



New species of *Anastrepha* Schiner (Diptera, Tephritidae) from remnant area of the Atlantic Rain Forest and surroundings in the state of Espírito Santo, Brazil

KEIKO URAMOTO¹ & ROBERTO ANTONIO ZUCCHI²

¹Instituto de Biociências, Universidade de São Paulo, Rua do Matão, 277, Cep 05508-090, São Paulo, São Paulo, Brazil.

E-mail: uramoto@usp.br

²Escola Superior de Agricultura Luiz de Queiroz, Universidade de São Paulo, Av Pádua Dias, 11, Cep 13418-900, Piracicaba, São Paulo, Brazil. E-mail: razucchi@esalq.usp.br

Abstract

Four new species of *Anastrepha* Schiner were collected in McPhail-type traps hung in trees in a natural reserve and in commercial papaya orchards in Linhares, Espírito Santo state, Brazil. They are described and named herein as follows: *Anastrepha atlantica* n. sp., *Anastrepha glochin* n. sp., *Anastrepha linharensis* n. sp. and *Anastrepha martinsi* n. sp. Only the latter was collected in traps hung in papaya orchards. The classification of these species in species groups of *Anastrepha* is also discussed.

Key words: Tephritidae, fruit flies, natural reserve, traps, taxonomy

Introduction

Anastrepha Schiner is the most diverse genus of Tephritidae in the tropical and subtropical areas of the New World, with more than 200 known species. Approximately half of them occur in Brazil. In spite of the high species diversity in Brazil, fruit fly surveys in natural reserves have been neglected. In fact, surveys have been carried out mostly in commercial orchards due to the economic importance of some species of the genus.

This paper deals with the descriptions of *Anastrepha* species collected in the "Reserva Natural do Vale do Rio Doce (RNVRD)". Collections in this natural reserve were due to intensive fruit fly surveys, which have been undertaken in the pomiculture areas of the state of Espírito Santo since the 1990's, mostly because of the economic importance of the papaya. Thus, preserved forests near papaya commercial orchards were also sampled with traps hung in trees of the RNVRD, a remnant area of the Atlantic Rain Forest. This area shows a high diversity of *Anastrepha* species (Uramoto *et al.* 2008), including new species, which are being described herein. Three of them were collected in traps in the RNVRD and one species was trapped in papaya orchards.

Material and methods

The species were collected in McPhail-type traps in the municipality of Linhares (approximately 40°3'59' W, 19°25'01' S), Espírito Santo state, Brazil. Traps in the RNVRD were hung in an area between the coordinates 40°03'51" ? 40°04'14" W and 19°08'39" ? 19°09'04" S.

The morphological terminology was based on White *et al.* (1999). The wing length was measured from the base of vein C to the apex of vein R₄₊₅. The wing width was measured from the costal margin, close to the apex of vein R₁, to the margin of cell cu₁. The sections of vein M from BM-Cu to R-M and R-M to DM-Cu, and the length of crossvein Dm-Cu were measured in a straight line. The width of cell r₄₊₅ at the level of Dm-Cu was measured on a line at the junction of vein M and Dm-Cu (Wm) (Fig. 1). Its apical width was measured