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Ecological insights from assessments of phenotypic plasticity in a Neotropical species of *Drosophila*

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Abstract

Several authors have called attention to the evolutionary importance of phenotypic plasticity and niche construction, because such phenomena require a new status and a new perspective. *Drosophila* species are traditionally used as models in investigations of phenotypic plasticity, although the majority of such research has been conducted with species of the subgenus *Sophophora*, primarily *Drosophila melanogaster*. In this study, we investigated the phenotypic plasticity of *Drosophila cardini*, a Neotropical species of the subgenus *Drosophila*, and focused on the wing size, wing shape, thorax length and wing:thorax ratio of lines that were collected in the Brazilian savanna and exposed to different temperatures during growth. All of the analyzed traits presented plasticity to temperature, and the reaction norms were similar to those previously found in other drosophilid species; in addition, the maximum values were consistent with the temperature variations at the collection sites. The specimens that emerged at low temperatures were larger and had more rounded wings compared with those that emerged at high temperatures, which were smaller and had narrower wings. We

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