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AN OBSERVATION OF CARNIVORY BY A CAPTIVE PYGMY MARMOSET (*CALLITHRIX PYGMAEA*)

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Carnivory is rarely observed amongst most primate species in the wild. Most reports have concerned large bodied species such as baboons (Strum, 1981; Hamilton and Busse, 1982), and especially the cooperative hunting behavior of chimpanzees (Teleki, 1973; Goodall, 1986; Boesch and Boesch, 1989). Nevertheless, many other primate species are known to opportunistically kill and consume vertebrates including, reptiles, birds and small mammals (Wahome *et al.*, 1988; Fedigan, 1990; Cordeiro, 1994; Digby and Barreto, 1998).

Pygmy marmosets (*Callithrix pygmaea*) forage principally on exudates from gum-producing vines and trees, although they also eat significant quantities of arthropods (Soini, 1988; Townsend, in press). Most other species in the *Callithrix* genus are frugivore/insectivores (Stevenson and Rylands, 1988), and callitrichids in general display this dietary pattern with varying degrees of plant exudate consumption (Rylands, 1984; Goldizen, 1987; Rylands and Faria, 1993). In terms of vertebrate consumption, callitrichids have been observed eating frogs, lizards (*Anolis* spp.), and birds, but these take up a small proportion of overall diets (Goldizen, 1987; Snowdon and Soini, 1988; Stevenson and Rylands, 1988; Peres, 1993; Digby and Barreto, 1998; Townsend, in press).

In 1984 in Araracuara, Colombian Amazon, one of us (WRT) witnessed an attack by a wild caught pet pygmy marmoset upon a bird. The observer was sitting at a round, wide-edged table with a group of people when a small finch stunned itself against a window and was brought in and placed upon the table. A male pygmy marmoset was on the ground with a long string attached to its owner. Upon spotting the bird, the marmoset jumped up to the edge of the table and for a split second, looked at the bird. The marmoset then disappeared from view until its head appeared about one quarter of the way around the table. It looked quickly at the bird and disappeared again, only reappearing as it crept all the way around the edge of the table. The marmoset then jumped on the bird from behind, put its left hand on the bird's throat and with the right hand on its beak, twisted the head upward leaving the neck exposed and bit directly into the bird's neck. Lowering the beak as the bird was convulsing, the marmoset then began biting through the bird's brain case. The owner removed her pet from the bird before it could be determined to what extent the primate would have consumed it's prey.

In a review of the *Callithrix* genus, fledgling birds and eggs had been suggested as possible dietary constituents for free-ranging animals (Stevenson and Rylands, 1988). Recent observations of vertebrate predation by common marmosets (*C. jacchus*) in the wild (Digby and Barreto, 1998) and in captivity (Rothe, 1999) have confirmed this hypothesis. Eggs and nestlings are also occasionally consumed by buffy-headed marmosets (*C. flaviceps*) and buffy tufted-ear marmosets (*C. aurita*) (Ferrari, 1988; Muskin, 1984). To our knowledge, this represents the first recorded case of a pygmy marmoset killing a bird, and is especially interesting given that *C. pygmaea* is the smallest Neotropical primate species. The fact that the marmoset initially attempted to consume the brain of the bird is notable given that this organ is particularly energy rich. Observations of free-ranging populations have revealed similar behavior with regards to lizards and frogs which are 'highly contested among group members' (Stevenson and Rylands, 1988). Thus, the prioritization of brain consumption in vertebrate prey probably reflects an optimal foraging strategy in an intra-specific feeding competition context.

Critically, not only did the captive marmoset kill and begin

to consume the bird (until prevented), it also clearly 'stalked' its prey, as has been reported for free-ranging populations during invertebrate foraging (Soini, 1988; Stevenson and Rylands, 1988). Indeed, a similar observation of stalking, capturing, killing (with a bite to the head) and consuming a bird is reported for a captive *Saguinus* (Schauffelin, 1958 in Snowdon and Soini, 1988). A working hypothesis is that this hunting behavior may be opportunistically extended to birds in the wild. Digby and Barreto (1998) report that free-ranging common marmosets 'seek out and inspect bird nests', and that birds were occasionally observed mobbing marmosets suggesting recognition of a predator threat. Intriguingly, Soini (1988) reports that pygmy marmoset core use areas have fewer birds than surrounding areas of the home range, and that flocking birds are often chased. Soini (1988) suggests this behavior maybe designed to reduce inter-specific feeding competition with birds. This observation suggests there may also be some risk to those that are careless.

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A NORTHEASTERN EXTENSION OF THE DISTRIBUTION OF *AOTUS INFULATUS* IN MARANHÃO, BRAZIL

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Introduction

The night monkeys (*Aotus* Humboldt, 1811) are predominantly Amazonian in their distribution, although they also extend into Central America and south into Paraguay and Argentina (Hershkovitz, 1983). A number of recent studies have adjusted the geographic distributions as indicated by Hershkovitz (1983) (for example, Aquino and Encarnación, 1988; Timm, 1988; Pieckzarca, 1993; Brooks, 1993, in Brooks, 1996; Ford, 1994; Silva Jr. *et al.*, 1995; Rodríguez-Luna *et al.*, 1996). Silva Jr. *et al.* (1995) reported the occurrence of *A. infulatus* Kuhl, 1820 on the islands of Caviana and Marajó,