DEVELOPMENTAL INSTABILITY AND MORPHOLOGICAL EVOLUTION IN *Carollia perspicillata* (LINNAEUS, 1758) (CHIROPTERA: PHYLLOSTOMIDAE)

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The ontogenetic development is a process composed of successive stages that are, potentially, capable of alter the course of changes and producing phenotypic variation. The inability to buffer deviations that arise during development, and to generate the optimal phenotype for a genotype in a given environment, is called developmental instability (DI). There are pieces of evidence showing that DI is negatively associated with the fitness of a genotype. Developmental instability generates imprecision in development, which can be measured, in bilateral organisms, by differences between the right and left sides (asymmetry). At the population level, asymmetry can be considered a tool for environmental monitoring (*e.g.* populations of a given species would show greater asymmetry levels in more disturbed environments). Few studies, however, have been carried out with a large number of characters to show the existence of a systemic effect (throughout the organism) of DI. In addition to being evidence of a systemic effect of DI, the correlation of asymmetries in different characters can be used as a tool for the study of morphological integration during the development, in addition to the occurrence of modules (groups of highly correlated characters) that directly restrict the directions of phenotypic variation and influence the evolvability. The bat *Carollia perspicillata* has been standing out as an important model for biological studies. This species is widely distributed throughout the Neotropical Region and there is robust evidence that the asymmetry of the forearms is a good indicator of fitness (both survival and reproduction). The aim of the present project is to investigate whether the DI is reflected in the levels of asymmetry correlated in a large number of characters (systemic asymmetry hypothesis). The levels of DI will be assessed in relation to the variation between among categories within the same population and to the geographical and environmental variation between locations. In addition, patterns of variation in asymmetry indicators and the integration of development modules at different levels (static and evolutionary) will be investigated.

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