
POPULATION GENETICS AND CONSERVATION OF OWL MONKEYS (AOTUS AZARAI) IN ARGENTINA: A PROMISING FIELD SITE

The evolution of monogamy: nd nocturnality in owl monkeys (Aotus spp.) remains largely unexplained. This can be blamed, at least partially, on the lack of long-term data on the ecology and behavior of this unique New World primate species. We report here on a field site that offers an unique opportunity to conduct long-term research in Aotus azarai. First, we report preliminary data on the ecology and behavior of the owl monkey population. We conclude with a brief description of three research projects that we will conduct in the area in the near future.

Study Area

The field site is located on the borders of the Pilagá River which runs across Estancia Guaycolcél (58°13’ W, 26°54’S) in Eastern Formosa. The area is comprised of a mosaic of grasslands, savannas, xeric thorn forests and semideciduous forests. The semideciduous forests occur along river banks, where they form gallery forests. The 13-18 meter-high gallery forest, contains, on average, 39 tree species per hectare (Placci et al., 1992, cited in Brown and Zunino, 1994). A significant decrease in population numbers occurred in 1982, apparently as a result of a botfly infestation (Dermatobia sp.). The most recent estimate indicated a density in the area of 9 ind/km² (Arditi and Placci, 1990).

Preliminary Study

Between May and July 1996, we conducted a preliminary study of owl monkeys in the area which allowed us to (1) identify this as a convenient field site for long-term studies, (2) obtain preliminary data on the behavior and demography of the species.

1) Estancia Guaycolcél is a 75,000 ha cattle-raising and rice-growing ranch owned by Pilagá S.A., a multinational company based in Buenos Aires, Argentina. The company has supported scientific research and promoted conservation efforts in the past (Rathbun and Gache, 1980; Zunino et al., 1985; Arditi and Placci, 1990; Arditi, 1992). The commitment of the company to conservation, the convenient location of the ranch (on a paved national highway 25 km from the capital of the province and 100 km from Asunción, Paraguay), and the existence of a wildlife reserve with housing facilities and a small zoo, make this site an excellent one to conduct long-term projects in conservation, wildlife management and environmental education.

2) We have conducted 46 surveys of the area. On 17 occasions we encountered, observed and followed owl monkeys. Based on repeated encounters of one of the groups, we estimated that at least four different groups were regularly ranging within a 1 km-radius of the camp (Table 1).

As has been reported previously for owl monkeys in Argentina, our preliminary observations suggest that they are active both during the day and night. Although most of the activity was recorded during the early and late hours of the day, three of the four groups were observed moving and feeding during the early afternoon (approximately 1500 h, Table 2).

Population Genetics of Owl Monkeys

In the future we will examine how different aspects of the monogamous social organization of owl monkeys interact to determine the degree of genetic differentiation between and within populations. To understand better the evolution of monogamy in these monkeys, we will use molecular genetic data to explore the influences that monogamous patterns of dispersal and mating have on the genetic structure of owl monkey populations. These data should allow us, among other things, to assess the extent to which a socially monogamous relationship, as has been described for Aotus (Wright, 1994), implies genetic monogamy in the sense of an exclusive mating relationship between the adult male and the adult female in a group. The long-term goals of the study are: 1) to locate and iden-
Conservation efforts are generally more successful if carried out in collaboration with local communities. Our initial efforts to involve local people will be focused on educational institutions. In collaboration with GEOS, an Argentinean NGO whose main objective is to promote environmental education, we will organize four one-day workshops at the primary school located in the ranch. The workshops will make use of audiovisual material to depict the fauna and flora of the area, will include special activities and will provide the students with printed materials to illustrate important concepts of ecology and conservation. The workshops will provide us with an opportunity to identify a small group of motivated students and teachers especially interested in conservation. These students and teachers will join us in the organization of a survey on the status of the local fauna.

**Increasing the Area of Protected Owl Monkey Habitat**

The Chaco region extends over one million km² of Argentina, Bolivia, Brazil and Paraguay. Despite data suggesting that this region is as rich as tropical rain forests when numbers of large and medium-sized mammalian species are considered (Redford *et al.*, 1990), and that it holds a greater diversity of endemics than other major macrohabitats (Mares, 1992), the Chaco has received less attention from conservation agencies than have tropical rain forests.

In Argentina, the original landscape of forest patches alternating with extensive savannas has been replaced by communities of trees, thick and continuous shrubs, and very low coverage of grasses as a result of severe over-grazing (Adámoli *et al.*, 1990). Gallery forests in particular are not well represented in the protected areas of Argentina (Brown and Zunino, 1994) and are suffering constant pressure from urban and agricultural development. Our long-term goal is to promote the conservation of this threatened habitat which has traditionally received little attention from the scientific community and conservation agencies.

We have plans to assess the impact that cattle grazing and hunting have on the mammals and birds in the poorly protected gallery forests of the Argentinean Chaco. We will estimate the abundance of mammals and birds in: 1) gallery forests subject to cattle grazing and 2) in gallery forests that have not been subjected to cattle grazing for the last 15 years, and which are also of difficult access to hunters. Results will be used in deciding the most convenient location for the establishment of a 5,000 ha wildlife reserve on the premises of the ranch. The reserve will increase the area of protected gallery forest inhabited by species that are heavily hunted (for example, tapirs, pecaries, and parrots), as well as those that are threatened by the destruction of their habitat (for example, Nearctic migratory birds, puma, giant anteater, and owl monkeys).

**Environmental Education: Owl Monkeys as Flagship Species**

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**Acknowledgments**

Funding for the preliminary study of *Aotus* was provided by the L. S. B. Leakey Foundation, Oakland, California, through a General Grant to EF-D. Support for the project on population genetics of owl monkeys will come through two Earthwatch Expeditions. Finally, we would like to thank Pilagá S.A. for authorizing and supporting our work on the ranch and the employees of Estancia Guaycolec for their continued help.


**References**


Redford, K. H., Taber, A. and Simonetti, J. A. 1990. There
Utilização de Rádio Telemetria em Saúas, Callicebus personatus, Regatados Durante a Implantação da Usina Hidrelétrica Nova Ponte, Minas Gerais

Introdução

O sauí ou guigó, Callicebus personatus, é endêmico da Mata Atlântica. A espécie defende seu território por meio de vocalizações, é monogâmica e forma grupos de até cinco indivíduos. No estado de Minas Gerais, Brasil, o sauí, C. p. nigrifrons, ocorre ainda em pequenas remanescentes de floresta e matas ciliares no Cerrado. C. personatus é um animal tímido, de movimentos sutis e que emite vocalizações, em muitas regiões, apenas matutinas, dificultando seu encontro e estudo até a habituação a pesquisadores. Aqui relatamos nossa experiência a respeito da colocação de colares com rádio transmissores como um meio de facilitar a habituação e observação dessa espécie na natureza.

Durante a implantação da Usina Hidrelétrica Nova Ponte, Minas Gerais, pela Companhia Energética de Minas Gerais (CEMIG), no Triângulo Mineiro, foram realizadas operações de resgate de fauna. Dentre outros animais, foram capturados 25 saúas, visando novas tentativas de utilização da técnica de rádio telemetria com estes primatas, aumentando-se os dados disponíveis para a espécie.

O presente trabalho objetivou, além da obtenção de dados ecológicos da espécie, a verificação da readaptação ou não, de animais originados de operações de resgate, reintroduzidos a novos habitats.

Material e Métodos

Durante as operações de resgate de fauna pela CEMIG, os animais foram levados a um centro de triagem, onde permaneceram em recintos de três a seis animais de março de 1994 a janeiro de 1995, até serem obtidas condições necessárias a soltura e para observações sobre sua biologia. Tais procedimentos seriam realizados por três biólogos da Universidade Federal de Minas Gerais, contactados após resgate dos animais. Após este período, os animais foram devidamente preparados para receberem os aparelhos transmissores. Os indivíduos foram sedados por via intramuscular, com Ketalar a 3mg/kg. Em seguida eram pesados, e recebiam os transmissores (TELONICS). Eram ainda marcados com produto de bom poder de tingimento dos pelos e de boa durabilidade, o Nyanzol. As marcações distinguiam machos de fêmeas (parte proximal e distal da cauda respectivamente) e grupos ora esquerda ora direita (Tabela 1).

Resultados e Discussão

Verificaram-se várias reações de desconforto quanto aos aparelhos. Os primatas manusearam, ora as próprias coeleiras, ora as de outros indivíduos, tentando arrancá-las com as mãos ou boca sistematicamente. Houveram casos de retirada do imã, que mantêm os aparelhos desligados até a soltura dos saúas, e de manuseio das antenas, que foram roídas, entortadas e descascadas em suas camadas plásticas.

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is more to biodiversity than the tropical rain forests. Conservation Biology 4(3):328-330.
