

## **Host Plant of *Anastrepha pulchra* (Diptera: Tephritidae) in Central Amazon, Brazil—Mistaken Identity Resolved**

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HOST PLANT OF *ANASTREPHA PULCHRA* (DIPTERA: TEPHRITIDAE) IN CENTRAL AMAZON, BRAZIL—MISTAKEN IDENTITY RESOLVEDBEATRIZ RONCHI-TELES<sup>1</sup>, VIVIAN SIQUEIRA DUTRA<sup>2</sup> AND JANISETE GOMES SILVA<sup>3</sup><sup>1</sup>Coordenação de Biodiversidade, Instituto Nacional de Pesquisas da Amazônia, Caixa Postal 478, 69011-970 Manaus, Amazonas, Brazil<sup>2</sup>Graduate Program in Entomology, Instituto Nacional de Pesquisas da Amazônia, Caixa Postal 478, 69011-970 Manaus, Amazonas, Brazil<sup>3</sup>Departamento de Ciências Biológicas, Universidade Estadual de Santa Cruz, Rodovia Ilhéus-Itabuna km 16 45650-000 - Ilhéus, Bahia, Brazil

*Anastrepha pulchra* Stone, 1 of the 11 species in the *serpentina* group of *Anastrepha*, is not considered to have economic significance or to be a pest species (Norrbom et al. 1999; Norrbom 2002). This species has been reported only in Panama, Venezuela, and Brazil. In Brazil, *A. pulchra* was first reported in Iranduba, state of Amazonas, and collected in traps (Ronchi-Teles 2009). Previous reports of the occurrence of *A. pulchra* had been restricted to its type-locality in Panama (Stone 1942) and in Venezuela at Aragua and Bolivar (Caraballo 1981; Norrbom 2002).

Knowledge of the biology of *A. pulchra* is very scarce. Caraballo (1981) was the first to report a host association for *A. pulchra*, i.e., a host plant in the family Sapotaceae in Venezuela; however, no information on the host plant species was available. In his revision of the *Anastrepha serpentina* species group, Norrbom (2002) stated that the “only reported host plant” for *A. pulchra* “is an undetermined species of Sapotaceae” and cited Caraballo (1981) as the information source. In Brazil, Ronchi-Teles (2009) reported infestation by *A. pulchra* in fruit identified as being in the family Sapotaceae at the Reserva Florestal Adolpho Ducke, in the state of Amazonas; however, neither the genus nor the species of the purported host were known.

Our most recent attempt at investigating potential hosts and associated parasitoids of *A. pulchra* was through fruit collection at the Reserva Ducke (RD) of the Instituto Nacional de Pesquisas da Amazônia (INPA), located northeast of Manaus (02°53'S and 59°59'W) in the state of Amazonas, Brazil. The reserve comprises an area of 100 km<sup>2</sup> of primary forest, and the fruit were collected inside the forest from Mar to May 2010. The results of those collections were 108 pupae from which 59 adults of *A. pulchra* and 18 specimens of *Doryctobracon areolatus* emerged. We published these results together with host plant and parasitoid associations for other *Anastrepha* species in the Central Amazon (Ronchi-Teles et al. 2011). In that work, the natural host for *A. pulchra* was erroneously identified as *Mouriri collocarpa* Ducke (locally known as “miraúba”) a native tree species in the family Melastomataceae. At the time, the host plant misidentification as *M.*

*collocarpa* was based solely on the fruit as it had not been possible to collect other plant parts. Three other species in the genus *Mouriri* have been reported as hosts of *Anastrepha* (Zucchi 2008), which led us to believe that this species could be a host plant as well.

In Apr and May of 2011, we collected more samples of the same fruit at the Reserva Biológica do Cueiras, located at km 14 of the ZF2 access road of the BR-174, in Manaus, in the state of Amazonas (2°36'S; 60°07'W). The reserve is an area of continuous primary forest. The fruit were collected inside the forest on the ground and from fallen tree branches. The collected fruit were counted, weighed, placed in plastic containers with a layer of vermiculite and covered with voile cloth until larvae emerged and pupated. All pupae obtained were placed in 30 mL plastic containers with a layer of vermiculite at the bottom and covered with voile cloth until adults emerged. Voucher specimens were deposited at the Coleção de Invertebrados of INPA.

We collected 49 fruit weighing 1.41 kg from which a total of 192 puparia was recovered. A total of 113 adults of *A. pulchra* (60 females and 53 males) and 2 specimens of *Doryctobracon areolatus* (Szépligeti) (Hymenoptera: Braconidae) emerged from the pupae. The host plant was identified from fruit, leaves, and stems as *Pouteria oblanceolata* Pires (Sapotaceae) a native tree locally known as “tuturubá” or “abiurana-preta”. *P. oblanceolata* fruit are yellow, fleshy, fibrous, and with some latex, about 4-4.5 cm in diameter, with a yellow smooth pericarp.

The fruits of both *P. oblanceolata* and *M. collocarpa* are very similar in size and appearance (shape, size, color, and texture). Moreover, both species when mature are part of the Amazon forest canopy (around 40 m above ground level) and both have a tall straight trunk. Because of the high canopies of both tree species the collection of leaves and flowers is very difficult, and these are needed to establish and verify their identities.

We conclude confidently that *P. oblanceolata* has been shown to be the host plant of *A. pulchra*, and not *M. collocarpa* as stated in Ronchi-Teles et al. (2011). Further our results corroborate the

preference of the *Anastrepha serpentina* group of species for host plants in the Apocynaceae, Sapotaceae and Myrtaceae (Norrbon 2002).

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#### SUMMARY

*Pouteria oblanceolata*, the true natural host of *Anastrepha pulchra*, is reported in the state of Amazon, Brazil. Parasitoids attacking *A. pulchra* are also reported. Comments on a previous erroneous identification of the host plant of *A. pulchra* are also included.

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