
Oviposition site selection by the bromelicolous harvestman *Bourguyia hamata* (Opiliones: Gonyleptidae) in a sandy coastal forest in southeastern Brazil

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Abstract

The oviposition site selection may influence both offspring development and female fitness. Females of the harvestman *Bourguyia hamata* exhibit maternal care and oviposit almost exclusively inside the epiphytic bromeliad *Aechmea nudicaulis* in the Cardoso Island, SP. In the present study, I examined whether the morphological structure of the individuals of *A. nudicaulis* influences *B. hamata* oviposition site selection in a sandy coastal forest at Cardoso Island. Data about the presence of the egg-batches inside the bromeliads, the length of the rosettes (which are tubular), the bromeliad angle in relation to the soil and the amount of debris inside the bromeliads were obtained along a 700 m transect from February 2005 to January 2006. Additionally, I used data collected in 2001 about water volume inside the rosettes, as well as the variation in the humidity inside bromeliads with long (30-32 mm) and short (18-20 mm) rosettes, as well as in the external environment. The frequency of egg-batches was greater in individuals with angles among 90° to 150°, for which the amount of debris accumulated inside the rosettes was smaller. Longer rosettes were preferred as oviposition site by the *B. hamata* females. Moreover, bromeliads with longer rosettes accumulated more water inside them, keeping the humidity variation inside the bromeliads lower than the external environment. Females of *B. hamata* selected a single bromeliad species and also chose morphological characteristics of *A. nudicaulis* individuals. Females oviposited predominantly in bromeliads that accumulate more water and have small amounts of debris inside the rosettes, probably because these characteristics may promote a more adequate microhabitat for offspring development.

Key-words: animal-plant interaction, Bromeliaceae, *Aechmea nudicaulis*, maternal care, parental investment, habitat selection, plant architecture, habitat structure, microhabitat

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