

The financial and bureaucratic obstacles to the Venezuelan zoos in acquiring primate representatives from other continents have increased in recent years and such importation is now a rare event. Thus the indications are that these zoos will from necessity concentrate on New World species, particularly those indigenous to Venezuela. Lacking sufficient breeding, and without assistance to import new animals, the stocks of Old World primates appear set to die out. Based on so few years data, crude estimates of natality and mortality rates covering all age classes for these captive primates (calculated from births and deaths each divided by living animals) are respectively 0.185 and 0.13 (0.19 and 0.17 only for New World species).

I acknowledge the financial support of the Fundación Gran Mariscal de Ayacucho, logistical support from FUNPZA, help from Marian Diaz de Waugh and the collaboration of the zoos which supplied inventories.

David R. Waugh, Apartado 16324, Candelaria, Caracas 1011-A, Venezuela.

## References

- Eisenberg, J.F. 1989. *Mammals of the Neotropical Region: Vol.1., the Northern Neotropics*. University of Chicago Press, Chicago.
- International Species Information System. 1991. Distribution Reports for Mammals and Birds. December 1991. ISIS, Apple Valley, Minnesota.
- IUCN. 1990. *1990 IUCN Red List of Threatened Animals*. World Conservation Monitoring Centre, Cambridge, U.K.
- Mace, G.M. and Lande, R. 1990. Assessing extinction threats: towards a re-evaluation of IUCN threatened species categories. *Cons. Biol.* 5: 148-157.
- Olney, P.J.S. and Ellis, P. 1991. 1990 *International Zoo Yearbook*, 30. Zoological Society of London, London.
- Olney, P.J.S. and Ellis, P. 1992. *1992 International Zoo Yearbook*, 31. Zoological Society of London, London.
- Rylands, A.B., Encarnación, F. and Mittermeier, R.A. 1993. South American primates and the IUCN Red List of Threatened Animals. *Neotropical Primates*, 1(4): 1-2.
- Thornback, J. and Jenkins, M. (compilers). 1982. *The IUCN Mammal Red Data Book. Part 1*. IUCN, Gland, Switzerland.

## SÃO FRANCISCO XAVIER: A NEW SITE FOR PRIMATOLOGICAL RESEARCH AND CONSERVATION IN THE BRAZILIAN ATLANTIC FOREST

Neotropical primates endemic to the Atlantic forest are threatened by the degree of human activity in southeastern Brazil. Less than 5% of the region's natural cover has resisted human interference since the Portuguese colonization in the 16th century. As a result, the Atlantic forest is today restricted to "islands" of natural vegetation, surrounded and isolated by pastures, crop plantations and urban areas. Many of these "islands" belong to private owners (Diego *et al.*, 1993). Even the legally protected forests are of diminutive size when compared to the areas of other Brazilian ecosystems' reserves. Protecting tracts of Atlantic forest which still hold natural groups of endemic primates is therefore an important conservation measure. One such tract is a 4,000 ha forest patch located at the north border of the district of São Francisco Xavier (Fig. 1), municipality of São José dos Campos, in the state of São Paulo (23° 12'S, 45° 52' W). The forest covers a set of mountain ranges (Poncianos, Selado, Santa Bárbara, Queixo D'anta, Palmital, Guirra, Guaxindivia and Roncador), and includes part of the Rio Peixe basin, a tributary of the Rio Paraíba do Sul and an important water source in the region. Beyond the state's northern border, the forest stretches for another 7000 ha in the Fazenda Levantina (property of Companhia Melhoramentos), in the municipality of Camanducaia, state of Minas Gerais.

Although no systematic faunal surveys have been carried out, more than eighty bird species have been identified. Mammals reported and/or observed in the region include ocelots (*Felis pardalis*), puma (*Felis concolor*), foxes (*Cerdocyon thous*), otters (*Lutra*), capybaras (*Hydrochaeris hydrochaeris*), and agoutis (*Dasyprocta*). Masked titi monkeys (*Callicebus personatus nigrifrons*), brown howlers (*Alouatta fusca*), and tufted capuchin monkeys (*Cebus apella*) are also known to occur at São Francisco Xavier. In November 1990, a group of at least 15 muriquis (*Brachyteles arachnoides*) were located and photographed in the forest (LAA). Various sightings of the species have followed since then, and the site was mentioned in a recent survey of the species (Martuscelli *et al.*, 1994). With the exception of *Cebus apella*, the other three primate species are endemic to the Atlantic forest. The 1994 IUCN Red List of Threatened Animals gives *Brachyteles arachnoides* and *Callicebus p.nigrifrons* as endangered, and

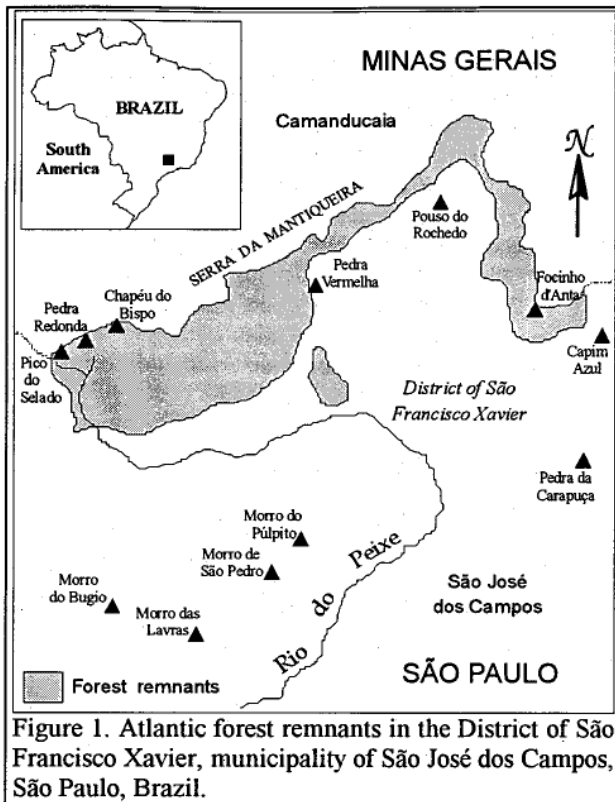


Figure 1. Atlantic forest remnants in the District of São Francisco Xavier, municipality of São José dos Campos, São Paulo, Brazil.

*Alouatta fusca* as vulnerable (Groombridge, 1993). The forest at São Francisco is theoretically protected by two legal measures. On 4 April 1979, the entire basin of the Rio Paraíba do Sul was decreed an Area of Environmental Protection (APA) (Decree No.87651). In 1992, the municipal administration passed law No.102/92, giving the status of APA to the forest at São Francisco Xavier. The municipal administration also launched an environmental education campaign in 1990, in order to instruct and gain support from the local population. Despite past measures, the area is still subject to illegal hunting and deforestation. One of the main problems is that the forest covers an area that belongs to several private properties, and the owners' attitudes towards conservation range from support to total indifference. The conservation of São Francisco's biodiversity may therefore depend on further legal interference. One possibility is the transformation of the area from an APA into an officially protected state reserve. The local administration of São José dos Campos has just endorsed a letter to the State Environmental Agency (SEMA), requesting the creation of a park in the region. The involvement of field researchers and outside conservationists is also important. A detailed census of the primate population is currently needed. Comparative ecological and behavioral data may also provide relevant

information for the development of management plans for endangered species (i.e., murrelet; Mendes, 1994). Some of the large properties in São Francisco Xavier are protected by the landowners, and may prove suitable for immediate research. In one of them, with approximately 800 ha of forest, the owner is favorable to the establishment of a field station on his land. The continuous presence of scientists has been instrumental in the protection of other Atlantic forest reserves (see Strier, 1992), and would undoubtedly reinforce other actions to protect the entire forest of São Francisco Xavier.

**Luiz Alberto Antonietto**, Rua Projetada 3, 127, São Francisco Xavier. São José dos Campos, São Paulo 12249-000, Brazil, and **Francisco Dyonísio Cardoso Mendes**, Departamento de Psicologia Experimental, Instituto de Psicologia, Universidade de São Paulo, Avenida Professor Moraes 1721, 05508-900 São Paulo, São Paulo, Brazil.

#### References

- Diego, V.H., Ferrari, S.F and Mendes, F.D.C. 1993. Conservação do sagui-da-serra (*Callithrix flaviceps*): o papel de matas particulares. In: *A Primatologia no Brasil - 4*, pp. 129-137. M.E. Yamamoto and M.B.C. Sousa (eds). Editora Universitária, Universidade Federal do Rio Grande do Norte, and Sociedade Brasileira de Primatologia, Natal.
- Groombridge, B. 1993. 1994 IUCN Red List of Threatened Animals. World Conservation Monitoring Centre, Cambridge, 286pp.
- Martuscelli, P., Petroni, L.M. and Olmos, F. 1994. Fourteen new localities for the murrelet *Brachyteles arachnoides*. *Neotropical Primates*, 2(2):12-15.
- Mendes, F.D.C. (1994). Murrelet conservation: the urgent need of an integrative management plan. *Neotropical Primates*, 2(2):16-19.
- Strier, K.B. 1992. *Faces in the Forest: The Endangered Murrelet Monkeys of Brazil*. Oxford University Press. New York.

#### LEVANTAMENTO DE PRIMATAS E ZONEAMENTO DAS MATAS NA REGIÃO DO PARQUE ESTADUAL DO IBITIPOCA, MINAS GERAIS, BRASIL

O Parque Estadual do Ibitipoca (1,488 ha) fica situado no município de Lima Duarte, Minas Gerais, entre 21°42'S e 43°53'W (Fig.1). Quanto à topografia, o Parque possui variações de altitude