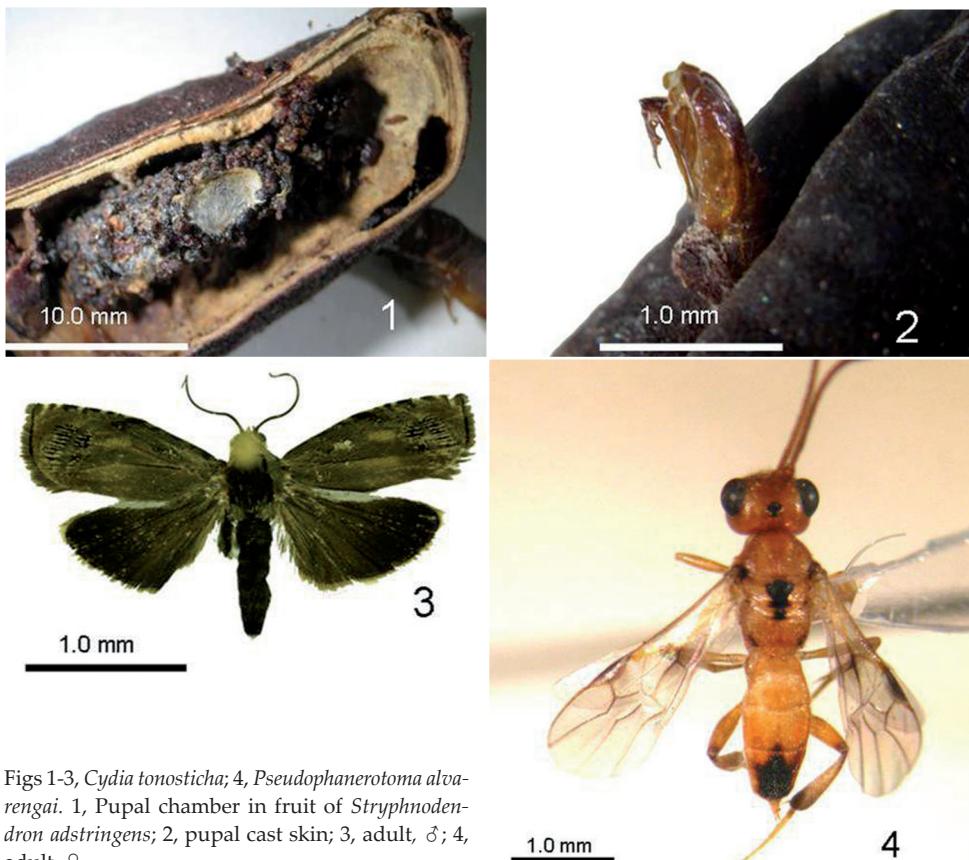
Introduction

According to Shaw (1997) the Cheloninae (Hymenoptera: Braconidae) are solitary koinobiont egg-larval endoparasitoids of Lepidoptera that feed largely on hosts in concealed situations. Especially, Tortricoidea and Pyraloidea living as borers in stems, buds or fruits are attacked. The genus *Pseudophanerotoma* Zettel, 1990, is known to be a parasitoid of Tortricidae (*P. paranaensis* (Costa Lima, 1956), see Costa Lima, 1956). The females lack a long ovipositor, although this would facilitate the attack of hosts in concealed situations.

Larvae of *Cydia tonosticha* (Meyrick, 1922) (Lepidoptera: Tortricidae; figs 2, 3) have been found eating the valves of fruits (fig. 1) of *Stryphnodendron adstringens* (Mart.) Coville and *S. polyphyllum* Mart. collected from the savannah at the São Paulo State, Brazil. Becker (1971) studied specimens emerged from fruits of *Cassia fistula* L. collected in Sete Lagoas, (Minas Gerais State) and Monjolinho, (Ortigueira, Parana State), both in Brazil.

When the fruits becoming dry, a fissure is opened to promote the seed dispersion. The fissure is used by the female of *Pseudophanerotoma (P.) alvarengai* to insert its short ovipositor to find and parasitize the larvae of *Cydia tonosticha*.

The studied material originates from a savannah near the city of São Carlos (São Paulo State, Southeast Brazil; 21°58'S, 47°52'W). The fruits of *S. adstringens* and *S. polyphyllum* were collected on 28-29th June, 2005. In the laboratory, the fruits were kept in plastic jars covered with nylon cloth. On 11st-12nd August, 2005, the jars were opened and the emerged insects were collected and identified. The description of the species



Figs 1-3, *Cydia tonosticha*; 4, *Pseudophanerotoma alvarengai*. 1, Pupal chamber in fruit of *Stryphnodendron adstringens*; 2, pupal cast skin; 3, adult, ♂; 4, adult, ♀.

follows Zettel (1990); it was not necessary to examine the type material because the specimens exactly fit the original description. The infested fruit, the adult host and the adult parasitoids are illustrated below. The Neotropical genera of Cheloninae can be identified with the key provided by Shaw (in Wharton et al., 1997).

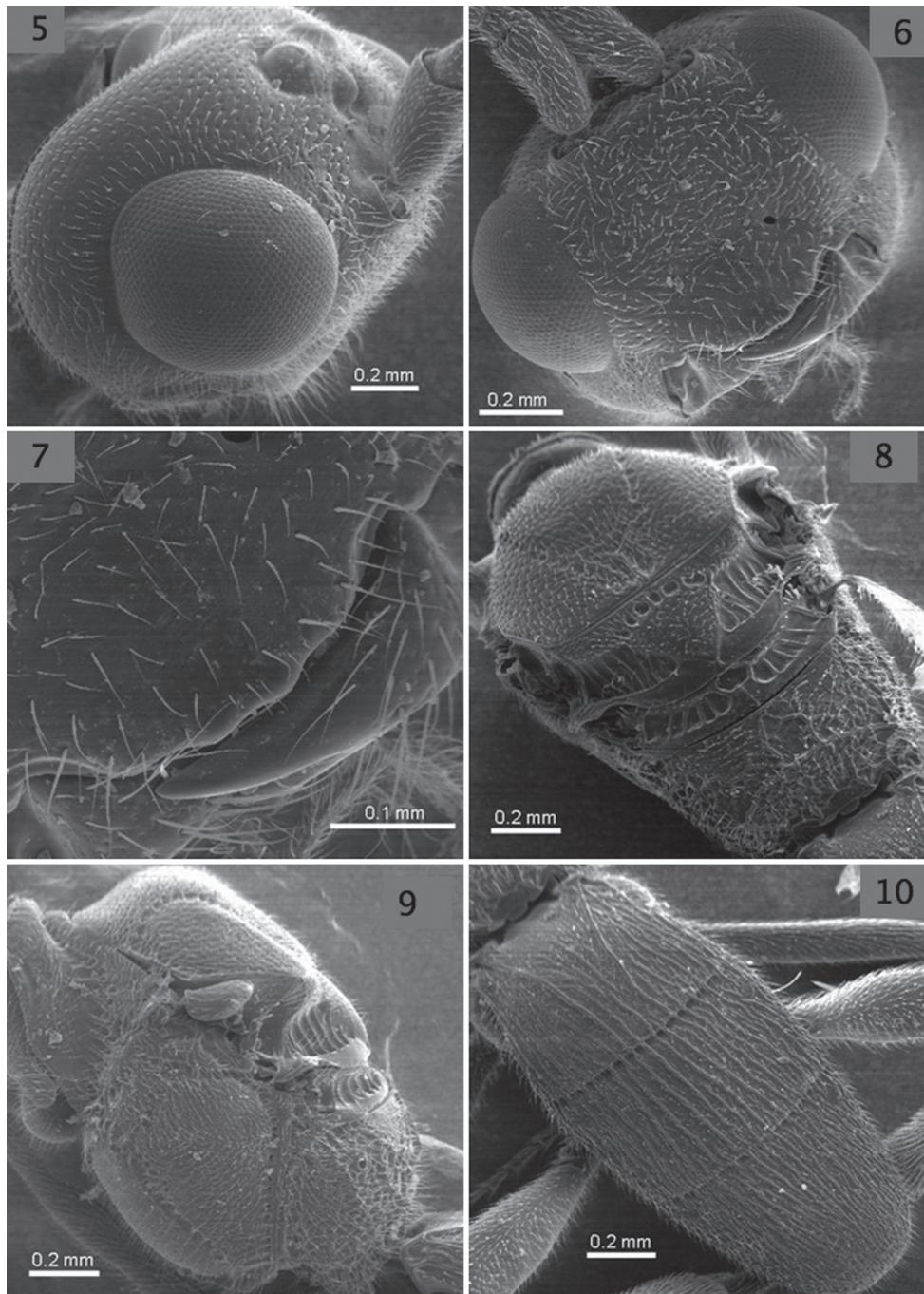
The material is deposited at the collections of DCBU (Departamento de Ecologia e Biologia Evolutiva da Universidade Federal de São Carlos, São Carlos, SP, Brazil) and RMNH (National Museum of Natural History Naturalis, Leiden, The Netherlands).

Pseudophanerotoma (Pseudophanerotoma) alvarengai Zettel, 1990
(figs 4-16)

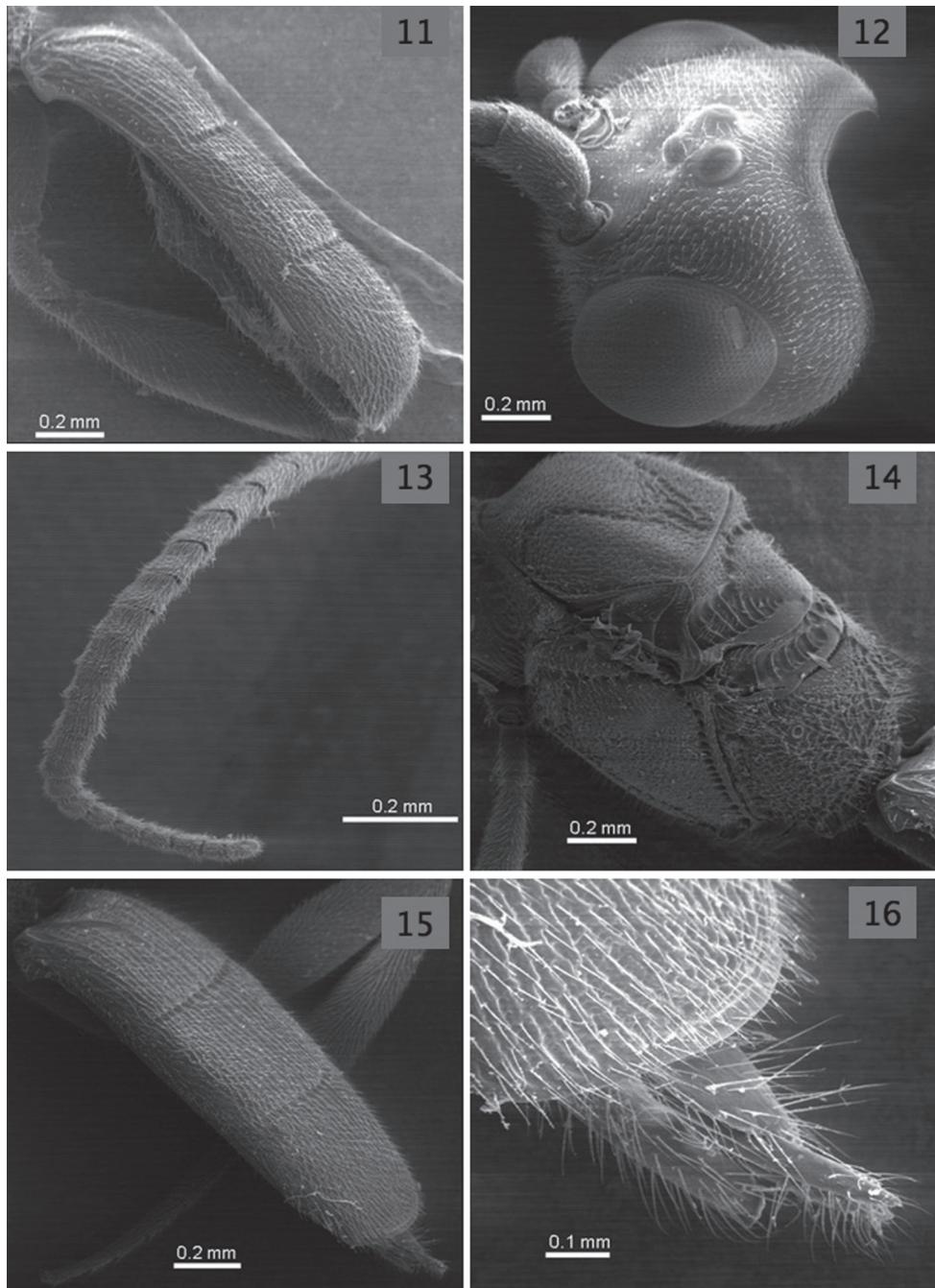
Material.— 15 ♀ ♀ + 5 ♂ ♂ (DCBU, RMNH), “Brazil, S.P., São Carlos, vii-viii.2005”.

Male, length of body 4.5 mm and of fore wing 3.5 mm.

Head (figs 5-7).— Finely punctate as female (fig. 12); 32-34 antennal segments, length of antenna 1.2 times fore wing; length of first flagellomere 1.1 times the length of



Figs 5-10, *Pseudophanerotoma alvarengai*, ♂. 5, Head, dorso-lateral aspect; 6, head, anterior aspect; 7, clypeus and mandible; 8, mesosoma, dorsal aspect; 9, mesosoma, lateral aspect; 10, metasoma, dorsal aspect.



Figs 11-16, *Pseudophanerotoma alvarengai*, ♂ (11) and ♀ (12-16). 11, Metasoma, lateral aspect; 12, head, dorso-lateral aspect; 13, antenna; 14, mesosoma, dorso-lateral aspect; 15, metasoma, dorso-lateral aspect; 16, apex of metasoma and ovipositor sheath.

second; apical segments different of female (fig. 13), 0.8 times longer than wide; eyes glabrous; length of eyes 1.5 times temple in dorsal view; temple smooth, 0.6 times width of eye; length of malar space 0.36 times length of eye; face with a protuberance; clypeus with fine punctuation and two small teeth ventrally.

Mesosoma.— Mesoscutum (figs 8, 9) similar to that of female (fig. 14), coriaceous with fine punctuation and middle lobe rugulose posteriorly; notaui present; scutellum finely punctated; mesopleuron rugulose; propodeum reticulate and with a transverse carina.

Wings.— r:3-SR:SR1 = 2:3:11; 3-SR:r-m = 2:1.

Legs.— Middle tibia inflated; length of tibial spurs 0.55 times length of basitarsus; hind femur 5.0 times as long as wide.

Metasoma.— Carapace (figs 10, 11) as long as mesosoma; 2.2 times as long as wide; convex apically, of female straight (figs 15, 16); third tergite 1.2 times as long second tergite; three basal tergites coarsely longitudinally crenulate; first tergite with two strongly convergent dorsal carinae.

Coloration (fig. 4).— Yellow with patches on scutellum posteriorly near tegulae, propodeum medio-dorsally and third tergite medially blackish; apical flagellomeres brown; apex of hind femur and tibia light brown; wings hyaline with veins light brown.

Acknowledgements

We thank to FAPESP (Fundação de Amparo à Pesquisa do Estado de São Paulo) and CNPq (Conselho Nacional de Desenvolvimento Científico e Tecnológico) for the financial support and Victor Becker for identification of the host.

References

- Becker, V.O., 1971. Microlepidópteros que vivem nas plantas cultivadas no Brasil. II. O nome correto da lagarta das favas da *Cassia fistula* L. (Lepidoptera, Tortricidae).— Bol. Univ. Fed. Paraná Zool. 4(9): 45-46.
- Costa Lima, A. da, 1956. Tortricideo de sementes de "imbuia" e respectivo parasito (Hymenoptera, Braconidae).— Revta bras. Ent. 5: 291-244.
- Shaw, S.R., 1997. Subfamily Cheloninae: 193-201 In: Wharton, R.A., P.M. Marsh & M.J. Sharkey (eds). Manual of the New World genera of the family Braconidae (Hymenoptera).— Special Publication of the International Society of Hymenopterists 1: 1- 439.
- Zettel, H., 1990. Eine Revision der Gattungen der Cheloninae (Hymenoptera, Braconidae) mit Beschreibungen neuer Gattungen und Arten. — Annln naturh. Mus. Wien 91 (B): 147-196.

Received: 8.v.2007

Accepted: 14.iv.2008

Edited: C. van Achterberg

