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Abstracts

FEATURE ARTICLES

A TEST OF SEX-RATIO BIASING IN THE WHITE-THROATED MAGPIE-JAY, A COOPERATIVE BREEDER WITH FEMALE HELPERS

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Abstract. Recent studies suggest that many bird species are able to vary the sex ratio of their young. Among cooperative breeders, in which adult helpers aid the genetic parents in the rearing of young, two models have been invoked to explain this variation. According to the local resource competition hypothesis, parents should bias offspring sex ratios toward the dispersing sex in order to minimize competition for local resources. In contrast, the local resource enhancement (or “production of helpers”) hypothesis states that parents should overproduce the nondispersing sex if the presence of relatives enhances reproductive success. I examined these models in a Costa Rican population of White-throated Magpie-Jays (*Calocitta formosa*), a cooperatively breeding corvid with female helpers. Using DNA microsatellite analysis, I sexed 135 offspring from 38 broods and 14 groups over 3 years. I tested for variation in offspring sex ratio at the population level and as a function of social group, helper number, breeding female, and season. Unlike studies of the Seychelles Warbler (*Acrocephalus sechellensis*), one of the few other avian species with primarily female helpers, I found no evidence for systematic sex-ratio bias supporting either hypothesis. This suggests that female-biased helping is not a sufficient condition for the evolution of offspring sex-ratio biasing.

Key words: *Calocitta formosa*, *cooperative breeding*, *local resource competition*, *local resource enhancement*, *offspring sex ratio*, *White-throated Magpie-Jay*.