

**Predation of *Calomys expulsus* (Rodentia: Cricetidae) by *Glaucidium brasilianum* (Strigiformes: Strigidae) in a semi-deciduous seasonal forest fragment**

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**RESUMO: (Predação de *Calomys expulsus* (Rodentia: Cricetidae) por *Glaucidium brasilianum* (Strigiformes: Strigidae) em um fragmento de floresta estacional semidecidual)** O caburé (*Glaucidium brasilianum* (Gmelin, 1788)) preda principalmente insetos, répteis e aves. Nós apresentamos aqui um evento de predação de um rato-do-mato (*Calomys expulsus* (Lund, 1841)), recém liberado no ambiente, pelo caburé. O evento foi registrado no dia 23 de setembro de 2015 em um fragmento de floresta estacional semidecidual, no município de Quirinópolis, sul do estado de Goiás, Brasil. De acordo com a literatura, roedores representam menos de um quarto na dieta *G. brasilianum*. Este evento de predação mostra o comportamento oportunístico do caburé em predar um pequeno roedor.

**Palavras-chave:** comportamento oportunístico de predação, caburé, rato-do-mato

**ABSTRACT: (Predation of *Calomys expulsus* (Rodentia: Cricetidae) by *Glaucidium brasilianum* (Strigiformes: Strigidae) in a semi-deciduous seasonal forest fragment)** Ferruginous pygmy-owl *Glaucidium brasilianum* (Gmelin, 1788) prey mainly insects, reptiles and birds. Here, we report a predation event of the vesper-mouse *Calomys expulsus* (Lund, 1841), after releasing into the environment, by the ferruginous pygmy-owl. The event was recorded on 23 September 2015 in a semi-deciduous seasonal forest fragment, in Quirinópolis Municipality, in the southern of Goiás state, Brazil. Rodents

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comprise up less than one quarter in the diet of the *G. brasilianum*. This predation event showed the opportunistic behavior of ferruginous pygmy-owl in preying a small rodent.

**Key-words:** opportunistic predation behavior, ferruginous pygmy-owl, rejected vesper mouse.

Ferruginous pygmy-owl *Glaucidium brasilianum* (Gmelin, 1788) (Strigiformes: Stringidae) is a small owl (63 g), with daytime and nocturnal habit, feeding primarily on insects and small vertebrates (Sick, 1997). In subspecies found in Texas (*G. brasilianum ridgwayi*), the diet was composed mainly by insects with 58%, reptiles 22.5%, birds 10.5% and mammals 8.6%; mammals and amphibians made up less than 1% of prey deliveries (Holt *et al.*, 2016). However, the type of prey depends on the hunting time: rodents and reptiles are hunted at night, while birds, insects and reptiles compose the diet of the species during day (Lima & Lima-Neto, 2008). Pygmy-owls habitually employ a hunting perch and the sit-and-wait tactic to secure their prey (König *et al.*, 1999). In forest environments, a successful hunt imply in understory with sparse vegetation that expose the ground (Sick, 1997). Here, we report on a predation event by a ferruginous pygmy-owl upon a rejected vesper mouse *Calomys expulsus* (Lund, 1841) (Rodentia: Cricetidae), after this rodent have been captured in a live-trap and released from on the environment.

The event was recorded on 23 September 2015, at 08:30 AM, in a semi-deciduous seasonal forest fragment (89.83 ha, Guarirobas farm), in the municipality of Quirinópolis, in the southern of Goiás state, Brazil (18°35'26.7" S / 50°27'11.3" W, datum SAD-69). In this fragment, we sampled small mammals for seven consecutive nights, daily checking the traps every morning. Captured animals were measured (body parameters), tagged and released in the same local of capture, where we observed the escaping behavior (ground or arboreal).

The preyed individual was a female of *Calomys expulsus* (29 g) in reproductive condition (evident breasts). *Calomys expulsus* was captured in a wire-cage trap placed in the ground. After 5 minutes of manipulation, we released the rodent in the same local of capture. The rodent ran about 2 m and, then was captured by the claws of *G. brasilianum*. Still on the ground, *G. brasilianum* attacked the head of the rodent with its beak. Then, holding the prey by the claws, flight to a branch of a tree (about 2 m above ground) and near 6 m from the capture site (Figure 1).

Rodents account for only 8-20% in ferruginous pygmy-owl diet, being the individuals of this order preyed during the night (Lima & Lima-Neto, 2008; Menq, 2015). Small rodents are mostly nocturnal (Oliveira & Bonvicino *et*



**Figure 1.** Ferruginous Pygmy Owl (*Glaucidium brasilianum*) with Rejected Vesper Mouse (*Calomys expulsus*) in its claws on a tree-branch.

*al.*, 2011), which supports the higher predation during this period. *Calomys expulsus* is a small terrestrial rodent, widespread from the Cerrado and Caatinga; two pregnant females with 6 and 3 embryos each has been recorded in the late dry season (Bonvicino *et al.*, 2012). This nocturnal small rodent became available in time and space due our sampling device, so, this result highlight the opportunistic behavior of predation adopted by ferruginous pygmy-owl.

Predation risk and microhabitat variables have been reported by several studies about small rodent in forest environments (Dalmagro & Vieira, 2005; Naxara *et al.*, 2009; Melo *et al.*, 2013). Thus, we assume that sparse vegetation on the dry season also may have facilitated the capture of *C. expulsus*. September comprised late dry season in the Cerrado of central Brazil, and during this period the vegetation loses more than 50% of its leaves showing a thin understory (Martins *et al.* 2008).

Despite the small size, the ferruginous pygmy-owl are adept hunters, capturing birds often larger than their own size (Motta-Junio, 2007; Menq, 2015). *Calomys expulsus* represented 46% of the *G. brasilianum* body mass showed the capacity of this owl on preying relatively large rodents is also true.

In conclusion, ferruginous pygmy-owl showed an opportunistic behavior of predation and a high ability to capture and carry a rodent that has about half of its body mass.

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