

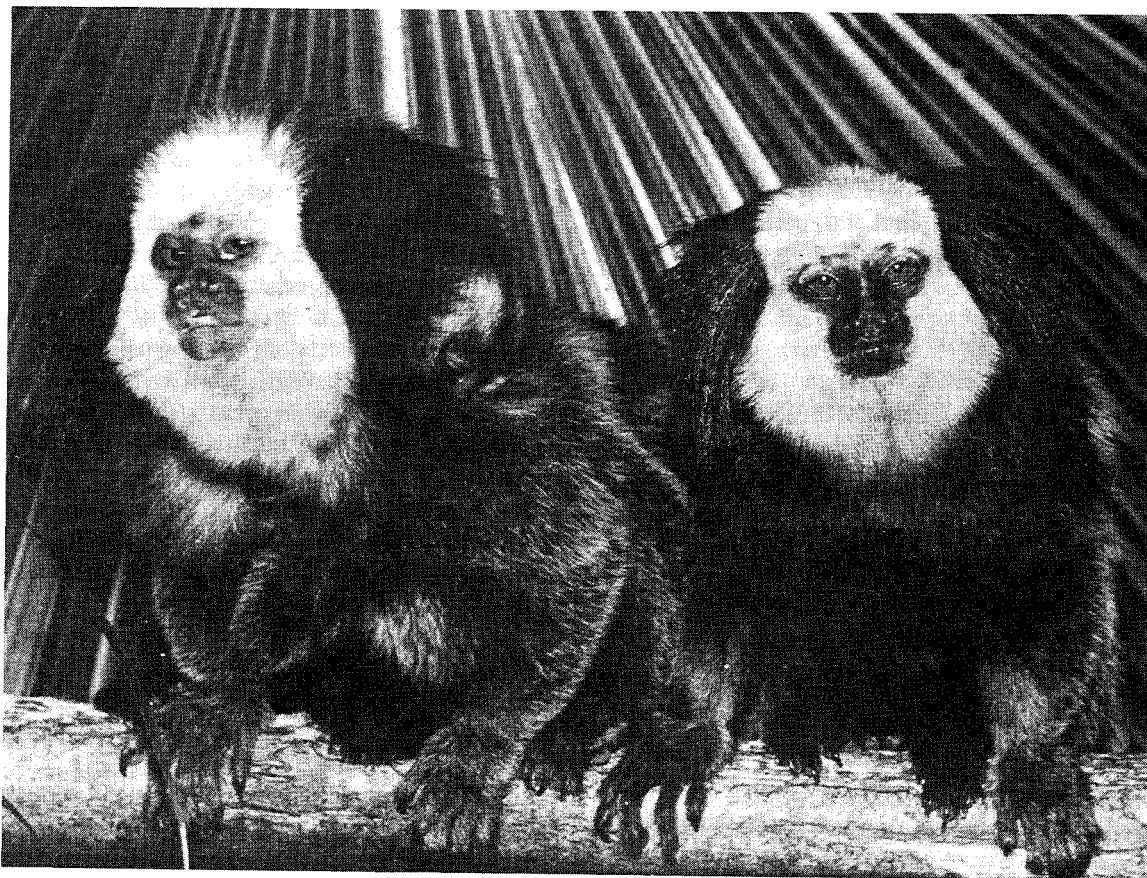
NEOTROPICAL PRIMATES

VOLUME 1, NUMBER 3
SEPTEMBER, 1993

A Newsletter of the Neotropical Section of the IUCN/SSC Primate Specialist Group

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Editors: Anthony B. Rylands and Ernesto Rodríguez Luna
PSG Chairman: Russell A. Mittermeier
PSG Deputy Chairman: William R. Konstant



No dia 03 de agosto, os eminentes biólogos Theodore A. Parker III e Alwyn Gentry faleceram num trágico acidente aéreo, durante trabalhos de campo no Equador, quando sobrevoavam uma porção do território costeiro a 560 km de Quito. Neste acidente, faleceram também o Sr. Eduardo Aspiazuo, presidente da mais importante organização não-governamental daquele país, a Fundação Natura, com sede em Guayaquil, além do piloto do avião, Sr. Raul Mortensen. Felizmente, sobreviveram Carmen Bonifaz (Universidade de Guayaquil), Alfredo Luna (FEDIMA), e Jacqueline Goereck, essa última de nacionalidade brasileira, que também participavam da expedição.

Ted Parker, 40 anos, dirigia a equipe científica do RAP (Programa de Levantamentos Rápidos) da Conservation International. Parker, profundo conhecedor da avifauna Neotropical, era considerado o ornitólogo de maior reconhecimento a nível mundial.

Al Gentry, 48 anos, Botânico curador do Jardim Botânico de Missouri, era igualmente reconhecido por suas importantíssimas contribuições aos estudos da flora da América do Sul. O conhecimento científico de Al Gentry sobre a flora sul-americana, especialmente da Colômbia, Peru, Equador, Bolívia e Paraguai, era incomensurável.

"Ted e Al dominavam dois terços do conhecimento científico ainda não publicado sobre a biodiversidade da região Neotropical" afirma Russell Mittermeier, Presidente da Conservation International, que os conhecia há mais de 20 anos. "Sofremos uma perda irreparável de amigos e colegas. Ted e Al conheciam na prática o que só dominamos na teoria".

Registramos aqui nossa profunda tristeza.

Articles

CONSERVATION OF THE MURIQUI IN THE STATE OF ESPÍRITO SANTO, SOUTHEASTERN BRAZIL

Mendes and Chiarello's valuable review (*Neotropical Primates*, 1(2):2-3) of the current population status of miquis (*Brachyteles arachnoides*) in Espírito Santo refers to the species' presence in small private forests, and proposes a management plan involving confirmation of the size and composition of these populations and their translocation to larger, protected forests. The authors acknowledge the technical difficulties and potential risks of translocations, but argue that such a plan is urgently needed to ensure the continued survival of miquis in the state.

They may be correct about the need for active intervention on behalf of miquis in Espírito Santo, but the opportunity to learn from the proposed translocations should not be missed. For example, while preliminary data indicate substantial inter-population variability in miquis parasite infections (Stuart *et al.*, 1993), the biological impact of mixing infected and uninfected individuals is not yet known. Similarly, evidence that miquis occur at lower densities in large primary forests, such as the Augusto Ruschi Biological Reserve (Pinto *et al.*, 1991, in press), than in smaller disturbed forests may indicate differences in the carrying capacities of the habitats. The effects of importing miquis to such forests are still unknown.

Answers to these questions will remain highly speculative without detailed comparative data on miquis behavioral ecology and biology. Any pioneering management plan that entails translocations should, therefore, include systematic studies of the populations involved both *before* and *after* translocations are implemented. These studies should encompass a minimum of three years, or one miquis interbirth interval (Strier, 1991), so that annual fluctuations in food availability and reproductive parameters can be assessed.

This suggested amplification of Mendes and Chiarello's proposal would delay the initiation of

translocations, and would obviously increase the cost and duration of the project. Nonetheless, the knowledge obtained from such studies would permit a more informed evaluation of the consequences of translocations than would be possible otherwise. Such knowledge will be critical to the development of effective conservation management plans for this highly endangered species throughout its distribution.

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RETHINKING THE STATUS OF *CALLITHRIX FLAVICEPS*

First described at the turn of the century, the buffy-headed marmoset, *Callithrix flaviceps*, remained in almost total obscurity until the 1980's, by which time it was already listed as endangered. It was only at the beginning of that decade, in fact, that this endemic Brazilian primate was found to occur in the state of Minas Gerais (Mittermeier *et al.*, 1980), having been previously restricted to the neighbouring state of Espírito Santo (Hershkovitz, 1977). Despite this discovery, the natural range of *C.flaviceps* is one of the smallest of the platyrrhines and has, like the rest of Brazil's Atlantic forest, suffered extensive deforestation and habitat fragmentation (Mittermeier *et al.*, 1982).

Initial estimates of the numbers of *C.flaviceps* remaining in the wild were far from encouraging, although the species is now known to survive in nine municipalities of Espírito Santo and Minas Gerais (Ferrari and Mendes, 1991; Mendes in press), with at least five populations occurring in officially protected areas. In addition to these reserves, privately-owned forest remnants may be fundamentally important for the species survival over the long term (Ferrari and Mendes, 1991).

During a recent study supported by the Brazil Science Council (CNPq) and the Brazil Program of Conservation International, Washington, D.C., sixteen of these remnants, varying in size between 14 and 216 ha, were surveyed in eastern Minas Gerais (see Diego *et al.*, in press). The presence of *C.flaviceps* was either reported by local residents and/or confirmed by direct observation at 10 of these sites, including the smallest. From these results, we have estimated that at least three hundred forest fragments within the known range of *C.flaviceps* probably support marmoset populations of some kind. Assuming an arbitrary minimum of value of 10 individuals per site, the total *C.flaviceps* population would be at least 3,000. Both these estimates are highly conservative, however, and a more realistic, but nonetheless cautious figure would exceed 10,000. In theory, a population this size would probably be viable over the long term (see MacKinnon *et al.*, 1986), although in practice its fragmentation into a large number of relatively small, isolated subpopulations is a major potential problem. In the short term, at least, this marmoset's survival is favoured by two factors: its ability to inhabit marginal and disturbed habitats (Ferrari and Mendes, 1991), and the positive attitude of most local landowners towards the preservation of remaining forest (Diego *et al.*, in press). Its small size also minimises hunting pressure.

At the present time, then, a captive breeding program would not appear to be a priority for the conservation of *C.flaviceps*, although the reserve network will need to be enlarged and consolidated, and a carefully planned programme of translocations will almost certainly be necessary to avoid inbreeding depression and related problems (Konstant and Mittermeier, 1982; see also Karen Strier's considerations on page 1). One problem resulting from habitat fragmentation at some sites, for example, is the loss of taxon integrity. Ferrari and Mendes (1991) and Mendes (in press) have reported hybridisation of *C.flaviceps* with

Callithrix geoffroyi at a number of locations in Espírito Santo, and with *Callithrix aurita* in Minas Gerais (see Coimbra-Filho *et al.*, 1993).

In addition to the management of wild populations, then, an effective conservation programme will ultimately depend on the definition of the taxonomic status of the *flaviceps* form (Templeton, 1986). In contrast with its original classification, *flaviceps* has in recent years been identified as a subspecies of both *Callithrix jacchus* (*v.* Hershkovitz, 1977) and *C.aurita* (*v.* Coimbra-Filho, 1990). The most recent and comprehensive review of marmoset taxonomy, that of de Vivo (1991), nevertheless argues for its status as a full species. None of these viewpoints can yet be considered definitive, however, without more conclusive evidence, in particular from morphological, ecological, behavioural, and genetic variables.

Stephen F. Ferrari, Departamento de Genética, Universidade Federal do Pará, Caixa Postal 8607, 66075-150 Belém, Pará, Brazil. **Vania H. Diego**, Departamento de Zoologia, Museu Paraense Emílio Goeldi, Caixa Postal 399, 66040-970 Belém, Pará, Brazil.

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PRIMATE TAG OF THE AUSTRALASIAN SPECIES MANAGEMENT PLAN

The Australasian Regional Primate Taxon Advisory Group, started in 1989 for zoos in Australia and New Zealand, operates under the auspices of the Australasian Species Management Program (ASMP) of the Australasian Regional Association of Zoological Parks and Aquaria (ARAZPA). The objectives include coordination amongst zoos to determine the priority species for captive breeding. The TAGs are divided into two groups: those for species which naturally occur in Australia and New Zealand, and those for species which do not. The Primate TAG falls into the latter category and currently counts on eight institutions as active members, with an additional six zoos participating in species management programs. The Primate TAG hopes to focus its conservation efforts on species from South-east Asia - species currently held include orang-utan, white-cheeked gibbon, silvery gibbon, white-handed gibbon, siamang, Celebes macaque, pig-tailed macaque, Javan black langur, and slow loris. Several collaborative programs have also been

initiated in the south-east Asian region with respect to developing captive-breeding programs and *in situ* conservation of endangered primates by the zoos within the region. The foundation for international communication was largely created by the various species' coordinators (already working prior to the creation of the Primate TAG), dealing with species which have international studbooks, for example David Langdon, Adelaide Zoo, who is regional coordinator for lion tamarins and the lion-tailed macaque. Coordinators dealing with species for which there is no international program face the daunting prospect of establishing stocks available beyond the region.

The objectives of the ASMP Primate Taxon Advisory Group largely coincide with those of the IUCN/SSC Captive Breeding Specialist Group (CBSG). A CBSG discussion paper on primates highlighted the need for "field and captive communities to continue to work together in good faith toward a common goal of contributing to survival or restoration of viable populations of primates in the wild". Locally we are endeavoring to manage captive populations of endangered species with a view to ultimate *in situ* conservation, and where possible in collaboration with the relevant wildlife agencies of the country of origin of the species concerned.

Captive populations play an important role in conservation strategies, as genetic and demographic reservoirs, scientific resources, and living ambassadors for public education at all levels that can generate funds for *in situ* conservation. As such, the objectives of the ASMP Primate Taxon Advisory Group have been developed following the recommendations of the SSC/CBSG/PSG Global Captive Action Plan for Primates (Stevenson and Foose, 1991), as the following examples show:

Any and all taxa that are maintained in captivity should be managed as populations. Therefore there should be studbooks, coordinators, masterplans and or taxon advisory groups for these taxa. Moreover, primate spaces as well as the animals should be managed. The Australasian

Primate TAG is striving for coordinated and cooperative management of primates held, promoting regional management instead of institutions working independently. Where possible, regional populations are being managed as a subset of global populations in collaboration with international programs. Furthermore, effective use of space is considered a primary objective. To this end we are reviewing stocking policies in order to best use the resources available to us. There are rather few major zoos in Australia (Adelaide, Melbourne, Perth, Taronga - 21 Zoological Parks and Aquaria listed in the 1993 *Global Zoo Directory*) and New Zealand (Auckland, Orana Park, Wellington - eight Zoological Parks and Aquaria listed in the 1993 *Global Zoo Directory*), and exchanges between the two countries require the same amount of paperwork as exchanges between the region and any other country. Consequently, the number of populations available for the development of management plans, and the number of people available to act as species' coordinators, are limited; thus emphasizing the need to prioritise species to ensure effective use of resources. Major zoos have stated which species they would like to keep, and preferred stocking levels, which gives an indication of

what facilities are, or will be, available. Emphasis is given to maintaining self-sustaining populations of primate species, although this means managing populations so that there is minimal need for import and export and, given available resources, this will not be entirely possible, nor is this relevant to global management.

Captive programs should maintain maximal discrimination of described subspecies as long as possible while taxonomic clarification is pursued. Every attempt is being made within the region to accurately assign specimens to subspecies level where appropriate and to determine the provenance of stock. Attempt are being made to avoid pollution of populations with animals of mixed subspecies. Where possible spaces are being created for those species given high priority by the CBSG. Hybrids are being phased out by controlling reproduction, and the number of species held by

AUSTRALASIAN REGIONAL STUDBOOKS
OF NEW WORLD PRIMATES

Saguinus oedipus - Amanda S. Embury,
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Gardens, P.O.Box 74, Parkville,
Victoria 3052, Australia.

Leontopithecus spp. - David Langdon,
Adelaide Zoological Gardens, Frome
Road, Adelaide, South Australia,
Australia.

Ateles geoffroyi geoffroyi - Steven
Wilson, The Royal Melbourne
Zoological Gardens, P.O.Box 74,
Parkville, Victoria 3052, Australia.

Ateles geoffroyi vellerosus - Mandy
Howie, Orana Park Wildlife Trust,
P.O.Box 5130, Papanui, New Zealand.

the region is being reduced so that population sizes for those considered priority can be increased. Considerable emphasis is being placed on the need to accurately identify subspecies - adopting the attitude of 'splitter' rather than 'lumper'. Efforts are being made, for example, to determine what species of black-and-white colobus, spider monkey, and squirrel monkey are being held in the region. Collaboration with local universities has allowed the group to capitalise on expertise available - DNA analysis using the polymerase chain reaction technique is being used to examine the region's squirrel monkey population.

Since there is need for strategic program development and resource allocation on a global basis, formation of more regional multi-taxa coordination groups on other continents like the Taxon Advisory Groups in North America are encouraged. The ASMP Primate TAG strives to meet these goals, communicating with the PSG and with groups in North America, Europe, Japan, and the South-east Asian region. In attempts to determine which species the region should work with, advice has been sought from the PSG, and from those working in the field with threatened species. No additional species will be imported unless the acquisition of such animals will support either *in situ* or *ex situ* conservation programs.

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OFFICIAL LIST OF THREATENED PERUVIAN PRIMATES

The species listed in the box are on the official Peruvian list of Threatened and Endangered fauna, according to the Ministerial Resolution No.1082-90-AG/15 September 1990 of the Ministry of Agriculture.

THREATENED PERUVIAN PRIMATES

Family Callimiconidae	
<i>Callimico goeldii</i>	Rare
Family Callitrichidae	
<i>Cebuella pygmaea</i>	Vulnerable
<i>Saguinus fuscicollis</i>	Vulnerable
<i>Saguinus imperator</i>	Vulnerable
<i>Saguinus labiatus</i>	Vulnerable
<i>Saguinus mystax</i>	Vulnerable
<i>Saguinus nigricollis</i>	Vulnerable
Family Cebidae	
<i>Alouatta palliata</i>	Endangered
<i>Alouatta seniculus</i>	Vulnerable
<i>Aotus</i> spp.	Vulnerable
<i>Ateles belzebuth</i>	Endangered
<i>Ateles paniscus</i>	Endangered
<i>Cebus albifrons</i>	Vulnerable
<i>Cebus apella</i>	Vulnerable
<i>Cacajao calvus</i>	Endangered
<i>Callicebus</i> spp.	Vulnerable
<i>Lagothrix flavicauda</i>	Endangered
<i>Lagothrix lagotricha</i>	Endangered
<i>Pithecia</i> spp.	Vulnerable
<i>Saimiri boliviensis</i>	Vulnerable
<i>Saimiri sciureus</i>	Vulnerable

This list is comprehensive, although it does not discriminate any subspecies, nor in the case of *Aotus*, *Pithecia* and *Callicebus*, species, and is therefore not very informative. Following current taxonomic classifications, there are 32 species of 12 genera of primates in Peru (Encarnación *et al.*, 1993; Moya *et al.*, 1993). This Resolution lists 31 species, including five species of *Aotus* (*A.nancymai*, *A.miconax*, *A.vociferans*, *A.nigriceps*, and *A.azarae*), five species of *Callicebus* (*C.torquatus*, *C.cupreus*, *C.caligatus*, *C.brunneus*, and *C.oenanthe*), and three species of *Pithecia* (*P.aequatorialis*, *P.monachus*, and *P.irrorata*). *Saguinus tripartitus* is not included as such (v. Thorington, 1988), but is if one maintains the classification of Hershkovitz (1977), placing it as a subspecies of *S.fuscicollis*. Effectively,

therefore, all primates in Peru are protected by the legislation accompanying this Resolution. A detailed classification of the Peruvian primates, including their status (common, indeterminate, rare, vulnerable or endangered) is given by Moya *et al.* (1993; see also Encarnación *et al.*, 1993; Aquino and Encarnación, in press), and a proposal for modifications to the IUCN List of Threatened Animals, particularly concerning Peruvian endemics, will be submitted to IUCN for the 1993 version of this list in preparation for the 1996 revision which will take into account the new category system, at present under discussion and based on the proposal of Mace and Lande (1991; Mace *et al.*, 1992).

Filomeno Encarnación and **Rolando Aquino**, Sociedade Peruana de Primatología and Centro de Reproducción y Conservación de Primates, Apartado 621, Iquitos, Peru. Fax: 61-94-232951.

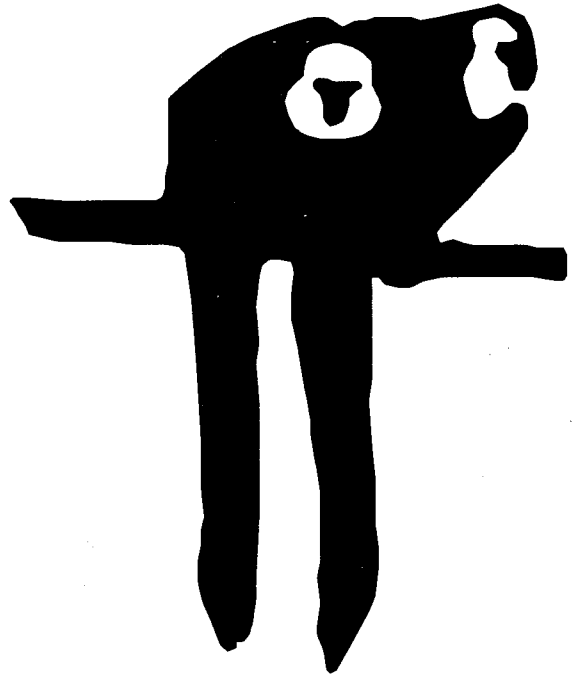
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News

A REINTRODUCTION PROGRAM FOR GEOFFROY'S MARMOSET, *CALLITHRIX GEOFFROYI*



The Museu de Biologia Mello Leitão (MBML) at Santa Teresa, Aracruz Celulose S.A. (ARCEL - a privately-owned cellulose company), both in the state of Espírito Santo, southeastern Brazil, and the Centro de Primatologia do Rio de Janeiro (CPRJ), are working together on a reintroduction program for Geoffroy's marmoset, *Callithrix geoffroyi*. This species originally occurred throughout the Atlantic forest of southern Bahia, Espírito Santo, and adjacent Minas Gerais, but it is today restricted to small forest fragments because of habitat destruction, and absent from many because of hunting for the pet trade. The program has two main objectives: 1) to reintroduce groups of mostly captive-born animals (mainly from CPRJ), and 2) to educate local communities of the necessity and importance of the species' conservation. The collaboration agreement between the institutions was signed in April 1992, but the program was initiated in August 1991, with a team of researchers, students, and technicians working under the supervision of Sergio L.Mendes, primatologist at MBML (currently completing a doctoral thesis on marmoset vocalizations, at the

State University of Campinas, São Paulo).

The formation of the groups is being carried out in cages at MBML. Those which show signs of being well established are transferred to cages located in forest fragments isolated by *Eucalyptus* plantations owned by ARCEL. After two to three weeks for acclimatization, the groups are released, and monitored using radio-telemetry. Systematic studies are providing data on the group's diet, ranging, activity pattern and social behavior to allow for an evaluation of their stability and independence of provisioned food.

Some interesting data have been obtained, such as the finding that the reintroduced groups are very vulnerable to predation, especially from small felids (*Felis* spp.). These fragments provide refuges for the native fauna, and it is becoming evident that there are high densities of small cats. The disbanding of groups following release, and starvation despite provisioning, are other factors which must be overcome. However, much has been, and is being, learnt regarding the best procedures for reintroduction for this species. Future releases will benefit from a better understanding of the species' behaviour and ecology through a study of wild groups, initiated in January 1993 and providing the first information on its behaviour and habitat preferences in the wild.

Adriano G. Chiarello and Marcelo Passamani¹, Museu de Biologia Mello Leitão, Av. José Ruschi 04, Santa Teresa, Espírito Santo 29650-000, Brazil, and ¹Postgraduate Course in Ecology, Conservation, and Wildlife Management, Instituto de Ciências Biológicas, Universidade Federal de Minas Gerais, 31270-901 Belo Horizonte, Minas Gerais, Brazil.

STUDBOOK FOR CAPTIVE EMPEROR TAMARINS

An international emperor tamarin studbook dealing with the two known subspecies, *Saguinus imperator imperator* and *S.i.subgriseus* which occur in northwestern Bolivia, northwestern Brazil (state of Acre), and southeastern Peru, was recently published by the Pittsburgh Zoo, Pennsylvania. This, the first studbook printed for the species, was set up using SPARKS, and documents the history of the emperor tamarin in captivity from 1963 to

1991, with historical listings for each subspecies, as well as the records for the institutions holding them in 1991. The large majority of emperor tamarins in captivity belong to the subspecies *S.i.subgriseus*. In 1991, 10 institutions held 30 (21.8.1) *S.i.imperator*, and 37 institutions held 177 (83.81.13) *S.i.subgriseus*. Age pyramids and analyses of fecundity and mortality in different age classes are provided for each subspecies, along with a bibliography covering such aspects as taxonomy, geographical distribution, anatomy, and behavior.

The author is grateful to all who collaborated in setting up the studbook, and appeals to institutions who maintain this species to supply the necessary records so as to maintain an accurate and complete picture of its status in captivity. Likewise, it would be most valuable to receive bibliographical references or copies of any publications, particularly those with a limited distribution, which provide information on emperor tamarins in captivity and in the wild.

Lee Nesler, General Curator, Pittsburgh Zoo, P.O.Box. 5250, Pittsburgh, Pennsylvania 15206, USA. Fax: (412) 665-3661.

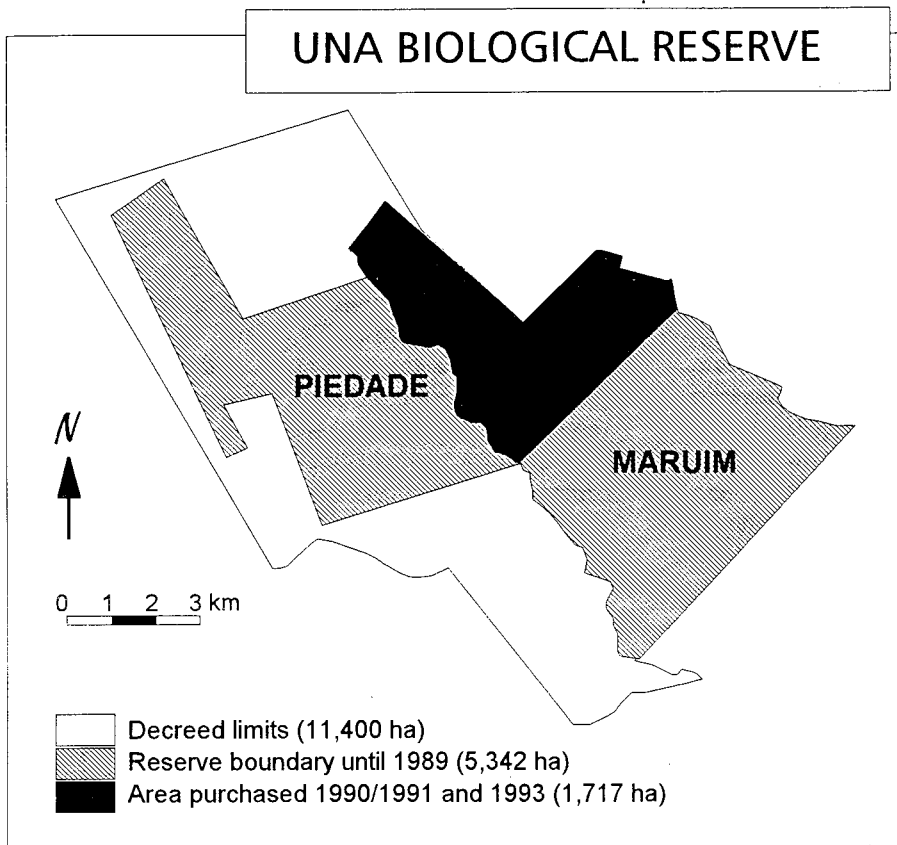
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Nesler, L. 1993. *1991 International Emperor Tamarin Studbook - Saguinus imperator imperator, Saguinus imperator subgriseus*. Pittsburgh Zoo, Pennsylvania.

LAND PURCHASE FOR THE UNA BIOLOGICAL RESERVE, REFUGE OF THE GOLDEN-HEADED LION TAMARIN

The Una Biological Reserve is an isolated patch of Atlantic coastal forest in southern Bahia, Brazil. Following the recommendations of Ademar Coimbra-Filho (1970, 1984), it was decreed in December 1980 (Decree N^o 85.463/10th December 1980), officially with an area of 11,400, but in reality comprising just two, barely connected, forest blocks, Maruim and Piedade, totalling 5,342 ha. The Reserve was created with the specific aim of protecting populations of the golden-headed lion tamarin, *Leontopithecus chrysomelas*, but fortuitously also contains the yellow-breasted capuchin, *Cebus apella xanthosternos*, Wied's black-tufted-ear marmoset, *Callithrix kuhli*, and

UNA BIOLOGICAL RESERVE



the Bahian masked titi, *Callicebus personatus melanochir*, as well as other endangered species such as the maned sloth, *Bradypus torquatus*, and the thin-spined porcupine, *Chaetomys subspinosus*. Until 1982 the Reserve remained without any protection or management and suffered severe problems of squatters (see Coimbra-Filho, 1984). Due to the remarkable efforts of the Reserve Director, Saturnino de Sousa, and in collaboration with World Wildlife Fund - US as well as Conservation International, the number of squatters was reduced from 100 families in 1985 to 28 families in 1993, eight of which will be removed in the near future. A serious problem, however, was the narrowness (approximately 20 m) of the corridor between the two forest blocks. In 1989, the Jersey Wildlife Preservation Trust carried out a fund raising campaign specifically for the purpose of buying adjacent forest (within the decreed area) to widen the corridor (Mallinson, 1989). Funds were also contributed by World Wildlife Fund - US and Conservation International. The land was purchased by the Fundação Biodiversitas in three stages (243 ha in March 1990, 200 ha in December 1990, and 216 ha in January 1991). The funds were administered by World Wildlife Fund-US, and Conservation International provided the financing to carry out

the purchase. The land, comprising 659 ha of forest, was donated to Ibama in a ceremony in March 1991, graced by H.R.H. Prince Philip The Duke of Edinburgh, President of the World Wide Fund for Nature.

Despite this remarkable achievement, it was evident that such a step was still insufficient for the consolidation of the reserve, and further investigations were made concerning the possibilities of acquiring other contiguous forests. In 1992, the Fazenda Eldorado abutting the northern limits of the eastern Maruim block, was put up for sale, and the International Committee for the Recovery and Management of *L. chrysomelas* (see Mallinson,

1989) recognized immediately the urgency of responding to this unique opportunity. Thanks to the collaboration among Brazilian and International non - governmental organizations and with the help of the Brazilian Institute for the Environment and Renewable Natural Resources (Ibama), the Una Biological Reserve has been increased in size by 18% through the purchase of 1,058 ha: the Reserve currently has an area of 7,059 ha. The purchase was made possible by the collaboration of Ibama and the Fundação Biodiversitas, with funds contributed by Robert and Birgit Bateman through Wildlife Preservation Trust Canada; World Wide Fund for Nature; Jersey Wildlife Preservation Trust; Brookfield Zoo; the Chicago Rainforest Action Group; the Mill Pond Press; Conservation International; and World Wide Fund for Nature - Canada. The international fundraising effort was coordinated by WWF-US. The purchase was completed on June 17 in Una, Bahia, by the Fundação Biodiversitas, and the title of the land was immediately transferred to Ibama. At least 1,000 ha must still be added to establish a viable minimum protected area for conservation purposes, and efforts will continue to find ways to purchase remaining contiguous forest in the region.

A very large number of Brazilian protected areas suffer from serious problems regarding land ownership, and we stress that such a unique opportunity as the purchase of the forested part of the Eldorado Ranch would have been lost if this course of action had not been taken. We sincerely thank all those involved for their prompt and magnanimous response to the call for the means to secure a significant part of the last remnants of the Bahian rain forest, and the only natural refuge for the golden-headed lion tamarin.

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BEHAVIOR AND FEEDING ECOLOGY OF THE BLACK LION TAMARIN

Fernando de Camargo Passos recently completed a

study of the feeding behavior of the black lion tamarin, *Leontopithecus chrysopygus*, a Master's thesis presented to the State University of Campinas (Unicamp), São Paulo, supervised by Dr Cory T.de Carvalho (Passos, 1992). The study was carried out in the Caetetus State Reserve (2,178 ha), municipality of Gália, from January to June 1989, and March 1990 to March 1991. The major components of the diet were found to be fruits, plant exudates and animal prey, the importance of which varied seasonally, with fruits being predominant in the wet season, and a surprisingly high consumption of plant exudates in the dry season. Passos will be continuing his research on the behavior and feeding of this species for a doctoral thesis at the Federal University of São Carlos, São Paulo, under the supervision of Dr Cleber J.R.Alho. This second phase of the project, a two-year study starting in August/September 1993, will examine particularly the seasonal variation in the behavior and feeding ecology of the species, with data collected in such a way as to be directly comparable with the studies of *L.chrysomelas* in the Una Biological Reserve, southern Bahia, by James Dietz (University of Maryland), *L.rosalia* in the Poço das Antas Biological Reserve, Rio de Janeiro, by Andrew Baker (Philadelphia Zoo), and of *L.chrysopygus* in the Morro do Diabo State Park, São Paulo, by Cláudio Pádua (The Nature Conservancy). The project was discussed and approved by the International Recovery and Management Committee for *L.chrysopygus* in May 1993, and will be financed by the World Wide Fund for Nature (WWF), and the Boticário Foundation for Nature Protection, Brazil.

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ACTION PLAN FOR THE BLACK-FACED LION TAMARIN

An emergency action plan for the conservation of the newly discovered black-faced lion tamarin, *Leontopithecus caissara*, in the states of São Paulo and Paraná, Brazil, was drawn up and approved during a meeting of the international committee for the conservation of the species, held in Casimiro de Abreu, Rio de Janeiro, on the 20th May of this year (reported in *Neotropical Primates* 1(2), 1993). The International Committee, a consultative committee for the Brazilian Institute for the Environment and Renewable Natural Resource (Ibama), created by Edict No.106/92-N of 30 September 1992, is comprised of the following members: Alcides Pissinatti (Rio de Janeiro Primate Center), Anthony B.Rylands (Federal University of Minas Gerais), Dante M.Teixeira (National Museum, Rio de Janeiro), Ibsen de Gusmão Câmara (Brazilian Society for Environmental Protection - SOBRAPA, co-chairman), Jeremy J.C.Mallinson (Jersey Wildlife Preservation Trust, co-chairman), Jordan P.Wallauer (Ibama), Maria Iolita Bampi (Ibama), Maria L.Lorini ("Capão da Imbuia" Natural History Museum, Curitiba), Paulo Nogueira Neto (University of São Paulo), Russell A. Mittermeier (Conservation International), and Vanessa

G.Persson (National Museum, Rio de Janeiro). The Plan was presented to the President of Ibama in June 1993.

While recognising that our knowledge of the species is still insufficient for the elaboration of a comprehensive and long-term action plan, it was argued that a number of aspects currently affecting the wild populations require immediate action. The plan summarizes the data available on the species' distribution and population size, and provides a listing of 15 specific aspects identified as threats, besides the intrinsic problems of small population size and a very limited geographic distribution. In summary, they include: geographic separation of two distinct subpopulations; lack of an effective protection for the Superagui National Park and the Jacupiranga State Park where they occur; problems of urbanisation and development of tourism in key areas in the vicinity of these protected areas; irregular and illegal land occupation and deforestation in key areas, especially within its distribution in the state of São Paulo; cattle farming (including buffalo) in the vicinity of or within the protected areas; extractivist activities; the slow recovery characteristic of the *restinga* vegetation; pet trade and the notoriety of the species; possible competition with introduced *Callithrix jacchus*; highway construction; and the lack of a captive breeding program. Aspects requiring immediate action are identified, and include the creation of further protected areas and redefinition of the limits and management categories of the existing areas, measures for improving the protection of these areas, continued and intensified research on the distribution and size of existing populations, environmental education programs, genetic research with a view to examining the possibilities of translocation, the establishment of at least two captive colonies, and the elaboration of a management plan for the Superagui National Park, especially taking into account the current expansion of increasingly damaging tourist activities on the island. The Plan suggests priority for research on the demography and distribution of the species, and gives guidelines for the financing of these activities. Problems arising from the socioeconomic development of this increasingly populous region are dealt with in part by these emergency recommendations but will require more substantiated and long-term action, the possibilities for which will arise with a better understanding of the distribution and status and in conjunction with an increased awareness of the problems and their

solutions in collaboration with regional politicians and decision-makers.

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SOUTH AMERICAN REPTILE AND AMPHIBIAN SPECIALIST GROUP

A new IUCN/SSC Specialist Group was recently created which deals with South American amphibians and reptiles. Similar groups have already been established for Africa, Australasia, China, Europe, the Indian subcontinent and Madagascar. The Co-chairpersons are: Aline Tristão Bernardes, Fundação Biodiversitas, Rua Maria Vaz de Melo 71, Dona Clara, 31260-110 Belo Horizonte, Minas Gerais, Brazil, Fax: 55 (31) 411-7037; and Jorge Williams, Facultad de Ciencias Naturales y Museo, Paseo del Bosque s/n, 1900 La Plata, Argentina, Fax: 54 (21) 53-01-89. The Group will work in close collaboration with Jaime Pefauer, Universidad de Los Andes, Venezuela, member representing South America

for the SSC Task Force on Declining Amphibian Populations.

AVANCE EN LA ELABORACION DEL PLAN DE ACCION PARA LOS PRIMATES DE MESOAMERICA

A fin de elaborar el primer borrador del Plan de Acción para los Primates Mesoamericanos, representantes de los países comprendidos en esta región (Johanna Motta Gill - Guatemala, Eduardo Carrillo y Yolanda Matamoros - Costa Rica, Félix Núñez - Panamá, Alejandro Hernández Yáñez, Carlos A.G. Guichard, Domingo Canales Espinosa, Ernesto Rodríguez Luna y Liliana Cortés Ortiz - México) se reunieron en Tuxtla Gutiérrez, Chiapas, México, en el marco del IV Simposio de la Asociación Mexicana de Primatología. En esta reunión participaron otros primatólogos mexicanos, quienes también hicieron contribuciones durante el análisis y discusión del documento de trabajo que se elaboró para esta ocasión.

Los objetivos de este Plan son los siguientes:

- i) presentar lista de primates mesoamericanos;
- ii) estimar el grado de amenaza para cada una de las especies, así como distinguir las subespecies y poblaciones marginales bajo amenaza;
- iii) revisar la distribución de las comunidades de primates mesoamericanos en relación a las provincias biogeográficas, destacando las comunidades con altos niveles de diversidad y endemismo de especies;
- iv) listar los proyectos necesarios para la conservación de las especies y comunidades amenazadas, con una estimación de costos;
- v) establecer prioridades entre esos proyectos, basadas en el número de especies involucradas, su unicidad taxonómica y el grado en que se encuentran amenazadas.

La reunión se inició con el análisis de los objetivos que cumple la Comisión para la Supervivencia de las Especies, y en particular el Grupo Especialista en Primates, de la IUCN. Posteriormente, se revisaron los lineamientos para la elaboración de los Planes de Acción que formulan los Grupos Especialistas. En un primer punto, se habló de la gran diversidad de ecosistemas presentes en la región mesoamericana, de la falta de conocimiento sobre la riqueza biológica que aquí se presenta y de la reducción progresiva de estos ecosistemas debido

a diversos factores; la mayoría de los cuales son comunes para todos los países que conforman la región.

La alteración del hábitat nuevamente se asumió como el factor más deletéreo para las poblaciones de primates y se indicó que, indudablemente, dentro de los agentes perturbadores de los bosques tropicales, hay varios que podrían ser controlados por el hombre mediante tácticas y estrategias conservacionistas. Sin embargo, para cada país, para cada zona geográfica y política, el problema adquiere condiciones particulares, requiriéndose tratamientos distintos en la mayoría de los casos.

Posteriormente, se hizo una breve revisión de la situación de las especies de monos por país. Las especies y subespecies consideradas fueron las siguientes:

• <i>Alouatta palliata</i>	<i>A.g.frontatus</i>
<i>A.p.palliata</i>	<i>A.g.geoffroyi</i>
<i>A.p.aequatorialis</i>	<i>A.g.grisescens</i>
<i>A.p.mexicana</i>	<i>A.g.ornatus</i>
• <i>Alouatta pigra</i>	<i>A.g.pan</i>
• <i>Alouatta coibensis</i>	<i>A.g.panamensis</i>
<i>A.c.coibensis</i>	<i>A.g.vellerosus</i>
<i>A.c.trabeata</i>	<i>A.g.yucatanensis</i>
• <i>Aotus lemurinus</i>	• <i>Cebus capucinus</i>
<i>A.l.lemurinus</i>	<i>C.c.capucinus</i>
<i>A.l.griseimembra</i>	<i>C.c.imitator</i>
• <i>Ateles fusciceps</i>	<i>C.c.limitaneus</i>
<i>A.f.fusciceps</i>	• <i>Saguinus geoffroyi</i>
<i>A.f.robustus</i>	• <i>Saimiri oerstedii</i>
• <i>Ateles geoffroyi</i>	<i>S.o.oerstedii</i>
<i>A.g.azuerensis</i>	<i>S.o.citrinellus</i>

De manera general, se concluyó que la mayoría de las áreas de distribución propuestas para los primates de la región, contienen información errónea y no reflejan con precisión la ubicación de cada especie. Esto hace necesaria la elaboración de mapas con información original para varias especies de la región.

Debido a que uno de los puntos más importantes en los Planes de Acción es asignar a las especies rangos de prioridad para su conservación, fue necesario reconocer los criterios que se han utilizado para evaluar el estado de las especies. A este respecto, se comentó que la categorización hecha por la IUCN en sus Libros Rojos, en muchas ocasiones no se corresponde con la situación real de las especies, ya que se utilizan criterios muy subjetivos para calificarlas. Sin embargo, el nuevo

criterio para reevaluar estas categorías, propuesto por Mace y Lande (1991), en este momento no es aplicable para la mayoría de nuestras especies, pues no se cuenta con información suficiente para desarrollar esa metodología, basada principalmente en datos demográficos. De esta manera, aunque actualmente no se encuentra disponible esa información, el nuevo criterio, que promete una evaluación más objetiva debe servir como aliciente para futuros estudios de campo, porque está exigiendo un determinado tipo de datos que no se han colectado. Esta deficiencia de información, no se restringe a Mesoamérica, mas bien, es la situación general de las especies de primates a nivel mundial, salvo algunas excepciones.

Sin embargo, para los fines que persigue este Plan de Acción, se consideró conveniente adoptar un criterio formulado ya en el *Plan de Acción para los Lemures de Madagascar* (Mittermeier et al., 1992), el cual nos permite determinar prioridades para acción conservacionista, utilizando información de fácil acceso. Este criterio se basa en tres factores: el grado de amenaza medido en términos del tamaño de la población total; la unicidad taxonómica; y el nivel de protección en las áreas donde se presentan las poblaciones. No obstante, se hicieron recomendaciones, resaltando la necesidad de tomar otros factores como determinantes de la situación de las especies y de la asignación de prioridades. Algunos de estos factores son los siguientes:

- *La fragmentación del hábitat.* Aún cuando se tuviera un número poblacional significativo, podría estar distribuido en pequeños fragmentos que no permitirían intercambio genético, lo que a mediano y largo plazo provocaría el detrimento de las poblaciones.

- *El nivel de protección efectiva dentro de las áreas protegidas.* No es suficiente que una población se encuentre en un lugar decretado como área natural protegido, para decir que efectivamente está protegida; ya que en la mayoría de los países mesoamericanos, no en todas las áreas decretadas existe protección real o suficiente.

- *Habilidad de las especies para adaptarse a los cambios en el hábitat.*

- *Extensión del área de distribución de las especies.*

- *Protección legal en los países donde se distribuye* (por ejemplo leyes de caza, ley forestal, etc.).

- *El grado de conocimiento de esa especie en condiciones naturales.*

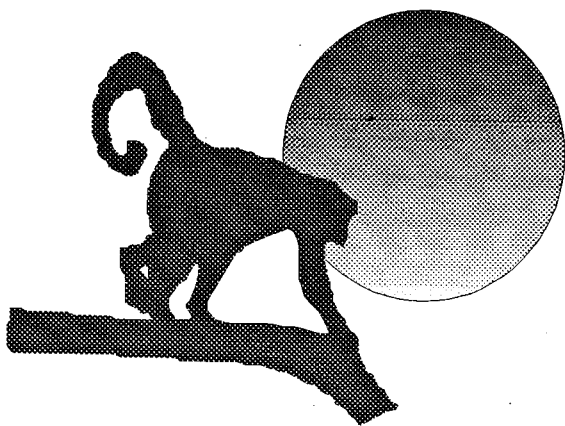
Se espera presentar la versión definitiva de este Plan durante la 67ava. Reunión de la Comisión de Supervivencia de Especies de la IUCN, que se celebrará del 15 al 17 de enero de 1994, en Buenos Aires, Argentina.

Ernesto Rodríguez Luna, Parque de la Flora y Fauna Silvestre Tropical, Universidad Veracruzana, Apartado Postal 566, Xalapa, Veracruz 91000, México.

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DIRECTOR OF CARATINGA BIOLOGICAL STATION RECEIVES TWO AWARDS FROM THE AMERICAN SOCIETY OF PRIMATOLOGY



The American Society of Primatology (ASP) awarded a two-year subscription of the *American Journal of Primatology* - their 1993 Journal Subscription Award - to Eduardo Marcelino V. Veado, Director of the Caratinga Biological Station, Minas Gerais, Brazil. According to Dr Ramon Rhine, Chairman of the ASP Conservation Committee, competition for the Conservation Award (for students and young investigators working on primate conservation in source countries) was even tougher than for the Journal Award, but the conclusion was reached that

Eduardo Veado, nominated by Dr. Karen Strier, University of Wisconsin, was also the most worthy candidate - an unprecedented decision by ASP to give the two awards to the same person. The Caratinga Biological Station is a small but highly significant area of well-preserved Atlantic forest, in the Fazenda Montes Claros of Feliciano Abdalla, near Caratinga in the Rio Doce valley of eastern Minas Gerais. It is today administered by the Fundação Biodiversitas, Belo Horizonte, and is home to muriquis, *Brachyteles arachnoides*, brown howling monkeys, *Alouatta fusca*, tufted capuchins, *Cebus apella*, and buffy-headed marmosets, *Callithrix flaviceps*. Eduardo Veado, who graduated in Zoology from the Federal University of Minas Gerais in 1988, participated as a field assistant in the early days (1983) of Karen Strier's ongoing study of the muriquis, and in 1985 was asked by Célio Valle, then Professor of Zoology at the University, to assume the Directorship of the Station. Karen Strier's recommendation documented Eduardo's remarkable achievements in running the Station, being host to numerous field researchers, tourists and journalists, and yet at the same time carrying out improvements to the facilities (including the construction of a visitor's center named after Célio Valle and inaugurated in 1992), raising money for the maintenance of the area, and also, with his wife Simone, carrying out a long-term and highly successful campaign of environmental education in the region, involving not only local communities and schools, but also businesses and politicians in the nearby town of Caratinga. He has provided vital support for numerous and important studies of the Station's fauna and flora, examples including Karen Strier's study of the muriquis, Sergio Mendes' pioneer work on howling monkeys, and the most important field research of a marmoset yet achieved - that of Stephen Ferrari. The editors extend their most sincere congratulations to Eduardo Veado on receiving these awards and to the ASP Conservation Committee for choosing such a deserving candidate.

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LIBRARY SERVICES - WISCONSIN REGIONAL PRIMATE RESEARCH CENTER

The Wisconsin Regional Primate Research Center (WRPRC), Madison, has just published the third edition of *Audiovisual Resources in Primatology*, a catalog to the audiovisual collection of the Center's library. It contains an annotated list of audiotapes, videotapes, slide sets, and films, as well as the number of slides held for each species. Indexes are provided for species and titles. Introductory material in the catalog explains procedures for borrowing and contributing materials. The catalog sells for US\$10.00 in the U.S., and US\$18.00 outside of the U.S. The newsletter *Primate Library Report: Audio-Visual Acquisitions*, issued periodically, covers the period between editions of the catalog. Each issue lists 30-40 new items added to the collection. Complimentary subscriptions to this newsletter are available on request. People may also request a comprehensive search of audiovisual materials on a particular topic or species. This comprehensive database contains not only records of AV items held by the WRPRC Library, but also information on other materials.

Through a grant for the Center for Biology Education at the University of Wisconsin-Madison, we have just completed a three part slide set, "The Primates". These new slide sets (each of 72 slides, with accompanying annotated script) introduce the topics of primate behavior, conservation and taxonomy, and are intended for use by teachers in their classrooms. All three slide sets have been tested in schools and incorporate teachers' suggestions. They can be borrowed for 14 days at no cost for teachers who pick them up in person, or mailed for a US\$10.00 service fee. For more information contact Ray Hamel, Special Collections Librarian, WRPRC.

The WRPRC library publishes the *International Directory of Primatology*. The purpose of the Directory is to enhance communication among the many organizations and individuals involved in primate research, conservation, and education. It can be used by primatologists as a desk-top working tool or by educators, librarians, students and the general public as a guide to primate programs and information resources. The directory is divided into five organizational sections and four indexes. The organizational sections cover (1) geographically arranged entries for major primate centers, laboratories, educational programs, foundations, conservation organizations and sanctuaries, (2) current field sites with program and contact information, (3) members of groups involved with non-human primate population management, (4) professional primate societies, and (5) major information sources in the field. Access to this information is supported by organizational, species, subject and name indexes. Copies of the 1992 *International Directory of Primatology* (225pp. spiral bound) are available in the USA for \$10 (includes surface postage and handling). To offset mailing costs, the price to other countries is US\$18.00. Electronic mail and phone orders are welcome (see below). Checks payable to Wisconsin Regional Primate Research Center.

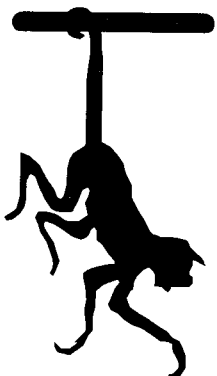
The Library also coordinates an Internet Gopher server call PRIMATE INFO NET (PIN), for people with an interest in the field of primatology. Among the resources accessible in PIN are: a taxonomy of the primates; *Laboratory Primate Newsletter* (LPN) (current issue); a list of topical bibliographies from the Primate Information Center (PIC), University of Washington, Seattle; *Primate Library Report: Audiovisual Acquisitions* (current issue); information on ordering WRPRC audiovisual materials; current pricing for PIC database searches; the Primate-Talk Directory; information on accessing archives of Primate-Talk and LPN; information on the Primate Supply Clearing House; a gateway to Envirolink; Animal Welfare Act and Amendments; gorilla ethograms; other information pertinent to the field. Gopher is a menu-based system for using Internet resources. PIN is just one of many resources available through Internet Gopher. You can search phone books of the world, go to library catalogs, get travel advisories, recipes etc. It is international in scope and can be thought of as a switching point to an extraordinary mine of information. We welcome

suggestions for improvement to existing menu items on PIN, as well as ideas for new files. Note that we are interested in other resources in primatology which would enhance this server, such as bibliographies, data files, and directories. We would also welcome ideas about connections to other servers, such as Envirolink, which have related materials. Please contact us, or write to Internet Gopher Developers, 100 Union ST.SE#190, Minneapolis, MN 55455, USA (e-mail: gopher@boombox.micro.umn.edu), for information on how to access Internet Gopher.

The electronic mail listserver PRIMATE-TALK, an open forum for the discussion of primatology and related subjects, was reported in the June 1993 issue of *Neotropical Primates*. It currently has over 300 members from 15 countries. Subject matters include, but are not limited to: news items, meetings announcements, research issues, information requests, veterinary/husbandry topics, job notices, animal exchange information, and book reviews. People with Internet, BITNET, or UUCP can communicate with PRIMATE-TALK. Users of other networks should contact WRPRC. If you are interested in joining, send a message to PRIMATE-TALK-REQUEST@PRIMATE.WISC.EDU stating that you would like to sign on. Messages are sent to PRIMATE-TALK@PRIMATE.WISC.EDU.

Finally, an appeal - we would be most grateful if primatologists could send us copies of their recent articles, most especially if they are published in journals which have a restricted distribution.

Larry Jacobsen, Head of Library Services, Primate Center Library, Wisconsin Regional Primate Research Center, 1220 Capitol Court, Madison, WI 53715-1299, USA. Tel: 1 (608) 263-3512. Fax: 1 (608) 263-4031. E-mail: library@primate.wisc.edu.



CEBIDAE SYMPOSIUM

A "Symposium on the Primate Family Cebidae" was held on May 2, 1993 in Pittsburgh, Pennsylvania, and hosted by the New World Primate Taxon Advisory Group and the Zoological Society of Pittsburgh. Purina

Mills, Inc. sponsored the symposium. Over 60 people attended, including representatives from zoos, laboratories, animal organizations, animal food manufacturers, and private owners. Money raised from the registration fees will go to primate conservation efforts in Brazil and Colombia.

The papers and posters included:

- *Are we killing our captive primates with kindness? Applying field research to captive nutrition.* K.E.Glander, Duke University, Durham.
- *Contrasting life modes in Cebidae: titis (Callicebus) and squirrel monkeys (Saimiri).* W.A.Mason and S.P.Mendoza, California Regional Primate Research Center, Davis.
- *Estimation of long-term group dynamics for female-bonded primates using an object-oriented model.* K.Snyder, Texas A&M University.
- *Exhibit use and behavior of captive titi monkeys (Callicebus donacophilus) after transfer to a naturalistic exhibit.* A.M.Stevens, Dallas Zoo, Dallas.
- *Techniques for studying the reproductive biology of the white-faced saki (Pithecia pithecia) in captivity.* A.Savage, Roger Williams Park Zoo, Providence; S.E.Shideler; E.A.Moorman; A.Ortuno; and B.L.Lasley, University of California, Davis.
- *An investigation of the prehensile tail.* D.Bergeson, Washington University, St.Louis.
- *Aggression, affiliation, and food stealing among captive female squirrel monkeys.* T.L.Guy, Bucknell University, Lewisburg, and NIH Animal Center, Poolesville; and N.G.Caine, California State University, San Marcos.
- *Management of a breeding colony of white-throated capuchins (Cebus c.capucinus) on an outdoor island habitat.* R.Rooney and K.Krickbaum, Dreher Park Zoo, West Palm Beach.
- *The work of the New World Primate Taxon Advisory Group: captive cebid populations - managing species and spaces.* A.Baker, Burnet Park Zoo, Syracuse.
- *Management of woolly monkeys (Lagothrix lagotricha) at the Louisville Zoo.* S.Logsdon, Louisville Zoo, Louisville.
- *Mating patterns and sexual competition in brown capuchin monkeys (Cebus apella).* K.A.Phillips, University of Georgia, Athens.
- *Experimental approaches to the study of tool-use by captive capuchin monkeys.* G.C.Westergaard, NIH Animal Center, Poolesville.
- *Phylogeny and conservation genetics of howler*

- monkeys (genus *Alouatta*). R.A.James, Kean College, Union; R.H.Horwich, Howlers Forever Inc., Gay Mills; and S.A.Karl, Rutgers University, New Brunswick.
- *Differences between firstborn and later-born Cebus apella infants' interactions with mothers.* G.Byrne, NIH Animal Center, Poolesville.
 - *Introduction of howler monkeys: a four-year record.* E.Rodriguez-Luna; F.Garcia-Orduna; D.Canales Espinosa; and J.C.Serio-Silva, Universidad Veracruzana, Xalapa.
 - *Feeding habits and daily activity patterns of howler monkeys (Alouatta palliata) in a forest fragment in Los Tuxtlas, Veracruz, Mexico.* J.C.Serio-Silva, Universidad Veracruzana, Xalapa.
 - *Reproductive parameters and sexual behavior of the howler monkey (Alouatta palliata mexicana).* L.Cortes-Ortiz; E.Rodriguez-Luna; and J.C.Serio-Silva, Universidad Veracruzana, Xalapa.
 - *The challenge of cebid contraception.* C.Asa, St.Louis Zoological Park, St.Louis; A.Baker, Burnet Park Zoo, Syracuse; B.Hornbeck, St.Louis Zoological Park, St.Louis; E.Plotka, Marshfield Medical Foundation, Marshfield; and I.Porton, St.Louis Zoological Park, St.Louis.
 - *The handrearing, development, and reintroduction of a black-handed spider monkey (Ateles geoffroyi).* V.Sodaro, Chicago Zoological Park, Brookfield.

The papers and posters presented will be published in the 1993 Regional Proceedings of the American Association of Zoological Parks and Aquariums.

Ken Kaemmerer, Dallas Zoo, 621 East Clarendon Drive, Dallas, Texas 75293, USA.

MOLECULAR PHYLOGENY OF THE ALOUATTINAE, ATELINAE AND PITHECIINAE

In July 1993, Maria Iracilda da Cunha Sampaio defended her doctoral thesis for the postgraduate course in Biological Sciences (Specialization: Genetics and Molecular Biology) of the Biological Sciences Center, Federal University of Pará, and the Emílio Goeldi Museum, Belém, Pará, supervised by Dr Horácio Schneider. The following is the English abstract of the thesis:

Genomic DNA sequences encompassing the whole epsilon gene of the beta-globin cluster and the

Intron 1 of the IRBP gene (about 3600 base pairs) were obtained in order to investigate the phylogenetic relationships among seven New World monkey genera belonging to the subfamilies Atelinae, Alouattinae and Pitheciinae. The sequences were analyzed using maximum parsimony and distance matrix methods. The cladistic arrangement produced by these analyses suggests a close relationship between the alouattines (*Alouatta*) and atelines (*Ateles*, *Brachyteles*, *Lagothrix*). The monophyletic character of the pitheciines (*Pithecia*, *Chiropotes*, *Cacajao*) and the close relationship between *Cebus* and *Saguinus* (used in this study as outgroups) were also clearly demonstrated. Estimates of divergence time suggest that the first platyrrhine radiation occurred around 24-21 million years ago (Ma), giving rise to the ancestors of the cebids and atelids. The emergence of *Alouatta* was estimated at around 14 Ma, while the ateline radiation seems to have occurred at about 11-9 Ma. Conversely, the emergence of the pitheciines was estimated at 7 Ma (origin of *Pithecia*) and 6-5 Ma (splitting of *Chiropotes* and *Cacajao*). The taxonomic arrangement obtained by this molecular approach corresponds almost exactly with that suggested by Rosenberger (1981) for the family Atelidae: Subfamily Atelinae, with two Tribes Alouattini (*Alouatta*) and Atelini (*Ateles*, *Lagothrix*, *Brachyteles*); Subfamily Pitheciinae with two Tribes Callicebini (*Callicebus*, *Aotus*) and Pitheciini, the latter divided into Subtribes Pitheciina (*Pithecia*) and Chiropotina (*Chiropotes*, *Cacajao*).

Maria Iracilda da C. Sampaio and Horácio Schneider, Departamento de Genética, Universidade Federal do Pará, Caixa Postal 8607, 66075-150 Belém, Pará, Brasil. Tel/Fax: (091) 229-9785.

References

- Rosenberger, A.L. 1981. Systematics: the higher taxa. In: *Ecology and Behavior of Neotropical Primates, Vol.1*, A.F.Coimbra-Filho and R.A.Mittermeier (eds.), pp.9-27. Academia Brasileira de Ciências, Rio de Janeiro.
- Sampaio, M.I.da C. 1993. Filogenia molecular das subfamílias Alouattinae, Atelinae e Pitheciinae (Platyrrhini, Primates). Tese de Doutorado, Centro de Ciências Biológicas, Universidade Federal do Pará, e Museu Paraense Emílio Goeldi, Belém, Pará.

ARGENTINIAN POSTGRADUATE COURSE IN WILDLIFE MANAGEMENT

The Faculty of Exact, Physical and Natural Sciences of the Universidad Nacional, Cordoba, Argentina, has established a master's course in wildlife management, in collaboration with the Instituto Nacional de Tecnologia Agropecuaria, and sponsored by the World Wildlife Fund - US and U.S. Fish and Wildlife Service. The first selection of students will be carried out this year. For more information write to: Dr Enrique Bucher, Programa Manejo de Vida Silvestre, Centro de Zoologia Aplicada, Casilla de Correo 122, (5000) Cordoba, Argentina. Tel: (051) 235264, Fax: 00 54 (51) 244092.

VOLUNTEER FIELD ASSISTANTS

Volunteer field assistants needed to assist an ongoing field study of red howler monkey (*Alouatta seniculus*) demography and social behavior in Venezuela. Requirements: good physical condition, interest to watch monkeys, ability to work long hours in harsh field conditions, working knowledge of spanish, able to drive 4WD jeep and previous field experience a plus. Must pay their own air travel expenses but living expenses may be provided depending on the availability of funds. Send letter of interest, CV, and names of three references with fax numbers to: **Dr. G. Agoramoorthy**, Wildlife Laboratory, Institute of Biology, National Taiwan Normal University, 88 Sec. 5, Roosevelt Road, Taipei 11718, Taiwan, R.O.C. Fax: 886-2-9346443.

NEW ADDRESS FOR CONSERVATION INTERNATIONAL - BRAZIL

On 22 September 1993, the Brazil Office of Conservation International moved to the following address:

Av. Antônio Abrahão Caram 820/302, Pampulha
31275-000 Belo Horizonte, Minas Gerais, Brazil.
Tel: (031)441-1795, Fax: (031)441-2582.

The Director of the Brazil Program is Dr. Gustavo A.B.da Fonseca of the Zoology Department, Federal University of Minas Gerais.

Primate Societies

SOCIEDADE BRASILEIRA DE PRIMATOLOGIA - LEVANTAMENTO DE PESQUISAS

A Sociedade, juntamente com o PRIMATAM (Banco de Dados sobre Primatas da Amazônia, sediado no Museu Goeldi, Belém) está promovendo um levantamento, a nível nacional, das pesquisas em andamento sobre primatas. Pretende-se, como resultado dessas informações, divulgá-las através de uma publicação, que propicie um maior intercâmbio entre os pesquisadores, além de viabilizar um acompanhamento da produção científica na área de Primatologia.

Por favor entre em contato com o Dr. Horácio Schneider (Presidente da SBPr) ou Aline Da Rin P.Azevedo (Coordenadora PRIMATAM), para solicitar um formulário (curto e simples) e registrar seu projeto.

Horácio Schneider, Departamento de Genética, Universidade Federal do Pará, Caixa Postal 8607, 66075-150 Belém, Pará, Brasil. Tel/Fax: (091) 229-9785. **Aline Da Rin P.de Azevedo**, Departamento de Zoologia-PRIMATAM, Museu Paraense Emílio Goeldi, Caixa Postal 399, 66040 Belém, Pará, Brasil. Fax: (091) 241-7384, 226-1615.

VI CONGRESSO DA SOCIEDADE BRASILEIRA DE PRIMATOLOGIA

A Diretoria da SBPr está organizando o VI Congresso de Primatologia que fará parte das atividades do XX Congresso Brasileiro de Zoologia, de 24-29 de julho de 1994, na Universidade Federal do Rio de Janeiro, Rio de Janeiro. Stephen Ferrari, Vice-Presidente da SBPr, está elaborando um programa de simpósios, mini-cursos, e mesas redondas. As primeiras sugestões incluem: Técnicas para estudos de campo (mini-curso), Genética molecular (mini-curso), e os seguintes simpósios/mesas-redondas - Espécies novas e conservação (Ferrari), Sistemática e filogenia dos primatas neotropicais (Schneider), Reprodução de primatas da Mata Atlântica (sugerido por Karen Strier, da Universidade de Wisconsin-Madison), "O gênero *Alouatta* no

Brasil" (Queiroz), e pesquisa/conservação sobre certos grupos taxonômicos, como por exemplo, *Brachyteles*, Pitheciinae. Helder Queiroz (Projeto Mamirauá) está coordenando o simpósio sobre *Alouatta*, que tem o objetivo de "reunir estudiosos da ecologia de todas as espécies do gênero existentes no Brasil, para discutir aspectos comuns da ecologia destes animais, normatizar nossas respectivas apresentações e, por fim, produzir um volume que reúna os resultados de todos nós". Sugestões sobre a participação, conteúdo, e programação deste simpósio, devem ser enviadas ao Sr. Queiroz preferencialmente até o dia 30 de novembro. Informações sobre o XX Congresso Brasileiro de Zoologia: Secretaria do XX CBZ, Departamento de Zoologia, Universidade Federal do Rio de Janeiro, Ilha do Fundão, 21949-900 Rio de Janeiro, Rio de Janeiro, Brasil.

Stephen F. Ferrari e Horácio Schneider, Departamento de Genética, Universidade Federal do Pará, Caixa Postal 8607, 66075-150 Belém, Pará, Brasil. Fax: (091) 229-9785. **Helder L. Queiroz**, Projeto Mamirauá, C.P. 38, 69470-000 Tefé, Amazonas, Brasil. Fax: (092) 743-2309.

IV SIMPOSIO DE LA ASOCIACION MEXICANA DE PRIMATOLOGIA

Del 17 al 20 de mayo del año en curso, se realizo el IV Simposio de la Asociación Mexicana de Primatología en la ciudad de Tuxtla Gutiérrez, Chiapas, México. En esta reunión se conto con la asistencia de 82 personas; lo cual constituye el mayor número de asistentes de todos los Simposios Nacionales que se han realizado sobre este tema. Inicialmente, se celebró una sesión de trabajos libres, en donde se expusieron 25 trabajos sobre diversos tópicos. Asimismo, se realizó un taller para evaluar el estado de las poblaciones cautivas de primates en México, en la cual participaron varias personas que trabajan en Zoológicos, tanto de México como de Centroamérica, así como en instituciones de investigación. De los resultados obtenidos en este taller se elaborará un libro para el manejo en cautiverio de primates en México, en conjunción con la Asociación de Zoológicos.

Ernesto Rodríguez Luna, Presidente - Asociación Mexicana de Primatología, Parque de La Flora y Fauna Silvestre Tropical, Universidad

IV SIMPOSIO DE LA ASOCIACION MEXICANA DE PRIMATOLOGIA

SEMINARIO DEL GRUPO ESPECIALISTA EN PRIMATES IUCN/SSC
SECCION MESOAMERICANA

TALLER PARA EVALUAR POBLACIONES CAUTIVAS
DE PRIMATES EN MEXICO



ZOOLOGICO REGIONAL
"MIGUEL ALVAREZ DEL TORO"
TUXTLA GUTIERREZ, CHIAPAS, MEXICO
DEL 17 AL 20 DE MAYO, 1993.

ASOCIACION MEXICANA DE PRIMATOLOGIA, A. C.
INSTITUTO DE HISTORIA NATURAL
GOBIERNO DEL ESTADO DE CHIAPAS
GRUPO ESPECIALISTA EN PRIMATES IUCN/SSC
UNIVERSIDAD VERACRUZANA
PATRONATO PRO-UNIVERSIDAD VERACRUZANA, A. C.

ASOCIACION DE ZOOLOGICOS, CRIADEROS
Y ACUARIOS DE LA REPUBLICA MEXICANA

INFORMES:
TEL: (281) 877-30
XALAPA, VERACRUZ.

Veracruzana, Apartado Postal 566, Xalapa, Veracruz 91000, México.

NUEVA MESA DIRECTIVA DE LA ASOCIACION MEXICANA DE PRIMATOLOGIA

El 20 de mayo de 1993, en el marco del IV Simposio de la Asociación Mexicana de Primatología, se realizó la reunión de los miembros de dicha asociación, para la elección de la mesa directiva que fungirá durante el periodo 1993-1995. Los miembros decidieron por unanimidad que, dado que las actividades dirigidas por el presidente saliente habían tomado un impulso favorable para la Asociación, nuevamente debería ocupar esa posición. Esta solicitud fue aceptada por el Presidente y posteriormente, se eligieron a los demás miembros de la mesa directiva, quedando de la siguiente manera: PRESIDENTE: Ernesto Rodríguez Luna; SECRETARIO: Domingo Canales Espinosa; TESORERA: Liliana Cortés Ortiz; 1^{er}. VOCAL: Ricardo Mondragón Ceballos; 2^o. VOCAL: Alejandro Hernández Yáñez; 3^{er}. VOCAL: Frank Carlos Camacho; 4^o. VOCAL: Olvido González Castro. La sede de la Asociación, nuevamente quedó en la Universidad Veracruzana. La dirección postal es: *Asociación Mexicana de Primatología, A.C., Apartado Postal 566, C.P.91000, Xalapa, Veracruz, México, Tel: (28) 18-77-30, Fax: (28) 18-63-52 y 17-65-39.* Finalmente, se decidió que la próxima reunión nacional de la Asociación, se llevará a cabo durante el mes de Mayo de 1995, en las instalaciones de African Safari, en Valesquillo, Puebla, México.

ANALES DEL II SIMPOSIO DE LA ASOCIACION MEXICANA DE PRIMATOLOGIA

Estudios Primatológicos en México, Vol.1, editado por A.Estrada, E.Rodríguez-Luna, R.Lopes-Wilchis y R.Coates-Estrada, Biblioteca Universidad Veracruzana, México, 1993. Este libro constiuye una recopilación de los trabajos que se presentaron on el II Simposio Nacional de Primatología, A.C., en la region de Los Tuxtlas, Veracruz, México. De manera general, consta de las siguientes secciones: Desarrollos Recientes; Estudios de campo: de Aprovechamiento de

Primates e Históricos; Estudios Etológicos; Estudios sobre Aspectos Evolutivos; Aspectos Técnicos y Estudios Conservacionistas en otros países. En total consta de 25 aportaciones y 372pp. El costo de este libro es de US\$15.00 más gastos de envío, y esta disponible en: Asociación Mexicana de Primatología, A.C., A.P.566, C.P.91000, Xalapa, Veracruz, México. Tel: (281) 8-77-30. Fax: (281) 8-63-52 y 7-65-39.

Recent Publications

EXPANDED - INTERNATIONAL JOURNAL OF PRIMATOLOGY

The official journal of the International Primatological Society has increased the number of pages for each issue by 50%. The journal comes out every two months, and publishes peer-reviewed papers on anatomy, anthropology, ethology, paleontology, psychology, sociology, and zoology of primates, as well as various aspects of the conservation of primates and their habitats. Subscription: Volume 14, 1993 (6 issues); Institutional - US\$275.00 (in US), US\$320.00 (elsewhere); Personal US\$49.00 (in US), US\$57.00 elsewhere. Contact: Plenum Publishing Corporation, 233 Spring Street, New York, NY 10013-1578, USA. Plenum offer a free sample copy.

VIDA SILVESTRE NEOTROPICAL

Neste ano, será relançada a revista trilingüe *Vida Silvestre Neotropical*. A iniciativa é do Programa Regional em Manejo de Vida Silvestre para Mesoamérica e o Caribe (PRMVS), da Universidade Nacional da Costa Rica, Heredia. Michael McCoy e Christopher Vaughan são os editores. Isto foi possível graças a doações do World Wildlife Fund-US, US Fish and Wildlife Service e NYZS The Wildlife Conservation Society. Esta revista vem atender à necessidade de uma revista internacional em publicar novas informações sobre manejo e conservação da vida silvestre e áreas silvestres neotropicais. Geograficamente, a revista inclui o México, América Central, América do Sul e o Caribe. Os artigos podem ser escritos em espanhol, português ou inglês. Os temas incluem: manejo para uso sustentável da vida silvestre; manejo de bosques

naturais, conservação de espécies ou ecossistemas ameaçados de extinção; manutenção da diversidade biótica; uso nativo da vida silvestre; inventários biológicos com implicações específicas ou gerais; novas técnicas de pesquisa e manejo; bases biológicas para planejar sistemas de áreas protegidas; controle de pragas e pesquisa sobre ecologia ou biologia de fauna silvestre. Conteúdo: editoriais; ensaios; artigos principais; notas; anúncios e propagandas.

Para receber o Volume 3 de *Vida Silvestre Neotropical* (dois números) em 1993, escreva para: Vida Silvestre Neotropical, Programa Regional en Manejo de Vida Silvestre, Dept.No.278, P.O.Box 025216, Miami, FL 33102, USA. Na Costa Rica escreva para: Vida Silvestre Neotropical, Programa Regional en Manejo de Vida Silvestre, Universidad Nacional, Apartado 1350-3000, Heredia, Costa Rica, Tel: 506-37-70-39, Fax: 506-37-70-36. Assinatura: Estudantes - América Latina US\$8,00, outros US\$15,00; Profissionais - América Latina US\$12,00, outros US\$24,00; Instituições - América Latina US\$15,00, outros US\$30,00.

BOLETIM PRIMATOLOGICO LATINO-AMERICANO

The first part of Volume 3 of the *Boletim Primatologico Latinoamericano* was published recently (November 1992, 68pp). This journal is produced by the "Grupo Argentino de Especialistas en Primates (GADEP)", and is supported by the World Wildlife Fund-US and the Fundación ECORED. The editor is Gabriel E.Zunino, Museo Argentino de Ciencias Naturales "Bernadino Rivadavia", who is supported by an Editorial Committee: Alejandro D.Brown (Universidad Nacional de Tucuman); Marta Mudry (Universidad de Buenos Aires); Damian I.Rumiz (University of Florida, Gainesville); and Sandra I.Arditi (Universidad Nacional de Tucumán). Number 1 of Volume 3 includes the following articles and communications: M.D.Mudry *et al.* - Cariotipo, fenotipo y características poblacionales del mono aullador negro (*Alouatta caraya*) de la Argentina; S.Arditi -Variaciones estacionales en la actividad y dieta de *Aotus azarae* y *Alouatta caraya* en Formosa, Argentina; M.A.Delprat *et al.* - "Fingerprint" en humanos y primates del nuevo mundo; H.Groot de R. *et al.* - Cariotipos con banda G del género *Cebus*; H.Groot de R. *et al.* - Frecuencia de intercambios de cromátides hermanas en el género *Cebus* (communication);

A.Parera and A.Bosso - Presencia actual del mono aullador *Alouatta caraya* en el extremo norte de la provincia de Misiones, Argentina (communication).

Gabriel E. Zunino, Museo Argentino de Ciencias Naturales "Bernadino Rivadavia", Div. Mastozoología, Av. Angel Gallardo 470, 1405 Buenos Aires, Argentina.

BOOKS

Creative Conservation: Interactive Management of Wild and Captive Animals, edited by P.J.Olney, G.Mace, and A.Feistner, Chapman and Hall, London, November 1993, 400pp. Hdbk c. £ 45.00 + postage £ 3.50 in UK and surface mail overseas, air mail £ 9.50. The relationship between breeding endangered species in captivity and the support needed to ensure the survival of the species in the wild is crucial to the long term success of conservation programs. This book discusses how the captive breeding community relates to work in the field, what is being done to help species and their habitats survive, and how to contribute in the future. The book is the result of the deliberations and presentations of the 6th World Conference on Breeding Endangered Species in Captivity: The Role of Zoos in Global Conservation, hosted by the Jersey Wildlife Preservation Trust, Jersey, in May 1992, and presents a full review of the biological, logistical, political and economic concerns that affect all efforts to manage populations. Future objectives are presented, and pertinent case studies illustrate the successes and frustrations encountered - a major contribution to the debate on the interactive management of threatened species. In five parts: 1) Introduction. Past progress and future challenges - R.J.Wheater; 2) General Issues; 3) Reintroduction and Captive Breeding; 4) Species Examples; 5) Regional Approaches and; 6) Concluding Remarks - G.Rabb. Available from: Antonia Sharpe, Chapman and Hall, 2-6 Boundary Row, London SE1 8HN, UK. Fax: (071) 522-9623.

1993 Global Zoo Directory, edited by Frederick B.Swengel, published by the Captive Breeding Specialist Group (CBSG) in collaboration with the International Species Information System (ISIS) and *International Zoo Yearbook*, 1993. A remarkable and valuable compendium featuring:

Directory of Zoos of the World (mailing and telephone information for about 1,800 zoos), Regional Conservation Coordinators, International Studbook listing, Regional Studbook listing, Species Programs, Taxon Advisory Groups, Conservation Assessment and Management Plans (CAMPs), SSC Specialist Groups, SSC Action Plans, SSC Specialist Group addresses, and CBSG member addresses (more than 575 people in 57 countries). Price US\$35.00, postage paid. Contact: Global Zoo Directory, c/o CBSG, 12101 Johnny Cake Ridge Road, Apple Valley, MN 55124, USA.

Species, Species Concepts, and Primate Evolution, edited by William H.Kimbel and Lawrence Martin, Plenum Publishing Corporation, New York, 1993, 553pp. Price US\$115,00 (US and Canada), US\$138,00 elsewhere. Part of the series *Advances in Primatology*, edited by John G.Fleagle and R.D.E.MacPhee. Twenty-one state of the art contributions, the book is organized into four parts and a summary highlighting different theoretical perspectives and methodological approaches used by primate evolutionary biologists and paleontologists. Includes: Ontological issues and the role of species in systematics and evolutionary theory; species and speciation among living primates, emphasizing the detection and interpretation of taxonomic diversity; interface of evolutionary theory and species recognition from the perspective of the primate fossil record; species and hominid systematics and; an assessment of the various conceptual viewpoints and their relevance for primate evolutionary studies. Contact: Plenum Publishing Corporation, 233 Spring Street, New York, NY 10013-1578, USA.

A Primate Model for the Study of Colitis and Colonic Carcinoma: the Cotton-top Tamarin (Saguinus oedipus), edited by Neal K.Clapp, Director of the Marmoset Research Center, Oak Ridge, Tennessee, CRC Press Inc., Boca Raton, Florida, 1993. ISBN 0-8493-5363-7. The first chapter provides an excellent and exhaustive review of the taxonomy, natural history, status, habitat and distribution, and conservation of *S.oedipus*, as well as a comprehensive listing of other Colombian primates. The chapter, entitled "The Colombian cotton-top tamarin in the wild", was written by Roderic B.Mast, José Vicente Rodríguez, and Russell A.Mittermeier (pp.3-43). Available from: CRC Press Inc., 2000 Corporate Blvd., N.W., Boca Raton, Florida 33431, USA.

Female Choices: Sexual Behavior of Female Primates, by Meredith F.Small, Cornell University Press, Ithaca, New York, 1993, xi, 245pp. Price US\$26.95. Available from: Cornell University Press Services, P.O.Box 6525, Ithaca, NY 14850, USA.

Biology, Rearing, and Care of Young Primates, by James K.Kirkwood, Senior Veterinary Officer, Institute of Zoology, Zoological Society of London, published by Oxford University Press, Oxford, July 1992, 162pp. ISBN 0-19-854733-1. Hdbk £ 40.00. The propagation of wild animals in captivity is playing an increasingly important role in the conservation of species. This is particularly true of primates, many of which are threatened or endangered in their natural habitat. Unfortunately, mortality during the neonatal period is often high in captivity, frequently because of suboptimal management. Significant improvements in infant survival can be made with a better knowledge of neonatal biology and rearing procedures. The aim of this book is to provide a reference text on the normal growth of 18 primate species commonly held in captivity for propagation or research, and on the housing, feeding, management, and preventative medicine techniques that enable this normal growth. It contains up-to-date information scattered widely through the scientific literature, presented in an easily accessible form for those involved in rearing primates in captivity. Contents: Ruffed lemur; lesser mouse lemur; Senegal or lesser bush baby; Bosman's potto; Horsfield's or western tarsier; common marmoset; cotton-top tamarin; golden lion tamarin; night monkey; squirrel monkey; vervet monkey; rhesus macaque; stump-tailed macaque; common baboon; proboscis monkey; western black-and-white colobus; lar gibbon; chimpanzee; list of products and; index. Available from: Oxford University Press, Walton Street, Oxford OX2 6DP, England, U.K., or Oxford University Press, Order Department, 2001 Evans Road, Cary, North Carolina 27513, USA.

Juvenile Primates: Life History, Development and Behavior, edited by Michael E.Pereira (Duke University Primate Center) and Lynn A.Fairbanks (University of California at Los Angeles), Oxford University Press, Oxford, August 1993, 480pp. ISBN 0-19-507206-5, Hdbk £ 50.00. This volume brings together an outstanding group of scientists studying the behavioral development

of primates between weaning and adulthood. It begins by examining the nature of the juvenile period, continues with presentation of new data on the behavior and social relationships of juvenile primates across a broad range of species, and concludes with the application of concepts in socioecology to research on children. Contents: What are juvenile primates all about? - M.E.Pereira & L.A.Fairbanks; Juvenility in animals - M.E.Pereira; Evolution of the juvenile period in mammals - M.D.Pagel & P.H.Harvey; On the evolution of juvenile lifestyles in mammals - D.I.Rubinstein; Ecological risk aversion in juvenile primates: slow and steady wins the race - C.H.Janson & C.P.van Schaik; Spatial position and behavioral sex differences in juvenile long-tailed macaques - M.A.van Noordwijk et al.; Juvenile male emigration from natal one-male troops in hanuman langurs - L.S.Rajpurohit & V.Sommer; Consequences of sex differences in dispersal for juvenile red howler monkeys - C.M.Crockett & T.R.Pope; Juveniles in non-gregarious primates - L.T.Nash; Growing up in a patrifocal society; sex differences in the spatial relations of immature muriquis - K.B.Strier; Behavior of juvenile and adolescent great apes - D.P.Watts & A.Pusey; Diet and social organization of a free-ranging spider monkey population: the development of species-typical behavior in the absence of adults - K.Milton; Primate juveniles and primate play - R.Fagen; Stability of social relationships in female wedge-capped capuchin monkeys - T.G.O'Brien & J.G.Robinson; Juvenile vervet monkeys: establishing relationships and practicing skills for the future - L.A.Fairbanks; Interactions between juveniles and adult males in vervets: implications for adult male turnover - J.A.Horrocks & W.Hunte; Early agonistic experience and the onset of matrilineal rank acquisition in Japanese macaques - B.Chapais & C.Gauthier; Codevelopment of dominance relations and affiliative bonds in rhesus monkeys - F.B.M.de Waal; Patterns of reconciliation among juvenile long-tailed macaques - M.Cords & F.Aureli; Agonistic interaction, dominance relations, and ontogenetic trajectories in ring-tailed lemurs - M.E.Pereira; The lives of hunter-gatherer children; effects of parental behavior and parental reproductive strategy - N.Blurton-Jones; Behavioral sex differences in children of diverse cultures: the case of nurturance to infants - C.P.Edwards; Biocultural interactions in human development - C.M.Worthman; Juvenile primates: dimensions for further research - L.A.Fairbanks & M.E.Pereira. Available from: Oxford University Press, Walton

Street, Oxford OX2 6DP, England, U.K., or Oxford University Press, Order Department, 2001 Evans Road, Cary, North Carolina 27513, USA.

Mammal Phylogeny: Placentals, edited by F.S.Szalay, M.J.Novacek, and M.C.McKenna, Springer Verlag, 1993, 321pp. Price Hdbk £ 87.50. A review of recent research in all aspects of the evolutionary history of the placental mammals, including evolutionary morphology of hard and soft tissues, and molecular phylogeny. Both fossil and living groups are examined. Available from: Natural History Book Service Ltd., 2-3 Wills Road, Totnes, Devon TQ9 5XN, UK. Fax: 44-803-865280.

Mammal Species of the World: A Taxonomic and Geographic Reference, 2nd edition, edited by Don E.Wilson and DeeAnn M.Reeder, Smithsonian Institution Press, Washington, D.C., 1993, 1226pp. Hdbk £ 63.50. A revised edition of Honacki's work, first published in 1982. It provides the definitive source for names, ranges, and synonyms for each of the world's 4,500+ mammal species. The new edition includes 126 new species described since the 1982 edition. Available from: Natural History Book Service Ltd., 2-3 Wills Road, Totnes, Devon TQ9 5XN, UK. Fax: 44-803-865280.

Situación General de la Conservación de la Biodiversidad en la Región Amazónica: Evaluación de las Áreas Protegidas Propuestas y Estrategias, elaborado por Carlos Castaño Uribe, Coordinador Regional de la Red de Áreas Protegidas de la Cuenca Amazónica (SURAPA), Consultor del Proyecto FAO/TCP/RLA/0160, mayo 1993, 111pp. La elaboración e publicación de este documento fue financiada por el Gobierno del Reino de los Países Bajos y ejecutada por la Organización de las Naciones Unidas para la Agricultura y la Alimentación (FAO), a través de los proyectos TCP/RLA/0160 y del GCP/RLA/485/NET. Para la publicación se contó también con la colaboración de la Comunidad Económica Europea (CEE) y de la Unión Internacional para la Conservación de la Naturaleza (UICN). Este documento ha sido preparado a solicitud de la Secretaría Pro Tempore del Tratado de Cooperación Amazónica (TCA) con el fin de tener una visión general sobre la gestión de la conservación en la Cuenca Amazónica. Índice: Consideraciones geopolíticas generales

sobre la conservación y el medio ambiente en la región Amazónica a través del TCA; Significancia de la Cuenca Amazónica; Uso, producción, transformación e impactos sobre los recursos naturales renovables en la región Amazónica; La conservación de recursos naturales renovables y del medio ambiente en la Cuenca Amazónica; Definición de estrategias específicas para las áreas protegidas. Contacto: Unión Mundial para la Naturaleza (IUCN), Oficina Regional para Sud America, Av. Atahualpa 955 y Republica, Edif. Digicom, 4º Piso, Apartado 17-17726, Quito, Ecuador. Tel: (+593-2) 466622/23. Fax: (+593-2) 466624.

Cartografía de Ecosistemas Naturales en America Latina; Cartografía de Ecosistemas Naturales para Comunidades Sostenibles, edited by Adrian Carr and Richard McDermott, Western Canada Wilderness Committee (WCWC), Vancouver, 1993, 48pp. + Appendices - El Sistema Cartográfico del Proyecto Wild, y Manual de Técnicas Cartográficas. Edition limited: 600 copies. A project supported by the Canadian Agency for International Development. En mayo de 1991, S.O.S. Mata Atlántica (Brasil), Fundación Neotrópica (Costa Rica), y WCWC (Canada) montaron una conferencia de trabajo em Picinguaba, Brasil, Conferencia Regional Cartográfica WILD para Latinoamérica y el Caribe, a la que asistieron 75 expertos y entendidos de 14 países de Latinoamérica. La Conferencia proporcionó una avenida para que la gente desarrolle habilidades y comparta informaciones y perspectivas sobre problemas similares y probables soluciones. Los participantes llegaron a consenso general sobre metodologías cartográficas que puedan superar diferencias límite/internacionales y proveer mapas sumamente útiles para el movimiento de conservación. Los mapas incluyen aspectos de biogeografía, áreas silvestres, áreas protegidas, culturas tradicionales, y amenazas, de Argentina, Belice, Brasil, Chile, Colombia, Costa Rica, Honduras, Nicaragua, Perú, y Venezuela. Información: Western Canada Wilderness Committee - WILD Campaign, 20 Water Street, Vancouver, British Columbia, Canada V6B 1A4. Tel: (604) 683-8220, (604) 669-9453. Fax: (604) 683-8229, (604) 669-9455.

II Seminário Nacional da Reserva da Biosfera da Mata Atlântica, edited and published by the Fundação Estadual do Meio Ambiente (FEAM), Belo Horizonte, Minas Gerais,

1993, 56pp. Proceedings of the 2nd National Seminar on the Atlantic Forest Biosphere Reserve, held in Belo Horizonte, 15-18 December 1992. Information: Departamento de Publicações, Fundação Estadual do Meio Ambiente (FEAM), Av. Prudente de Moraes 1671, 30380-000 Belo Horizonte, Minas Gerais, Brazil.

IUCN Union Mundial para la Naturaleza - III Reunion de Miembros Suramericanos: Memorias, edited by Jesus M. Delgado, José Pedro de Oliveira Costa, and Hernan Verscheure, 1992, 83pp. Proceedings, deliberations, and resolutions of 10 plenary sessions and eight working groups of the 3rd Meeting of the South American IUCN Members, held in Paraty, Rio de Janeiro, Brazil, 13-18 September 1992. Subjects discussed included the Rio-92 Conference, National and Regional Committees, three-year regional working programs, environmental education, environmental legislation, protected areas, Biosphere Reserves, wetlands (RAMSAR), species survival (a discussion of the document "Diversidad Biológica en América del Sur"), forest conservation, ecodevelopment, and preparations for the 19th General Assembly of IUCN, to be held in Buenos Aires in 1994. Contact: Jesus M. Delgado, Sociedade Educativa Gaia, Rua Joaquim da Silva Martha 13-27, 17040-000 Bauru, São Paulo, Brazil.

Biodiversidad Suramericana, by Jorge Hernández-Camacho, Scientific Director, Unidad Científica INDERENA, Colombia, 1993, 20pp, published by the Brazilian Committee of IUCN Members. The text of a speech presented at the 2nd Meeting of South American IUCN Members, held in Santa Marta, Colombia in 1991. Contacts: José Pedro de Oliveira Costa, Coordinator Brazilian IUCN Committee, Rua Conselheiro Carrão 640, 01328 São Paulo, São Paulo, Brazil, or Elza Matilde Escobar, Comité Colombiano IUCN, Carrera 12 #70-96, 3º Piso, Bogotá, Colombia.

Meetings

1993

III CONGRESS GESELLSCHAFT FUER PRIMATOLOGIE, 29 September-1 October 1993, Zoological Institute, University of Tübingen, Germany. Contact: Prof. Carsten Niemitz, FU

Berlin, Anthropologie und Humanbiologie, Fabeckstrasse 15, D-W-1000 Berlin 33 (FRG).

XI ENCONTRO ANUAL DE ETOLOGIA, 7-9 October 1993, Universidade Estadual Paulista, Campus de Bauru, Bauru, São Paulo, Brazil. Program includes sessions on "Territory and Space", "Aggression", and "Paradigms for the Study of Human Behavior", and symposia on Invertebrate Social Behavior and Vertebrate Behavior. Talks of particular interest for primatologists include: Cesar Ades and José Rimoli (Universidade de São Paulo) - "Territory: Physical Space of Animals"; Dyonisio Cardoso Mendes (Universidade de São Paulo) - Vocal communication in the murequi and; Eleonore Setz (Universidade Estadual de Campinas) and Jader Marinho Filho (Universidade de Brasília) - Field techniques for the study of mammal behavior. Rimoli (feeding strategies) and Mendes (vocal communication) have both carried out field research on *Brachyteles arachnoides* at the Caratinga Biological Station, Minas Gerais, under the supervision of Cesar Ades, and Eleonore Setz has recently completed her doctoral thesis on the ecology of *Pithecia pithecia* north of Manaus, Amazonas. Contact: Secretaria da Pos Graduacao do FAAC, UNESP - Campus de Bauru, Av.Engenheiro Luiz Edmundo Correjo Coube s/n, 17033-360 Bauru, São Paulo, Brazil. Tel: (0142) 30-2111.

V CONGRESSO NORDESTINO DE ECOLOGIA, 8-12 October 1993, Federal University of Rio Grande do Norte, Natal, Brazil. Includes conferences, workshops and roundtables on such themes as: Rio 92 - One year later; the northeastern section of the Atlantic Forest Biosphere Reserve; technological alternatives for the semi-arid ecosystems of the northeast; the World Bank and environmental policy; protected areas and ecotourism; urban development; perspectives for tourism in the north-east. Contact: Secretaria, V Congresso Nordestino de Ecologia, Rua Apodi 562, Tirol, Natal, 59020-130 Rio Grande do Norte, Brazil. Tel: (084) 221-3120, 221-2599, Fax: (084) 222-7038.

6TH MEETING SOCIETE FRANCOPHONE DE PRIMATOLOGIE, 14-15 October 1993, Station Biologique de Paimpont, Plelan-le-Grand, France. Contact: Bertrand L. Deputte, Station Biologique de Paimpont, F-35380 Plelan-le-Grand, France. Fax: (33) 99 07 87 61.

ESTIMATING EXTINCTION RATES, 27-28 October 1993, London, UK. Contact: The Scientific

Meetings Secretary, The Royal Society, 6 Carlton House, London SW1Y 5AG, UK.

GESTION EN RECURSOS NATURALES: III CONGRESO INTERNACIONAL, 15-20 Noviembre 1993, Gran Hotel Pucón, Pucón, Chile. Simposios y talleres: V Simposio de Manejo de Vida Silvestre; III Simposio de Desarrollo Sustentable; III Simposio Iberoamericano de Educación Ambiental. Informaciones: III CIGRN, Cassilla 1705, Temuco, Chile. Tel: (045) 210773, Fax: (045) 234126.

ON COMMON GROUND: INTERDISCIPLINARY APPROACHES TO BIODIVERSITY CONSERVATION AND LAND USE DYNAMICS IN THE NEW WORLD, 1-4 December 1993, Belo Horizonte, Brazil. Organized by: Federal University of Minas Gerais; University of Florida, Gainesville; Conservation International (CI); Population, Biodiversity and Economy - PADCT; and the Latin American Studies Association (LASA). This international conference will provide a forum for scholars from the US and Latin America to discuss the integration of natural and social science perspectives on land use dynamics and biodiversity conservation in the Neotropics. It will combine plenary overview papers to address key conceptual and methodological issues; case study analysis of specific land use systems in forested and semi-arid regions; and workshop discussions to develop comparative insights and to address cross-cutting research and policy issues. Contact: Conservation International, Avenida Antônio Abrahão Caram 820/302, Pampulha, 31275-000 Belo Horizonte, Minas Gerais, Brazil, Tel: (031)441-1795, Fax: (031)441-2582.

SEMINÁRIO INTERNACIONAL - PRIORIDADES PARA CONSERVAÇÃO DA MATA ATLÂNTICA DO NORDESTE BRASILEIRO, 9-10 December 1993, Recife, Pernambuco, Brazil. The Seminar, which will discuss biological and socioeconomic aspects of the Brazilian north-east, will be preceded by a closed workshop - "Prioridades para a Conservação da Mata Atlântica do Nordeste", 6-8 December 1993. Organisers: Conservation International (Brazil Program, Belo Horizonte), Sociedade Nordestina de Ecologia (Recife), and Fundação Biodiversitas (Belo Horizonte). Objectives - call attention to and examine the current state of knowledge of the high biodiversity characteristic of the Atlantic coastal forest of the Brazilian north-east, and identify and provide guidelines for the conservation of priority areas, including humid

forests, upland forest islands (*brejos*), mangroves, and coastal forest and scrub (*restinga*) from the state of Ceará to the north of the state of Espírito Santo (north from the Rio Doce). Contact: Conservation International - Programa do Brasil, Avenida Antônio Abrahão Caram 820/302, Pampulha, 31275-000 Belo Horizonte, Minas Gerais, Brazil, Fax: (031)441-2582

XIIITH CONFERENCE OF THE AUSTRALIAN PRIMATE SOCIETY, 10-12 December 1993, Adelaide Zoo, Adelaide, Australia. One of the themes of the Conference will be "Zoo involvement in Overseas Projects". Registration and keynote speaker on 10 December. Abstracts to be submitted by 15 October 1993. Registration fee - \$Aus20.00. Information circular in prep. Contact: Graeme A. Crook, Conference Organising Committee Chairman, CSIRO Div. of Human Nutrition, Majors Road, O'Halloran Hill, South Australia 5158, Australia. Fax: 61 08 377-0004.

EVOLUTION OF THE BRAIN AND COGNITION IN PRIMATES, Primate Society of Great Britain - Winter Meeting, 1 December 1993, Zoological Society of London, London. Organised by Robin Dunbar and Robert Barton. Contact: Robert Barton, Department of Anthropology, University of Durham, 43 Old Ewet, Durham DH1 3HN, England.

1994

67TH MEETING OF THE SPECIES SURVIVAL COMMISSION, 15-17 January 1994, Buenos Aires, Argentina. Organizers: World Conservation Union (IUCN). Contact: Coordinadora logística de la Asamblea General, IUCN, Rue Mauvernay 28, CH-1196 Gland, Switzerland. Tel: 41 22 999 0001, Fax: 41 22 999 0020.

XIX SESSION OF THE IUCN GENERAL ASSEMBLY, 18-26 January 1994, Buenos Aires, Argentina. Organizers: World Conservation Union (IUCN). Contact: Coordinadora logística de la Asamblea General, IUCN, Rue Mauvernay 28, CH-1196 Gland, Switzerland. Tel: 41 22 999 0001, Fax: 41 22 999 0020.

HOMINID AND PRIMATE BEHAVIOUR, Primate Society of Great Britain, Spring Meeting, 8 April 1994, Cambridge, UK. Information: Marta Lahr & Kate Robson-Brown, Department of Biological Anthropology, university of Cambridge, Downing

Street, Cambridge CB2 3DZ, UK. Fax: 0223-335460.

JOINT ANNUAL MEETING - ANIMAL BEHAVIOR SOCIETY (ABS) AND AMERICAN SOCIETY OF PRIMATOLOGISTS (APS), ABS - 23-28 July 1994, ASP - 27-30 July 1994, Regional Primate Research Center, University of Washington, Seattle. Contact: James C. Ha (JCHA@U.WASHINGTON.EDU) or Carolyn Crockett (CROCKET@U.WASHINGTON.EDU), Primate Center SJ-50, University of Washington, Seattle, WA 98195, USA. Tel: (206) 543-1440.

XX CONGRESSO BRASILEIRO DE ZOOLOGIA, 24-29 de julho de 1994, Universidade Federal do Rio de Janeiro, Rio de Janeiro. A temática a ser abordada está baseada na questão: "Os Rumos da Zoologia". Neste contexto serão abordados os aspectos referentes a Sistemática, pesquisa básica e aplicada, filosofia e história de zoologia, coleções, publicações e a ética na zoologia. As políticas referentes às legislações ambientais, áreas de proteção e espécies ameaçadas de extinção, terão espaços em mesas redondas e/ou conferências. O Comitê Organizador aguarda sugestões de todos os zoólogos no desenvolvimento de outros subtemas que poderão ser encaminhados até 30 outubro de 1993. Envio de resumos até 30 de novembro de 1993. Informações: Secretaria do XX CBZ, Departamento de Zoologia, Universidade Federal do Rio de Janeiro, Ilha do Fundão, 21949-900 Rio de Janeiro, Rio de Janeiro, Brasil. Tel: (021) 280-7993, 590-9522 r.343 ou 340, Fax: (021) 280-7993.

VI CONGRESSO BRASILEIRO DE PRIMATOLOGIA, 24-29 de julho de 1994, Universidade Federal do Rio de Janeiro, Rio de Janeiro. Será realizado como parte das atividades do XX Congresso Brasileiro de Zoologia. Programação: Horácio Schneider/Stephen F. Ferrari, Departamento de Genética, Universidade Federal do Pará, Caixa Postal 8607, 66075-150 Belém, Pará, Brasil. Fax: (091) 229-9785. Outras informações: Secretaria do XX CBZ, Departamento de Zoologia, Universidade Federal do Rio de Janeiro, Ilha do Fundão, 21949-900 Rio de Janeiro, Rio de Janeiro, Brasil. Veja "Primate Societies".

4TH INTERNATIONAL CONGRESS OF VERTEBRATE MORPHOLOGY, 31 July-4 August 1994, Chicago. Contact: Dr Susan Herring, Chair, ICVM Organizing Committee, Department of Orthodontics SM-46, University of Washington,

Seattle, Washington 98195, USA, Tel: (206) 543-3203, Fax: (206) 685-8163.

XVTH CONGRESS OF THE INTERNATIONAL PRIMATOLOGICAL SOCIETY, 3-8 August 1994, Bali, Indonesia. Organizers: Directorate General of Forest Protection and Nature Conservation (PHPA), the Indonesian Wildlife Society (IWS) and the International Primatological Society (IPS). Contacts: Secretariat, 15th IPS Congress, PT, Bayu Buana Travel Service Ltd., Wisma Bank Dharmala 19th Fl, Jend.Sudirman Kav. 28, Jakarta 12910, Indonesia, or Dr Linda Prasetyo, c/o Perth Zoo, 20 Labouchere Road, Western Australia 6151, Australia, Tel: 09 368-1916, Fax: 09 367-3921, or Dr Soegardjito, WWF/US Asia-Pacific Program, 1250 Twenty-fourth Street, N.W., Washington, D.C. 20037, USA, Tel: (202) 861-8300, Fax: (202) 223-6971.

VTH INTERNATIONAL BEHAVIORAL ECOLOGY CONGRESS, 14-20 August 1994, University of Nottingham, England. Contact: ISBE 1994, Conference Nottingham, The Business Information Centre, 309 Haydn Road, Nottingham NG5 1DG, UK.

VITH INTERNATIONAL CONGRESS OF ECOLOGY: ECOLOGICAL PROGRESS TO MEET THE CHALLENGE OF ENVIRONMENTAL CHANGE, 20-26 August 1994, University of Manchester, England. Thematic symposia include: Learning from the Past (org. A.G.Hildrew, R.M.May); Predicting Outside our Experience (org. J.Grace, R.M.May); Managing Change and Uncertainty (org. M.V.Angel, P.J.Grubb). Symposia together with related poster sessions will be organized around the following titles: General Ecology; Applied Ecology; Geographical Regions and Ecosystems; Ecological Affairs. Deadline for abstracts: 15 September 1993. Registration deadline: 1 May 1994. Contact: The Secretary, VI International Congress of Ecology, The Manchester Conference Centre, U.M.I.S.T., P.O.Box 88, Manchester M60 1QD, England.

RESOURCES AND ENVIRONMENTAL MONITORING, 3-7 October 1994, Niterói, Brazil. Contact: Roberto Pereira da Cunha, INPE, Caixa Postal 12201, São José dos Campos, São Paulo, Brazil.

FOREST CANOPIES - ECOLOGY, BIODIVERSITY AND CONSERVATION, 10-13 November 1994, Marie Selby Botanical Gardens, Sarasota, Florida, USA. Contact: Dr Meg Lowman, Director of

Research, Selby Botanical Gardens, 811 South Palm Avenue, Sarasota, Florida 34236, USA.

II CONGRESSO BRASILEIRO DE ECOLOGIA, 5-9 December 1994, Londrina State University, Paraná, Brazil. Contact: Dr Nélio Roberto dos Reis, Coordenador Científico do II CBE, Departamento de Biologia Animal e Vegetal, Centro de Ciências Biológicas, Campus Universitário, Universidade Estadual de Londrina, Caixa Postal 6001, Londrina 86051, Paraná, Brazil, Tel: (0432) 21-2000, Fax: (0432) 27-6932.

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, either in the form of manuscripts (double-spaced) or in diskettes for PC compatible text-editors (MS-Word, Wordperfect, Wordstar). Articles, not exceeding six pages, can include small black-and-white photographs, figures, maps, tables and references, but please keep them to a minimum.

Please send contributions to the editors: **Anthony Rylands**, Departamento de Zoologia, Instituto de Ciências Biológicas, Universidade Federal de Minas Gerais, 31270-901 Belo Horizonte, Brazil, Fax: (031) 441-1412, or c/o Conservation International, Avenida Antônio Abrahão Caram 820/302, Pampulha, 31275-000 Belo Horizonte, Minas Gerais, Brazil, Fax: (031)441-2582 or **Ernesto Rodríguez Luna**, Parque de La Flora y Fauna Silvestre Tropical, Universidad Veracruzana, Apartado Postal 566, Xalapa, Veracruz 91000, México, Fax: (281) 8-77-30.

NEOTROPICAL PRIMATES is produced in collaboration with **Conservation International**, 1015 18th Street NW, Suite 1000, Washington DC 20036, USA, and **Fundação Biodiversitas**, Rua Maria Vaz de Melo 71, Dona Clara, Belo Horizonte 31260-110, Minas Gerais, Brazil.

Design and Composition - YURI L. R. LEITE and RICARDO B. MACHADO, Biodiversity Conservation Data Center (CDCB), Fundação Biodiversitas.



NEOTROPICAL PRIMATES
Anthony Rylands/Ernesto Luna, Editors
Conservation International
Avenida Antônio Abrahão Caram 820/302
31275-000, Belo Horizonte
Minas Gerais, Brazil

PRINTED MATTER
IMPRESSO