

Climatic and anthropic influence on size and fluctuating asymmetry of Euglossine bees (Hymenoptera, Apidae) in a semideciduous seasonal forest reserve

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ABSTRACT. We examined the influence of climate and man on size and fluctuating asymmetry in two species of Euglossine bees collected from a semideciduous forest reserve. Sixty males of each species were collected; four measurements were made of their wings to obtain a multivariable size index and a fluctuating asymmetry index. No significant differences in the size of *Eulaema nigrita* Lepeletier were found between the areas and seasons. Larger males of *Euglossa pleosticta* Dressler were collected during the hot and wet season; however, male size did not vary with location. Higher rainfall and a consequent increase in food availability could have influenced the increase in size of *E. pleosticta*. Bees collected during the hot and wet season at the forest border were more asymmetric than bees collected during the cold and dry season; the latter were found inside the forest. This indicates that climate and anthropic interferences influence the stability of development of *E. pleosticta*. Consequently, this species

could be used as a bioindicator of stress. Apparently, *E. nigrita* is more resistant to environmental interference.

Key words: Phenotypic plasticity; Development stability; Stress bioindicators; *Eulaema nigrita*; *Euglossa pleosticta*