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Articles

An IUCN Classification for the Primates of Colombia

The recent article by Rylands *et al.* (1995) classifying the Neotropical primates using the new IUCN (1994) definitions for threatened status categories is an important contribution to our understanding of the level of threat for most subspecies and some species. However, in this article I would like to make some comments. Firstly, in accordance with the original IUCN document (1994) and in agreement with Gärdenfors (1995), national lists of primates ought to be categorized on a regional level whenever possible, rather than a simple reiteration of international categories. Second, any list should include the species' status, along with the subspecies' categories. Let us not forget the importance and the primacy of the species in contrast to subspecies' designations, which can at times be rather arbitrary and artificial. Likewise, a species category is not simply a summary of the subspecies assessments, as Baillie (1995) has pointed out.

Here (see Table) I provide a list of Colombian primates classified from a regional (Colombian) perspective and compare it to the international classification of the same taxa.

It is worthwhile noting that some Colombian taxa (*Callicebus cupreus*, *C. c. discolor*, *Cebus albifrons yuracus*) are considered to be at a higher level of risk than the international categorization because only a small population is known within the country, and that in regions with widespread colonization. Other Colombian taxa (*Cacajao melanocephalus ouakary* and *Alouatta palliata aequatorialis*) are considered at higher risk because of the particular situation in Colombia, which include lower population densities due to less *igapó* in the upper reaches of the Amazonian tributaries, and to hunting for food by indigenous people in the case of *C. m. ouakary*, and the lack of information on the Colombian populations of *Alouatta palliata equatorialis*, which is here classified as DD.

In Colombia, *Ateles geoffroyi grisescens* is represented by a small subset of a total population classified as EN, and the Colombian population may therefore even be considered "CR", but no data are available. Although Rylands *et. al.* (1995) categorized *Lagothrix lagothricha lugens* as CR, I classify it here as VU (see Defler, 1996).

The categorization of the conservation status of many

	Species and subspecies	(1)	(2)	(3)	Notes
01	*Cebuella pygmaea*	LR	LR	20	(4)
02	*Callimico goeldii*	VU	VU	25?	
03	*Saguinus fuscicollis*	LR	LR	15	
	S. f. fuscus	LR	LR	100	
04	*Saguinus geoffroyi*	LR	LR	40	(5)
05	*Saguinus inustus*	LR	LR	50	
06	*Saguinus leucopus*	VU	VU	100	
07	*Saguinus nigricollis*	LR	LR	20	
	S. n. nigricollis	LR	LR	20	
	S. n. graellsi	LR	LR	20	(6)
	S. n. hernandezi	VU/DD	VU/DD	100	
08	*Saguinus oedipus*	EN	EN	100	
09	*Aotus brumbacki*	VU/DD	VU/DD	100?	(7)
10	*Aotus "hershkovitzi"*	DD	DD	100?	(8)
11	*Aotus lemurinus*	VU	VU	80?	
	A. l. lemurinus	VU	VU	70?	
	A. l. griseimembra	EN	EN	100	
12	*Aotus vociferans*	LR	LR	50?	
13	*Callicebus cupreus*	LR	VU	5	
	C. c. discolor	LR	VU	5	
	C. c. ornatus	VU	VU	100	
14	*Callicebus torquatus*	LR	LR	25	
	C. t. lucifer	LR	LR	40	
	C. t. lugens	LR	LR	40	
	C. t. medemi	VU	VU	100	
15	*Saimiri sciureus*	LR	LR	15-20	(9)
	S. s. albigena	LR	LR	100?	
	S. s. cassiquiarensis	LR	LR	40?	
	S. s. macrodon	LR	LR	60?	
16	*Cebus albifrons*	LR	LR	30	
	C. a. albifrons	LR	LR	30	(10)
	C. a. cesare	DD	DD	100	(11)
	C. a. versicolor	DD	DD	80?	
	C. a. malitiosus	DD	DD	100	
	C. a. yuracus	DD	VU	10?	
17	*Cebus apella*	LR	LR	10	
	Cebus apella apella	LR	LR	?	
18	*Cebus capucinus*	LR	LR	45	(12)
19	*Pithecia monachus*	LR	LR	20	(13)
	P. m. monachus	LR	LR	15	
	P. m. milleri	VU	VU	100	
20	*Cacajao melanocephalus*	LR	LR/VU	35	(14)
	C. m. ouakary	LR	VU	30	
21	*Alouatta palliata*	LR	LR/VU	35	
	A. p. aequatorialis	LR	VU/DD	50?	
22	*Alouatta seniculus*	LR	LR	25	
	A. s. seniculus	LR	LR	?	
23	*Ateles geoffroyi*	VU	VU	20	(15)
	A. g. rufiventris	VU	VU	90	(16)
	A. g. grisescens	EN/DD	EN/DD	5	
24	*Ateles hybridus*	EN	EN	50	(17)
	A. h. hybridus	EN	EN	40	
	A. h. brunneus	EN/DD	EN/DD	100	
25	*Ateles belzebuth*	VU	VU	10-15	(18)
	A. b. belzebuth	VU	VU	35-40	
26	*Lagothrix lagothricha*	VU	VU	20	
	L. l. lagothricha	LR	LR	50	
	L. l. lugens	CR	VU	100	(19)

Notes

(1) International classification according to the Mace-Lande system (IUCN, 1994) and Rylands *et al.* (1995). LR = Lower risk, DD = Data deficient, VU = Vulnerable, EN = Endangered, CR = Critically endangered.

(2) Evaluation of Colombian primate populations, using the same criteria as the international evaluations of IUCN (1994).

(3) Percentage of total distribution represented by the Colombian populations.

(4) If no subspecies are listed, the species is considered to be without subspecies.

Cover photograph by Russell A. Mittermeier: a subadult, Wied's black tuffed-ear marmoset, *Callithrix kuhli*, from southern Bahia, Brazil.

(5) *Saguinus geoffroyi* and *S. oedipus* are considered to be separate species, *contra* Hershkovitz (1977).
(6) Hernández-Camacho and Cooper (1976) and Hernández-Camacho and Defler (1985, 1989) consider *S. graellsi* to be a separate species from *S. nigricollis*.
(7) The distribution of *Aotus brumbacki* is poorly known, since specimens have been karyotyped from the environs of Villavicencio only. For this reason it seems important to categorize the species VU/DD. In fact it may be more correct to use only DD.
(8) *Aotus "hershkovitzi"*, a species with the highest known karyotype, 2n=58, is in the process of being described by Martha Bueno *et al.* (pers. comm.).
(9) *Saimiri sciureus, sensu* Hershkovitz (1984).
(10) *Cebus albifrons albifrons* = *C. albifrons unicolor* (Defler and Hernández-Camacho, in prep.).
(11) *Cebus albifrons versicolor*, an extremely variable subspecies with light and dark phases, includes *C. a. pleei* and *C. a. leucocephalus* (see Hernández-Camacho and Cooper, 1976).
(12) In this account no subspecies are distinguished for *Cebus capucinus*, since they are in doubt. (see Hernández-Camacho and Cooper, 1976; Mittermeier and Coimbra-Filho, 1981).
(13) *Pithecia monachus, sensu* Hershkovitz (1987).
(14) *Cacajao melanocephalus, sensu* Hershkovitz (1987).
(15) *Ateles geoffroyi* is considered here to include *Ateles fusciceps, sensu* Froehlich *et al.* (1991).
(16) *Ateles geoffroyi rufiventris* has priority over *A. g. robustus*.
(17) *Ateles hybridus* is considered a full species (Froehlich, pers. comm., 1993).
(18) Following Froehlich *et al.* (1991), *Ateles belzebuth* includes as subspecies "*belzebuth*", "*chamek*", and "*marginatus*".
(19) *Lagothrix lagothricha lugens* is considered here to be "VU", *contra* Rylands *et al.* (1995); but see Defler (1996).

of these animals will continue to be in flux, and future census work will undoubtedly result in some changes to the classification of many of the taxa listed here.

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The IUCN Conservation Status of *Lagothrix lagothricha lugens* Elliot, 1907

Recently, Rylands *et. al.* (1995) published the results of an evaluation by the Neotropical Section of the IUCN/SSC Primate Specialist Group (PSG) of the Mace-Lande categorization for the conservation status of the New World primates. In their article *Lagothrix lagothricha lugens* was classified as "CR" (Critically Endangered), which in the new Mace-Lande IUCN system is the most severe threat in the wild before extinction (IUCN, 1994; IUCN, 1995). The bases for this classification were the criteria B1 (populations severely fragmented), B2 (continuing decline, observed, inferred or projected, in extent of occurrence, area of occurrence, area, extent and/or quality of habitat, the number of locations or subpopulations, and the number of mature individuals), and C2a (a continuing decline, observed or projected, or inferred, in numbers of mature individuals and population structure due to severe fragmentation (i.e., no subpopulation estimated to contain more than 50 mature individuals) (Rylands *et al.*, 1995). In this note I propose that this taxon be categorized as vulnerable "VU", and I discuss here why I have come to this

conclusion.

Lagothrix lagothricha lugens (*sensu* Fooden, 1963) may be endemic to Colombia, although a small (unconfirmed) population is possibly located in the upper Apure River system of Venezuela (Hernández-Camacho and Cooper, 1976). The original distribution was the northern tip of the Cordillera Central (southern Bolívar) in the Serranía de San Lucas, isolated from the southern population of the upper Magdalena River. Also the distribution apparently included the western and eastern slopes of the Eastern Cordillera as well as the lowlands of western Caquetá and Putumayo Departments, southern Meta Department and the piedmont north at least to the Venezuelan border (see Fig. 1). The other subspecies in Colombia (*Lagothrix lagothricha lagothricha*) is distributed east of *lugens* throughout the lowland Amazonian forest.

Lagothrix l. lugens has been observed at altitudes of up to about 3,000 m. It is possible that there are other unknown populations which would enlarge its known distribution. Nevertheless, this subspecies has the smallest range of the four subspecies of *L. lagothricha*. The original range of this taxon has been fragmented, and its extent of occurrence reduced due to deforestation

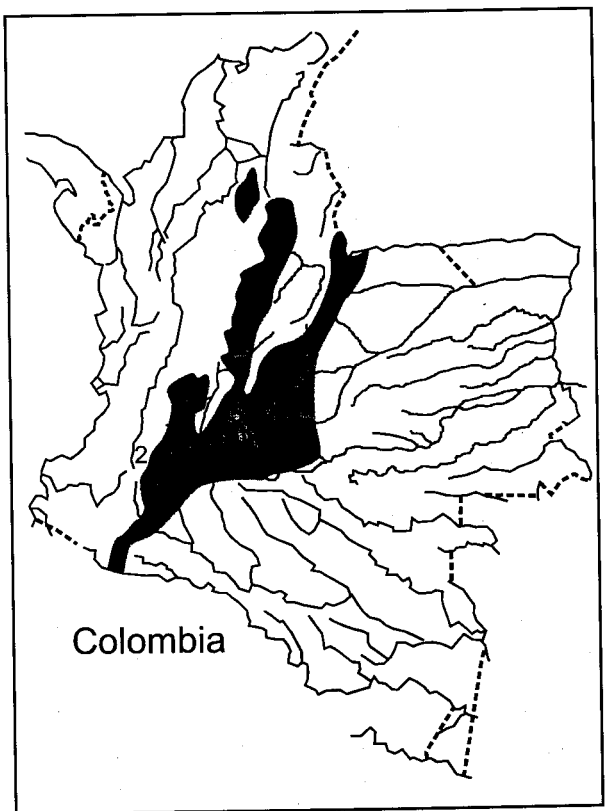

Fig. 1. Geographical distribution of *Lagothrix lagothricha lugens*, showing major confirmed populations. 1-Serranía de San Lucas (Bolívar); 2-Puracé National Park; 3-Cueva de los Guácharos National Park; 4-Serranía de La Macarena National Park; 5-Tiniguas National Park; 6-Cordillera de los Picachos National Park.

and colonization along most of the slopes of the cordilleras and along the piedmont to the east of the mountains. Nevertheless, there are at least six Colombian national parks (and perhaps one or two more) which legally protect *L. l. lugens*. Confirmed populations are located in Puracé, Cueva de los Guácharos, Cordillera de los Picachos, Tiniguas, La Macarena and El Cocuy National Parks. The taxon is probably also found in the Chingaza National Park. Extensive forest on the Eastern Cordillera of Caquetá Department, extending north to Picachos, probably protects more *L. l. lugens*, but security problems make it difficult to work there to census them. Indeed, on-ground protection even within Colombian parks is often rather difficult, for a number of reasons.

In order for this taxon to be classified as CR using the criteria of B1 and B2, the extent of occurrence would need to be estimated to be less than 100 km^2 or the area of occupancy should be estimated to be less than 10 km^2, and estimates should include any two of three points having to do with habitat fragmentation, decline, and fluctuation. However, for this note I have analyzed the minimum extent of occurrence as follows.

First, the subspecies is known mainly from the Serranía de la Macarena westward to the Cordillera. This includes a block of three national parks, La Macarena, Las Tiniguas and Los Picachos. I do not include the area of La Macarena east of the Serranía since *Lagothrix* does not appear to be present there. The extent of this block, up to an altitude of 3,000 m, is about 8,031 km^2 of intact forest with very little colonization, judging from a satellite image survey of the Colombian Amazon which I carried out from the mid-1980's (Defler, in press). The subspecies is confirmed in at least three other national Parks: Puracé, Cueva de los Guácharos and El Cocuy which adds roughly another 1,000 km^2 to the total.

The northernmost population of this taxon is found in a forest reserve in southern Bolívar, which adds, very approximately, 15,000 km^2. Hopefully a national park will be established in this region in the future, since it is the largest area of intact forest in the entire zone, mostly because it remains dangerous to outsiders, because of insurgents. Also, along the Cordillera Occidental from southern Caquetá up to the Cordillera de los Picachos National Park there are perhaps 7,000 km^2 of fairly intact forest on mountain slopes, which is *Lagothrix* habitat. This provides a corridor from La Cueva de los Guácharos to the Florencia road over the Cordillera, thence to Picachos. The total area of occupancy here is 30,081 km^2 and does not include other forests in the upper Magdalena and those along the Cordillera Oriental where populations of this subspecies are known, even though the habitat is quite fragmented. The conclusion here is

that B1 and B2 cannot be appropriately used as a basis for a classification as CR, nor EN (endangered), nor even VU.

The other criterion, C2a is also not valid. This states that C - the population is estimated to number less than 250 mature individuals, 2 - a continuing decline, observed, projected, or inferred, in numbers of mature individuals and population structure in the form of a severely fragmented (i.e., no subpopulation estimated to contain more than 50 mature individuals).

The joint Japanese-Los Andes University project on the Duda River in Tiniguas National Park has studied some habituated groups of *L. l. lugens* for several years and, using data found in Stevens *et al.* (unpublished, 1994), I have calculated a density of about 28 animals/km^2. About 98% of this national park is still forested (Defler, in press), so that multiplying 98% of the size of the park (2,019 km^2) by the density at this research site yields an optimistic approximate population of 54,401 *Lagothrix*. Using my own age-sex categories for a group of *Lagothrix* in the Amazon (another subspecies; Defler, 1996) we can say that roughly half of a woolly monkey group is made up of adult animals or 27,200 in Tiniguas. This is probably an overly optimistic calculation, given that there has been much timber extraction and other colonist activities in this park. But the total does not include *L. l. lugens* found in Picachos or La Macarena National Parks, both with sizeable woolly monkey populations, as well as the known populations in Puracé and Cueva de los Guácharos, which are probably smaller than Picachos, but still contribute to a total which does not begin to compare to the scanty populations of such species as *Brachyteles arachnoides* (EN) or three of the *Leontopithecus* species classified as critically endangered.

It would be incorrect to certify that there are over 10,000 mature individuals of *L. l. lugens*, since no censusing has been done. Nevertheless, the distinct possibility exists that there may be twice this number which would put the taxon out of the range for VU, as well. I personally believe that it is still possible that the population of mature individuals may be 20,000, given the large area of occupancy that still remains.

On the basis of the criteria A1c and A2c, I would place this taxon into the VU category at this time. All parts of the area of occupancy are surrounded by human activity. Following a fuller appraisal of the status of this woolly monkey, the correct classification may ultimately be Lower Risk cd (dependent on conservation efforts), but presently we are far from attaining this.

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La Primatología en la Argentina: Estudios Sobre Evolución, Ecología y Manejo en Cautiverio

A lo largo de los últimos años se han publicado notas con el objeto de divulgar los temas y grupos que en la Argentina desarrollan trabajos de investigación en primates. Dada la diversidad de publicaciones, resulta una tarea difícil obtener información bibliográfica y conocer los proyectos en desarrollo. En este artículo se presenta una reseña de las actividades desarrolladas por especialistas del Grupo de Investigación en Biología Evolutiva (GIBE) y del Museo Argentino de Ciencias Naturales (MACN).

GIBE - Dra. Marta Mudry, Lic. Valeria Szapskievich, Lic Adriana Hick, Lic. Aldo Giudice y Lic. María A. Gorostiaga.

En los últimos veinte años se han realizado trabajos tendientes a caracterizar bioecológicamente a los primates de la Argentina y países vecinos, como Paraguay y Bolivia. De este modo, se desarrollaron aspectos sobre citogenética y su aporte a la taxonomía. Este tema, que en un principio era exclusivo de un marco teórico, fue incorporado gradualmente al estudio de poblaciones de primates en su ámbito natural y al desarrollo de técnicas de manejo en cautiverio.

Los primeros trabajos permitieron la caracterización citogenética de *Cebus apella*, *Alouatta caraya* y *Aotus azarae* a partir de ejemplares silvestres y de cautiverio. Los estudios con técnicas de bandeo G y C, NOR y G/C secuencial en cromosomas metafásicos y prometafásicos identificaron regiones frágiles. La relación con los ordenamientos cromosómicos observados en Cébidos y su vinculación con regiones heterocromáticas se estudió tanto a nivel cualitativo como cuantitativo. Se analizaron *Saimiri boliviensis* procedentes de Bolivia y otros alojados en los zoológicos de Madrid y Barcelona. Grupos de la Universidad Autónoma de Barcelona y de la II Universitá di Roma, participaron en la caracterización genética. Actualmente se estudian proteínas séricas y enzimas eritrocitarias de *A. caraya* y *Cebus apella*, procedentes de fragmentos de selva resultantes de la deforestación y de islas del río Paraná en el NE de la Argentina. El principal objetivo es caracterizar la variabilidad de esta especie y conocer si los grandes ríos actúan como eficientes barreras geográficas. Los trabajos sobre ecología de esta especie muestran diferencias notorias entre las poblaciones de islas y tierra firme, sin embargo éstas no se reflejan en los estudios citogenéticos pudiendo estar asociadas a la variabilidad adaptativa de la especie.

Conjuntamente con la aplicación de las técnicas de caracterización genética de primates en cautiverio, se desarrolla un estudio sobre aspectos del comportamiento de *C. apella* y *A. caraya*. El objetivo es caracterizar la plasticidad comportamental de los primates alojados en jardines zoológicos. Para ello se consideran los conocimientos disponibles, sobre organización social y comportamiento de estas especies en vida silvestre, con el fin de lograr un programa de mejoramiento basado en el estudio del ambiente físico y el uso del hábitat, comportamiento alimentario y relaciones sociales. El trabajo tiene como base que el bienestar y mantenimiento de los primates puede mejorarse si se logra un equilibrio entre las necesidades biológicas y el ambiente del cautiverio.

MACN - Dr. Gabriel E. Zunino, Lic. Susana Bravo, Lic. Martín Kowalewski.

Interactúan con este grupo un número variable de biólogos de campo, como los Lic. Elisabet Wehncke y Luis Calcaterra. Parte de los proyectos se han desarrollado en colaboración con investigadores de otras instituciones, como el Laboratorio de Investigaciones Ecológicas de las Yungas-LIEY (Dr. Alejandro D. Brown) y el Centro Argentino de Primates-CAPRIM (Dr. Julio Ruiz).

Todos los temas de investigación están orientados al estudio de poblaciones silvestres de primates de la Argentina. Estos comprendieron a lo largo de los últimos años, estudios referentes a la variabilidad adaptativa de *C. apella*; organización social, uso del espacio, comportamiento y dieta en *A. caraya* y estado poblacional de *A. azarae*. La suma de la experiencia acumulada permitió elaborar un perfil sobre la distribución geográfica y estado poblacional de los primates de nuestro país.

En la actualidad se desarrollan estudios sobre dispersión y germinación de semillas por *A. caraya*, tomando como referencia su importancia en la regeneración de selvas. Otro proyecto relacionado se orienta al conocimiento de esta especie en la selva de inundación, donde presenta características particulares en cuanto a organización social y uso de los recursos.

Lista de Publicaciones Relacionadas

La información detallada de los resultados obtenidos hasta el presente en las diversas líneas de trabajo puede obtenerse a través de la bibliografía que se cita a continuación, solicitando copias a la Biblioteca Primatológica Argentina. Dr. Gabriel Zunino. Museo Argentino de Ciencias Naturales, Av. Angel Gallardo 470, 1405 Buenos Aires, Argentina, e-mail:gezunino@overnet.com.br

Citogenética y Sistemática

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New Location for the Muriqui (*Brachyteles arachnoides*) in the State of São Paulo, Brazil

The muriqui (*Brachyteles arachnoides*) is an endangered primate species endemic to the Atlantic forest of Brazil (Strier, 1992). Today only a few small and fragmented populations still remain due to the destruction of the large majority of the Atlantic forest (Fonseca, 1983, 1985a, 1985b; Mittermeier *et al.*,1987; Nishimura *et. al.*, 1988). In this paper we report on the discovery of a new area of occurrence for the muriqui in the Serra da Mantiqueira, in the municipality of Pindamonhangaba, state of São Paulo, Brazil.

Description of the Area: Located in the municipality of Pindamonhangaba (140 km east of the city of São Paulo), the São Sebastião do Ribeirão Grande ranch (22° 45'S, 45° 28'W) encompasses 1,706 hectares of land at altitudes of 627 to 1,962 meters (Figure 1). Of this, 1,206 hectares are comprised of natural vegetation: rain forest, scrub and *campos* (savanna). The remaining 500 ha are covered by eucalyptus plantations. In addition, the area borders the Campos do Jordão State Park, which covers 8,300ha, and the Usina Isabel owned by the electricity company ELETROPAULO (Eletricidade de São Paulo S.A), as well as the privately-owned Vera Cruz ranch of approximately 1,000 ha. These properties provide a total of 10,700 ha of continuous forest within the Environmental Protection Area (APA) of the Serra da Mantiqueira (Federal Decree 91.304, 6 March, 1985).

Sightings: We obtained three sightings of muriqui in the São Sebastião do Ribeirão Grande ranch. All of these were within the same area, Atlantic rain forest at an altitude of 1,100 m. The sightings occurred in April 1994, October 1994 and January 1996. The number of individuals counted during these sightings ranged from seven to 22 animals, including two dependent infants seen at the first sighting in April 1994.

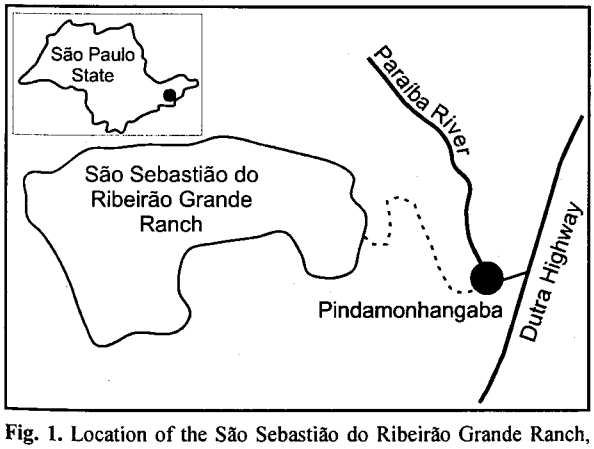

Fig. 1. Location of the São Sebastião do Ribeirão Grande Ranch, state of São Paulo.

Other Primate Species: In addition to the muriqui, three other primate species were recorded in the São Sebastião do Ribeirão Grande ranch: the brown capuchin monkey (*Cebus apella*), the brown howler monkey (*Alouatta fusca*) and the masked titi monkey (*Callicebus personatus*).

Conservation: As part of the activities involved in the preparation of a management plan for the Forest Reserve of the São Sebastião do Ribeirão Grande ranch (Manna de Deus *et al.*, in prep.), CEMASI (*Centro de Monitoramento Ambiental da Serra do Itapety*) with the support of the Environment Division of Votorantim Celulose e Papel, has been carrying out systematic surveys of the fauna and flora since 1992, besides data collection on land use and abiotic features of the area. The Management Plan includes a "Program for the Natural Environment", which will give priority to studies on endangered species such as the muriqui.

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Possible Predation on Two Infant Muriquis, *Brachyteles arachnoides*, at the Estação Biológica de Caratinga, Minas Gerais, Brazil

Unusually low infant mortality has characterized one group of muriquis (*Brachyteles arachnoides*) at the Estação Biológica de Caratinga, Minas Gerais, Brazil (Strier, 1991). Long-term demographic records of recognized individuals indicate that from June 1982 through June 1995, only two of the 49 infants born in the study group have disappeared or died (Strier, 1993/1994). One of these infants belonged to a set of twins, and was last sighted at approximately 13-months of age struggling to follow her mother, who was carrying the other twin. The second was a male who died of unknown causes but was still being carried as a limp and clearly lifeless form by his mother 5 days after birth. A third infant was also found abandoned on the forest floor at 4 months of age, and would undoubtedly have died had observers not intervened and returned her to her mother (Nogueira *et al.*, 1994).

Although we lack confirmation of the cause of death in these prior instances of infant mortality, two recent sets of observations suggest that young muriquis at this site may be more vulnerable to predation than was previously thought.

Case 1: On 13 July 1995, one observer (RCP) was accompanying the study group as it foraged along a ridge top in the central part of its home range. At approximately 1230 h, group members descended to the ground and began feeding on samambaia (*Rumohra adiantiformis*). Two adult females suddenly gave loud alarm calls. The group responded by rapidly climbing back into the canopy, and soon afterward moved away from the ridge into an adjacent valley. The 13-month old son of one of the vocalizing females did not flee into the trees when his mother and another female gave their alarm. Dense vegetation made it impossible to observe the infant, but his mother and her associate remained on the ridge top and continued to vocalize in what resembled a mixed alarm and lament over the next two hours. The following day, both adult females were found with the rest of the study group. The mother of the infant that had remained on the ground was now traveling alone, and no evidence of her son was found despite searches along the ridge top where he was last sighted. A few days later, the same observer was with the group when the muriquis gave an alarm call similar to the one on 15 July. Shortly after the alarm, a large tayra (*Eira barbara*) passed close to the observer on the forest floor.

Case 2: On 17 September 1995, a second observer (CGC) was accompanying the group as it traveled toward a patch of primary forest. At 1040 h, the group settled down along a trail, with some individuals resting and others feeding in nearby trees. At 1050 h, the observer began to hear muriqui alarm calls, and went to the area where the alarms were originating. The alarms continued until 1140 h. At 1120 h, a female muriqui was sighted without her 13-month old daughter who had been seen earlier in the morning. This mother was close to the same female who had lost her infant less than two months earlier. Both mothers were vocalizing in a sort of cry, and embraced one another twice during a 10-minute focal sample. At the end of the day, the female whose daughter was missing remained in the area where the alarm calls had been given, slightly separated from the rest of the group. The following day, the observer located a nest of *Leptodon cayanensis* (Accipitridae) in the area where the muriquis had been alarm calling, and where the mother of the 13-month old infant was first sighted without her daughter.

In both of these instances, the behavior of the muriquis, including distinct alarm calls to visible predators, and the subsequent disappearance of two infants, are strongly suggestive that predation was the cause of the two infants' disappearances. Previously, the only reports of natural predators of muriquis have involved jaguars (*Panthera onca*) in large, pristine protected forests (Olmos, 1994; Galetti, 1996). The circumstances and coincidental disappearances described above suggest that young muriquis inhabiting small, disturbed private forests may also be vulnerable to natural terrestrial and avian predators.

We can only speculate about the timing and circumstances of these two suspected predations, and we cannot rule out the possibility that the muriquis' alarm calls and the subsequent disappearances of these two infants were coincidental rather than causally linked. However, it may also be the case that predation pressures

on muriquis may be increasing at this site. First, the presence of human observers accompanying the muriquis may have previously inhibited unhabituated predators from pursuing the muriquis in our study group. Second, the dramatic increase in the size of the study group (Strier, 1993/1994) may make mothers less vigilant toward their infants as they devote more of their attention to feeding or as they exploit a greater variety of foods in areas of the forest where they are more vulnerable to predators. Finally, the predator population, like the muriqui population, may be growing as a result of continuing conservation efforts at this site. Indeed, continuing efforts to preserve and protect the ecosystem at the EBC may allow us to witness the return of natural ecological dynamics within this community, including those between predators and their muriqui prey.

The fact that both infants were the same age at the time of their disappearances and presumed depredations may be just a coincidence. Alternatively, it may be indicative of a life history stage when young muriquis are especially vulnerable to predation. Although 13-month old muriquis spend most of their time in proximity to their mothers and are not yet weaned, they do, nonetheless, spend significant amounts of their time foraging and traveling independently (Odália Rímoli, 1992). Predation may be an important source of infant mortality during this critical period of development, with consequences both for the reproductive success of mothers as well as for the demographic structure of the population. As we continue to monitor the demography and behavioral ecology of muriquis at the EBC, we hope to gain greater insights into these and other sources of mortality on muriquis.

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Infanticide in a Captive Group of Golden-Headed Lion Tamarins (*Leontopithecus chrysomelas*)

The endangered golden-headed lion tamarin, *Leontopithecus chrysomelas*, is restricted in the wild to remnants of the Brazilian Atlantic Forest in southern Bahia and northern Minas Gerais states (Pinto and Tavares, 1994). As for other members of the genus (Seal *et al.*, 1990), captive breeding is likely to play an important role in the long-term conservation of this species. Like other callitrichines, lion tamarins are co-operative breeders, but exhibit a relatively short gestation period (Martin, 1992), and a behavioral rather than physiological suppression of breeding in subordinate females (French and Stribley, 1987).

As part of a study of reproductive behaviour in captive lion tamarins, a group of three *L. chrsyomelas*, containing a breeding pair and a subadult female daughter (11 months old), was monitored during the period following the birth of a single infant on the 5th of July, 1995. Data

on infant carrying were collected during thirty-minute continuous focal samples on eleven different days to the 1st of August, when the infanticide occurred. All three group members carried the infant, but whereas the breeding female was the only carrier on the first two days post-partum, the interest of both adults in the infant declined considerably after the first week (Fig. 1).

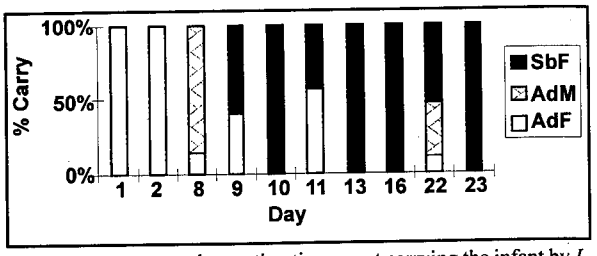

Figure 1. Percentage observation time spent carrying the infant by *L. chrysomelas* study group members (SbF = subadult female; AdM = adult male; AdF = breeding female).

On the 28th day following the birth, the male was observed at the start of the observation session rubbing the infant forcibly against the ground with both hands, and continued doing so during approximately eight minutes. The infant was face up, and emitted a strident vocalization intermittently. Halfway through this period, the breeding female approached to within 20 cm of the male, but did not interfere, and moved away again after 40 seconds. Neither female attempted to impede the male. The male then moved away, leaving the infant silent and immobile on the ground. The infant was still alive when removed two minutes later, but died during the night. Earlier on the same day the male had dropped the infant from a height of almost two metres.

Infanticide has only recently been observed in free-ranging callitrichines (Digby, 1995; A. C. M. Oliveira, pers. comm.), and it is as yet unclear with what frequency it may occur in the wild. In both cases, observed infanticides appeared to be a result of factors - reproductive competition and nutritional stress, respectively - that are unlikely to be relevant in the present case, especially as it involved the breeding male, rather than the female, as was the case in the previous observations.

The most likely explanation here would seem to be offered by the "social pathology" hypothesis (Hrdy, 1979), related to the stress of captive conditions, although it is not exactly clear what factors are most relevant. The breeding pair had successfully reared the group's subadult female, but abandoned the subsequent litter (born prior to the infant in the present study), which was hand-raised. That the infant in the present study survived until the fourth week may thus be related to the presence in the group of the subadult female helper, although it remains unclear what may have provoked the change in the behaviour of the breeding animals. The carrying data (Fig. 1) indicate that the adults had little interest in taking the infant after the first week, and while the subadult female was willing to help, the increasing size of the infant may have eventually reduced her tolerance significantly. This may have provoked, at least indirectly, the male's attack.

While the exact causes of the observed infanticide remain unclear, the present study has shown that a complex relationship exists between factors such as parental experience and the successful rearing of offspring in *L. chrysomelas*. A more detailed understanding of this relationship will clearly be vital to successful captive breeding, which may be so essential for the conservation of this species. It is hoped that the study reported here will contribute to such an understanding.

This study is supported by the São Paulo Zoological Garden, and stipends from The Brazil Science Council (CNPq) and The Higher Education Authority (CAPES). We would also like to thank Dr. Faiçal Simon and Dida Mendes.

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NOTES ON THE DISTRIBUTIONS OF THE ECUADORIAN CALLITRICHIDS

The distribution of the four species of callitrichids that occur in Ecuadorian Amazonia is not completely known. The available information has come mainly from old collections, and the localities are in many cases imprecise. Additionally, there are still some areas, especially in the south-east, that have not been carefully explored. The present data are the result of several years of observations of the different species of callitrichids in areas in north and central Ecuadorian Amazonia and of interviews with the local people in each area.

Saguinus tripartitus

The distribution of this species in Ecuadorian Amazonia appears to be restricted to the southern bank of the Río Napo, as was pointed out by Albuja (1994). Groups ranging from 3 to 7 individuals have been observed in the area of the Yasuní Research Station of the Universidad Católica; and in forests close to the Pompeya Sur-Río Iro road constructed by the Maxus Petroleum Company. All these observations were made between the southern bank of the Río Tiputini and the northern bank of the Río Yasuní. There is no evidence of its presence north of the Río Napo, nor along the Ríos Aguarico, Cuyabeno and Lagartococha.

Fig 1. 1- Yasuní Research Station; 2-Laguna Grande, Cuyabeno Research Station; 3-Zanoudocacha Lake; 4-San Pablo de Cantesiaya; 5-Limoncocha Reserve; 6-Jalun Research Station; 7-Añangococha Lake; 8-Rio Indillama; Dotted line - Highway Pompeya Sur-Río Iro.

Saguinus nigricollis graellsi

This is the only species of tamarin that occurs in the Cuyabeno Reserve, a protected area in northeastern Ecuador that includes the northern bank of the Río Aguarico and the basins of the Ríos Cuyabeno and Lagartococha. Groups ranging from 2 to 9 individuals have been observed in forests along these rivers. Additionally, 10 groups were studied from August 1989 through August 1990 in the area of Laguna Grande, in the Cuyabeno basin (de la Torre *et al.*, 1995). Other groups of *S. nigricollis* have been registered south of the Río Aguarico in the areas close to the Zancudococha lake and of the Secoya community of San Pablo de Cantesiaya, and in the Limoncocha Reserve, north of the Río Napo. Thus, it appears that its distribution goes from the northern bank of the Río Napo up to the Río Putumayo on the boundary with Colombia.

Saguinus fuscicollis lagonotus

Observations of this species have been made south of the Río Napo in areas close to the Jatun Sacha Research Station, the Añangococha Lake and along the Pompeya Sur-Río Iro highway in the Yasuní National Park, but never south from the Río Indillama. Groups ranged from 4 to 8 individuals. Some few observations were also made in an area close to the Río Pastaza, in southeastern Ecuador. To date, there are no reports of sites where any two of the tamarin species live in sympatry.

Cebuella pygmaea

This species has been observed in the Cuyabeno Reserve inhabiting flooded forests along the Ríos Aguarico, Lagartococha and Cuyabeno. Additional records are available from the Yasuní National Park, along the Río Tiputini and other small rivers of the area. The species is apparently widely distributed in Ecuadorian Amazonia, although the densities in any given area are not high (pers. obs.). The observed group sizes ranged from 3 to 8 individuals.

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News

THE PSG AT THE XVITH CONGRESS OF THE INTERNATIONAL PRIMATOLOGICAL SOCIETY, XIXTH CONFERENCE OF THE AMERICAN SOCIETY OF PRIMATOLOGISTS, MADISON, WISCONSIN

A one-and-a-half day primate conservation symposium was held during the joint IPS/ASP Congress held in Madison, Wisconsin, 11-16 August 1996. It was organized by the IUCN/SSC Primate Specialist Group Chairman, Russell A. Mittermeier, and Deputy Chairman, William R. Konstant, along with the Regional Vice Chairpersons, Ardith Eudey (Asia), Tom Butynski (Africa), and Anthony Rylands and Ernesto Rodríguez-Luna (Neotropics). There were three parts to the Symposium. The first, held during the afternoon of 13 August, was entitled "Primate Conservation at the End of the 21st Century - A 20-Year Retrospective and a Look at the Next Millenium". Russell Mittermeier introduced the Symposium and its objectives and reviewed global primate distributions, priority countries and regions, and the current conservation status of the species and subspecies. Special attention was given to the role of the World Conservation Union, the Species Survival Commission and the Primate Specialist Group. The history of the PSG was reviewed, beginning with its establishment in the late 1960's under Barbara Harrison. The PSG's activities were highlighted with the development of the Global Strategy for Primate Conservation in 1978, the World Wildlife Fund Primate Program, begun in 1979, the Primate Action Plans of the late 1980's and early 1990's, and the creation of networks for primate conservation around the world. Mittermeier reviewed the role of these activities in the past, their relevance to the 20th Century, and the relative impacts of the principal threats to primates, and their prospects in the 21st Century. Subsequently,William Konstant provided a historical review of funding sources for primate conservation, including multi-lateral development banks, national and international non-governmental organizations, U.S. and foreign government agencies, individual and institutional foundations, zoos and aquariums, corporations and private donors. The remainder of the first part of this symposium was given over to regional reports of PSG activities and the situations in the Neotropics (Anthony Rylands and Ernesto Rodríguez-Luna), Asia (Ardith A. Eudey), Africa (Thomas Butynski) and Madagascar (Jorg Ganzhorn and Patricia Wright), along with a history of the role of IPS, ASP, the Primate Society of Great Britain (PSGB), and other institutions, in primate conservation (David J. Chivers), a review of the development and application of tools and processes for scientifically-based management strategies for threatened species, based on small population and conservation biology (Susie Ellis), and, finally, the role of zoos in primate conservation (Anne Baker).

The second part of the symposium, held during the morning of 14 August and entitled "Case Studies of the Critically Endangered and the Future", reviewed the conservation status of the primates most likely to go extinct early in the 21st Century. Recent estimates by IUCN have indicated that almost half of all the primate species (114 out of 250) are of conservation concern, and roughly one in five (43 out of 250) are considered critical or endangered; these taxa being concentrated in Madagascar, the Atlantic forest region of Brazil, northern Colombia, West Africa, China, Vietnam, and other parts of South-east Asia. Considering both species and subspecies, current estimates show that 33% of primate taxa are threatened (204/*c.*620), and 103 (16.6%) are critically endangered or endangered. Twelve papers were presented which reviewed the current status of critically endangered and endangered species and species groups around the world: the lion tamarins of Brazil's Atlantic forest (A. B. Rylands & C. Valladares Padua); Brazil's largest endemic mammal, the muriqui (K. B. Strier & G. A. B. da Fonseca); the cotton-top tamarin in Colombia (L. H. Giraldo, A. Savage & L. H. Soto); the mountain gorilla, prospects in conditions of extreme political instability (H. D. Steklis, C. N. Gerald & S. Madry); the critically endangered red colobus subspecies in Western Equatorial Africa, Cameroon, Nigeria, Ghana, and Kenya (J. F. Oates); Madagascar's lemurs (K. E. Glander); the remarkable snub-nosed monkeys of China (R. M. Ren, R. C. Kirkpatrick & N. G. Jablonski); the Vietnamese snub-nosed monkeys, langurs and gibbons (X. C. Le); the Javan gibbons (J. Supriatna, N. Andayani, D. Buchori, D. Supriyadj & S. Sueryadj); the four primates endemic to the Mentawai Islands (A. Fuentes); and the Japanese macaques of Yakushima (D. A. Hill & T. Maruhashi). Ajith Kumar, who was to review the status of the lion tailed macaque of the Western Ghats in India, was unfortunately unable to attend, and in his place S. M. Mohnot talked about the Indo-U.S. Primate Project. The reviews provided success stories and optimism in many conservation efforts, but in some the conclusions were dramatic, notably concerning the mountain gorilla and red colobus in Africa, and the situation in Vietnam.

The final part of the symposium, during the afternoon of 14 August, involved a round-table discussion concerning priorities for the future, an action plan agenda, the role of major multilateral financing and development agencies and the prospects for survival of the threatened species' around the world.

The PSG officers gratefully acknowledge the support of the Congress Chairman, Dr. John Hearn, and the Chair of the Scientific Program Committee, Dr. David Abbott, for allotting a morning and two afternoon sessions for this most important symposium. It was extremely well attended, and demonstrated as such the high priority given to primate conservation concerns by the International Primatological Society and the American Society of Primatologists. The proceedings of the symposium will be published in a special edition of the IUCN/SSC Primate Specialist Group journal - *Primate Conservation.*

Russell A. Mittermeier, Chairman - IUCN/SSC Primate Specialist Group, Conservation International, 1015 Eighteenth Street N. W., Suite 1000, Washington D. C. 20036, USA.

Mixed Species in Captivity: A Neotropical Primate Taxon Advisory Group (TAG) Survey

In April of 1995, a questionnaire was sent out on behalf of the Neotropical Primate Taxon Advisory Group to approximately seventy AZA institutions listed on ISIS as holding Neotropical primates. The purpose of the questionnaire was to gain as much information as possible pertaining to the species of platyrrhines that various institutions have attempted to house together, successfully or unsuccessfully, as well as with non-primate species.

Forty-six institutions responded to the survey. Thirty three of them described experiences of mixed-species housing of Neotropical primates. The other 13 reported that they had no experience in this respect. Responses to the questionnaire included accounts of mixed-species housing for 13 of the 16 New World primate genera. *Brachyteles*, *Chiropotes* and *Cacajao* were the only primates not mentioned by the respondents. A variety of reptiles, birds, and other mammals were also reported to have been involved. The results of this survey will eventually be included in a husbandry manual for callitrichids currently being prepared by the Neotropical Primate Taxon Advisory Group.

If you would like a copy of the results of the questionnaire, please send a blank IBM-formatted 3½" diskette or request a printed copy at the address below.

Vince Sodaro, Head Keeper, Primate Department, Brookfield Zoo, 3300 South Golf Road, Brookfield, Illinois 60513, USA.

International Studbook for the Golden-Headed Lion Tamarin

The International Studbook for the golden-headed lion tamarin, *Leontopithecus chrysomelas*, is a chronology of the captive population, developed and maintained under the auspices of the International Recovery and Management Committee for the species, chaired by Jeremy J. C. Mallinson (Jersey Wildlife Preservation Trust, Jersey) and Adelmar F. Coimbra-Filho (ex-Director of the Rio de Janeiro Primate Center, Rio de Janeiro). The 8th International Studbook (keeper Helga de Bois), has been published by the Antwerp Zoological Gardens, Antwerp. It includes data up to 31 December 1995, and contains information on animal identities and locations, sex, parentage, births and causes of deaths, as well as a list of addresses of all holders and data on the current demographic and genetic status of the population. It is maintained in SPARKS, developed by the International Species Information System (ISIS). The studbook is available free of charge from Helga de Bois.

On 31 December 1995, there were 645 golden-headed lion tamarins in captivity: 272 in Brazil, 101 in North America, 228 in Europe and 44 in Asia. The population is distributed through 73 registered institutions: 13 in Brazil, 24 in North America, 32 in Europe and four in Asia. The number of founders is 116 to 153 (the range in genetic parameters reflects two alternative assumptions: 1. an unknown parent is wildborn or 2. genes from unknown parents are omitted). The number of founders which have never bred is 18 to 20. The heterozygosity lost to the population was 1%. Growth since 31 December 1994 was 5%: 12% in Brazil, 1% in North America, 2% in Europe, and 13% in Asia.

Helga de Bois, Royal Zoological Society of Antwerp, Kon. Astridplein 26, 2018 Antwerpen, Belgium. Tel: +32 3 2024 580, Fax: +32 3 2024 547.

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De Bois, H. 1996. *Golden-Headed Lion Tamarin,* Leontopithecus chrysomelas, *International Studbook 8, 1995.* International Recovery and Management Committee for the Golden-Headed Lion Tamarin and Royal Zoological Society of Antwerp, Antwerp.

Ecology and Behavior of Brown Howlers in Araucaria Pine Forest, Southern Brazil

A master's thesis "The brown howler monkey *Alouatta fusca clamitans* (Cabrera, 1940) (Primates, Cebidae) in the Aracuri Ecological Station, Rio Grande do Sul: seasonal variation in foraging" was defended in

September, 1996 at the Biosciences Institute, Catholic University of Rio Grande do Sul. The work was supervised by Professor César Ades, Department of Experimental Psychology, Institute of Psychology, University of São Paulo. It is the first year-long study of this species in Araucaria pine forest. The project was supported by the Fundação O Boticário de Proteção à Natureza, São José dos Pinhais, Paraná. The following is a summary of the thesis.

Data was collected on the ecology and behavior of *Alouatta fusca clamitans* in the Aracuri Ecological Station (28° 13'S, 51° 10'W), Rio Grande do Sul, from August 1993 to August 1994. The aim was to evaluate the plant species and items in the animals' diet, as well as the seasonal distribution of daily activities. Records of activity patterns were collected using the scan sampling method. Scan duration was 5 minutes, at intervals of 15 minutes. Diet was sampled *ad libitum*. The group was observed for a total of 765 hours, comprising 45 complete days (from sunrise to sunset) and 79 incomplete days.

Leaves (53.1%) are predominant in the diet (see also Chiarello, 1994; Mendes, 1989). However, seasonal items comprised a high percentage of the feeding records, when available. In the spring, young leaves represented 44.0% of the diet, mainly *Zanthoxylum rhoifolium* (18.1%). In the summer, mature fruits were important (46.70%), with 13.9% of the records being for *Campomanesia xanthocarpa*. Seeds of *Araucaria angustifolia* were the most important food item in the fall (42.0%), and mature leaves of *Pithecoctenium echinatum* (10.4%) during the winter. Consumption and the availability of food items showed, in most cases, a significant positive correlation, indicating that the animals adjust their diet according to food availability during the year. Of a total of 43 plant species eaten, the most important were *Araucaria angustifolia*, *Zanthoxylum rhoifolium* and *Mimosa scabrella* (22.0%, 13.2% and 10.3% of feeding records, respectively). Selection rate was highest for *Mimosa scabrella, Banara tomentosa and Tabebuia alba*, while *A. angustifolia* was in eighth place (due to its very high density).

Throughout the year, resting was the most frequent behavior category (57.6% of the records), followed by feeding (19.0%) and travel (18.8%). Play was the activity with the most significant variation from season to season. No play episodes were observed in the winters of 1993 and 1994. A significant difference was found between three sex-age classes (adult males, adult females and juveniles) for time spent resting in the winter and summer, for vocalizations in the winter of 1993 and the spring and summer, for play in the spring, summer and fall, and for grooming in summer. The results showed shifts in selectivity and resource acquisition during the seasonal cycle, indicating that howlers look for strategies to adapt themselves to the temporal changes in resources in their home range. The time dedicated to resting was quite constant throughout the year, and differences in activity patterns between seasons resulted principally from the amount of time dedicated to social activities.

Ana Alice Biedzicki de Marques, Rua Carlos Estevão 95/254, 91240-001 Porto Alegre, Rio Grande do Sul, Brazil.

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European Studbook for the Emperor Tamarin - Update 1995

The 1995 update of the European studbook for the emperor tamarin, *Saguinus imperator*, has been published by the Lisbon Zoological Garden. The Species Coordinator for Europe is Eric Bairrão Ruivo, who is also the studbook keeper for the European collections, assisted by Cristiane Silveira. The studbook contains a full historical listing and a listing of the living captive populations by location for both subspecies, *imperator* and *subgrisescens*, as well as hybrid forms, along with a list of participants and candidates for participation in the breeding program in Europe. It also includes the minutes of the 2nd Emperor Tamarin EEP Meeting, held in Saumur in 1996.

There is just one female *S. i. imperator* in captivity in Europe (Frankfurt Zoo), the remainder being *S. i. subgrisescens*, totalling 112 (57.48.7) individuals in 34 institutions. The zoos with the largest populations are Banham, UK (14), and Mulhouse, France (12). In 1995 18.8.7 animals were born, but only 9.2.4 survived. One of the problems which the EEP has had to deal with is that of 14 hybrids (7.7.0) between these two subspecies, in seven institutions. A solution has been found with the proposal that all should be sent to one institution (Safari Peaugres, France), so as to isolate them from the breeding

program. The EEP recommendation is to increase the captive population, and management plans (transfers) are outlined in the studbook. The second complete edition of the studbook will be published in 1996.

Eric Bairrão Ruivo, Emperor Tamarin EEP Coordinator, and **Cristiane Silveira**, Assistant Studbook Keeper, Jardim Zoológico de Lisboa, Estrada de Benfica 158-160, 1500 Lisboa, Portugal.

Reference

Bairrão Ruivo, E. and Silveira, C. 1996. *European Studbook for* Saguinus imperator *(Goeldi 1907) (Emperor Tamarin) - Update, 1995*. Jardim Zoológico de Lisboa, Lisboa.

New Semifree Enclosure for Common Marmosets at the Institute of Anthropology, University of Göttingen, Germany

In April 1995, the Department of Primate Ethology of the Institute of Anthropology, University of Göttingen, moved to a new laboratory on the outskirts of the town. The new department includes a 6 ha semi-free enclosure for common marmosets, *Callithrix jacchus*, a new building containing laboratories and offices, and a greenhouse of *c.*400 m².

The enclosure is fenced by a 2 m high conventional wire mesh which extends below ground to about 300 cm. It is covered with high grass; from our experience during the first year this is effective in preventing the marmoset from travelling long distances along the ground. There are 10 wooden huts (*c.* 8 m²), which are electrically heated. Each contains sleeping boxes, feeding trays, perches and ropes, and is surrounded by several trees. The huts are connected to each other by avenues of trees and, where the trees are not yet fully grown, by running and climbing structures made from vertical and horizontal perches. Additional sleeping boxes and roofed feeding places are installed at various places around each hut.

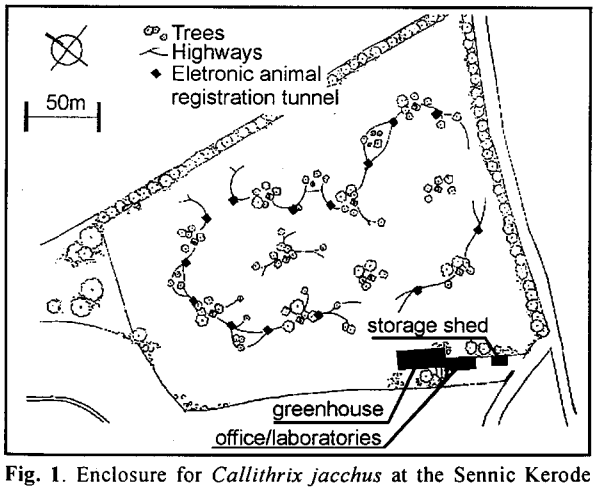

Fig. 1. Enclosure for *Callithrix jacchus* at the Sennic Kerode Ethological Station.

Currently two families (10 and 11 members) and one newly-formed polyandrous group of common marmosets are living in this semifree enclosure. The "home ranges" of the large groups amount to about one hectare each, that of the trio to about 3,000 m². All groups can approach each other to a minimum of 30 m or withdraw, respectively, to a maximim distance of several hundred meters.

During the first year, four studies were carried out: 1) the influence of abiotic factors on the time budget of the marmosets; 2) feeding and foraging; 3) temporal and spatial use of the new home range; and 4) formation of a polyandrous group.

Colleagues and students who are interested in working at our new facility are invited to contact me.

Prof. Dr. Hartmut Rothe, Institute of Anthropology, University of Göttingen, Ethological Station Sennickerode, 37130 Gleichen-Sennickerode, Germany. Fax +49-5592-413, e-mail: hrothe@gwdg.de.

Spider Monkeys in Captivity in North America

Following the full North American regional studbook for spider monkeys published in February 1995 (see *Neotropical Primates*, 4(4):187-188), Kristi Newland, the studbook keeper, has published an update covering the events (births, captures, moves and deaths) from 30 October 1994 to 30 December 1995. The studbook records the following populations on 30 December 1995: *Ateles belzebuth* (no subspecies) - 1.1.0 (2) in two institutions; *A. b. belzebuth* - 2.2.0 (4) in three institutions; *A. b. chamek* - 5.7.1 (13) in three institutions; *A. b. hybridus* - 6.9.0 (15) in eight institutions; *A. b. marginatus* - none; *A. fusciceps fusciceps* - none; *A. f. robustus* - 37.75.4 (116) in 26 institutions, and *A. paniscus* - 5.4.0 (9) in five institutions.

Kristi Newland, Species Manager, Sedgwick County Zoo, 5555 Zoo Boulevard, Wichita, Kansas 67212-1698, USA.

Reference

Newland, K. 1996. *North American Regional Studbook for South American Spider Monkeys,* Ateles belzebuth, A. fusciceps, A. paniscus, *all subspecies. 1995 Update.* Sedgwick County Zoo, Wichita, Kansas. 35pp.

A Biodiversity Working Group for Brazil

The Brazilian Science Council (CNPq) has established a Brazilian Biodiversity Working Group - GTB (*Grupo de Trabalho em Biodiversidade*, Edict No.519/96, 4 September 1996) with a view to establishing an inter-institutional, technical forum for the various levels of biodiversity (genes, species, communities and ecosystems), which will periodically and systematically meet to examine and discuss questions concerned specifically with the conservation and sustained use of Brazil's fauna and flora. The Working Group will act as a point of reference in supplying advice to government agencies, as well as bilateral and multilateral funding institutions, and the environment and conservation community in general, regarding the technical and scientific aspects required for the identification of priorities and strategies at the regional and national level. The GTB will also serve as a reference point for the Brazilian members of the Specialist Groups of the World Conservation Union (IUCN) Species Survival Commission (SSC), making use of the scientific and intellectual resources of the largest international voluntary network of experts in biodiversity conservation, today counting on more than 7,000 participants world-wide.

The secretariat, supported by CNPq, will be based at the Federal University of Minas Gerais, Belo Horizonte, under the coordination of Dr. Gustavo A. B. da Fonseca. The members of the GTB are as follows: José Márcio Ayres (Sociedade Civil Mamirauá and Museu Paraense Emílio Goeldi, Belém), Francisco A. R. Barbosa (Universidade Federal de Minas Gerais, Belo Horizonte), Vanderley Canhos (Universidade Estadual de Campinas and Fundação André Tosello, Campinas), Ibsen de Gusmão Câmara (Fundação Brasileira para a Conservação da Natureza, Rio de Janeiro), Roberto Brandão Cavalacanti (Universidade de Brasília, Brasília), Gustavo A. B. da Fonseca (Universidade Federal de Minas Gerais and Conservation International do Brasil, Belo Horizonte), Ana Maria Giulietti (Universidade de Feira de Santana, Feira de Santana), Gisela Herrmann (Fundação Biodiversitas, Belo Horizonte), Paulo Kageyama (Universidade de São Paulo/ESALQ, Piracicaba), Thomas M. Lewinsohn (Universidade Estadual de Campinas, Campinas), Carlos Lima (Instituto Nacional de Pesquisas da Amazônia, Manaus), Miguel Serediuk Milano (Universidade Federal do Paraná, Curitiba, and Fundação o Boticário de Proteção à Natureza, São José dos Pinhais), Odete Rocha (Universidade Federal de São Carlos, São Carlos), Anthony B. Rylands (Universidade Federal de Minas Gerais and Fundação Biodiversitas, Belo Horizonte), Ângela Teresinari Bernardes (The Nature Conservancy, Brasília).

Gustavo A. B. da Fonseca, Coordenador do GTB, c/o Conservation International do Brasil, Avenida Antônio Abrahão Caram 820/302, 31275-000 Belo Horizonte, Minas Gerais, Brazil. Tel/Fax: +55 31 441-1795, e-mail: g.fonseca@conservation.org.br.

Sociedad Mesoamericana para la Biología y la Conservación

The Mesoamerican Society for Biology and Conservation was formed on 14 January 1996, at Lake Yojoa, Honduras, by a group of biologists from five countries and numerous branches of the biological sciences. The new society will serve biologists and conservationists throughout Central America and southern Mexico by publishing a news bulletin *Mesoamericana* (bilingual in Spanish and English), and by sponsoring congresses in Mesoamerica. Those interested in the Society,as members or potential officers, are invited to become founding members, and subscribe to the bulletin. The first general meeting and a symposium were held in Tegucigalpa, Honduras, 21-22 June 1996. The first issue of *Mesoamericana* has been published (Vol.1(1), 20pp, June 1996). It includes the 'Acta de Constitución' of the Society. The current officers are: ***President*** **- Gerardo Borjas**, Departamento de Biología, Universidad Nacional Autónoma de Honduras, Carretera a Suyapa, Tegucigalpa, Honduras, Tel/Fax: 504-33-9576, e-mail: cmed@ns.hondunet.net; ***Vice President*** **- Gustavo Adolfo Ruíz**, Managua, Nicaragua; ***Secretaries*** **- Carla Rivera**, Tegucigalpa, Honduras, and **Silvia C. Chalukián**, El Zamorano, Honduras; ***Treasurer*** **- Erasmo Sosa López**, Tegucigalpa, Honduras. A number of country representatives were also elected: *Belize* - Bruce Miller and Carolyn Miller, Gallon Jug., Belize; *Nicaragua* - Teresa Zuñiga R. and Gustavo Adolfo Ruíz, Managua, Nicaragua; *El Salvador* - Carlos René Ramírez Sosa, Apopa, El Salvador, and Juan Pablo Domínguez, San Salvador, El Salvador; *Honduras* - Gerardo Borjas, Tegucigalpa, Honduras; *United States* - Oliver Komar, Delaware, Ohio. Carlos René Ramírez Sosa, Department of Biological Sciences, Lehman College and The Graduate School, The City University of New York, Bronx, NY 10468, USA, Tel: (718) 960-8658, Fax: (718) 960-8236, e-mail: crric@cunyvm.cuny.edu, was elected editor of *Mesoamericana.*

To become an ordinary member costs US$20.00 for 1996 (includes three issues of *Mesoamericana*). To become a founding member (possible only till the end of 1996) costs US$50.00 for individuals and US$200.00 for institutions. Founding members and institutions will be acknowledged in the bulletin. Benefactors (donations larger than US$200.00) are also welcomed. Membership fees and other donations should be sent to Oliver Komar (address below). Checks should be made out to "Mesoamerican Society for Biology and Conservation" or "Sociedad Mesoamericana para la Biología y la Conservación". Mesoamerican residents have lower membership costs, and those interested can contact directly the Society Secretary, Silvia C. Chalukián, Departamento de Recursos Naturales y Conservación Biológica, Escuela Agricola Panamericana, Apartado 93, Tegucigalpa, Honduras, Tel: 504-76-6140, Fax: 504-76-6234, e-mail: eapdrn@ns.hondunet.net.

Oliver Komar, Department of Zoology, Ohio Wesleyan University, Delaware, Ohio 43015, USA. Tel: 614-369-0175, e-mail: ookomar@cc.owu.edu.

Position Available - Evolutionary Morphologist, Duke University Medical Center

The Department of Biological Anthropology and Anatomy, Duke University Medical Center, invites applications for an Assistant Professorship on the tenure track with primary teaching responsibility in human gross anatomy, and a research program in some aspect of mammalian evolutionary morphology, such as biological anthropology, paleontology, experimental functional morphology, genetics, or phylogenetic systematics (morphologic or molecular). Deadline for receipt of applications is Oct. 15 1996. Send curriculum vitae, one-page statement of research goals/interests, list of courses taught, and names and addresses of three references to: BAA Search Committee, Department of Biological Anthropology and Anatomy, Box 3170, Duke University Medical School, Durham, North Carolina 27710, USA. Duke University Medical Center is an Equal Opportunity / Affirmative Action Employer.

Phytoecology in the Neotropics

In February 1996, a workshop was held in the Las Cruces Biological Station in San Vito, Coto Brus, Costa Rica, discussing the nomenclature of the phytoecology of the Neotropics. This was the second workshop (the first was in Caracas in April 1994) aimed at the compilation of all classification terminology, including phytosociological terms , published for the Neotropical region. The first volume, available this year, will include only continental, Spanish-speaking countries. Other volumes are planned, and individuals interested in contributing to the Caribbean, Portuguese and French-speaking countries should write to: Dr. Otto Huber, Instituto Botanico, Universidad Central, Caracas, Venezuela.

Research Assistant Position Available

A research assistant with expertise in ecology, biology, anthropology, or related fields is needed for work in a comparative study on the use of perceptual cues, spatial and social information during foraging decisions in three neotropical primate species. The project will be carried out in the state of Acre, Brazil, from August 1997 to July 1998. Lodging and food at the study site will be provided. Anyone interested in this position must send a Curriculum Vitae (in Portuguese, English, or Spanish) and letter(s) of reference. For more information contact: Julio Cesar Bicca-Marques, Department of Anthropology, University of Illinois, 109 Davenport Hall, 607 S. Mathews Avenue, Urbana, IL 61801, U.S.A.

Estágio em Ecologia de Primatas

Antônio Rossano Mendes Pontes, estudante de doutorado na Universidade de Cambridge, Inglaterra, está oferecendo estágios para graduandos e recém-formados de Ciências Biológicas, interessados em ecologia de primatas e outros mamíferos frugívoros na Estação Ecológica de Maracá (Ilha de Maracá), Roraima, Brasil, durante o período de fevereiro de 1997 a julho de 1998. Os interessados deverão enviar uma carta de propósitos e um Curriculum Vitae de uma página, para o endereço abaixo. *Condições*: A Estação Ecológica de Maracá possue alojamento, laboratórios, biblioteca, comunicação, e toda infra-estrutura necessária, onde ficarão hospedados. O trabalho será em tempo integral, o aluno receberá uma ajuda de custo mensal de 200 dólares, transporte, alimentação e, ao final, receberá certificado de estágio. *O Projeto*: envolve censo de frugívoros, estudo sistemático do macaco-aranha (*Ateles belzebuth*), levantamento florístico, fenologia, quantificação de frutos e plataformas de observação. As diferentes tarefas serão devidamente distribuídas em sistema de rodízio. Maiores informações e inscrições: Antônio Rossano Mendes Pontes, Wildlife Research Group, Department of Anatomy, University of Cambridge, Downing Street, Cambridge CB2 3DY, Inglaterra. Tel: +44 1223 333753, Fax: +44 1223 333786, e-mail: arm1004@cam.ac.uk.

AZA New World Primate Tag Conservation and Research Fund

The New World Primate Taxon Advisory Group (NWPTAG) began as an interest group in 1990 and was formally approved as a Taxon Advisory Group of the American Zoo and Aquarium Association (AZA) in August of 1991. The group was formed to coordinate and facilitate North American captive breeding efforts for New World monkeys, insuring that captive populations are selected and managed to support *in situ* conservation.

Among the specific goals of the NWPTAG are the provision of logistic and financial support for range country captive husbandry and breeding efforts, range country education programs, and *in situ* conservation projects. As one effort in addressing these goals, the NWPTAG has established a conservation and research fund. Projects that fall within the goals listed above will be considered for funding (maximum award = US$2,000). *Applicants must be citizens of New World primate range countries*. Students in Master's or Ph.D. degree programs are especially encouraged to apply. Project proposals are considered twice yearly, with submission deadlines of February 1 and July 1. Applications may be submitted in Spanish, English, or Portuguese.

Recipients are required to acknowledge the NWPTAG in any popular or technical publication that results from the project. Additionally, they must submit a progress report, due one year after receipt of the award.

Application procedure: A cover page is required which includes: Name, Date, Position, Institution, Address, Telephone, Fax, E-mail, Project title and Project abstract. The proposal itself must have the following items: 1) Statement of the conservation need or issue, 2) Objectives of the project, 3) Methods, plan of action and schedule, 4) Methods for evaluating success of project, 5) Description of any accomplishments to date on project (*Note*: Please submit no more than a total of two pages for items 1-5), 6) Curriculum Vitae for principal applicant(s) (*Note*: Please limit each CV to two pages), 7) Amount and sources of support other than the NWPTAG, 9) Amount and nature of request to NWPTAG (*Note*: Maximum request = US$2,000), 10) Name, telephone, fax, e-mail, and address of three individuals competent to review the proposal, and 11) Letter of support from academic advisor (for students). Send three copies of the proposal and attachments to Dr. Anne Baker, address below. Applications will be reviewed by a committee of NWPTAG members and outside advisors.

For further information regarding the New World Primate Taxon Advisory Group Conservation and Research Fund, contact: Dr. Anne Baker, Director, Burnet Park Zoo, 1 Conservation Place, Syracuse, NY 13204, USA, Tel: +1 315 435 3774, Fax: +1 315 435 8517.

Primates - The Journal of the Japan Monkey Center

Primates is an international journal of primatology which publishes original papers that contribute to the development of the scientific study of primates embracing work in all fields of investigation, such as morphology, physiology, psychology, behavior, ecology, sociology, systematics, evolution, and laboratory primate medicine. Short communications, research reports, notes, review articles and other information are also published. It is quarterly; four numbers comprising each volume. Contributors are advised to read the *Information for Contributors* printed inside the back cover of any issue after Volume 36 (4). The Editor-in-Chief is Yukimari Sugiyama. For further information, including subscription rates: *Primates*, Editorial Office, Japan Monkey Center, Inuyama, Aichi 484, Japan, Tel: +81-568-61-2327, Fax: +81 568-62-6823, e-mail: ldz05366@niftyserve.ac.jp.

The Lincoln Park Zoo Scott Neotropic Fund

The Lincoln Park Zoo Scott Neotropic Fund was initiated in 1986 by the Lincoln Park Zoological Society and Lincoln Park Zoological Gardens in 1986 to support *in situ* conservation efforts throughout Latin America and the Caribbean. By emphasizing support for young conservation biologists in their own countries, the fund assists a new generation of researchers in becoming the environmental decision-makers of tomorrow and strengthens the core of conservation leadership throughout the Americas. The emphasis of the Fund is to support new conservation initiatives with special consideration to projects which have: a) direct impact on wildlife conservation or conservation biology, b) direct participation by graduate and/or undergraduate students, c) involvement by students and/or field assistants from Latin America, or d) links to either the Lincoln Park Zoo animal collection or conservation interests of the zoo curatorial staff.

Since its establishment, the Fund has awarded nearly 45 grants in 13 Latin American and Caribbean countries.

Each year, the Fund typically supports between five and 15 projects, including project renewals for a second year. Awards are seldom more than US$7,500 and most fall into the range of US$3,000-$5,000. Initial support is for up to 12 months as from the date of the award. Projects supported which have particular relevance for primates include the protection of riverine habitat for black howler monkeys in Belize, a survey of the non-flying mammals of the Caetetus Ecological Station in São Paulo and an evaluation of the community-based education programs in support of the golden-headed lion tamarin, both in Brazil, and three projects in Mexico, two in the Lacandon forest and a third on long-term studies of forest fragmentation in Veracruz.

Projects are solicited and reviewed once a year through an annual call for proposals mailed to institutions, organizations, and individuals interested in the conservation of Latin American flora and fauna. The criteria for evaluation are as follows: Projects should make direct contributions to conservation of individual species or habitats, conservation education, applied conservation biology or conservation policy. Scientific rigor and potential for application of results are paramount. Each proposal is evaluated for its research design, feasibility, and breadth of significance to the discipline of conservation biology. Evaluation of each proposal is based on it merit relative to all other proposals under consideration. Funding request should center on support for Latin American researchers, students and field assistants as well as logistical support for North American students. While field costs will be supported at reasonable levels, the fund does not usually support either salaries or the purchase of permanent equipment.

All application materials must be post-marked by 1 September. Late proposals are not considered and are returned for resubmission at a later date. Each proposal should contain: a title page (applicants name, complete address, institutional affiliation, status or job title, degree being sought or highest degree obtained, tax identification or social security number, nationality, telephone, fax and electronic mail address); literature cited, a one-page non-technical summary, a brief introduction to the project, a narrative section (defining specific goals, the bases for the development of the project, and specific applications of the results), material and methods, schedule, a summary operating budget, and a detailed budget. The following supporting materials are also required: proof that all necessary permits and visas etc. have been obtained, a two-page curriculum vitae, and at least two letters of recommendation. The entire proposal, excluding figures, tables and curriculum vitae should not exceed 15 single-spaced typewritten pages at 12 characters per inch. To apply, 15 copies of the proposal should be sent to: Lincoln Park Zoo Scott Neotropic Fund, Director of Conservation and Science, 2200 North Cannon Drive, Chicago, Illinois 60614-3895, USA.

Elizabeth S. Watts Graduate Fellowship Award

A two-year fellowship of approximately $8,000 per year will be awarded to the outstanding application for dissertation research in Nonhuman Primate Growth and Development. The candidate must have completed all requirements for the Ph.D. degree except doctoral research. Preference will be given to studies emphasizing development to maturation. The application should be made using the Public Health Service form 398 format, and will be judged by a 5-person committee. Applications will be due September 15, 1996, for award by the end of the calendar year 1996. Questions regarding this award may be directed to the Chair of the Committee, Dr. Margaret R. Clarke, 504-865-5336, FAX: 504-865-5338, e-mail:mrclarke@mailhost.tcs.tulane.edu. Applications should be mailed to; Dr. Margaret R. Clarke, Dept. of Anthropology, 1021 Audubon Street, Tulane University, New Orleans, LA 70118, USA.

Fundação O Boticário de Proteção à Natureza - Projetos 1996


FUNDAÇÃO BOTICÁRIO DE PROTEÇÃO À NATUREZA

Criada em 1990, a Fundação O Boticário de Proteção à Natureza, São José dos Pinhais, Paraná, Brasil, já financiou 365 projetos conservacionistas através do Programa de Incentivo à Conservação da Natureza. Na primeira selecão realizada em 1996, foram aprovados 20 projetos para receber apoio financeiro a partir do mês de agosto. Os projetos se dividem em três categorias: Unidades de Conservação, Pesquisa e Proteção da Vida Silvestre, e Áreas Verdes. Os que promovem atividades de pesquisa e conservacão de primatas incluem: "Conscientização ambiental para preservação do Parque Estadual de Itapuã", Comissão de Luta pela Efetivação do Parque Estadual de Itapuã, Porto Alegre, Viamão, Guaíba e Canoas, Rio Grande do Sul; "Efeitos da fragmentação florestal sobre comunidades animais e vegetais na Reserva de Poço das Antas, RJ (II)", Universidade Federal do Rio de Janeiro, Instituto de Biologia, Silva Jardim, Rio de Janeiro; "Análise da biodiversidade dos gêneros *Aotus* e *Alouatta*", Fundação Universitária José Bonifácio, Rio de Janeiro; "Ecologia e comportamento do mico-leão-de-cara-preta, *Leontopithecus caissara* Lorini & Persson, 1990, na ilha de Superagüi - PR (Primates, Callitrichidae) (II)", IPÊ - Instituto de Projetos e Pesquisas Ecológicas,

Parque Nacional de Superagüi e Guaraqueçaba, Paraná; e "Proteção e recuperação das matas ciliares da Bacia do Formoso, Bonito, MS", Fundação Neotrópica do Brasil, Bonito, Mato Grosso do Sul.

Miguel Serediuk Milano, Diretor Técnico, Fundação O Boticário de Proteção à Natureza, Avenida Rui Barbosa 3450, 83065-260 São José dos Pinhais, Paraná, Brasil.

Journal of Medical Primatology

Professor Jorg W. Eichberg of the Biomedical Research Center, Rijswik, the Netherlands has taken over from Dr. Jan Moor-Jankowski as Editor-in-Chief of the *Journal of Medical Primatology*, published by the Munksgaard Press. The journal will be published bimonthly, a total of six issues including the special issue from the Annual Primate Center Meeting. Professor Eichberg is currently assembling a new Editorial Board, which will be announced, along with new guidelines regarding the aim and scope of the journal, in the first issue of 1996. Due to delays, only four of the eight issues planned were published in 1995. From: *IPS Newsletter* 23(1), June 1996.

Primate Societies

XVITH Congress of the International Primatological Society, XIXTH Conference of the American Society of Primatologists

The joint IPS/ASP meeting was held in Madison, Wisconsin, and hosted by the Wisconsin Regional Primate Research Center (WRPRC) of the University of Wisconsin, from 11-16 August, 1996. The Director of the WRPRC and the Congress Chairman was Dr. John P. Hearn. One of the largest IPS Congresses ever, attended by approximately 1,300 people, 544 talks were given and 259 posters were presented covering all fields of primate research. Forty-three countries were represented. The enormous success of this, the sixteenth IPS Congress, was due to a large number of people running and participating in the various organizational committees, under the highly competent and friendly leadership of the Congress Coordinator, Edi Chan, of the WRPRC. The Executive Committee was run by Dr. John Hearn, and included the chairs of the Scientific Program Committee and Subcommittees, along with Edi Chan, Melinda Carr, and Ray Hamel. The Scientific Committee, which guaranteed the high quality of the scientific program, was chaired by Dr. David Abbott, and included a number of topical subcommittees: Behaviour - chaired by Dr. Charles Snowdon; Biomedicine - Dr. Christopher Coe; Ecology and Conservation - Dr. Karen B. Strier; and Paleontology, Anatomy and Taxonomy - Dr. Walter Leutenegger. The Development Committee was chaired by Dr. Steven Shelton, the Social Events Committee by Dr. Toni Ziegler and the Arts Exhibit Committee by the WRPRC Librarian, Larry Jacobsen. Ray Hamel, Bob Becker and Kris Paprocki were responsible for the Audio Visual support.

Five Plenary Lectures were presented: "Stress, Stress-related Diseases and Personality: Studies of Wild Baboons" by R. M. Sapolsky, Stanford University, Stanford, California; "Mahale Chimpanzee Studies: Past, Present and Future" by T. Nishida, Kyoto University, Kyoto, Japan; "The Neurobiology of Cognition: Facts and Concepts from the Study of the Prefrontal Cortex in Non-Human Primates" by P. Goldman-Rakic, Yale University Medical School, New Haven, Connecticut; "Major Histocompatibility Complex (MHC) Class I Molecules and the Immune System" by P. Parham, Stanford Unvertsity Medical School, Stanford, California; and "Towards a New Understanding of the Ecology and Phylogeny of the Callitrichidae" by A. B. Rylands, Federal University of Minas Gerais, Belo Horizonte, Brazil.

Besides the oral presentations and poster sessions, numerous symposia and workshops were held during the Congress. *Symposia*: *Cebus* meets *Pan*, Behavioral Convergence? - organized by W. C. McGrew & E. Visalberghi; Asssisted Reproduction and Experimental Embryology in the Nonhuman Primate - K. G. Gould & W. D. Hopkins; Laterality and Hemispheric Specialization in Primates: Brain, Behavior and Evolution - J. Fagot & W. D. Hopkins; Predation and Primate Social Systems: Advances in Theory and Field Data - C. B. Stanford & C. H. Janson; Primates as Seed Dispersers and Seed Predators in Tropical Forests - J. E. Lambert & P. A. Garber; Variation in Breeding Systems of Marmosets and Tamarins: Ecology, Phylogeny and Mechanism - D. H. Abbott, L. Digby, J. A. French & W. Saltzman; Social Behavior of Free-Ranging *Lemur catta* - A. Jolly, M. Nakamichi and H. Rasamimanana; The Female Baboon as a Model for Research in Reproduction - F. S. Khan-Dawood; Experimental Strategies in Primates to Understand Human Psychopathology and Neurology - E. Fuchs & S. E. Shelton; Group Movement: Patterns, Processes and Cognitive Implications - S. Boinski & P. A. Garber; Primatology Then and Now - S. J. Suomi & C. L. Coe; What is New in Neuroendocrine Research in Nonhuman Primates? - E. Teresawa; Primate Conservation: A Retrospective and a Look into the 21st Century - R. A. Mittermeier, A. B. Rylands, A. A. Eudey, T. Butynski

& W. R. Konstant; IPS Film Symposium - C. Wiesbard; Importance of Seasonality in Great Ape Behavior and Ecology - F. J. White; Ovarian Physiology and Toxicology in Non-Human Primates - C. L. Chaffin & R. J. Hutz; Vocal Development in Primates and Other Higher Vertebrates - J. D. Newman & K. Bauers; Aspects of Genotypic and Phenotypic Variability in Primate Colonies - H. O. Box & T. B. Poole; The Evolution of Non-Maternal Care in Primates - C. Ross and A. M. Maclarnon; Identification of Genetic Polymorphisms and Applications of Studies of NonHuman Primates - L. A. Knapp & R. D. Martin; Primate Research In and Ex-Situ: Making the Connection - D. L. Forthman; Ape Mind, Monkey Mind - A. Whiten; Resting and Nesting in Primates: Behavioral Ecology of Inactivity - B. I. Fruth & W. C. McGrew; Slowing Aging by Calorie Restriction: Studies in Rhesus Monkeys - M. A. Lane; and Environment/Disturbance - C. M. Crockett & M. W. Andrews.

Workshops: Primate Communities - J. G. Fleagle; The Care and Management of Captive Chimpanzees - L. Brent; Complex Approach to the Study of Primate Ontogeny - L. van Elsacker, J. Dupain *et al.*; Videotaped Evidence of Self-Recognition in Primates - R. W. Mitchell & K. B. Swartz; The Implications of Non-Invasive and Remote Monitoring Techniques for Non-Human Primate Research - L. Scott, M. Lankeit & M. Schwibbe; Private Ownership of Primates: The Role of Primatologists - D. A. Smucny, J. Wallis *et al.*;The Status of Research on the Behavior, Anatomy and Ecology of the Mountain Gorilla (*Gorilla gorilla beringei*) - H. D. Steklis & K. Stewart; Health, Welfare and Quality of Captive Primates - R. C. Hubrecht; "Culture" and "Enculturation" in Great Apes - S. T. Parker, W. McGrew *et al.*; The Re-Introduction of Ex-Captive Orangutans: Perspectives from the Wanariset Project - K. Warren & A. E. Russon; Long-term Care and Use of Chimpanzees - T. L. Wolfle; and New Directions in Conflict Resolution Research - F. Aureli & D. A. Smucny.

Numerous organizations and companies provided assistance and financial support for the Congress. Classified as Benefactors were Data Sciences International Inc., the Evjue Foundation, Inc. and The Proctor and Gamble Co. As Garantors: Harlan Teklad, Keari Co., Ltd., Taisho Pharmaceutical Co., and Wyeth-Ayerst Research. Sponsors included: Ancare Corporation, Auragen Inc., A.T. Viri Primate Breeding Corporation, Berlex Laboratories, Coming Hazleton, Inc., CSK Research Park, Inc., The Genetics Laboratory of Trinity University, HRP, Inc., Osage Research Primates, Rochester Midland Corporation, Siconbrec USA, Inc., Three Springs Scientific, Inc., Kyowa Hakko Kogyo Co., Ltd., K.L.A.S.S., Houghton Mifflin Co. and Sensor Devices Inc. Conservation International, Washington, D.C., financed a number of participants through the Margot Marsh Biodiversity Foundation.

New Officers of the International Primatological Society (IPS)

The new Council for the International Primatological Society (IPS), is as follows: ***President*** - **Prof. Toshishada Nishida**, Department of Anthropology, Graduate School of Science, Kyoto University, Sakyo-ku, Kyoto-shi 606, Japan, Tel: 81-75-753-4084, Fax: 81-75-751-6149, e-mail: nishida@jinrui.zool.kyoto-u.ac.jp; ***Secretary General*** - **Dr. Dorothy Fragaszy**, Department of Psychology, University of Georgia, Athens, Georgia 30602, USA, Tel: 1-706-542-3036, Fax: 1-706-542-3275, e-mail: cmspsy37@uga.cc.uga.edu; ***Vice President for Membership*** - **Dr. Richard W. Byrne**, Department of Psychology, University of St. Andrews, St. Andrews, Fife KY16 9JU, Scotland, Tel: 44 334-62051, Fax: 44-334-63042, e-mail: rwb@st.andrews.ac.uk; ***Vice President for Captive Care*** - **Dr. Cobie Brinkman**, Division of Psychology, Australian National University, GPO Box 4, Canberra, ACTY 0200, Australia, Tel: 61-6-249-2803, Fax: 61-6-249-0499, e-mail: cobie.brinkman@anu.edu.au; ***Vice President for Conservation*** - **Dr. Ernesto Rodríguez-Luna**, Instituto de Neuroetología, Universidad Veracruzana, Veracruz 91000, México, Tel: 52-28-12-57-48, Fax: 52-28-17-65-39 or 52-28-12-57-46, e-mail: saraguat @speedy.coacade.uv.mx; ***Treasurer*** - **Dr. William Roudebush**, Department of Obstetrics and Gynecology, Medical University of South Carolina, Charleston, South Carolina 29425-2233, USA, Tel: 1-803-792-8348, Fax: 1-803-792-0533, e-mail: roudebwe@lp. musc.edu. From: *IPS Newsletter* 23(1):2 June 1996.

New Officers of the American Society of Primatologists (ASP)

The new Council of the American Society of Primatologists (ASP) is as follows: ***President*** - **Dr. Melinda Novak**, Department of Psychology, University of Massachusetts, Amherst, MA 01003, USA, Tel: 413 545 0167, Fax: 413 545 0996, e-mail: mnovak@psych.umass. edu; ***President-Elect***: **Dr. Nancy Caine**, Psychology Department, California State University, San Marcos, CA 92096, USA, Tel: 619 752 4145, Fax: 619 752 4111, e-mail: ncaine@mailhost1. csusm. edu; ***Executive Secretary***: **Dr. Anne Savage**, Roger Williams Park Zoo, 1000 Elmwood Avenue, Providence, RI

02907, USA, Tel: 401 785 3510 x 335, Fax: 401 941 3988, e-mail: asavage@brownvm. brown. edu; ***Treasurer*: Dr. Steve Schapiro**, UT MDACC, Department of Veterinary Research, Rte 2 151-B1, Bastrop, TX 78602, USA, Tel: 512 321 3991, Fax: 512 322 5208, e-mail: an83000@mdacc.mda. uth. tmc. edu; ***Past President*: Dr. Joe Erwin**, Department of Primate Ecology, Diagnon Corporation, 9600 Medical Center Drive, Rockville, MD 20850, USA, Tel: 301 251 2801, Fax: 301 251 1260, email: joemerwin@aol.com. This information was kindly supplied by the ASP Executive Secretary, Anne Savage, and the President-Elect, Dr. Nancy Caine.

ASP Conservation Awards

ASP The 1996 Conservation Awards of the American Society of Primatologists (ASP) were announced during its XIXth Conference held in conjunction with the XVIth Congress of the International Primatological Society in Madison, Wisconsin, USA, 11-16 August, 1996. Sixteen subscriptions to the *American Journal of Primatology* were continued for individuals in habitat countries where primate literature is scarce, and nine small grants were funded, as follows: (1) *Mukesh Chalise* of Nepal for "Familiarization of Environmental Problems Through Conservation Education"; (2) *Anwaruddin Choudhury* of India for "A Survey of Primates in the Jaintia Hills District of Meghalaya"; (3) *MaLinda Henry* of Miami University for "Inter-Specific Competition for Food Resources between *Pan paniscus* and *Homo sapiens* in the Lomako Forest of Zaire"; (4) *Zhaoyuan Li* of China for "Impacts of Habitat Fragmentation on the Behavior and Social Structure of the White-headed Langur, *Presbytis leucocephalus,* in China"; (5) *W. Scott McGraw* of SUNY Stony Brook for "A Survey of Endangered Primates in Eastern Ivory Coast"; (6) *Richard Nisbett* of the University of Oklahoma for "Continuation of Radio Broadcasts in Support of the Society for the Conservation of Nature in Liberia"; (7) *Erwin Palacios* of Colombia for "Ecological Bases for Lake and River-Side Habitat Use of *Alouatta seniculus* in Colombian Amazonia"; (8) *Anne Savage* of the Roger Williams Park Zoo for "The Use of "Bindes" as an Alternative to Long-term Resource Consumption in Colombia"; and (9) *Ian Singleton* of the Jersey Wildlife Preservation Trust for "Seasonal Migration and Population Structure of Sumatran Orangutans (*Pongo pygmaeus abelii*)" in the Gunung Leuser National Park. In addition, US$500 each toward travel to the Madison Congress was given to *Shu-Yi Zhang* of China and *Mukesh Chalise* of Nepal. *Mukesh Chalise* also won the Conservation Award.

The Senior Biology and Conservation Award went to *Alexander Peal,* head of the Division of Wildlife and Parks in Liberia, for his devoted efforts over two decades, and under difficult circumstances, to establish and maintain wildlife parks and reserves in his homeland, and for his contributions to primate research and protection.The ASP pointed to Mr. Peal's leadership in wildlife management and conservation, international collaboration with conservation NGOs and researchers, and his role in the establishment of the 505 square mile Sapo National Park, an area of wilderness rainforest which is home to chimpanzees and numerous African primate species. In conferring the award ASP officers commended Peal for persevering through difficult times in war-torn Liberia and single-handedly building both the infrastructure and ethic for the preservation of Liberian wildlife. Nominators described Peal as "the individual in West Africa above whom no one could be placed with respect to the overall advancement of primate conservation."

Prof. Ramon Rhine, Chair - ASP Conservation Committee, Psychology Department, University of California, Riverside, California 92521, USA.

American Society of Primatologists in San Diego

ASP The 1997 Meeting of the American Society of Primatologists (ASP) will be held from 27-30 June at the Bahia Hotel on beautiful Mission Bay in San Diego. In addition to what is sure to be a fine scientific program at the ASP meeting, San Diego is perfect for building a bit of vacation onto your visit. The location of the hotel is ideal: minutes from the airport, downtown, and Balboa Park (San Diego Zoo), and right in the midst of Mission beach. Contact: Dr. Nancy Caine, Local Arrangements Chair, CSU San Marcos, San Marcos, CA 92096, USA, e-mail: ncaine@mailhost1.csusm.edu.

Recent Publications

The Journal of the IUCN/SSC Primate Specialist Group - *Primate Conservation*

After a number of years of editorial and financial difficulties, we are pleased to report that three issues of *Primate Conservation* have been published: Number 12-13 (1991/1992), 42pp.; Number 14-15 (1993/1994), 66pp.; and Number 16 (1995), 74pp. Number 12-13 contains four articles from the Neotropical region. Carlos Peres and Andrew Johns reviewed primate mortality and

the rescue operation for the Tucuruí Hydroelectric dam in southern Pará, Brazil. Robert Cameron and Hannah Buchanan-Smith reported on their primate surveys in the Pando region of Bolivia, and Anthony Rylands, Ilmar Santos and Russell Mittermeier reviewed the status and distribution of the golden headed lion tamarin, *Leontopithecus chrysomelas*, in southern Bahia, Brazil. Finally, an article by Adelmar Coimbra-Filho, Alcides Pissinatti, Anthony Rylands and Ilmar Santos discussed the distribution and conservation status of the little-known buff-headed capuchin monkey, *Cebus xanthosternos*, in the Brazilian Atlantic forest. Two other articles in this issue report on the hoolock gibbon in Arunachal Pradesh, north-east India (R. P. Mukherjee *et al.*), and the options for the reintroduction of gibbons in Thailand (Ardith Eudey).

Number 14-15 includes the proceedings of a symposium on Population Viability Analyses for Primates, held during the XV Congress of the International Primatological Society in Bali, Indonesia, August 1994. This special section was guest-edited by Robert C. Lacy of the Department of Conservation Biology of the Chicago Zoological Society. Following an introduction and discussion of the PVA approach by Robert Lacy (What is Population (and Habitat) Viability Analysis?), case studies are presented for lion tamarins (Anthony Rylands), muriquis, *Brachyteles* (Karen B. Strier), the Tana River crested mangabey, *Cercocebus galeritus galeritus* (Margaret F. Kinnaird and Timothy O'Brien), and the Thailand gibbons, *Hylobates* (Warren Y. Brockelman). The PVA Workshops for these species and species groups resulted from collaboration between the PSG and the IUCN/SSC Conservation Breeding Specialist Group (CBSG), chaired by Dr. Ulysses S. Seal. As pointed out in the editorial (Russell A. Mittermeier and Anthony Rylands), this focus on using current technologies to assess the long-term status of primates and to develop the most appropriate approaches to conserving them in the wild is one that PSG hopes to use much more in the future. Three other articles in this number deal with the status and conservation of chimpanzees and gorillas in Cameroon (Jacques Prescott *et al.*), and report on the lemurs in the Ambatovaky (M. I. Evans *et al.*) and Ambohitantely Special Reserves, Madagascar (Peter J. Stephenson *et al.*).

Number 16 has two articles from the Neotropics: a review of the long-term research at the La Macarena study site in Colombia (Akisato Nishimura, Kosei Izawa and Koshin Kimura); and some observations on the yellow-tailed woolly monkey, *Lagothrix flavicauda*, and the Andean night monkey, *Aotus miconax*, in the Cordillera del Condor, Peru (Stuart H. M. Butchart *et al.*). Articles from Africa include an extensive review of the status of the pygmy chimpanzee, *Pan paniscus*, by Adriaan Kortlandt, with some further observations by Randall L. Susman, and a report on the gorillas of the Bwindi Impenetrable Forest, Uganda, by Esteban Sarmiento, Tom Butynski and Jan Kalina. Randall Junge and Della Garell provide some important results of their veterinary evaluation of ruffed lemurs as part of the protocol for reintroduction, and Jane M. Wilson, author of the book *Lemurs of the Lost World* reviewed in *Neotropical Primates* 4(2), and her colleagues report on some of their latest findings regarding fossil and extant lemurs at the Ankàrana caves in northern Madagascar. There are five articles from Asia in this issue. Ajith Kumar *et al.* report on their findings concerning the effects of forest fragmentation on the lion-tailed macaque, *Macaca silenus*, the Nilgiri langur, *Presbytis johnii*, and the giant squirrel, *Ratufa indica*, in the Western Ghats of India. T. R. Shankar Raman *et al.* discuss the results of a primate survey in Mizoram, north-east India, and likewise Rob J. Lee of a survey of the crested black macaque, *Macaca nigra*, in the Manembonembo Nature Reserve in North Sulawesi, Indonesia. The distribution of the endangered Central Javan gibbons is commented by Vincent Nijman, and likewise the taxonomy of *Presbytis fredericae*, an endangered langur from the same region, by Douglas Brandon-Jones.

Primate Conservation is available for US$15.00 per issue (incl. postage and packing) from Conservation International, Department of Conservation Biology, 1015 Eighteenth Street, N. W., Suite 1000, Washington D. C. 20036, USA. Fax: 202 887 0193. The 1996 issue of *Primate Conservation* (No.17) is in preparation and we urge you to submit research and review articles on the conservation and status of primates, including such relevant aspects as information on threats, protected areas, distributions, taxonomy, biology and captive breeding.

Anthony B. Rylands, Editor - *Primate Conservation*, Conservation International do Brasil, Avenida Antônio Abrahão Caram 820/302, 31275-000 Belo Horizonte, Minas Gerais, Brazil. Tel/Fax: +55 (0)31 441-1795, e-mail: a.rylands@conservation.org.br, and **Russell A. Mittermeier,** President, Conservation International, 1015 Eighteenth Street NW, Washington, D.C. 20036, USA.

The IUCN/SSC Primate Specialist Group Action Plan for African Primates

A fully revised edition of the Action Plan for African Primate Conservation first published by the PSG in 1986 has been compiled by John F. Oates: *African Primates: Status Survey and Conservation Action Plan. Revised Edition*, 1996, 80pp., IUCN/SSC Primate Specialist

Group, Gland (see page 102). It deals with the primates of continental Africa, excluding Madagascar. Sixty four species (15 prosimians, 46 monkeys and three apes) are recognized in the plan, which takes account of new taxonomic research. A revised system is used to rate species for conservation action. This involves a scale of 1-5 for the degree of threat they face, and either 1 or 2 points are added based on their taxonomic distinctiveness. The threat ratings are compatible with, but not identical to, the new IUCN categories. Under this rating system, the drill (*Mandrillus leucophaeus*) is the highest ranked species for conservation action.

This plan gives more attention to threatened subspecies. Forty-three subspecies and distinct local populations are identified as deserving of special conservation attention and are prioritized for action. Of 12 subspecies with the highest rating, six are red colobus monkeys: *Procolobus badius waldroni* (Ivory Coast and western Ghana), *P. b. "epieni"* (central delta of the Niger, southern Nigeria), *P. b. preussi* (western Cameroon and possibly far southeastern Nigeria), *P. b. pennantii* (endemic to Bioko), *P. b. bouvieri* (endemic to Congo), and *P. b. rufomitratus* (lower Tana River in Kenya).

As in the previous plan, important sites for conservation action are identified, based on the recognition of distinct regional communities. Eleven such communities are listed. Most of these are tropical forest communities with high levels of species' richness and endemism.

The original plan listed 42 projects across 11 regional communities. These projects included both basic surveys and reserve management schemes. The new plan reviews what action has been taken on these projects in the last 10 years: some action has been taken on 38 of them, but in 10 cases interruptions have been caused by civil war or other forms of political instability, a growing impediment to effective conservation in Africa. Based on this project review, specific recommendations for further action are made. Twenty-four projects are identified as of very high priority, but in six of these cases political factors mitigate against immediate research or conservation efforts. In addition to further action in previously identified areas, three new areas with endemic primates are recognized as requiring attention. These are Southern Somalia, Benin and the Niger Delta.

Given the large number of highly localized and threatened populations of red colobus monkeys, it is recommended that a Red Colobus Conservation Action Plan be prepared and implemented.

John F. Oates, Department of Anthropology, Hunter College (CUNY), New York, NY 10021, USA.

NEW CITES CHECKLIST

The new *Checklist of CITES Species* has been published in the three working languages of the Convention on International Trade in Endangered Species. Its production is supported by the CITES Secretariat, at the Joint Nature Conservation Committee of the UK and the European Commission. It was produced by the World Conservation Monitoring Center (WCMC), Cambridge, as part of its support for CITES. The checklist provides alphabetical listings of the species of fauna and flora on Apendices I, II, and III of CITES. It is hoped that thiswill be an aid to management and scientific authorities, customs officials, and all others involved in enforcing the convention. Copies are available from: CITES Secretariat, Case Postale 456, CH-1219 Geneva, Switzerland, Tel: (22) 979 9139, Fax: (22) 797 3417, e-mail: cites@unep.ch.

AFRICAN PRIMATES AND *ASIAN PRIMATES*

Besides *Neotropical Primates,* the IUCN/SSC Primate Specialist Group (PSG) produces three other newsletters, *Lemur News* (Madagascar), *Asian Primates* and *African Primates*. *African Primates* is produced in collaboration with Conservation International and the IUCN Eastern Africa Regional Office, with support from the National Museums of Kenya, Nairobi, and the Zoo Atlanta's Conservation Action Resource Center. The second issue of *African Primates* (Vol. 1, No.2) was published in December 1995. It includes articles on Sclater's guenon, *Cercopithecus sclateri*, endemic to Nigeria (Zena Tooze), the black colobus, *Colobus satanas*, in the northwestern Congo (Giuseppe Carpaneto), problems in gorilla conservation in eastern Zaire (Annette Lanjouw, Greg Cummings and Jillian Miller), a survey of primates in the Lobeke Forest Reserve, south-east Cameroon (Leonard Usongo and Cheryl Fimbel), the possible occurrence of infanticide in the Tana River red colobus, *Procolobus badius rufomitratus* (Christopher Mowry), and the little-known sooty mangabey, *Cercocebus torquatus atys* (Deborah Gust).

Asian Primates is also produced in collaboration with Conservation International. Issue No. 1-2 (September and June 1995) of Volume 5 of *Asian Primates* was published in June 1996 and includes articles on the status of black gibbons, *Hylobates concolor jingdongensis*, in the Yunnan Province of China (Lan Daoying and Lori Sheeran), the progress of primate studies and conservation in China (Zhang Yonzu and Quan Guoqing), the douc langurs, *Pygathrix nemaeus*, of the central highlands of Vietnam (Lois K. Lippold and Vu Ngoc Thanh), and douc langurs and Francois' langur, *Trachypithecus francoisi*, in the Endangered Primate Rescue Center in Vietnam (Tilo Nadler). The second

issue of *Lemur News* is in press.

The editors of these newsletters are as follows: *African Primates* - Thomas M. Butynski, Editor, Zoo Atlanta, Africa Biodiversity Conservation Program, P. O. Box 24434, Nairobi, Kenya, Tel: 254 2 745374, Fax: 254 2 890615, e-mail: enw@earo.iucn.ch; *Asian Primates* - Ardith A. Eudey, Editor, 164 Dayton Street, Upland, California 91786, USA, Tel/Fax: (909) 982 9832. The second issue of *Lemur News* was produced by Roderic Mast, Conservation International, Washington, D. C., but future issues will be edited by Jörg Ganzhorn, Deutsches Primatenzentrum (DPZ), Kellnerweg 4, D-37077 Göttingen, Germany, Tel: +49 5513851 129, Fax: +49 551 3851 228.

Journal of Comparative Biology

A new, Brazil-based, English language, international journal, the *Journal of Comparative Biology*, has been launched. It is a publication of the Biology Department of the Faculty of Philosophy, Sciences and Letters of the University of São Paulo at Ribeirão Preto. The journal will be published quarterly (except for the first two years), in March, June, September and December. The scope of the journal covers all aspects of comparative biology, from molecules to ecosystems, from conceptual issues to philosophical and historical accounts, from methodological analysis to evolutionary synthesis. There is no taxonomic restriction, nor fixed disciplinary boundaries. Papers integrating comparative biology with physico-geo-chemical and social sciences are also welcomed. The first number has been published Vol.1 (1/2), June 1996. Subscriptions (delivery included and no extra charge for supplements) are as follows: individuals in Brazil - R$40.00, (students half price); individuals in other countries - US$50.00 (students half price); institutions in Brazil - R$60.00; institutions in other countries - US$70.00. The Editor-in-Chief is Dalton de Souza Amorim, Departamento de Biologia, FFCLR/USP, Avenida Bandeirantes 3900, 14040-901 Ribeirão Preto, São Paulo, Brazil, Fax: +55 16 633 5015, e-mail: dsamorim@usp.br.

Books

The Pictorial Guide to the Living Primates, by Noel Rowe, foreword by Jane Goodall, introduction by Russell Mittermeier, 1996, 274pp. Pogonias Press, East Hampton, New York. 500 color illustrations, including 235 range maps, glossary, popular books, web sites, bibliography and index. Hardback ISBN 0-9648825-0-7, Price US$79.95, Paperback ISBN 0-9648825-1-5, Price US$59.95. Add US$4.95 (USA) or US$10.00 (other countries) for postage and packing. This is a very beautifully illustrated book., including photographs of many little known and rare primates. Covering all species, it gives summarised information on taxonomy (follows that of Colin Groves), distinguishing characteristics, physical characteristics, distribution, habitat, diet, life history, locomotion, social structure, and behavior of each. Very highly recommended. To order: Pogonias Press, 163 Town Lane, East Hampton, New York 11937-5000, USA. Mastercard or Visa accepted toll free 1 800 296-6310.

African Primates: Status Survey and Conservation Action Plan. Revised Edition, by John F. Oates, 1996, 80pp. IUCN/SSC Primate Specialist Group, Gland. This is a fully revised edition of the Action Plan for Primate Conservation, first published by the PSG in 1986. Available from: IUCN Publications Services Unit, 219c Huntingdon Road, Cambridge CB3 0DL, UK, Tel: +44 1223-277894, Fax: +44 1223 277175, or IUCN Communications and Corporate Relations Division, Rue Mauverney 28, CH-1196 Gland, Switzerland, Tel: +41 22 999 0001, Fax: +41 22 999 0010. See page 100.

Wild Mammals in Captivity: Principles and Techniques, by Devra G. Kleiman, Mary E. Allen, Katerina V. Thompson and Susan Lumpkin, Managing editor - Holly Harris, 1996, 640pp. University of Chicago Press, Chicago. Hardback price US$70.00. ISBN 0 226 44002 - 8. This book brings together in one comprehensive volume a wealth of information gathered from studies of animal behavior, breeding, genetics, and nutrition, management and welfare. It features contributions from dozens of internationally respected experts and is a professional reference of immense practical value, surveying every significant scientific technical and management issue. Organized into seven parts, the 48 chapters cover the basics of husbandry and nutrition, the design, planning and management of exhibits in zoos and parks, behavior, reproduction, breeding genetics and population management, and research with captive mammals. It is an essential resource for administrators, keepers, veterinarians, conservation biologists, and others concerned with the well-being, conservation and captive breeding of mammals. Available from: University of Chicago Press, 11030 S. Langley Avenue, Chicago, Illinois 60628, USA.

International Directory of Primatology, edited by Larry Jacobsen and Raymond Hamel, 3rd Edition, 1996, 385 pp. (approx.). Wisconsin Regional Primate Research Center, University of Wisconsin-Madison. ISSN 1064-3826. ISBN 0-299-15284-7. Price US$25.00 in the USA, US$35 outside USA. This Directory provides a wealth of information about 300 organizations

and 2,800 people active in primate research, education and conservation. Detailed information is provided for primate research centers and laboratories, educational programs, conservation agencies, field projects, rehabilitation and sanctuary programs, zoological gardens, international and national societies, foundations and information agencies. The names of key people in these programs are provided with complete contact information. This edition is enhanced by the addition of more e-mail and World Wide Web addresses. The listing of field projects from the *Primate Eye Supplement* returns to this edition. The International Primatological Society listing has been expanded and upgraded. The information resources section has been revamped and expanded. This directory will help you answer questions, such as: Which zoos worldwide house bonobos? Who is the director of the Kunming Institute of Zoology (China)? Where can I look for educational or employment opportunities? What field projects are currently being conducted in Brazil ? How do I subscribe to the *American Journal of Primatology*? What species are supported by the Institute of Primate Research in Kenya? Who are the studbook keepers for the Mandrill? Can I study primatology at the University of Pennsylvania and do they offer field work opportunities? Where do I look for primate information on the World Wide Web? If you work with primates or are interested in the field of primatology, you will find the directory to be a handy and useful resource. Send orders by post to: Larry Jacobsen, IDP Coordinator, Wisconsin Regional Primate, Research Center, University of Wisconsin, 1220 Capitol Court, Madison, Wisconsin 53715-1299, USA, or by e-mail to: library@primate.wisc.edu, or by telephone: 1-608-263-3512. Checks payable to:Wisconsin Regional Primate Research Center. Please allow three to four weeks for delivery.

Pollination Redbook, Volume 1: Global List of Threatened Vertebrate Wildlife Species Serving as Pollinators for Crops and Wild Plants, compiled by Gary Paul Nabhan, May 1996, 19pp. Forgotten Pollinators Campaign, Tucson, Arizona. A survey of the IUCN (1994) *Red List of Threatened Animals* to identify vertebrates which belong to taxonomic groups generally known to be involved in providing pollination services. A similar analysis of threatened invertebrates is underway. The Forgotten Pollinators Campaign is co-sponsored by the Arizona-Sonora Desert Museum, Bat Conservation International, the Sonoran Arthropod Studies Institute, and Xerces Society. For further information: The Forgotten Pollinators Campaign, Arizona-Sonora Desert Museum, 2021 North Kinney Road, Tuscson, Arizona 85743, USA, e-mail: fpollen@azstarnet.com.

Braúna, Angico, Jacarandá e Outras Leguminosas de Mata Atlântica: Estação Biológica de Caratinga, Minas Gerais, by Carlos Victor Mendonça Filho, illustrations by Dulce Nascimento, foreword by G. P. Lewis. 1996, 100pp. Editora Littera Maciel, Belo Horizonte. In Portuguese. An illustrated catalogue of the leguminous plants, the result of seven years of research, in the Caratinga Biological Station, an important field research site for muriquis (*Brachyteles*) and marmosets (*Callithrix flaviceps*). Includes taxonomic keys to the families and genera and the description of 99 species (the fruits of 50 are illustrated), including common names, their popular uses, occurrence in Caratinga, listings of the material examined and a glossary. Available from: Fundação Biodiversitas, Avenida do Contorno 9155, 11° andar, Prado, 30110-130 Belo Horizonte, Minas Gerais, Brazil, Fax: +55 (0)31 291-7658, e-mail: cdcb@ax.apc.org.

The Howling Monkeys of La Pacifica, by Kenneth E. Glander, 1996, 31pp. Duke University Primate Center, Durham, North Carolina. This well-illustrated booklet contains questions and answers on the population of about 550 howling monkeys, *Alouatta palliata*, which have been studied by Kenneth Glander and his colleagues since 1972 in 600 ha of forests at the Hacienda La Pacifica in the Guanacaste Province of Costa Rica. For more information: Dr. Kenneth E. Glander, Duke University Primate Center, 3705 Erwin Road, Durham, North Carolina 27705-500, USA.

Investigación, Conservación y Desarrollo en Selvas Subtropicales de Montana, edited by the Laboratório de Investigaciones Ecológicas de las Yungas (LIEY), Argentina. 1996. Price US$30.00. This publication contains 26 articles authored by specialists of the region, on biology, anthropology, archaeology, geography, climate, agriculture, and forest engineering. Available from: Miriam Roxana Aragon, Laboratório de Investigaciones Ecológicas de las Yungas (LIEY), Casilla de Correo 34, (4107 Yerba Buena, Tucumán, Argentina.

Investigación en Areas Protegidas de América Latina, by Victor Pulido C. and Juan Oltremari A., *Documento Técnico No.19, Proyecto FAO/PNUMA sobre Manejo de Areas Silvestres, Areas Protegidas y Vida Silvestere en América Latina y el Caribe*, 1995, 90pp. Includes reviews of: The history of research in protected areas; policies and management categories; research funding; personnel, training and infrastructure; themes, research objectives and problems; and research

needs. Available from: Kyran D. Thelen, Oficial Regional Forestal, Oficina Regional de la FAO para América Latina y el Caribe, Bandera 150, Casilla 10095, Santiago, Chile, Tel: 699-1005, Fax: 696 1121, 696 1124, e-mail: k.d.thelen-fao@cgnet.com.

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Meetings

XIV Encontro Anual de Etologia, 16-19 October 1996, Uberlândia, Minas Gerais, Brazil. Organized by the Sociedade Brasileira de Etologia (SBEt) and the Departamento de Biociências, Universidade Federal de Uberlândia. Includes symposia on: Human ethology; insect behavior; behavior, animal production and conservation; defensive behavior; reproductive behavior; and aquatic mammals. Deadline for abstracts: 30 July 1996. For more information: XIV Encontro Anual de Etologia, Coordenador Prof. Dr. Kleber Del-Claro, Departamento de Biociências, Universidade Federal de Uberlândia, Caixa Postal 593, 38400-902 Uberlândia, Minas Gerais, Brazil. Fax: (034) 232 8620, e-mail: debio05@brufu.bitnet.

Measuring Behavior '96 - International Workshop on Methods and Techniques in Behavioral Research, 16-18 October 1996, Rudolf Magnus Insititute for Neurosciences, Utrecht University, The Netherlands. Registration fee: before 1 August 1996 is NLG 200 (students: NLG 50), after 1 August 1996 is NLG 300 (students: NLG 75). Submission of abstracts: Those who wish to present an oral paper, poster or demonstration should submit the title and abstract of their contribution. All submissions should be received before 1 May 1996. Notification of acceptance of abstracts - 1 July 1996. For program booklet and registration/abstract forms: Measuring Behavior '96, Workshop Secretariat, Attn: Rosan Nikkelen, P.O. Box 268, 6700 AG Wageningen, The Netherlands. Tel: +31 (0)317-497677, Fax: +31 (0)317-424496, e-mail: mb96@noldus.nl. (Information on the workshop is also available on the World Wide Web: http://www.diva.nl/noldus/mb96.html).

I Congreso APE and European Workshop on Primate Research, 16-19 October 1996, Hotel Escuela, Madrid, Spain. Organized by the Asociación Primatológica Española (APE). The European Workshop on Primate Research, consisting of a panel of invited speakers and free poster contributions, will take up the last two days of the meeting. The objective of the Congress is to provide a forum to assess the current situation and perspectives on primate research in Spain and the rest of Europe to facilitate the exchange of information among European primatologists and to promote the establishment of co-operative links between European institutions and research groups working in primatology. Confirmed speakers include: B. Deputte (Paimpont, France), B. Thierry (Strasbourg, France), R. Vercauteren Drubbel (Bruxelles, Belgium), R. D. Martin (Zürich, Switzerland), E. Visalberghi (Rome, Italy), P. Timmermans (Nijmegen, Holland), L. Sterck (Utrecht, Holland), W. Kaumanns (Göttingen, Germany), M. Vancatova (Konarovice, Czech Republic), H. Preuschoft (Bochum, Germany), R. Crompton (Liverpool, UK), H. O. Box (Reading, UK), G. Norton and D. Hawkins (Cambridge, UK). Prof. Hans Kummer will also be elected an Honorary Member of APE and will give a talk entitled "Through the fieldglasses: a primatologist's retrospective". For further information: Dr. Fernando Colmenares, Departamento de Psicobiologia, Universidad Complutense de Madrid, Campus de Somosaguas, 28223 Madrid, Spain. Tel: +34 1 3943073, Fax: +34 1 3943189, e-mail: pspsc06@sis.ucm.es.

56th Annual Meeting of the Society of Vertebrate Anthropology, 16-19 October 1996, American Museum of Natural History, New York, NY. Program, presentations, and abstracts, contact: SVP Program Officer, Kevin Padian, Tel: 510-642-7434, Fax: 510-642-1822, e-mail: kpadian@violet.berkeley.edu. For general SVP'96 questions conrtact SVP Business Office, 401 N. Michigan Ave., Chicago, Illinois 60611-4267, USA, Tel: 312-321-3708, Fax: 312-245-1085, e-mail: svp@sba.com.

XV Congresso Panamericano de Ciências Veterinárias, 21-25 October 1996, Palácio Popular de

Cultura, Campo Grande, Mato Grosso do Sul, Brazil. Associação Panamericana de Ciências Veterinárias, Sociedade Brasileira de Medicina Veterinária. Contact: XV PANVET, Comissão Organizadora, Avenida Afonso Pena 2386, Sala 84, 79002-074 Campo Grande, Mato Grosso do Sul, Brazil. Tel: +55 (0)67 724-7071, Fax: +55 (0)67 383-4371.

95th Annual Meeting of the American Anthropological Association, 20-24 November 1996, San Francisco, California. Theme: "Anthropology: A Critical Retrospective". Contact: AAA Meetings Department, 4350 Fairfax Drive, Suite 640, Arlington, VA 22203, USA, Tel: 703-528-1902 x 2.

2nd EUPREN/EMRG Winter Workshop - The Implications of Housing and Husbandry for Scientific Quality and Well-Being of Non-Human Primates, 25-27 November 1996, Conference Hall, Italian National Research Council, Rome. This Workshop is sponsored jointly by the European Primate Research Network (EUPREN) and the European Marmoset Research Group (EMRG). It will explore the optimal balance between housing and husbandry requirements for different fields of biomedical research and the environmental needs of the species involved. The aim of this workshop is to improve the quality of research in the respect of non-human primate's well-being. The scientific programme will include three sessions: 1) Methodological and technical aspects of housing and husbandry in specific research fields; 2) Requirements of non-human primate species most commonly involved in experimental procedures; and 3) Scientific and ethical approaches to optimize and refine the use of non-human primates in biomedical and biological research. The Workshop will provide a multidisciplinary forum to exchange experience and ideas with a view to develop coherent science-based strategies for advancing research with non-human primates. All participants are invited to contribute with posters and oral presentations in the free sessions. Contacts: Dr. Gemma Perretta, Istituto di Medicina Sperimentale, CNR, c/o ENEA Casaccia, S. P. Anguillarese km.13, 00060 Santa Maria di Galeria, Rome, Italy, Tel: + 39 6 30484634, Fax: +39 6 30483805, or Dr. Ton Kos, Biomedical Research Center, Lange Kleiweg 151, 2288 GJ Rijswik, The Netherlands, Tel: +31 152 843013, Fax: +31 152 843900, e-mail: kos@bprc.nl.

PSGB Winter Meeting 1996 - Social Learning Among Mammals, 29-30 November 1996, Meeting Rooms, London Zoological Society, Regent's Park, London. Organized by the Primate Society of Great Britain (PSGB), in association with the Mammal Society and the Zoological Society of London. The program includes the Osman Hill lecture to be given by Thelma Rowell, and an address by the first recipient of the new PSGB Conservation Award, Jane Goodall. Admission by ticket only. Registration £50 for two days, £25 for one day, half-price for students and members of PSGB. For further information please contact: Dr. Hilary Box, Department of Psychology, University of Reading, Whiteknights Road, Reading, RG6 2AL, UK. Tel: 01734 316668, Fax: 01734 316604 e-mail: h.box@reading.ac.uk.

Biodiversity, Conservation and Management at the Beni Biosphere Reserve, Bolivia, 3-6 December 1996, La Paz, Bolivia. Organized by the Beni Biological Station, Bolivian Academy of Sciences, and the Smithsonian/MAB Biodiversity Program. The objective is to provide a complete overview of the last ten years of research on biodiversity, conservation and management at the reserve. Papers and posters are requested. Proceedings will be published. For additional information, contact: Carmen Miranda, Academia Nacional de Ciencias de Bolivia, Av. 16 de Julio 1732, Casilla 5829, La Paz, Bolivia. Tel./Fax: (591-2) 350612, e-mail cmiranda@ebb.bo, or Francisco Dallmeier, Smithsonian/MAB Biodiversity Program, 1100 Jefferson Drive SW, Suite 3123, Washington, D. C. 20560, USA. Tel: (202) 357 4793, Fax: (202) 786 2557, e-mail: icfgd@ic.si.edu.

ASAB Winter Meeting, Behaviour and Speciation, 5-6 December 1996, Zoological Society of London Meeting Rooms, London Zoo. Organizer: Roger Butlin. For further information contact: Dr Roger Butlin, Ecology and Evolution Programme, Department of Genetics, University of Leeds, Leeds LS2 9JT, UK.

Australian Primate Society XVIth Annual Conference, 6-8 December 1996, Wellington Zoo, Wellington, New Zealand. Conference Organizer: Graeme Strachan, Wellington Zoo. Contact: Graeme Crook, CSIRO Division of Human Nutrition, Animal Services, Majors Road, O'Halloran Hill, South Australia 5158. Tel: +61 82980336, Fax: +61 83770004, e-mail: graemec@dhn.csiro.au.

1997

1997 Meeting of the American Society of Primatologists, 27 June - 1 July 1997, Bahia Hotel, San Diego, California. For more information, contact: Nancy Caine, Psychology Department, California State University, San Marcos, California 92096, USA. Tel: (619) 752-4145, Fax: (619) 752-4111, e-mail: nancy_caine@csusm.edu.

ASAB Summer Meeting "Biological Aspects of Learning", 2-4 July 1997, University of St. Andrews,

Scotland, UK. Association for the Study of Animal Behaviour (ASAB). Organized by Peter Slater. It is hoped to include talks on a wide variety of animal groups,and ranging from neurobiological aspects of learning to social learning and imitation. Main lectures will be given by Randolf Menzel (Learning and memory in the honey bee), Meredith West (Social development), Peter Tyack (Vocal learning in cetaceans), and Andrew Whitten (Imitation and social learning in primates). Offers of talks or posters, the latter not necessarily restricted to the main subject of the meeting, will be welcomed, and should be sent to: Professor Peter Slater, School of Biological and Medical Sciences, University of St. Andrews, Bute Medical Building, St. Andrews KY16 9TS, Scotland, UK, Tel: +44 (0)1334 463500, Fax: +44 (0) 1334 463600, e-mail: pjbs@st-andrews.ac.uk.

The Royal Society Meeting, "Evolution of Biological Diversity: From Population Differentiation to Speciation", 9-10 July 1997. A discussion meeting at The Royal Society, Carlton House Terrace, London, UK. Organized by Robert May and Anne Magurran. Contact: The Science Promotion Section, The Royal Society, 6 Carlton House Terrace, London SW1Y 5AG, UK, Tel: +44 (0)171 839 5561, Fax: +44 (0)171 930 2170.

Fifth International Congress of Vertebrate Morphology, 12-17 July, 1997, University of Bristol, Bristol, UK. Organized by the International Society for Vertebrate Morphologists. For all interested in vertebrate morphology and related areas. Suitable topics for discussion at the meeting include all aspects of vertebrate morphology, including anatomy, evolution, development, biomechanics and locomotion, vertebrate palaeontology, ecological morphology, morphological aspects of behaviour, cell structure and function, neurobiology and neuroanatomy, and morphometric and other methods.Contact: Professor J. M. V. Rayner, School of Biological Sciences, University of Bristol, Woodland Road, Bristol BS8 1UG, UK, Fax: +44 (0)117 925 7374, e-mail: icvm97@bristol.ac.uk, WWW: http://www.bio.bris.ac.uk/icvm.html.

XXV International Ethological Conference, 18-25 August 1997, Vienna, Austria. Contact: Michael Taborsky, Chair, IEC Organizing Committee, Wiener Medizinische Akademie, Alser Strasse 4, A-1090 Vienna, Austria.

ASAB Winter Meeting 1997 "Behaviour and Conservation", Zoological Society of London, Regent's Park, London, UK. Association for the Study of Animal Behaviour (ASAB). Organized by Morris Gosling and Mark Avery. The organizers aim to use the meeting as the basis for a multi-author book. Contacts: Professor Morris Gosling, Institute of Zoology, Zoological Society of London, Regent's Park, London NW1 4RY, UK, Tel: +44 (0)171 449 6600, Fax: +44 (0)171 586 2870, e-mail: suaalmh@ucl.ac.uk, or Dr. Mark Avery, RSPB, The Lodge, Sandy, Beds. SG19 2DL, UK, Tel: +44 (0)1767 680551, Fax: +44 (0)1767 692365, e-mail: bird@rspb.demon.co.uk.

Contributions

We would be most grateful if you could send us information on projects, research groups, events (congresses, symposia, and workshops), recent publications, activities of primatological societies and NGOs, news items or opinions of recent events and suchlike. Manuscripts should be double-spaced and accompanied by the text in diskette for PC compatible text-editors (MS-Word, Wordperfect, Wordstar). Articles, not exceeding six pages, can include small black-and-white photographs, high quality figures, and high quality maps, tables and references, but please keep them to a minimum.

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