

Present and Past Primate Community of the Tijuca Forest, Rio de Janeiro, Brazil

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NEWS

PRESENT AND PAST PRIMATE COMMUNITY OF THE TIJUCA FOREST, RIO DE JANEIRO, BRAZIL

The Tijuca forest in the municipality of Rio de Janeiro has a long history of disturbance and modification from human activities. It harbored a large indigenous population until the 16th century when, following European colonization, forests throughout the Atlantic coast of Brazil were intensively logged for brazilwood (*Caesalpinia echinata*). Highly valued for its red/purplish dye and its wood, brazilwood became commercially extinct in the Atlantic forest, including Rio de Janeiro. Changes in the landscape of Tijuca were, however, more drastic still in the 18th century, with the destruction of most of its forest for coffee plantations.

In the middle of the 19th century the rivers feeding the city of Rio de Janeiro were drying up, and the Emperor Dom Pedro II, recognizing the link with deforestation in the upper reaches and headwaters of the rivers, ordered that the forest be restored. Both exotic and native trees were used, along with a very large number of slaves to plant them (Dean, 1996). In the first decades of the 20th century, numerous non-native animals were introduced, including primates. The restored forest of Tijuca was made into a national park of 3,466 ha in 1961, and today is one of the largest urban national parks in the world. The forest is now well-established, although it lacks many of the species that originally occurred there (see Coimbra-Filho and Aldrichi, 1971; Coimbra-Filho, 2000).

The original primate community of these forests would predictably have included the southern marmoset (*Brachyteles arachnoides*), the howler monkey (*Alouatta guariba*), the black-horned capuchin monkey (*Cebus nigritus*), the buffy-tufted-ear marmoset (*Callithrix aurita*) and, in lower elevations, the golden lion tamarin (*Leontopithecus rosalia*) (Aguirre, 1971; Coimbra-Filho and Aldrichi, 1971; Coimbra-Filho *et al.*, 1973; Rylands *et al.*, 1993). Neither the black-fronted titi (*Callicebus nigrifrons*) nor the northern masked titi (*Callicebus personatus*) have been recorded, and it is not known whether they were ever present there (see Cunha, 2003).

None of these species can be found in the Tijuca forest today. Introduced common marmosets (*Callithrix jacchus*) from northeast Brazil and what we believe are hybrid capuchin monkeys (*Cebus*) are the most abundant primates (Cunha, 2005). Marmosets and capuchin monkeys are both highly favored as pets, and over the centuries many of them have undoubtedly been let free or escaped. The capuchins we have seen are very variable in pelage coloration and in the form of their tufts and are certainly not pure-breeding *Cebus nigritus*, but a mixture of different species, likely *C. nigritus*, *C. libidinosus*, and *C. robustus* (José de Sousa e Silva Jr., pers. comm.). The Amazonian squirrel monkey (*Saimiri*), and

the black-tufted-ear marmoset (*Callithrix penicillata*) from Central Brazil are also reported to occur in Tijuca, but are evidently scarce as they were not seen during my fieldwork in 2004. A single capuchin monkey was observed together with a group of *Callithrix jacchus*.

The abundance of common marmosets and the hybrid capuchins is, we believe, related to the abundance of certain food resources, some of them non-native such as the jackfruit (*Artocarpus heterophyllus*), particularly appreciated by the capuchin monkeys (Cunha, 2005). Both marmosets and capuchin monkeys adapt well to urban conditions, entering backyards, gardens, and houses around the park to find food. Since 1970, the zoologist and conservationist Adelmar F. Coimbra-Filho has warned of the potential negative effects of these overabundant, non-native monkeys on other species, specifically on bird populations, nestlings, and eggs preyed upon by both *Cebus* and *Callithrix jacchus* (Coimbra-Filho and Aldrichi, 1971). *C. jacchus* also present a potential threat to human health, harboring a variant of the rabies virus (Morais *et al.*, 2000) that has killed at least eight people in the northeastern state of Ceará (Favoretto *et al.*, 2001). It is also a host for the Chagas' disease parasite (*Trypanosoma cruzi*) and with marmosets now spreading throughout the state, a potential source of infection for *Leontopithecus rosalia*, surviving now only in the north (Morais Jr., 2005).

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