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RED HOWLING MONKEY (*ALOUATTA SENICULUS*) REINTRODUCTION IN A GALLERY FOREST OF HATO FLORES MORADAS, VENEZUELA

Introduction: Red howling monkeys, *Alouatta seniculus*, are one the largest cebids, and are widely distributed in the neotropics (Wolfheim, 1983). A large number of field studies have focussed on the population and behavioral ecology of free-living red howlers (Izawa, 1988; Drubbel and Gautier, 1993; Agoramoorthy, 1994). However, little is known about the reintroduction of these animals into their original habitat. In this

paper, I will describe the reintroduction of a pet female red howler into the wild in a gallery forest on a ranch in Venezuela.

History of the pet red howler: A wild-born, juvenile, female red howler had been kept as a pet for about 15 months. During that time, she was tied with a leash and chain, and kept outdoors. She was able to eat leaves, flowers, and fruits from the garden. She was fed with such as vegetables, fruits, rice, and crackers. The owner was interested in releasing her back into the wild, and she was, as a result, brought to me in February 1988, while I was conducting a field study on the howling monkey population at Hato Masaguaral, Venezuela (Agoramoorthy and Rudran, 1992, 1993, 1994).

The pet howler was kept in a cage of 2.5 m x 2.5 m x 3.5 m at the study site, adjacent to a social group of captive red howlers, during approximately 12 months. The captive group were wild-caught, and were being kept to conduct nutritional studies on fiber digestibility and digesta passage (Crissey *et al.*, 1989). Both the captive group and the pet female were fed mainly on natural vegetation. They also received monkey chow as a supplement on a regular basis. In captivity, the pet howler had visual contact with the captive group as well as a neighboring wild group. She learned to feed on local, naturally-occurring food items offered to her. Whenever the wild group approached the cage, the captive social group would howl vigorously, occasionally being accompanied by the pet female.

Reintroduction Process: During the first week of August 1989, an association of five individuals (two adult males, two adult females, and one juvenile female) was located in a neighboring forest called Hato Flores Moradas. The habitat was classified as gallery forest (Troth, 1989). A red howler association is a loose gathering of four or five individuals from different social groups, often having one or two adult males and females plus immatures. Associations usually roam around the territories of several social groups. Once an association establishes a definite home range and starts to breed, it becomes a group. The established social groups are territorial, and often show aggressive behavior towards intruding solitary animals as well as neighboring rival groups. Males and females usually disperse from their natal groups to immigrate into neighboring social groups or join a nearby association (Rudran, 1979; Crockett, 1984; Agoramoorthy and Rudran, 1993).

The Flores Moradas association was followed between 12 August and 27 September to determine

their ranging pattern and to record the social behavior of the individuals in the association (*ad libitum* sampling; Altmann, 1974). The pet howler was taken to the gallery forest in a cage of 1.5 m x 0.5 m x 0.5 m four times a week, and was kept close to the association in order to maintain visual contact. The total time of visual contact between the pet and the association was approximately 11 hours. Initially the association members showed aggressive behavior by howling, branch-shaking, and rubbing their chins (scent-marking) on branches. After a few days, the aggression was gradually reduced, and the association began to pay little attention to the caged pet on the ground.

Two weeks before the release, the pet howler was examined by a local veterinarian and found to be free of infectious disease. The three-year old female was also ear-marked for identification. On 28 September 1989, she was taken to the forest for her final release (1530 hours). She was let out of the cage 25 m from the association, under a tree. She immediately climbed the tree to about 10 m above the ground. Immediately the association members started vocalizing, approached the female, and chased her away. She showed aggressive behaviors such as arch-walking, pilo-erection, and chin-rubbing towards the association members. Howling stopped after about 20 minutes, and the association moved off. The released female was followed for three weeks. She was seen near to and following the association closely, about 50 m from where she was released. No physical fights were seen. Two months later, she was found with the association, and apparently well accustomed to her new wild habitat as well as wild howlers.

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ESPÉCIES OU SUBESPÉCIES EM *CALLITHRIX*?

A alocação dos taxa de *Callithrix* (Callitrichidae) à categoria de espécies ou subespécies tem sido objeto de controvérsia nos últimos vinte anos (Hershkovitz, 1977; Coimbra-Filho & Mittermeier, 1981; Mittermeier *et al.*, 1988, 1992; Vivo, 1991; Rylands *et al.*, 1993). Acredito que boa parte desta controvérsia tem sido gerada por uma má compreensão dos princípios taxonômicos evolutivos relacionados à esta questão. Nesta nota esboço a visão corrente, adotada por boa parte dos sistematistas, para o reconhecimento dos taxa ao nível específico e subespecífico. Ao mesmo tempo, procuro mostrar que a polêmica sobre os taxa de *Callithrix* já esta resolvida, pelo menos até que