



## The orchid-bee fauna (Hymenoptera: Apidae) of a forest remnant in northeastern Brazil, with new geographic records and an identification key to the known species of the Atlantic Forest of northeastern Brazil

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### Abstract

The orchid bee fauna of Estação Ecológica de Murici (ESEC Murici), in the state of Alagoas, one of the largest remnants of the Atlantic Rain Forest in northeastern Brazil, was surveyed for the first time. Seven hundred and twenty-one orchid-bee males belonging to 17 species were collected from the 3<sup>rd</sup> to the 10<sup>th</sup> of September, 2009. Besides the recently described *Eulaema (Apeulaema) felipei* Nemésio, 2010, three other species recorded at ESEC Murici deserve further attention: *Euglossa amazonica* Dressler, 1982b, recorded for the first time outside the Amazon Basin; *Euglossa milenae* Bembé, 2007 and *Euglossa analis* Westwood, 1840, both recorded for the first time in the Atlantic Forest of northeastern Brazil north to São Francisco river. These results together with previous samplings in the state of Alagoas reveal that at least 22 orchid-bee species are now known to occur there. Three other species not recorded for Alagoas yet are known from the neighbor states of Sergipe, Pernambuco, and Paraíba. An identification key to all 25 species of Euglossina known to occur in the states of Alagoas, Sergipe, Pernambuco, Paraíba, and Rio Grande do Norte is provided.

**Key words:** Atlantic Forest, “Centro de Endemismo Pernambuco”, Euglossina, euglossine bees, Hexapoda, Murici

### Introduction

Knowledge on the taxonomy and distribution of orchid bees (Hymenoptera: Apidae: Euglossina) has greatly improved during the last three decades and there are comprehensive studies dealing with the orchid-bee faunas of at least two of the three major forested biomes where these bees occur: the evergreen forests of Central America (Roubik & Hanson 2004) and the eastern Brazilian Atlantic Rain Forest (Nemésio 2009). Nevertheless, even in these areas new species have been recently described (*e.g.*, Ayala & Engel 2008; Nemésio 2010), showing that further studies are still necessary to fully understand the actual diversity of orchid bees and their exact geographic distributions.

In the Atlantic Forest domain, there still are many areas that could be considered “data deficient” concerning our knowledge on their orchid-bee fauna. Areas in northeastern Brazil are, probably, the least studied portions of the Atlantic Forest. Virtually nothing is known from the states of Ceará, Sergipe and Rio Grande do Norte, and only a few areas have been effectively sampled in Paraíba (Bezerra & Martins 2001; Farias *et al.* 2007; Farias *et al.* 2008), Pernambuco (Milet-Pinheiro & Schlindwein 2005; Darrault *et al.* 2006), and Alagoas (Darrault *et al.* 2006). The Atlantic Forest situated at the north of São Francisco river is often called as “Centro de Endemismo Pernambuco” or, simply, “Centro Pernambuco”. Originally the forest ranged from Alagoas to Rio Grande do Norte covering a total area of 56,400.8 km<sup>2</sup> (Brown 1982; Prance 1982). Only *ca.* 2,000 km<sup>2</sup> (less than 5% of its original cover) remains, and it is scattered in small fragments (Silva & Tabarelli 2000). Five different forest physiognomies have been recognized in the “Centro Pernambuco” (Uchoa Neto & Tabarelli 2002) and many plant and animal species are considered endemic in this region (*e.g.*, Teixeira & Gonzaga 1983a, b, 1985; Prance 1987; Teixeira 1987, Pennington 1990; Siqueira Filho 1998; Olmos 2005; Nemésio 2010). Besides the endemic species, the “Centro Pernambuco” holds *ca.* 50% of all