

responses from other group members. Digital sonographic procedures and contextual analyses were used in the classification of the main vocal categories of the species' repertoire, registered with 160 hours of recordings.

Broad categories of vocalizations were initially grouped according to the specificity of eliciting stimuli and evoked behavioral and vocal responses. Twenty four vocal categories encountered were given exclusively in specific situations, and/or to particular listeners. These categories included: alarm calls emitted in the presence of terrestrial and aerial species; vocalizations given by participants of different types of peer interactions (i.e., play of immature and embraces of adults); categories produced during mother-infant interactions; vocalizations bound to sexually receptive females; vocal signals emitted in isolation or in choruses, during intergroup encounters.

Four other vocalizations frequently evoked antiphonal continuous responses from other individuals. These vocalizations included: "piados", or chirps (Strier, 1986, 1992), usually heard while group members feed in proximity; "piados silábicos" or "kh-kh-kh" (Torres de Assumpção, 1983), usually emitted by resting individuals; "gemidos" and "latidos" (barks- Strier, 1986, 1992; Nishimura *et al.*, 1988) sometimes given by individuals disturbed by the proximity of other groups or other species. A variety of acoustic forms occurred in a yet different pattern of interindividual participation, named sequential exchanges. Typically, one individual vocalized, and others responded with one call each, with little or no overlap between adjacent calls. Sequential exchanges occurred throughout the day, in a variety of contexts. Sequential exchange calls are composed of different recombinations of short emissions (pulsed elements, less than 100 ms duration) and longer emissions (run-on elements of more than 100 ms). Five categories of pulsed elements and nine categories of run-on elements were identified, according to duration, spectral shape, and energy distribution of the emission.

Each element present in a sample of 322 calls was then assigned to one of the fourteen categories of elements. The mean number of elements per call was 10,2 (sd = 4,8), with at least two categories of elements represented in 94% of the sample. Two hundred and two calls (staccatos) were composed exclusively of pulsed elements. The remaining one hundred and twenty calls (neighs) included at least one run-on element.

Cluster analysis, based on call composition, resulted in six patterns of staccatos, and six patterns of neighs, used in sequential exchanges. Staccatos were

preferentially used during exchanges of a few nearby individuals, and could not be associated to specific referents. Staccatos dominated by harsh pulsed elements were preferentially used during during contexts of intragroup competition, such as when the whole group fed at a single source. Neighs occurred more frequently during exchanges among a larger number of participants, with at least one participant distant from the others (more than 50 m away). Some run-on elements present in neighs were almost exclusively emitted by receptive females, and others showed a strong association with contexts of a great intragroup dispersion. Two acoustic patterns were exclusively recorded after the group had spread out following encounters with members of the neighbouring group of muriquis. Sequential exchanges may operate as a system of temporally associated vocalizations that aid intragroup spacing and coordination among both nearby and distant individuals.

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#### STATUS OF SOUTH AMERICAN SPIDER MONKEYS IN NORTH AMERICAN COLLECTIONS

The 1994 North American Regional Studbook for South American spider monkeys (*Ateles belzebuth*, *A. fusciceps* and *A. paniscus*) was recently published by the Sedgwick County Zoo, Wichita, Kansas, USA. Representatives of all but two of the subspecies of these primates (*A. belzebuth marginatus* and *A. fusciceps fusciceps*) are currently maintained. The complete studbook and the status of the living populations (in February 1995) are provided for each species and

subspecies. Age pyramids, and fecundity and mortality reports are also provided. Four *A. b. belzebuth* (2.2.0) are kept in three institutions and 13 *A. b. chamek* (5.7.1) in four. A further three collections have three *A. belzebuth* (2.1.0) but the subspecies remains undetermined. The population of *A. b. hybridus* is considerably larger, with 35 animals (14.21.0) in 10 institutions. The studbook for *A. f. robustus* goes back to the late 1950's and includes records for 248 animals (84.140.24). A total of 123 *A. f. robustus* (40.76.7) were recorded alive in 25 institutions on 12 February 1995 (in addition to a male for which the subspecies was undetermined). The studbook also provides records for 131 (50.59.22) *A. paniscus*, of which 17 (8.8.1) in eight collections comprised the living population in February 1995.

Although no *A. f. fusciceps* occur in North American collections, the European population is sizable and precludes the need for efforts to establish a captive breeding program for this species in the region. However, consideration will be given to the organization of captive populations of the most threatened of the subspecies, *A. b. marginatus*, after the status of the founder base is determined for Europe and South America.

Concerning the subspecies currently held in North America, the New World Primate Taxon Advisory Group of the American Zoo and Aquarium Association (AZA) has determined that special consideration be given to *A. belzebuth hybridus* and *A. fusciceps robustus*, both listed as endangered by the World Conservation Union (IUCN), and which make up most of the holdings. Management will be directed toward retaining as much gene diversity as possible, while minimizing increases in the population size.

It is most important that collection managers use the information in the studbook to aid them in decisions regarding the management of their animals, and, likewise, that institutions maintaining South American spider monkeys supply accurate and regular reports concerning the status of their collections. The studbook keeper would also be grateful for information concerning current research projects on both wild and captive animals.

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#### Reference

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*Ateles belzebuth*, *A. fusciceps*, *A. paniscus* - *All Subspecies*. Sedgwick County Zoo, Wichita. 121pp.

#### WHITE-FACED SAKI, *PITHECIA PITHECIA*, STUDBOOK

The 1993-1994 update for the studbook of the North American populations of the white-faced saki, *Pithecia pithecia*, organized by Tracy Frampton, was published recently by the Roger Williams Park Zoo, Rhode Island, USA. It includes a list of holding institutions, a studbook of the living animals, a listing of births, deaths, and transfers, population analyses, insititution reports and addresses and selected bibliography.

The studbook, current up to 31 December 1994, lists 112 individuals with a 1:1 sex ratio (56.56.0) in 26 collections in North America. The population analyses show that the captive population has been growing since 1979/80. Between 1 January 1993 and 31 December 1994, there were 32 births (two stillborn) and 14 deaths, and 34 animals were transferred between collections.

**Tracy Frampton**, Studbook keeper, Roger Williams Park Zoo, Providence, Rhode Island 02907, USA.

#### Reference

Frampton, T. 1995. *1993-1994 Update to The North American Regional Studbook for the White-Faced Saki (Pithecia pithecia)*. Roger Williams Park Zoo, Rhode Island.

#### GRUPO ESPECIALISTA DO *CALLICEBUS PERSONATUS*

Durante o VII Congresso Brasileiro de Primatologia, em Natal, 1995, alguns pesquisadores que realizam pesquisas com o guigó, *Callicebus personatus*, se uniram para criar um "Grupo Especialista do *Callicebus personatus*". O primeiro passo dessa sociedade informal terá a finalidade de recolher informações sobre os pesquisadores que trabalham com a espécie, as áreas de estudo, interesse científico e a formulação dos objetivos do Grupo. As seguintes pessoas compuseram o grupo fundador: Fabiano Rodrigues de Melo (Universidade Federal de Viçosa, Minas Gerais), Wilson Ferreira de Melo (Universidade Federal do Mato Grosso do Sul, Corumbá), Klaus-Heinrich Müller (Deutsches Primatenzentrum, Alemanha), Fernanda Maria Neri (Universidade Federal de Minas Gerais, Minas Gerais) e Sílvia Beatriz de Souza (Universidade de Campinas, São Paulo). Para maiores informações, favor entre em