

## Wetting the nestlings: A possible kind of parental care in *Donacobius atricapillus* (Passeriformes: Troglodytidae)

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**RESUMO.** Umedecimento de ninhegos em *Donacobius atricapillus*: possível cuidado parental. Durante um estudo da biologia reprodutiva de *Donacobius atricapillus* (estações reprodutivas de 1989-1990 e 1990-1991), ninhegos ainda nus foram comumente encontrados com gotas d'água na pele, em dias de muito calor. Ao mesmo tempo, um dos adultos que defendia o ninho apresentava o ventre úmido. Por duas vezes, ao me aproximar do ninho, verifiquei que um dos adultos incubando os ninhegos estava com o ventre úmido. Essas observações indicaram que, possivelmente, os adultos umedeciam os filhotes, com a finalidade de evitar excesso de aquecimento no período anterior à aquisição da endotermia.

**PALAVRAS-CHAVE:** *Donacobius atricapillus*, cuidado parental

**KEY WORDS:** *Donacobius atricapillus*, parental care

Unlike most wrens, *Donacobius atricapillus* builds open cup nests (Skutch 1968) commonly placed in marsh vegetation such as grasses, *Heliconia*, (Skutch 1968, Kiltie and Fitzpatrick 1983), or *Typha* (Sick 1985, Ragusa-Netto 1994). In open nests it is assumed that exposure to adverse weather, which could cause excessive temperatures, could interfere with nestling survival (Howell 1959, Howell and Bartholomew 1962).

In the breeding seasons of 1989-1990 and 1990-1991, I studied the breeding biology of *D. atricapillus* in marshes of Cerquilho (São Paulo State; for a description of study site see Ragusa-Netto 1996). In the course of data collection on nestling development (Ragusa-Netto 1996), I regularly found (16 observations on 34 broods), in hot (35 - 40°C), sunny days, unfeathered nestlings with water drops upon the skin. On those days, nestlings were also observed panting. Adults strongly defended the nests and came to within 1 m of me. Whenever there were nestlings with water drops in the nest, one of the adults had wet belly feathers. I also found an adult, with wet belly feathers, brooding the nestlings on two days. I interpret these observations to indicate nestling wetting behavior exhibited by adults throughout brooding. This behavior may be a strategy to prevent nestling over-heating in the period before acquisition of endothermy. In this phase, the effects of weather may be more severe, particularly in the poorly insulated open cup nests. Enclosed nests, commonly found in hot arid places, better protect young from sun and temperature extremes (Ricklefs and Hainsworth 1969, White *et al.* 1978).

This possible kind of parental care resembles that of the desert sandgrouse (Cade and Maclean 1967). However, in

sandgrouse, the belly feathers of adult birds are modified to hold water that is furnished to the chicks to drink.

I never saw both adults at a given nest, wet at the same time. If the wet belly was only the result of the bird bathing in the hot hours, then I would expect other members of a group to be wet as well. On three occasions, when I approached a nest in the hot hours, I found a standing adult perched beside it, presumably shading the nestlings.

During the two breeding seasons, short periods of dry weather (5 - 10 days) occurred 21 times. These observations suggest that wetting is a low-cost mechanism that may have evolved to prevent nestling over-heating in *D. atricapillus*. If, on the very hot days, only panting were employed for heat dissipation, the energetic costs (Calder and King 1974) could jeopardize nestling growth rate and the nestlings might dehydrate.

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