



## ***Eulaema (Apeulaema) felipei* sp. n. (Hymenoptera: Apidae: Euglossina): a new forest-dependent orchid bee found at the brink of extinction in northeastern Brazil**

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### **Abstract**

*Eulaema (Apeulaema) felipei* sp. n., a species extremely similar to the Amazonian *Eulaema (Apeulaema) mocsaryi* (Friese, 1899), is described from Murici (state of Alagoas, northeastern Brazil). This species seems to be restricted to a single patch of Atlantic Forest at the ‘Estação Ecológica de Murici’. Although this preserve is supposedly protected by law, the small area (less than 3,000 ha) where this bee occurs is entirely surrounded by pastures and sugar cane plantations, and anthropic pressure is strikingly high in the region. Several other endemic animal and plant species are known from the same area. *Eulaema felipei* sp. n. is considered as Critically Endangered according to IUCN criteria. An updated identification key for all the species of *Eulaema (Apeulaema)* Moure, 1950 is also provided.

**Key words:** Atlantic Forest, Centro Pernambuco, conservation, endangered, *Eulaema mocsaryi*, new species, taxonomy

### **Introduction**

The orchid bee fauna (Hymenoptera: Apidae: Apini: Euglossina) of the Brazilian Atlantic Rain Forest has recently been the subject of an extensive review (Nemésio 2009). Nevertheless, some areas in the Atlantic Forest domain remain poorly sampled (Nemésio & Silveira 2007) and additional surveys are still in need of a full understanding of the exact geographic distributions of many species, especially those with apparent restricted distributions and those dependent on densely forested areas.

One of these areas is the relatively small state of Alagoas (Fig. 1), in northeastern Brazil. Alagoas is in the so-called “Centro Pernambuco”, the portion of the Atlantic Forest situated at the north of São Francisco River. Originally the forest ranged from Alagoas, in the south, to Rio Grande do Norte, in the north, 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 the original area) of this region remains as forest, and this is highly 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.*, Prance 1987; Pennington 1990; Siqueira Filho 1998; Olmos 2005). Besides the endemic species, the “Centro Pernambuco” houses ca. 50% of all bird species of the entire Atlantic Forest and at least 8% of all tree species (Uchoa Neto & Tabarelli 2002).

Compared to other areas in the Atlantic Forest domain, the “Centro Pernambuco” is the most devastated, the least known and the least protected (*e.g.*, Hayer 1988; Coimbra-Filho & Câmara 1996; Silva & Tabarelli 2001). One of the sub-regions of the “Centro Pernambuco” is the “Murici region”, situated in the northeastern portion of the state of Alagoas. This single area comprises the largest number of threatened bird species in the Americas (Wege & Long 1995). From a biogeographic viewpoint it is considered to be a key area for understanding the evolution of the Amazonian and the Atlantic Forest biotas, since it is supposed that this region played an important role concerning biotic exchanging among the two large South American forests during the Cenozoic (Prance 1982; Coimbra-Filho & Câmara 1996).