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# REPRODUCTIVE QUALITY OF *MELIPONA FLAVOLINEATA* VIRGIN QUEENS (APIDAE, MELIPONINI) AND THE IMPORTANCE OF SOCIAL CONTEXT

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In stingless bees, a tribe of eusocial bees, reproductive strategies of individuals seems to be extremely variable. These strategies depend on the balance of the internal and external factors. Our aim was to describe the development of sexual attractiveness of *Melipona flavolineata* gynes and test their reproductive quality in different social contexts. A total of 124 gynes were distributed in two experimental groups. In the first, gynes were placed in 64 minicolonies, where they were kept until they reach the age categories of 0, 3, 6, 9, 12, 15 and 18 days. In the other group, gynes were subjected to six different social contexts, kept for six days. The contexts varied in the number of workers and other gynes present, thus providing isolated contexts up to complex contexts, such as minicolonies and competition with other gynes. When they reached the stipulated age (for both experiments), sexual attractiveness was tested by means of their individual presentation to 10 sexually mature males. Gynes became sexually attractive from the third day of age, keeping their status until 18 days. Isolated queens did not become attractive, differing greatly from queens who had experienced complex social settings, such as minicolonies. We show that sexual attractiveness (number of males attempts) and sexual receptivity (effective matings) develop early during adulthood in this species. The level of attractiveness is constant during this phase and may change as a result of experienced social context. We obtained behavioral evidence about a possible reproductive strategy in *Melipona*: queens must be always ready to mate, by maintaining constant its attractiveness and sexual receptivity for as long as possible. Moreover, we demonstrated the social context is a restrictive external factor on the development of sexual traits.

Keywords: sexual attractiveness; social isolation; interactions; minicolony; reproductive strategy.

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