The orchid-bee fauna (Hymenoptera: Apidae) of Acre state (northwestern Brazil) and a re-evaluation of euglossine bait-trapping

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Abstract

Male orchid bees were sampled with chemical baits from May 1996 to March 1998 in two forested areas in the state of Acre, Brazilian Amazonia. The two most used sampling methods in euglossine studies were used simultaneously: insect nets and bait traps. We collected 1,744 euglossine specimens belonging to at least 33 species. Of these, 1,221 were collected with insect nets and 523 in bait traps. Eulaema cingulata (Fabricius) and Eulaema meriana (Olivier) were the commonest species in both the Parque Zoobotânico and the Catuaba Reserve, followed by Euglossa amazonica Dressler, Euglossa ignita Smith, and Euglossa mixta Friese. Due to a combination of ‘dominant species’ and the specific composition of the orchid-bee fauna of the studied areas, the Acrean orchid-bee fauna has shown to be quite different from other sampled areas in Amazonia. As the sampling effort with bait traps was twice as higher as that with insect nets, the efficiency of the insect net methodology was 4.7 times greater, in average, than that with bait traps. Thirty-two of the 33 species were collected with insect nets, whereas 24 species were collected with bait traps. The resulting community of orchid bees was also different. The large bees of the genus Eulaema Lepeletier were much more abundant in bait-trap (74% - 79%) than in insect net samples (37% - 39%). The considerable differences in efficiency between insect nets and bait trap collections suggest that the sole use of bait traps should be avoided in orchid bee studies or restricted to situations in which the use of insect nets is impossible.

Key words: Amazonia, chemical baits, euglossine bees, Hymenoptera, insect nets, Insecta.