

# South Asian Zoo Association for Regional Cooperation (SAZARC) Conservation Communiqué of the Sixth Annual Meeting 2006

Conducted at Karl Kubel Institute, 1-5 December 2005, organized and hosted by Coimbatore Zoological Park Society and Zoo Outreach Organisation

## CBSG/RSG South Asia & SAZARC 2005

The South Asian Zoo Association for Regional Cooperation SAZARC closed its Sixth Annual meeting at an informal but enthusiastic valedictory ceremony at Karl Kubel Institute, Anaikatti, Coimbatore on 5th December, and sent participants to different quarters of India to visit various well managed zoos of the country. Representatives from zoos of India, Bangladesh, Nepal, Pakistan and Sri Lanka, and resource persons from South Africa, United Kingdom, USA and India attended the conference and took part in training, working groups and other deliberations from 1-5 December 2005. SAZARC is a member of the World Association of Zoos and Aquariums since 2005 and follows the lead of WAZA's policies and guidelines on zoo management.

## Highlights

**CBSG / RSG South Asia** —Immediately preceding the SAZARC meeting, there was a joint meeting of the South Asian networks of the IUCN SSC Conservation Breeding Specialist Group and the IUCN SSC Reintroduction Specialist Group at the same venue. About two thirds of SAZARC participants were able to attend along with other wildlife specialists from far corners of India. Pre-announced Working Group themes were :

- South Asian perspective on rehabilitation guidelines for IUCN SSC RSG,
- Troubled Translocations – with particular regard to primates, and
- Substandard Zoos — South Asian Perspective

Participants heard a variety of presentations ranging from what CBSG and RSG are to the problems and actions taken by individuals and organizations in South Asia on the topics related to reintroduction and captive breeding. Attendance from far-ranging states as Manipur, Himachal Pradesh, and Assam in India as well as from the countries Pakistan, Bangladesh and Sri Lanka made for diverse experiences and an exciting meeting. The attendance of Mike Jordan, Curator of Mammals, Chester Zoo who has been tasked with creating global guidelines for rehabilitation of captive animals to the wild was welcome, both for his experience and expertise in reintroduction as Regional Chair RSG for Europe and Central Asia and in the subject area of small mammals.

**The CBSG/RSG meeting was wholly sponsored by the Chester Zoological Gardens.**

## SAZARC

After an informal inaugural and introductions of participants, training topics for the week were introduced by Karin Schwartz (Registrar, Milwaukee Zoo) for Records Management, and Sanjay Molur (Dy. Director, ZOO) for Primate Taxonomy. Aasim Turk, the International Species Information System ISIS support staff joined later to introduce ISIS' new Zoo Information Management System

ZIMS. In the afternoon, participants heard three exciting presentations by visiting Resource Persons, Brendan Whittington-Jones speaking about rebuilding the war torn zoos of Baghdad and Kabul; Dave Morgan, Executive Director of the African Zoo Association PAAZAB, speaking of their pan- African zoo improvement programme, and Mike Jordan speaking of the diversity and decline of the world's non-volant small mammals. Afterwards Sally Walker reviewed the publication of the World Zoo and Aquarium Conservation Strategy in South Asia and future options.

**Zoo visits.** During the Conference participants visited the VOC Park Zoo led by the Director, Dr. S.Thirukumaran and afterward were treated to drinks and dinner at an "Open House" by Zoo Outreach Organisation at their office. Participants also visited the site of the upcoming Nilgiri Biosphere Conservation Park, admired the variety of endemic and endangered plants which had been reared in anticipation of the avante garde enclosures which will mimic the forest types of the Nilgiri Biosphere Reserve (deciduous forest, shola forest, etc.) one by one after creating a botanic garden in the center of the land which is to open to the public in early 2006. This visit was followed by a social hour and festive dinner hosted by the Coimbatore Zoological Park Society. Another night, shopping in one of the best shopping areas in the city and dinner at the famous Annapoorna Restaurant to sample traditional South Indian dishes including the Tamil Nadu specialty, the six feet "family dosa" provided a welcome break after some very long, hard days in training and in working groups.

**Participant presentations** covered a variety of topics from single subjects and problems to more wide ranging presentations covering all zoo activities.

**Working groups** for SAZARC participants dealt with a complex set of inter-related issues having been given tasks including addressing the following:

- how zoos in South Asia could contribute to *in situ* conservation as per the definition of the World Zoo and Aquarium Conservation Strategy of the World Association of Zoos and Aquariums WAZA.
- how SAZARC could address the issue of needy, unaware and/or unprincipled zoos in their own region and
- SAZARC participants' perspective on the new WAZA Welfare and Ethics Committee working group to address the world's substandard zoos.

Many of the recommendations of these working groups as well as from the participant presentations and the training topics are reflected in the SAZARC 2006. Resolutions on a following page.

**2006 plans :** Participants agreed upon a series of activities *in lieu* of the usual Annual Conference for 2006.

- To send a representative from each South Asian country to the August 2006 South East Asian Zoo Association (SEAZA) Annual Conference in Vietnam in keeping with the policy of the World Association of Zoos and Aquariums (WAZA) on cooperation between regional zoo associations.

- To organize a country-wise national level zoo event such as a training or seminar during 2006 on some important aspect of zoo management in order to include more individuals and thus strengthen their national zoo community.

- To depute knowledgeable zoo experts of SAZARC to visit the war-damaged Kabul Zoo periodically to give training and review improvements in collaboration with the North Carolina Zoological Park's Kabul Zoo Rehabilitation Programme,

- To organize a visit of a SAZARC delegation to strengthen the relationship already established with Zoo Outreach Organisation and the Kabul Zoo in Afghanistan.

A CD containing the Report, all presentations, and a selection of photographs will be prepared for participants, invitees who could not come, resource persons and donors and released as soon as possible.

The sponsors of the SAZARC meeting this year (either by direct donation or by sponsoring a resource person's air fare) are listed on page 22.

## Participants

**Dr. Syed Ali Ahasan**, Scientific Officer, Dhaka Zoo, Bangladesh <ahasan0072003@yahoo.com>

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**Dr. Mongur Morshed Chowdhury**, Curator, Chittagong Zoo, Bangladesh <mmorshed\_vet@yahoo.com>

**Mr. Gohil Digvijaysinh**, Assistant Zoo Curator, Sayagi Baug Zoo, Gujarat, India

**Mr. Solonga Arachchige Lasanthe Dilip Kumara**, Assistant Curator, National Zool. Gardens, Sri Lanka <zoosl@slt.lk>

**Ms. Sonali Ghosh**, Assistant Conservator of Forests, Assam State Zoo cum Botanical Garden, Assam, India <ghoshsonali@gmail.com>

**Mr. Md. Azharul Islam**, Officer-in-charge, Dhaka Zoo, Bangladesh <azharul72@yahoo.com>

**Mr. Brendan Whittington Jones**, Advisor, Kabul Zoo, Kabul, Afghanistan <whitjones75@hotmail.com>

**Dr. Jayakumar**, Veterinarian, Triruvananthapuram Zoo, Kerala, India <museumzoo@sancharnet.in>

**Dr. Mike Jordan**, Curator of Higher Vertebrates, Chair, IUCN SSC Reintroduction Specialist Group Europe & North Asia, North of England Zool. Society, Chester, U.K <m.jordan@chesterzoo.co.uk>

**Dr. V Kalaiarasan**, Director, Chennai Snake Park, Tamil Nadu, India <cspt1972@md5.vsnl.net.in>

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**Mr. R Manickam**, Horticulture Assistant, Coimbatore Zoological Park & Conservation Centre, Tamil Nadu, India <nbrpark@eth.net>

**Dr. A Manimozhi**, Biologist, Arignar Anna Zoological Park, Tamil Nadu, India <aazp@vsnl.com>

**Dr. Mir M Mansoor**, Chief Wildlife Vet. & Biologist, J & K State Wildlife Protection Department, India <mmmnsur@yahoo.com>

**Mr. Dave Richard Morgan**, Executive Director, African Association of Zoos and Aquaria (PAAZAB), South Africa <davetsp@iafrica.com>

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**Mr. B. Rathinasabapathy**, Biologist, The Coimbatore Zoological Park & Conservation Centre, Tamil Nadu, India <nbrpark@eth.net>

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## Resource persons

**Ms. Karin Schwartz**, Registrar, Milwaukee County Zoo, USA <kschwatz74@aol.com>

**Mr. Aasim Turk**, Technical Support, International Species Information System (ISIS), USA <aturk@isis.org>

## Organisers

**Sally Walker**, Director/ Patron, SAZARC, Founder/Hon. Director <zooreach@vsnl.com>

**Sanjay Molur**, Deputy Director <herpinvert@vsnl.com>

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**Mr. Ravichandran**, Editorial Assistant <ravi@zooreach.org> Zoo Outreach Organisation, TN, India

## Training in Records Management ISIS ARKS ZIMS

Records Management training included the International Species Information System and its current software ARKS, or Animal Record Keeping System and the software in progress, Zoological Information Management System or ZIMS.

Karin Schwartz, a regular trainer for the American Zoo Association's ARKS training and Registrar of the Milwaukee Zoo was primary trainer. Karin is also Registrar Advisor to Tapir and Monotreme/Marsupial TAGs, and the Tree Kangaroo and Cheetah SSPs. She is a member of the IUCN SSC Conservation Breeding Specialist Group and has participated in several CBSG Working Groups which were held in or initiated from Asia, e.g. the Conservation Breeding Guidelines Working Group in Taipei, Taiwan in October 2004 and the Substandard Zoos Working Group in Syracuse, New York CBSG meeting last October 2005.

Karin opened her presentation with some personal remarks and then launched into lovely slides of "wild places" where she had visited making the point that in zoos we want to do our share protect the wild places and preserve the wild populations, and can learn from the animals we have in our care worldwide. Quoting the World Association of Zoos and Aquariums Conservation Strategy Visitor "The major goal of zoos and aquariums will be to integrate all aspects of their work with conservation activities. The fundamental elements of each organization's culture will be the values of sustainability and conservation, and social and environmental responsibility", she explained the importance of animal records within institution, to understand the behavior of the animal, track measurements, training experience, medical problems, development, in improving their care, make husbandry and medical decisions, in complying with government regulations that monitor endangered species, marine mammals, injurious species in maintaining inventory information available for use by Education Department, Public Relations, volunteers.

Further uses of animal records in zoos are for Cooperative Captive Management, Animal information passed on to receiving institutions when animals are transferred, for generating International and Regional studbooks, for Pedigrees which can be used for genetic and demographic analysis by breeding programmes and committees. In addition the data generated can be used for development of husbandry manuals and research by taxon groups.

Karin covered the following additional aspects of records management, giving a full overview. She briefly explained the International Species Information System which was founded in 1973 by Dr. U. S. Seal, reviewing its functions. Now ISIS members number over 645 zoos/aquariums worldwide, and ARKS4 software now in use by over 500 institutions. The ISIS ARKS data sets can be pooled and used globally, as well as the other tools and programmes of ISIS, such as the studbook programme, SPARKS, the medical records programme, MedARKS, and the species

coordination programme, REGASP. A new software will encompass all functions of these programmes, and that is ZIMS, Zoological Information Management System, which is in progress.



Karin then gave a series of presentations which were designed to introduce various aspects of the ARKS computer programme to participants using computers provided in the workshop. Participants worked two to a computer while Karin led them through the basics of ARKS. She gave a demonstration and training in the use of ISIS ARKS4 software and information on other aspects of ISIS.

The agenda was as follows

1. Roles of Records and Data - the big picture.
2. Setting up a records-keeping system
3. ISIS Overview - what it is and how it functions
4. ARKS Data Entry screens - information entered in ARKS
5. ARKS Data Entry — Accessions - what animals and how
6. Taxonomy
7. ARKS Data Entry : Births/Acquisitions
8. ARKS4 - Disposition
9. ARKS4 - Data Entry - Identifiers and Measurements
10. ARKS4 - Data Entry - Enclosures
11. ARKS4 Reports.
12. ISIS Website - accessing individual specimen reports
13. Specimen Reference DVD and Studbook Library/  
Husbandry CD-ROM

Part of the reason for holding this training now, despite a difficult time over the last two decades, trying to introduce ISIS records systems to this region, is because, in a matter of another year or two, the entire system of ARKS, MEDARKS, SPARKS, etc. will be replaced with a much more sophisticated system, that is, ZIMS. If zoos are not conversant with ARKS, then ZIMS is going to be much more difficult. It is desirable for zoos who are not members (that is all zoos of South Asia aside from the National Zoo, Sri Lanka) to become members before this time. With that in mind, Mr. Aasim Turk, systems manager from the International Species Information System gave two presentations on ZIMS.

### ZIMS

Mr. Aasim Turk of ISIS gave two presentations about the pending Zoological Information Management System ZIMS. ZIMS will be a web-based records-keeping system which will rely very much on the internet, broadband and will — as a highly futuristic programme compared to others — completely replace ISIS software in the next year or two. Aasim, as well as Karin, also spent much time assisting and speaking with individual participants, explaining what ISIS ARKS now and ZIMS of the future would do for their particular zoo situation.

**Editorial Note : We hope that participant zoos will investigate taking membership in ISIS. This has been a very long term project to induct South Asian zoos into ISIS and will pay large dividends in better zoo management all around.**

# Training : Primate Taxonomy and its importance in zoo management

Sanjay Molur

Taxonomy is the base for any biological collection. Zoological collections have always been prioritized on the basis of taxonomy. One of the themes of zoological exhibitions in South Asia and elsewhere is taxonomic displays. However, zoos in the region have not kept up with changes in zoological taxonomy and nomenclature.

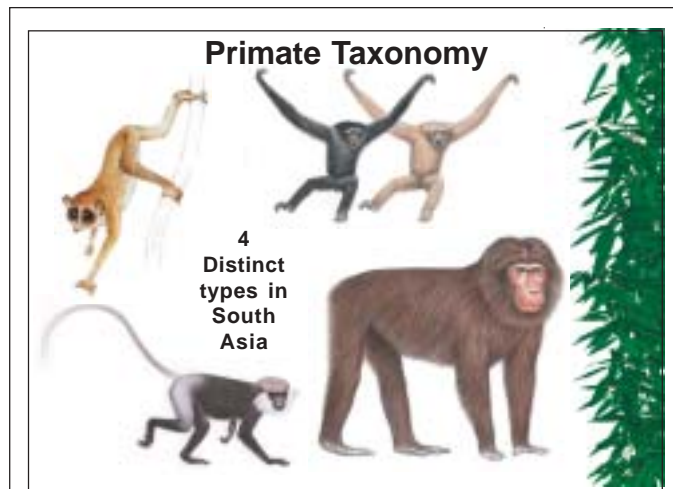
Primates are chosen as a typical example to describe the importance of taxonomy and nomenclature in zoological collections due to the following reasons: primates are one of the more commonly kept groups in zoos — almost every zoo has at least one kind of primate in its collection; primates are very popular among visitors due to their antics or appearance; many primates have very small distribution ranges in the wild; recently there have been many changes in primate taxonomy; and problem primates are wrongly translocated to areas where they do not occur.

Primates such as the Common / Hanuman Langur are thought to be very widely distributed and common. The reason for thinking so is because although there are 2 species and 9 subspecies of langurs that come under this name, zoo personnel in the subcontinent are misled to think all these species and subspecies are the same because of the common name. The scientific community has not corrected the mistake either although subspecies of many of the South Asian primate species were described as early as 1841 by Blyth. R.I. Pocock in 1929 also recognized many subspecies of primates in the region. Still, from the Indian Wildlife (Protection) Act and most other scientific works recognize the Common / Hanuman Langur as one species known as *Presbytis entellus*.

*Presbytis entellus* is no longer considered the correct name for the langurs in our region. *Presbytis* langurs occur only in South East Asia. The two genera of langurs that occur in South Asia are *Semnopithecus* and *Trachypithecus*. Under this there are four groups of langurs arranged systematically – langurs belonging to *entellus* group, and to *priam* group under *Semnopithecus*; and langurs belonging to *vetulus* group and *pileatus* group under the genus *Trachypithecus*. These groups have different species and subspecies of langurs with common lineage. If one were to examine the Common / Hanuman Langurs closely, there are two distinct groups belonging to two different species – *Semnopithecus entellus* (Hanuman Langur) and *Semnopithecus priam* (Grey Langur).

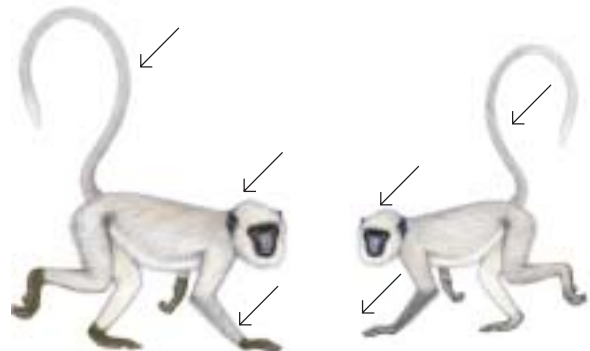
*Semnopithecus entellus* is further divided into many subspecies, some distinct, others not. The distinct subspecies of *Semnopithecus entellus* are the Himalayan subspecies of *Semnopithecus entellus hector*, *E.E. ajax* and *S.e. schistaceus*, which are morphologically very different looking compared to the central, northern and eastern Indian *Semnopithecus entellus achates*, *S.e. anchises* and *S.e. entellus*. Similarly, the northern Western ghats subspecies of *S.e. hypoleucos* is very different from its neighbouring *S.e. achates* and *S.e. anchises*.

Some of the differences between these subspecies include



## Primate Game

Sanjay started his training with a game to demonstrate to participants that perhaps they were not as observant as they thought. He gave out 2 colour pictures of different primate taxa to each participant. He asked them to study the pictures, particularly the details. Then he showed slides of scientific drawings of primates which looked like those which were in the pictures. He asked the group at large how many of them had the picture of each primate and counted hands. As the game went on he showed what looked like the same taxa again ... and sometimes again. He asked participants how many of them were holding the illustrate of particular taxa and recorded the number. In the first go-round it seemed to participants that this game was easy. In a short time, when the numbers didn't match, it was clear that many participants were wrong. In the end — all of them in fact. Then Sanjay showed photos again with arrows pointing to the subtle features which made the taxon different from another which looked very much like it. The game was an excellent beginning to the training, setting the stage for understanding the importance of taxonomy and of getting their primates sorted out ... separating them if there were doubts and trying to match them up for breeding. Some of these taxa are threatened ... Critically Endangered, Endangered, and Vulnerable. Zoos have a responsibility to get it right.



the coat colour (golden in *S.e. anchises*, yellowish in *S.e. entellus*, blackish in *S.e. hypoleucos*; whitish in *S.e. hector*, grayish in *S.e. achates*; brownish-grey in *S.e. ajax* and *S.e. schistaceus*); in tail carriage ('C' shaped tail in *S.e. ajax*, *S.e. hector*, *S.e. schistaceus*, *S.e. entellus*, *S.e. anchises*; and 'S' shaped tail in *S.e. achates* and *S.e. hypoleucos*); in the tapering of the head (*S.e. schistaceus* is more tapered than others); in the colour of the hands and feet (grayishblack or black in *S.e. achates*, *S.e. entellus*, and also black forearm in *S.e. hypoleucos*); and other morphological characters and behaviour that make these subspecies different from one another.

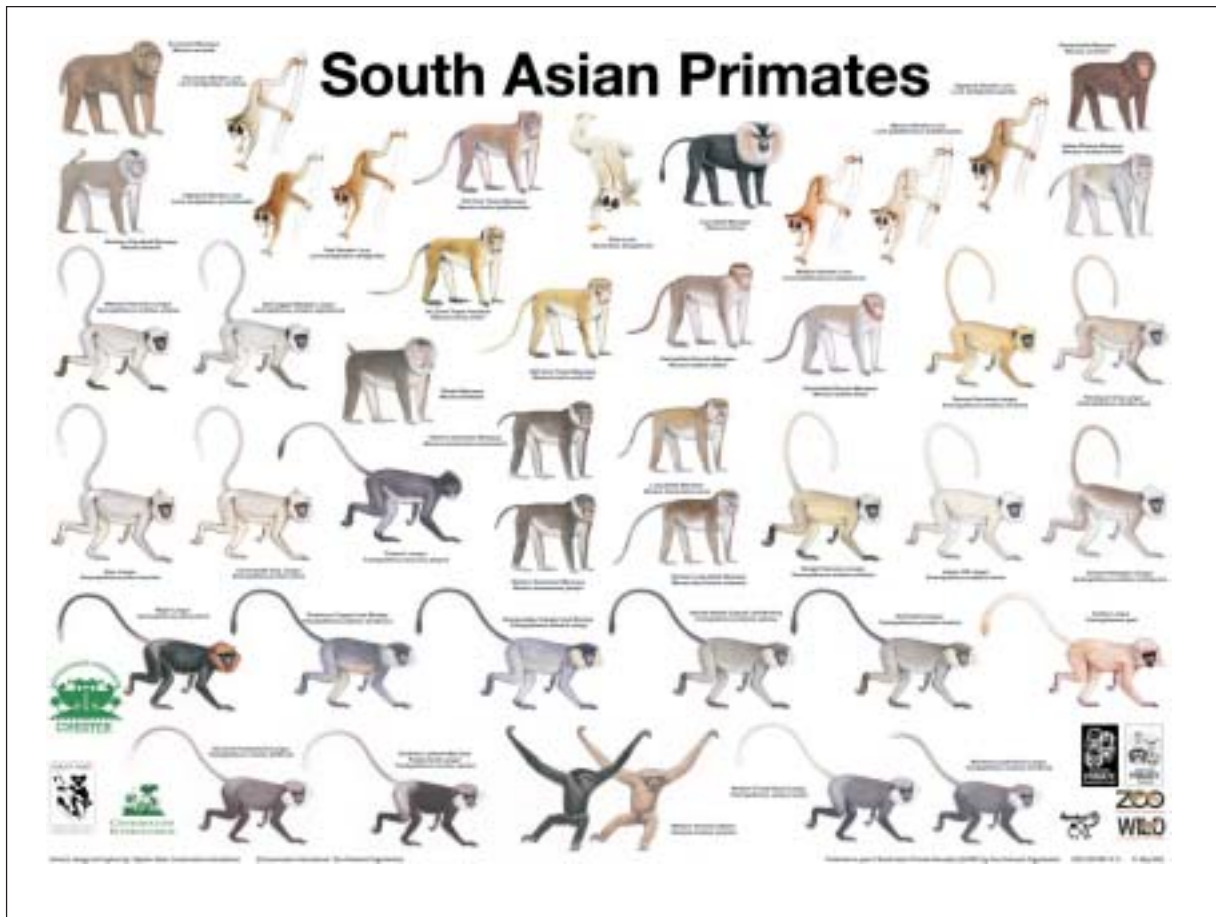
The southern Indian Grey Langur, which was considered part of the Indian Common / Hanuman Langur group, actually belongs to a different species compared to the *Semnopithecus entellus*. The Grey Langurs are called *Semnopithecus priam* with two subspecies – *Semnopithecus priam priam* and *S.p. thersites*. These langurs differ from *S.e. anchises*, *S.e. entellus*, *S.e. achates* and *S.e. hypoleucos* in having a distinct crest or pointed head. Also, these animals carry their tail as a 'S' rather than the more prominent 'C' of the Hanuman Langurs. *S.p. thersites* is also known to occur in Sri Lanka although that needs further taxonomic studies since the Indian and Sri Lankan populations have not interbred for a very long time.

It is therefore important to understand what kind or type of langurs South Asian zoos have and keep them accordingly in holdings. Until now, all zoos have kept all "Common"

langurs in the same enclosure even though the zoo staff know and can see the differences between animals from different areas. In most cases since the animals are rescued from street performers or nomadic people, it becomes difficult to know where these primates are actually caught from. In such cases, it is better for zoological gardens to err on the side of caution and keep unknown origin animals in different enclosures, or ensure that breeding does not result in an offspring (by ensuring appropriate contraception measures) if they are kept together. In one very well known and famous zoo, it was learnt that there are two species of langurs in a mixed exhibit, which have bred and produced two hybrid offspring. These animals are of no use from a conservation perspective, as the breeding is similar to that of breeding a tiger with a lion. Similarly, as subspecies hybrids are not encouraged in lions or tigers, it is important to ensure that langur subspecies are not mixed and bred in zoo situation.

This situation is similar with respect to macaques in different parts of the subcontinent. There have been several instances of different macaque species and subspecies kept together due to confusion in identification, or lack of knowledge.

Most importantly, primates causing problems to humans in one area should not be removed and released in another area where they could not only cause havoc to other humans, but also cause genetic havoc due to populations of unknown taxa (species and subspecies) being mixed.



## Business session / Committee Reports

During the SAZARC Business Session, the following Committees reported : Transportation Guidelines for Zoos, Chair Abdur Razzaque (Bangladesh); Wild Animal Stock Position of SAZARC Zoos, Chair, Mansoor Qazi (Pakistan); Nutrition, Jayanthi Alahakoon (Sri Lanka), Aquarium Report, Renuka Munasinge Bandaranayake (Sri Lanka); Conservation Committee, Sally Walker (India); Two reports Training and Wildlife and Trade Committee by Dr. Sahu (India). Some other reports, such as Reintroduction, Release, Translocation, S.K. Sinha (India); Veterinary medicine, Ganeshkumar Dubey (India) were submitted by post or fax and will be included in the final amalgamated Report. Committee Chairs were encouraged to start early, try and collect information from every country and present their reports.

Three new committees have been described in the Resolutions, e.g. Guidelines for Crisis Management in the Zoo, Chaired by, Manoj Mohapatra; Membership Committee; and ISIS / Records Committee, R. K. Sahu as President, SAZARC.

The Conference thanked Ms Uzma Khan, for her work as Chair of the Education and Welfare Committee her leaving the Lahore Zoo and being given additional duties at WWF Pakistan. The Conference participants confirmed Ms. Bushra Khan, Education Officer, Lahore Zoo as Chair of the Education Committee.

It has been suggested by President and Director, that the Education and Welfare Committee be split into two committees, Education being separate with a Committee on Ethics and Welfare in keeping with the WAZA model. The Education Committee will be chaired by Bushra Khan who will record and coordinate the education reports from each country (representatives for the following countries offered from the floor were Mr. Kande Nihal Senarath De Silva, Sri Lanka assisted by Renuka Bandaranayake; Rachana Shah, Nepal; Sayed Ali Ahasan and Zahed Md. Malekur Co-representing Bangladesh; undecided (India) and Afghanistan Mohammed Fazil. The Ethics and Welfare Committee will be Co-chaired by President and Director, SAZARC, who will request a representative from each country to be suggested by their respective zoo community.

Director, SAZARC presented the Report of the Administrative Office for the year. Activities were summarized and the financial position was reported. Director reported that when SAZARC was given membership in the World Association of Zoos and Aquariums, it was felt that an "elegant solution" to the currency and some other problems of some South Asian countries could be looked after for some time by Zoo Outreach Organisation serving as SAZARC Administrative Office cum Secretariat, since Zoo Outreach Organisation was also a member of WAZA. SAZARC Director reported that since ZOO supports many other networks and associations at their office, and since all of these networks and associations have some relation to zoos, that it had been possible to justify absorbing the cost of running SAZARC throughout the year with funds being raised only for the Annual Conference and sometimes for the President

to attend WAZA. The funds raised for the Annual Conference pay for the air fare and accommodation of participants whose zoo or government cannot or will not support their attendance. Therefore any funds raised in the name of SAZARC are used directly for participants and not to support the SAZARC office or pay any salaries. The activities of the year 2005 will be described in detail in the Report of the current SAZARC Conference.

The venue for the 2006 Annual Meeting was discussed. It is the tradition of SAZARC to attempt to get around to all the countries before conducting a meeting in a country for the second time. This year it was hoped that the senior officials of the Kabul Zoo could attend SAZARC and offer Kabul, Afghanistan as a potential venue but this did not materialize. Likewise, it was hoped that the yet to be represented country of Bhutan would send an official who could investigate the possibility of Bhutan hosting the meeting, but this also did not materialise. Director, SAZARC, reported that there had been an invitation from the South East Asian Zoo Association (SEAZA) for SAZARC to attend their Annual Meeting which will take place in Saigon, Vietnam, 11-13 September 2006 and will include a training in Zoo Marketing. It was suggested by the Director and supported by the President and others that a delegation of one or two persons from each country attend this meeting *in lieu of* a regular meeting of SAZARC. In addition, a visit to Kabul Zoo, Afghanistan as a SAZARC delegation will be arranged. As there was not a clear consensus as to this option, a vote was taken which was overwhelmingly for the SEAZA and Kabul Zoo option. It was generally agreed that unless Afghanistan or Bhutan made a clear offer, the 2007 meeting could take place in Nepal or, if not possible there, some other country.

Earlier in the meeting, Director, SAZARC had given a Report on the publication in South Asia of the World Zoo and Aquarium Conservation Strategy WZACS. The Central Zoo/KMTNC, Nepal and the NGO Wildlife Action Group WAG were commended for conducting a formal release of the WZACS in their country. Director explained that it was thought earlier that sufficient funds were available for each country to translate and print the official Summary document of WZACS in their national language, but when the individual countries sent their estimates for translation and printing, they were 2-3 times what had been estimated by the Administrative Office and thus exceeded the budget. Director suggested that the official WZACS Summary be printed in English with one page in the national language of every country along with a one or two page description of the zoos of their country as well as a section on SAZARC. Thus one document would represent all countries and could be printed in good quantity with the current budget. It was further stated that if any country wished to translate and print the official summary of WZACS at their own cost, the SAZARC administrative Office would provide full-colour covers and also screen print the title in language of the country artfully on a blank portion of the cover. After some discussion this was agreed.

The Conference ended with an informal but enthusiastic Valedictory ceremony mid- afternoon on the fifth day and participants went their separate ways on subsidized tours of zoos of the country. **Submitted by Director, SAZARC.**

## Nilgiri Biosphere Conservation Park B.A. Daniel

*Note: The local host of the CBSG/RSG meeting and SAZARC conference was the Coimbatore Zoological Society, which is responsible for Zoo Outreach Organisation, which hosts the regional networks of CBSG and RSG and serves as Secretariat of SAZARC for being in Coimbatore. The following article is a sort feature about the Nilgiri Biosphere Conservation Park of the Coimbatore Zoological Society.*

The Coimbatore Zoological Park Society (CZPS) was founded in 1986 by a group of Coimbatore residents who wanted to establish a new zoo as a gift to the city. The President of CZPS G. Rangaswamy invited Sally Walker, the Founder and Director of Zoo Outreach Organisation to help with the design and development of the zoo. The objectives of the Society stem from their scientific and ethical concerns & interests. Originally, the Society had planned a typical zoological park, but soon thereafter, Central Zoo Authority (CZA) members and advisors perceived that the social and educational requirements of the community had evolved, and required a more relevant facility. Accordingly, the scope and direction of the Project is now envisioned as a holistic environmental complex. The Nilgiri Biosphere Conservation Park (NBCP) was born on the Anaikatty Road just 30 kms from Coimbatore City. The botanical garden will open officially in early 2006.

The broad aims of the Nilgiri Biosphere Conservation Centre are to utilize the plant resources quickly and effectively as a start-up project, capitalizing on the biomespecific garden, found nowhere else in India, and in very few places anywhere in the world. The objectives of this botanic garden and conservation center are conservation, research and education of the surrounding flora and fauna exclusively. This NBCP will be a nature and educational recreation spot with an environmental education programme with appropriate infrastructure and activities. The facility will be used to introduce and interpret the highly complex conservation park, consisting of animals as well as plants, to the public. This work began in 1992 and in that time the collection has grown to more than 100,000 seedlings of more than 400 species. Of these, more than 360 species of 4000 seedling subsist in the field. NBCP has more plants indigenous to the Nilgiri Biosphere Reserve than any other plant conservation area.

The 2005 edition of the *World Zoo and Aquarium Conservation Strategy* has as its theme the concept of "integrated conservation". The NBCP will be the embodiment of integrated conservation, starting with a botanic garden supporting even now over 360 species of plants of the NBR, 40 of which are endemic (found nowhere else in the world) and threatened with extinction in the wild. The project has been designed according to the forest types of the Western Ghats, one of two designated biodiversity hot spots. The project site is situated on the eastern slopes of the Nilgiri hills surrounded by the Nilgiri Biosphere Reserve (NBR), which is the project's theme.

Rich in endemism, the NBR, is perhaps the most widely known mountain part of the Western Ghats. The project will replicate the NBR on its beautiful 250 acre site which is surrounded by hills and naturally undulating, with dramatic variety in its landscape. South Indian forest types in the Nilgiri Biosphere Reserved constitute eight thematic vegetation zones: Evergreen Zone, Semi-evergreen Zones, Moist Deciduous Zone (with three belts of Moist Teak Forest, Bamboo Brakes and Mixed Deciduous Forest), Dry Deciduous Zone (with three belts of Moist teak Forest, Bamboo Brakes and Mixed Deciduous Forest), Dry Deciduous Zone, Rain Shadow Zone, Montane Shola Zone and Thorn Forest Zone. Animals, native to the NBR, will be settled into the appropriate zone.

From the outset, serious botanical research was established at the Coimbatore facility. Systematic collection, protection, propagation and planting of indigenous plants to recreate the different forest types of the Nilgiri Biosphere Reserve, is a major undertaking. All plants are collected from legitimate sources, as scrupulously as a zoo will avoid illicit dealers for the animals.

### People of the Nilgiri Biosphere Reserve

NBCP programmes employ local people of the area to assist with visitor services and manufacture handicraft items made from natural materials. Local people can become involved in sustainable use activities so that they are neither unsettled themselves nor unsettling to the ecosystem

### Other ongoing works include

- Propagation, germination studies, with 40 species of endemic and threatened rainforest species including *Artocarpus hirsutus*, *Baccaurea courtallensis*, *Dysoxylum malabaricum*, *Palaquium ellipticum*, *Canarium strictum*, *Vateria indica*, *Hydnocarpus pentandra* and *Cullenia exarillata* with records maintained on all parameters of the process
- Research on the prevalence and intensity of pests and diseases of indigenous forest plantations, so that appropriate pest and disease control measures can be taken
- Development of software for plant documentation and management to cope with the enormous quantity of data generated by day-to-day botanic activities. The programme ENTADA has been named after India's largest pod-bearing climber *Entada rheedii*.

The NBCP has been recognized by the Botanic Gardens Conservation International (BGCI) UK, which awarded a grant under their Investing in Nature Programme for developing the endemic and threatened plants being nurtured in the Park in collaboration with NBRI, Lucknow. This grant covers several educational and technical projects and has given a kick start to the completion of the first phase of the NBCP. This programme aims to achieve one of the targets of the Global Strategy for Plant Conservation (GSPC), which is "60% of threatened plant species to be protected in accessible *in situ* collections, preferably in the country of origin and 10% in recovery and restoration programmes"

Zoo Outreach Organisation along with NBCP organized training in botanic gardens education in 1995 with BGCI in Coimbatore, Bangalore and Trivandrum in southern India. NBCP has already created a 'Tiger Trail' at the site especially for a 'Teachers for Tigers' training workshop for Coimbatore school teachers organized by ZOO and the Wildlife Conservation Society, USA. NBCP conducted one year field study to get an insight into the diversity of invertebrates and amphibians with the support of JWPT International, Jersey, UK. ZOO has also organized training in captive management of small animals, such as invertebrates and amphibians. The NBCP staff also

organise education programmes in the city as well as onsite for special events, such as Wildlife Week, Environment Day and Animal Welfare Fortnightly.

Globally, some species of animals and plants are so highly threatened, they need support from man. Zoos and botanic gardens can support threatened species in a variety of ways: by captive propagation, research, creating public awareness, fund-raising for protecting species and habitats in trouble. The Niliri Biosphere Conservation Park will be a singular example of such support for threatened species.

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## **SAZARC Resolutions 2006**

**SAZARC traditionally makes resolutions based on the conference training themes, guest and participant presentations, working group discussions and committee requirements. Resolutions for 2006 follow below.**

**Resolved :** SAZARC Conference participants thank the international zoo community for their concern during the time of the tsunami last December 2004 and earthquake November 2005 which caused much damage and death in Sri Lanka, India and Pakistan.

**Resolved :** SAZARC Conference participants unanimously endorsed the International Species Information System (ISIS) and its excellent Animal Record Keeping System (ARKS) programme and encourage all zoos in the South Asian region to become ISIS members, to incorporate the use of ARKS into their zoo management in preparation for transition to the highly advanced Zoological Information Management System (ZIMS).

**Resolved :** SAZARC Conference participants recommended that current taxonomic revisions, particularly in primates, be observed in South Asian zoos; the SAZARC Secretariat will contact heads of governing authorities of zoos to appraise them of these revisions and of the importance of adherence to the correct scientific nomenclature.

**Resolved :** SAZARC Conference participants recommended that zoos which are forced by official diktat to release menace monkeys into rural or forest areas to mark and monitor these animals so that future actions in this regard can be based on conservation science rather than political pressure.

**Resolved :** SAZARC Conference participants recommended that South Asian zoos holding primates should regularize their holdings so that different species and subspecies are not mixed in the same enclosure, and that the enclosures display accurate signage. SAZARC Secretariat will supply model signage for all South Asian primate taxa according to current taxonomic nomenclature.

**Resolved :** SAZARC Conference participants recommended that each country should set up a mechanism by which a small committee of knowledgeable persons visit zoos (including even small establishments calling themselves zoos), points out the lacunae and provides suggestions and encouragement for better animal management. SAZARC Secretariat will provide a very basic form as a guide for such visits.

**Resolved :** SAZARC Conference participants recommended that zoo personnel in each South Asian country list all facilities displaying wild animals to the public so that those which are not being managed along the right lines can be brought to the attention of the government by an appropriate entity.

**Resolved :** SAZARC Conference participants recommended that every would be member of SAZARC, both individual and

institution, agree in writing to abide by the Constitution, By-Laws, and Code of Welfare and Ethics of SAZARC.

**Resolved :** SAZARC Conference participants recommended that all South Asian zoos cooperate with the World Association of Zoos and Aquariums WAZA initiative to address substandard zoos and improve their own zoo and the zoos of their country.

**Resolved :** SAZARC Conference participants recommended that South Asia zoos welcome external zoo personnel conducting *in situ* projects in their country to involve them appropriately in public education, logistical help within their country, training, animal exchange, staff exchange and other mutually beneficial programmes.

**Resolved :** SAZARC Conference participants recommended that South Asian zoos establish a formal relationship with both governmental and non-governmental institutions in their country for assisting with *in situ* conservation projects leading to "the securing of long-term populations of species in natural ecosystems and habitats wherever possible" as per the World Zoo and Aquarium Conservation Strategy.

**Resolved :** SAZARC members should work together to make the association more meaningful and vibrant so that SAZARC should be known as one of the apex bodies in South Asia in matters related to zoo management and conservation of wildlife.

**Resolved :** SAZARC recognizes the WAZA Guidelines on Cooperation between Associations and will strive for bilateral cooperation at the regional level among zoo associations and the local level among individual zoos following same.

**Resolved :** SAZARC Conference participants welcome Afghanistan's official entry into the South Asian community and resolved to assist the Kabul Zoo by periodic visits, provision of training and also hospitality for visiting staff from Kabul Zoo.

**Resolved :** Conference participants recommended that SAZARC become a signatory of SAARC and strive to be recognized by the national governments and national/regional organizations involved in zoo management in the respective countries.

**Resolved :** SAZARC Conference participants recommended the SAZARC Secretariat to arrange at least one training for each country within this year.

**Resolved :** SAZARC Conference participants recommended each country conduct an event pertaining to SAZARC, the World Zoo Conservation Strategy and the WAZA Zoo Improvement Project during this year, inviting the SAZARC President, a former President or Director to attend this event.

**Resolved :** SAZARC Conference participants recommended that South Asian zoos should have a detailed Crisis Management Plan for emergencies of all types in the zoo.

The SAZARC Secretariat will distribute helpful literature on this topic to the zoos of the region

**Resolved :** SAZARC Conference participants congratulated Dr. R.K. Sahu of Kamala Nehru Zoo, Ahmedabad, who was unanimously elected as SAZARC President for the second year which is a "first" for SAZARC.

**Grateful thanks :** The participants of the SAZARC Conference thanked their host and sponsor, the Coimbatore Zoological Park Society, the Founder/Secretary Sri G. Rangaswamy and President, Zoo Outreach Organisation and all the CZA and ZOO committee members for their gracious hospitality.

**Grateful thanks :** The participants of the SAZARC Conference unanimously thanked their member and associate regional sponsors Pakistan Zoos, National Zoo of Sri Lanka, and Zoo Outreach Organisation for their contributions towards costs of the conference.

**Grateful thanks :** The participants of the SAZARC Conference unanimously thanked the resource persons Karin Schwartz, Aasim Turk, Mike Jordan, Brendan Whittington-Jones, Dave Morgan and Sanjay Molur as well as the institutions which permitted them to come and also sponsored their travel.

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## SAZARC meeting Presentations by Resource persons and Participants

- 'Record management, 'IUCN Guidelines for the release of rehabilitated animals' & 'Marking Techniques' by **Dr. Mike Jordan**, Curator of Higher Vertebrates, Chair, IUCN SSC Reintroduction Specialist Group Europe & North Asia, Chester Zoological gardens, U.K., M.Jordan@chesterzoo.org
- Record management, **Ms. Karin Schwartz**, Registrar, Milwaukee County Zoo, USA, kschwatz74@aol.com
- 'South Asian Primate Taxonomy', **Sanjay Molur**, Dy. Director, Zoo Outreach Organisation, India, herpinvert@vsnl.com
- Baghdad Zoo, Baghdad, **Mr. Brendan Whittington Jones**, Advisor, Kabul Zoo, Barikut Park, Kabul, Afghanistan, whitjones75@hotmail.com
- PAAZAB: South African Association of Zoos and Aquaria "Who are we and What do we do?", **Mr. Dave Richard Morgan**, Executive Director, African Association of Zoos and Aquaria (PAAZAB), South Africa, davetsp@iafrica.com
- 'ZIMS II' & about ISIS, **Mr. Aasim Turk**, Technical Support, International Species Information System (ISIS), 2600 Eagan Woods Drive, Suite 50, MN 55121-1170, USA, aturk@isis.org
- Assam State Zoo cum Botanical Garden – the green lungs of Guwahati city, **Sonali Ghosh**, Assam State Zoo cum Botanical Garden, Guwahati, Assam 781 005, India, ghoshsonali@gmail.com
- Pinnawala Elephant Orphanage – Daily Routine, **Solonga Arachchige Lasanthe Dilip Kumara**, National Zoological Gardens of Sri Lanka, Dehiwala, Sri Lanka, zoosl@slt.lk
- Assessment Report on Aquariums, **Liyanarachchige Dushyanthi Renuka Munasinge Bandaranayake**, National Zoological Gardens of Sri Lanka, Dehiwala, Sri Lanka, zoosl@slt.lk
- Breeding of Rusty-spotted Cats at The National Zoological Gardens, Sri Lanka, **Jayanthi Alahakoon**, National Zoological Gardens of Sri Lanka, Dehiwala, Sri Lanka, zoosl@slt.lk, pinnawela@yahoo.com
- Reports on Transportation guidelines for Zoo Animals, **Md. Abdur Razzaque**, Country Representative, SAZARC, Dhaka ajkanya.SR@gmail.com
- Conservation Scenario in Andaman & Nicobar Islands, **K. Ravichandran**, Mini Zoo, Port Blair, Andaman & Nicobar Islands, krcifs@gmail.com
- Benefits of SAZARC, **Md. Mansoor Qazi**, Karachi Zoo and Safari Park, Karachi, Pakistan, muddassir74@yahoo.com, wlb@sat.net.pk
- Rangpur Zoo, Bangladesh, **Arabinda Kumar Saha**, Rangpur Zoo, Rangpur, Bangladesh, aksaha55@yahoo.com
- Problems and Achievements of Dhaka Zoo, **Narayan Chandra Banik**, Dhaka Zoo, Dhaka, Bangladesh, ncbanik53@yahoo.com
- Design of Snakes/Reptiles enclosures, Ahmedabad Zoo, **R K Sahu**, Kamla Nehru Zoological Garden, Ahmedabad, Gujarat, India, ahmedabadzoo@icenet.net
- Conservation Breeding of species with special reference to J&K State (India), **Mir M Mansoor**, J & K State Wildlife Protection Department, Srinagar, Jammu & Kashmir, India, mmmnsur@yahoo.com
- Poisonous land snakes of Sri Lanka, **Kande Nihal Senarath**, National Zoological Gardens of Sri Lanka, Dehiwala, Sri Lanka, zoosl@slt.lk
- A Decade Celebration of Central Zoo, **R. K. Shreshta**, KMTNC/Central Zoo, Kathmandu, Nepal, czoo@wlink.com.np
- National Zoological Gardens of Sri Lanka, **Brig. HANT Perera**, National Zoological Gardens of Sri Lanka, Dehiwala, Sri Lanka, zoosl@slt.lk
- Chittagong Zoo, Bangladesh, **Mongur Morshed Chowdhury**, Chittagong Zoo, Chittagong, Bangladesh, mmorshed\_vet@yahoo.com
- Achievements and problems of Dulahazara Safari Park over the Year 2004-2005, **Mr. Zahed Md. Malekur**, Dulahazara Safari Park, Bangladesh, drmalekvet@yahoo.com
- A brief presentation about the Coimbatore Zoological Park – (CZP), Anaikatty, Coimbatore, **B. Rathinasabapathy**, The Coimbatore Zoological Park & Conservation Centre, Coimbatore, Tamil Nadu, India, nbrpark@eth.net
- Chennai Snake Park, **V Kalaiarasan**, Chennai Snake Park, Chennai, Tamil Nadu, India, cspt1972@md5.vsnl.net.in
- Arignar Anna Zoological Park and its significance, **A Manimozhi**, Arignar Anna Zoological Park, Chennai, Tamil Nadu, India, aazp@vsnl.com, manimozhi\_64@yahoo.net.in