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THE INFLUENCE OF TEMPORAL AND WEATHER VARIABLES ON THE FLIGHT ACTIVITY OF THE STINGLESS BEE *Melipona flavolineata* (APIDAE, MELIPONINI) AND ITS ROLE AS POTENTIAL POLLINATOR OF THE ASSAI PALM (*Euterpe oleracea*, ARECACEAE

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Workers of stingless bees collect resources outside the nest, such as pollen, nectar, plant resins and clay. This external activity is influenced by the internal conditions of the colony as well as by the climatic conditions. To identify the relationships between abiotic factors (temperature, time of day, humidity) and the flight activity of the stingless bee *Melipona flavolineata*, five colonies were selected from a meliponary installed in the midst of a culture of assai palms (*Euterpe oleraceae*, var BRS-Pará), held on the campus of Embrapa Amazônia Oriental (CPATU), Belém/PA, Brazil. The external activity was measured by the weekly counting of the number of bees returning to the nest carrying pollen or nectar, for five minutes/nest/hour. The counts were initiated at 08:00h and finished at 16:00h. In addition, the indexes of relative humidity and temperature were recorded to correlate them with the flight activity of the workers. The study was divided in two phases: flight activity at the time of the assai palm fructification, and at the time of assai palm flowering, to verify the response of workers to the food supply by the assai palm. It was observed that nectar collection is negatively influenced by the increase of temperature (Spearman: nectar[sub]fructification[/sub]: r: -0.22; $p<0.05$; nectar[sub]flowering[/sub]: r: -0.12; $p<0.05$) while the pollen gathering is not (Spearman: pollen[sub]fructification[/sub]: r: -0.01; $p<0.05$; pollen[sub]flowering[/sub]: p=n.s.). Regarding the collection of resources, it was higher during the flowering season mainly at the period from 10:00 to 11:00h, coinciding with the time of offer of pollen by the flowers, and contrasting with the fructification period, whose peak was from 08:00 to 09:00h. These data suggest that *M. flavolineata* has a potential use in agroforestry systems of assai palm, and can be used for the pollination of the assai and for honey production in these areas.

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Palavra chave: weather - bees - external activity - pollen - time of day.