

GENETIC DIVERGENCE IN ISLAND AND CONTINENTAL POPULATIONS OF *MELIPONA SUBNITIDA*, IN THE NORTHEAST OF BRAZIL: ANALYSIS OF MITOCHONDRIAL DNA

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Melipona subnitida Ducke (1910) (Jandaíra) is a stingless bee species endemic to the Caatinga biome, in northeastern Brazil. This species is well adapted to the hot and dry climate of the region and has traditionally been exploited for honey. In 1983, such species was introduced into the Fernando de Noronha Island (Pernambuco state). In this study, data from mitochondrial DNA for the COI gene (cytochrome oxidase I) of *M. subnitida* were obtained from 13 Fernando de Noronha (island) colonies and compared to 160 continental colonies from different locations of the northeastern Brazil (Bahia, Alagoas, Pernambuco, Rio Grande do Norte, Maranhão, Piauí and Ceará states). The haplotype diversity (Hd) ranged from 0.000 in Fernando de Noronha (PE), Cumaru (PE) and Passira (PE) (with only one haplotype) to 0.806 in Parnaíba (PI) (four haplotypes). 14 haplotypes were identified, of these eleven haplotypes (H1 to H11) have been deposited in GenBank by other authors, while three new haplotypes (H12, H13 and H14) were identified in this study, with H12 being the commonest. H4 was the only haplotype found in Fernando de Noronha, although it was also found in four continental populations. There was a low haplotype and nucleotide diversity in the island populations as opposed to a high diversity in the continental populations (Hd= 0.824; n=160). Our findings suggest two hypotheses: (1) only one haplotype has been introduced into Fernando de Noronha; or (2) the island environment selected only one haplotype. The results showed that the haplotypes entering the island, remaining isolated for 31 years, probably suffered the bottleneck effect with fixing only one haplotype (founder effect).

Keywords: Meliponini; genetic variability; jandaíra bee; COI; founder effect.

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