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Description of the female *Euglossa nanomelanotricha* Nemésio, 2009

(Hymenoptera, Apidae, Euglossina)

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The description of the female *Euglossa nanomelanotricha* Nemésio, 2009 is here presented. The specimen mentioned at the description was collected during a survey on cotton flowers, in the municipality of Remígio, state of Paraíba, Brazil. It closely resembles females of the *Euglossa cordata* Linnaeus, 1758 species group, but can be readily distinguished by overall blue coloration and details of morphology discussed herein.

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Introduction

Taxonomic knowledge on the Neotropical orchid bees (Hymenoptera: Apidae: Euglossina) has greatly improved in the last decades, as a consequence of new methods of sampling, through the attraction of males to synthetic aromatic compounds (Vogel 1966, Dodson et al. 1969). Nevertheless, this improvement has been mainly restricted to taxonomy of males, especially of *Euglossa* Latreille, 1802, the most speciose genus, since taxonomists were most successful to find reliable distinguishable characters in male bees (discussed by Bembé 2007, Nemésio 2009). Thus, several orchid-bee species, particularly of *Euglossa*, are only known through the male sex. As a consequence, most female *Euglossa* are kept unidentified in collections and also in the literature, making it difficult or even impossible to gather basic information on natural history of these bees and their pollinated plants. As pointed out by Nemésio (2009), this is one of the most serious taxonomic impediments for studies with orchid bees. Thus, describing females and pointing

out characters useful to identify and distinguish them from their closest allies are among the most relevant features in orchid-bee alpha taxonomy in forthcoming years.

The main goal of this study is to provide the description of the female of the recently described *Euglossa* (*Euglossa*) *nanomelanotricha* Nemésio, 2009, a species described from Paraíba but also recorded in the states of Sergipe and Pernambuco (Nemésio 2009), Alagoas (Nemésio 2010), and Piauí (specimens deposited at the Entomological Collection of the Taxonomic Collections of the 'Universidade Federal de Minas Gerais' – UFMG).

Taxonomy follows Nemésio (2009, 2011a,b) and Nemésio & Rasmussen (2011). General morphological terminology for bees follows Roig-Alsina & Michener (1993) and Michener (2007). Specific morphological terminology for orchid bees follows Nemésio (2009: 10, 12). Specimens mentioned in this study are currently deposited at the Entomological Collection of the Taxonomic Collections of the 'UFMG'.

Taxonomy

Euglossa (Euglossa) nanomelanotricha Nemésio, 2009

Female

Diagnosis. Female *Euglossa nanomelanotricha* resembles *Euglossa melanotricha* Moure, 1967 (in Sakagami et al. 1967), from which it can be distinguished by the following characters: face predominantly bluish (predominantly greenish in *E. melanotricha*); mesosoma and metasoma entirely dark blue (bluish-green in *E. melanotricha*); length of second submarginal cell of the anterior wing less than twice its width (it is c. three times longer than wide in *E. melanotricha*); S1 with sparse black and fulvous setae (S1 with exclusively black setae in *E. melanotricha*).

Description (Fig. 1)

Measurements. Body length c. 12.0 mm; maximum interorbital distance 3.0 mm; interorbital distance at level of antennal sockets 2.8 mm; eye length 3.0 mm; scape length 1.0 mm; distance between tegulae 3.7 mm; scutellum 2.8 mm wide and 1.3 mm long; scutellar tuft 0.34 mm wide and 0.59 mm long; abdominal width 4.6 mm.

Colour and vestiture. General integument dark blue; paraocular areas and upper frons greenish; mesoscutum (a very thin stripe distally), metapostnotum, and distal portion of T2–T5 greenish. Fulvous hairs on face, gena, occiput, metepisternum, metapostnotum, anterior coxa and trochanter, posterior portion of anterior basitarsi and posterior tibiae, and metasoma (some black hairs on T1); black hairs on scutellar tuft, posterior face of mesotibia and tarsus; mixed fulvous and black hairs on mesoscutum, scutellum, mesepisternum, meso and posterior coxa, trochanter and femur. Pilosity is predominantly thin and branched, except on tibiae, tarsi (branched only on the posterior portion of the anterior basitarsus) and metasoma (thick on the outer portion of mesotibia and very thick on the half distal portion of outer surface of mesotibia and anterior portion of posterior tarsus); long and erect, except on anterior tibia, anterior portion of mesotibia, lateral portion of T2–T3, and on S2–S3 short; on paraocular areas and gena not erect, parallel to the integument.

Punctuation. On clypeus, extremely coarse and dense, coarser on posterior margin of horizontal surface; on paraocular areas, moderately coarse at level of antennal sockets, very coarse above and below that point; on frons, extremely coarse at level of maximum interocular distance; between front

and vertex, fine and extremely dense, virtually no spaces between punctures; on gena, very coarse and sparse; on mesoscutum, evenly coarse, slightly sparser at mid-anterior area; on scutellum, coarse on disc and very coarse on posterior margin and laterally; on mesepisternum, coarse and moderately sparse on lateral surface with shiny spaces between punctures, on ventral surface, shallow and sparse; on coxae, trochanters and femurs, inconspicuous; on fore and mid-tibiae and basitarsi, shallow and dense, rugged integument; on hind-tibiae, coarse and dense on anterior third and lacking on corbiculae; on hind basitarsi, moderately sparse punctures; on T1–T3*, fine and very dense on disc, laterally coarse and sparser; on S1 very fine and sparse on disc, lacking laterally; on S2–S5, very fine and sparse on mid-transversal area, coarse and dense laterally; on S6, inconspicuous.

Comments. Only one female *Euglossa nanomelanotricha* was collected during a survey on cotton flowers (*Gossypium* sp., Malvaceae) in the municipality of Remígio (06°54'10" S; 35°50'02" W, c. 590 m a.s.l.), state of Paraíba, northeastern Brazil. This specimen was collected in a blue pan-trap on October 9th, 2010 and is deposited at UFMG (numbered 20949-60043). Female *Euglossa nanomelanotricha* resembles its male in general appearance and it is the only entirely blue *Euglossa* recorded in the state of Paraíba to date, in such a way it can be easily recognized. In Alagoas and Pernambuco there are at least two other predominantly blue species: *Euglossa marianae* Nemésio, 2011b (see Nemésio 2010, as *E. analis*), and *E. mixta* Friese, 1899 (Darrault et al. 2006, Nemésio 2010). Nevertheless, both species present a different coloration in the last three terga (green in *E. marianae*, reddish in *E. mixta*) and cannot be confused with *E. nanomelanotricha*.

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* T4–T6 punctuation could not be checked because T4 was retracted under T3 and T5–T6 were completely covered by dust.

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Fig. 1. Comparing females of *Euglossa nanomelanotricha* Nemésio, 2009 (left column) and *Euglossa melanotricha* Moure, 1967 (right column). **A.** Dorsal view of *E. nanomelanotricha*. **B.** Dorsal view of *E. melanotricha*. **C.** Frontal view of face of *E. nanomelanotricha*. **D.** Frontal view of face of *E. melanotricha*. **E.** Lateral view of *E. nanomelanotricha*. **F.** Lateral view of *E. melanotricha*. **G.** Scutellum of *E. nanomelanotricha*. **H.** Scutellum of *E. melanotricha*.



A



B



C



D



E



F



G



H

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