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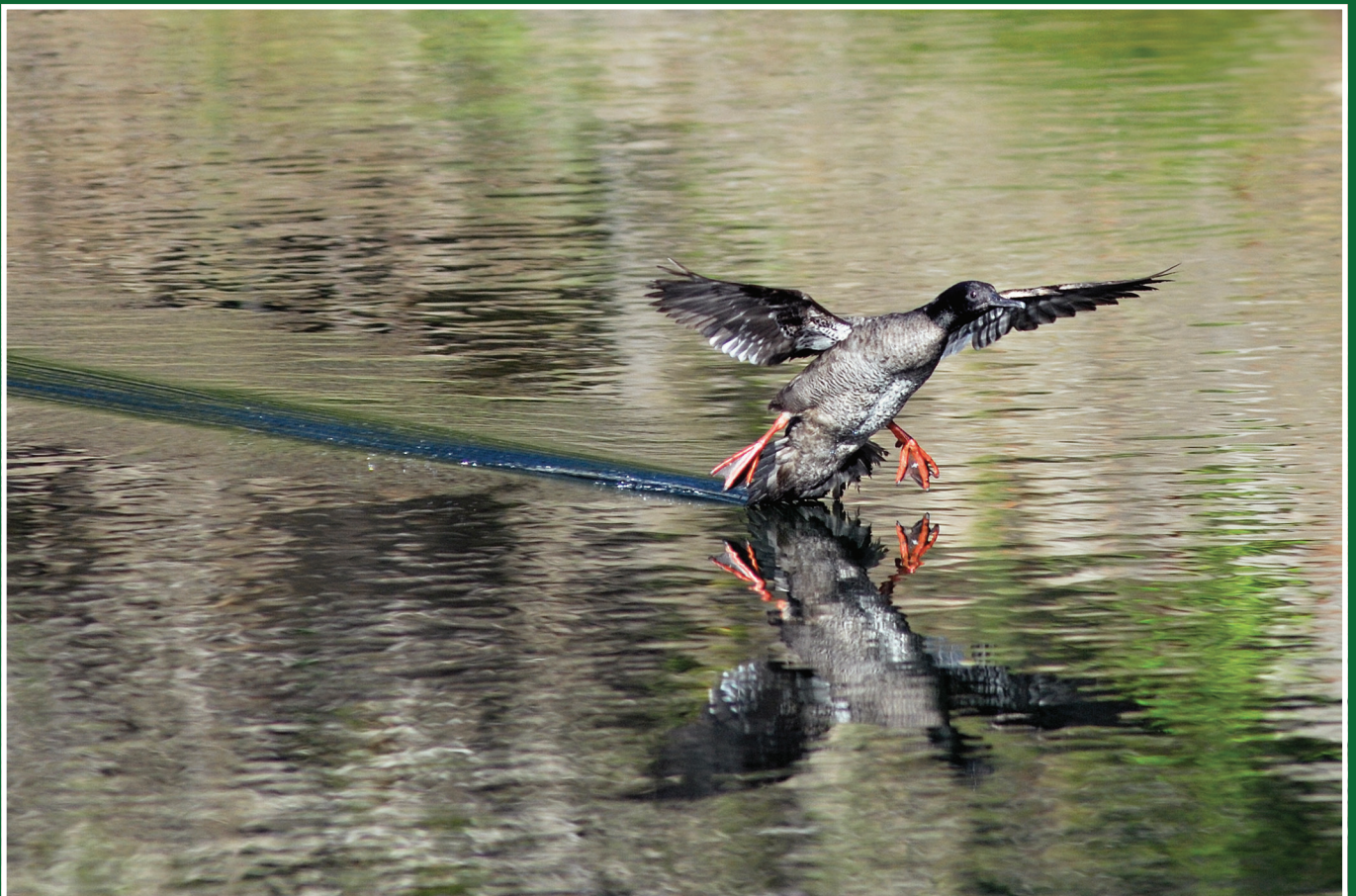
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Predation on Broad-eared bat *Nyctinomops laticaudatus* by the Spectacled Owl *Pulsatrix perspicillata* in southwestern Brazil

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RESUMO: Predação do morcego *Nyctinomops laticaudatus* pela coruja *Pulsatrix perspicillata*. O murucutu (*Pulsatrix perspicillata*) é conhecido por predação de aves, mamíferos não-voadores, lagartos e artrópodes, entretanto a predação de morcegos não é bem documentada. Durante um inventário da fauna de morcegos na reserva natural Buraco das Araras, Mato Grosso do Sul, observou-se um murucutu predando um morcego *Nyctinomops laticaudatus*, preso a rede durante uma densa revoada. Nessa reserva há uma dolina que é habitada anualmente por morcegos dessa espécie. Essa situação particular pode ser especialmente favorável para a predação regular desses morcegos, uma vez que centenas deles deixam o abrigo de maneira previsível, talvez facilitando a aprendizagem dos predadores sobre a disponibilidade de presas. Este é o primeiro registro de predação de morcego, com identificação da presa, pela coruja murucutu.

PALAVRAS-CHAVE: Revoada de morcegos; Brasil; Dolina; *Nyctinomops*; Predação; Strigidae.

KEY-WORDS: Bat flock; Brazil; Doline; *Nyctinomops*; Predation; Strigidae.

The Spectacled Owl, *Pulsatrix perspicillata* (Latham, 1790), is one of the largest Neotropical owls (550 to 1250 g) which occurs in Mexico, Central America, Bolivia, Paraguay, Argentina and Brazil (Ramírez-Llorens and Bellocq, 2007; Dunning Jr. 2009). It feeds on different types of prey, like agoutis (*Dasyprocta* spp.), skunks (Mephitinae), opossums (*Marmosa* spp.), rodents, oropendolas (*Psarocolius* spp.), jays (Corvidae), motmots (*Momotus momota*), doves (*Leptotila* spp.), lizards, and arthropods (Alvarez del Toro 1980, Stiles and Skutch 1989, Sick 1993, Gómez de Silva *et al.* 1997). Predation on bats by *P. perspicillata* was found only once based on records of bat's phalange and tooth in owl's pellets in Mexico (Gomes de Silva *et al.* 1997). Other authors already speculated that *P. perspicillata* is a potential predator on *Artibeus* and *Carollia* bats (Gardner *et al.* 1991, Cloutier and Thomas 1992). Bats are occasional to regular preys of some Neotropical owls (*e.g.*, Ibáñez *et al.* 1992, Motta-Jr. and Taddei 1992, Escarlata-Tavares and Pessoa 2005, Kittredge *et al.* 2006). Here we report for the first time an event of predation by *P. perspicillata* on Broad-eared Bat, *Nyctinomops laticaudatus* (Molossidae).

Field work was carried out in the Buraco das Araras natural reserve (29 ha) (21°29'30"S, 56°24'10"W),

municipality of Jardim, Mato Grosso do Sul, Brazil. Climate is tropical (Aw of Köppen) with rainy season from October to March and dry season from April to September (Campelo-Jr. *et al.* 1997). Vegetation comprises savannah-like Cerrado surrounded by pastures. The reserve includes a sinkhole (125 × 70 m wide, 60 m deep) whose scarped cliffs are used as day roost by *N. laticaudatus* (Cunha *et al.* 2009). In order to capture *N. laticaudatus* bats, we set a 6 × 2 m mist net near the route used by them when leaving the roost in the sinkhole. The event of predation by the owl was reported through direct observation, and identifications were based on owl and bat captures. The owl was photographed and released; the bat was collected and deposited in the zoological collection of the Universidade Federal de Mato Grosso do Sul (ZUFMS-290).

In 9 January 2008, nine individuals of *N. laticaudatus* were simultaneously netted while leaving day roost just after dusk (18:45 h), in typical flock (Cunha *et al.* 2009). A few seconds after these bats have been netted, one *P. perspicillata* individual suddenly attacked a netted bat. The owl departed from a perch in the neighbour vegetation, approached through a rapid flight down, and then opened the wings to restrain itself and projected

the claw toward the bat. The owl captured the bat and choked against the net, which dropped down entangling the owl. The captured bat was a *N. laticaudatus* pregnant female weighing 13 g. It presented perforations in the thorax and membranes caused by the owl's claws.

The situation found in the Buraco das Araras appears to be especially favourable for regular predation on Broad-eared Bat. They leave the roost roughly at the same time each day which may promote the development of learned behaviours by predators in response to prey availability. Several raptor species are opportunistic hunters which feed on timely and locally abundant prey species (Jaksic 1983, Jaksic and Braker 1983), such as *N. laticaudatus* at the study site (Cunha *et al.* 2009). Indeed, raptors and other predators have been attracted to large bat colonies, as they emerge at dusk and return at dawn (Twente 1954, Gillette and Kimbrough 1970, Gardner *et al.* 1991, Romano *et al.* 1999), when bats are vulnerable (*e.g.*, Baker 1962). Nevertheless, the *P. perspicillata* individual may have attacked simply due to the fact that bats were stationary in the net. In Barro Colorado, *P. perspicillata* was captured in mist-nets attracted by imitation of bat squeaks (Gardner *et al.* 1991).

The Striped Owl *Asio clamator*, Stygian Owl *A. stygius* (Strigidae) and Barn Owl *Tyto alba* (Tytonidae) were already identified as predators of *N. laticaudatus* based on pellet samples (Motta-Jr. and Taddei 1992, Motta-Jr. *et al.* 2004, Motta-Jr. 2006, Avila-Flores *et al.* 2009). *Pulsatrix perspicillata* has the potential of being a regular predator of bats, since its behaviour of capture is similar to that described for *T. alba* when preying on bats (Twente 1954).

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