



## *Newsletter of the* **Regional Network CBSG, South Asia**

**Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka**

**Greetings and Welcome to CBSG, South Asia.** This issue of the Newsletter has been published in time for the 6th Annual CBSG/RSG Meeting in Sri Lanka. It is our second time meeting here and we are happy to be again in this lovely country. The first time we met here there was also a meeting of the Species Survival Commission of IUCN. That was the first time we had conducted a Joint CBSG/RSG Regional Meeting and this is the sixth year that we have conducted this joint meeting of the two specialist groups which is something unique in the world. A few years ago CBSG SSC IUCN also conducted a meeting with the IUCN SSC Reintroduction Specialist Group. It is a good combination and everyone learned a great deal.

CBSG South Asia is the regional network of the Conservation Breeding Specialist Group consisting of the countries listed above which define "South Asia".

CBSG, India was the first such CBSG Network. The Chair of CBSG for many years, Dr. U. S. Seal, was an extraordinary person. I was just getting into international conservation and was attending my second CBSG meeting in Singapore when Dr. Seal mentioned in one of his talks that he would like to see more "grassroots" activity. So I asked him if I could start a CBSG branch for India, so that we could have, as he wanted, more grassroots activity. I wanted complete freedom to develop it according to what I thought would work, CBSG membership (I wasn't a member then) and the use of the CBSG logo!. He hesitated only a moment and agreed, asking me to send him a report every month. CBSG, India worked well and we also started other national CBSGs, but they were not active so I took the step of starting CBSG South Asia. By that time there were a couple more such groups. Now, CBSG, South Asia is one among many regional and national networks of the Conservation Breeding Specialist Group. They have been convened in Indonesia, MesoAmerica, Mexico, Europe, Brazil, Southern Africa and, most recently, Australia.

CBSG, South Asia and the Reintroduction Specialist Group, RSG, South Asia make a good partnership, particularly because of our taxon networks, many of which are also affiliated with IUCN SSC Specialist Groups such as Amphibian, Primate and Chiroptera. Invertebrate, pollinator, rodent and reptile network are not affiliated with SSC specialist groups but operate along the same lines. This *modus operandi* helps cover a variety of diverse subject areas and actions with a small organisation, minimal funding and some hard work.

CBSG tools and processes help us bring good conservation science to the taxon groups mentioned above. Very often we use these processes to assess the level of threat to species and to calculate the probability of extinction of species. Sometimes the situation results in a need to strengthen a population or translocate it to a safer area and that is when our RSG hat goes on. That is not the only time we use RSG guidelines and principles but it is an example of how CBSG tools and techniques links with those of RSG. That is why they are a good partnership. This type of meeting might seem unusual or odd to you but stay with us. It will become clear and you will enjoy. ***Sally Walker and Sanjay Molur and all ZOO Crew***

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**CBSG, South Asia is hosted by Zoo Outreach Organisation  
Sally Walker, Convenor, [sallywalker@aol.com](mailto:sallywalker@aol.com)**

Sanjay Molur, [herpinvert@gmail.com](mailto:herpinvert@gmail.com); BA Daniel, [badaniel@zooreach.org](mailto:badaniel@zooreach.org); Manju Suresh, [manju@zooreach.org](mailto:manju@zooreach.org); Rengasamy Marimuthu, [marimuthu@zooreach.org](mailto:marimuthu@zooreach.org); Latha Ravikumar, [latha@zooreach.org](mailto:latha@zooreach.org)  
Box 1683, 9A/81 Gopal Nagar, Lal Bahadur Colony, Peelamedu, Coimbatore 641 004 Tamil Nadu, India  
Ph: 91 422 2561087, Fax: 91 422 2563269. Email: [zooreach@zooreach.org](mailto:zooreach@zooreach.org).  
Websites: [www.zooreach.org](http://www.zooreach.org); [www.zoosprint.org](http://www.zoosprint.org); [www.southasiantaxa.org](http://www.southasiantaxa.org); [www.pterocount.org](http://www.pterocount.org);  
[www.southasianprimatenetwork.org](http://www.southasianprimatenetwork.org), [www.threatenedtaxa.org](http://www.threatenedtaxa.org)

# THE IUCN CONGRESS, BARCELONA, SPAIN — OCTOBER 2008

Sanjay Molur\*

One has to attend a quadrennial meeting of the IUCN (International Union for Conservation of Nature) to understand the magnitude and scope of activities of the World's largest conservation organisation. The recent Congress of the IUCN was held at Barcelona, Spain from 5-14 October 2008, a city known for its architectural beauty, especially of Gaudi fame. This was the second time I had attended an IUCN Congress, the last one was in Bangkok, Thailand in 2004, and it still surprised me to know there were 12,000 registered participants at this one. The IUCN Congress is the biggest mela one can see in the conservation world. All kinds of activities, seminars, forums, trainings, plenary, meetings, networking, wheeling-dealing, campaigning, politicking, etc. takes place in the span of those crucial 10 days spread across two distinct sets of activities called the Forum and Assembly.

The Forum is the fun part where the scientific and conservation sessions happen. In the four-day forum (6-9 October), which was hosted by the IUCN and its member organizations and partners, more than 800 programmes including workshops, seminars, discussions, training courses, partnership-building and cinema took place. A series of challenges, opportunities and potential solutions to address the issue of a more sustainable future in the next two decades were observed through three streams – A New Climate for Change, Healthy Environments – Healthy People, and Safeguarding the Diversity of Life.

To make events there more comprehensible and accessible, organizers had split the forum into "journeys". The 12 journeys identified were: – Mediterranean, Protected Areas, Species, Rights and Conservation, Water, Energy, Forests, Marine, Islands, Law and Governance, Bio-cultural Diversity and Indigenous Peoples, and Market and Business.

The Congress had several convenient areas for networking called pavilions, one of which was on Species where all the Species Survival Commission's members got an opportunity to meet one another, present and hear pre-determined activities. A stage set for the activities provided a continuous showcase to understand the happenings in the species world around the globe.

The highlight of the species event was the release of the 2008 IUCN Red List of Threatened Species, the focus of which this year was the

culmination of the assessment of all the mammals of the world through a collaborative process under the Global Mammal Assessment. A fourth of the world's mammals are threatened with a extinction. A highlight for India was the inclusion of 14 species of tarantulas in the Red List for the first time; hopefully this will bring about some conservation priorities to other small creatures.

Other events such as Exhibition, where more than a 100 stalls were on display and Special Events such as the International Women Entrepreneur Fair, Learning Opportunities, Opening of the Forum, Opening Ceremony of the IUCN Congress and Sailing to Barcelona were part of the agenda. The Forum activities led to the next important feature, the Assembly from the 10-14 October.

The Members' Assembly with the participation of more than a 1000 IUCN member organizations, both government and non-government from 160 countries discussed and debated over several important issues to do with sustainability, future, environment, global climate change, species and policies. An important aspect of the Assembly was also the election of the President and the Council for the next quadrennium, and the approval of IUCN's work programme for that term. The build up to the Assembly elections started from the Forum days with hectic lobbying and campaigning the different positions and candidates. Typical politicking, cajoling, fighting, and accusing strategies were employed to elect several positions.

Two positions of importance to our context in India were the election of Dr. Ashok Khosla, an Indian, as the President of IUCN and Dr. Simon Stuart, an Indiaphile as the Chair of the Species Survival Commission.



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## How CBSG, South Asia works holistically on species conservation Hoolock Gibbon as a Case Study, Sally Walker



In 2002 ZOO, WILD and CBSG, South Asia conducted a Conservation Assessment and Management Plan Workshop (CAMP) for South Asian Primates. A "CAMP" is a workshop process developed by Dr. U. S. Seal and Dr. Thomas J. Foose over two decades ago to assess the threat status of species and assign an IUCN category. By that time ZOO had conducted more than ten CAMPs and even had added our own devices to the process. South Asian Primatologists from nearly all countries of the region attended and provided information which until that time had not been known by all. For example, the Western Hoolock Gibbon, which was known for a long time to be in trouble was revealed to be in deep trouble indeed. The North East Indian primatologists brought information on all localities which made it possible to realise that Hoolocks and been declining exponentially for the past 3-4 decades in India and in Bangladesh. The CAMP workshop recommended a Population and Habitat Viability Assessment Workshop PHVA, another CBSG process, which uses VORTEX computer simulation models with information contributed by specialists. The CAMP was funded by several sponsors including Conservation International, Margot Marsh Biodiversity Foundation, Apenheul Primate Park, Primate Conservation Inc., Fauna and Flora International, North of England Zoological Society, North Carolina Zoological Park, Lincoln Park Zoo, Thrigby Hall Wildlife Gardens, Primate Society of Great Britain, European Association of Zoos and Aquaria, and Oklahoma City Zoo.

In 2004 CBSG South Asia, ZOO, WILD and other partners including the Primate Specialist Group organised a PHVA for Western Hoolock Gibbon. According to VORTEX, the probability of extinction of the entire Indian population of WHG was 75% and for the Bangladesh population it was 95% in the mediumterm future. Drastic measures were called for to save this species.

At the PHVA it was recommended by participants that WHG individuals and families living in isolation be translocated to eventually join larger populations. Due to behavioural characteristics of gibbons and other factors however, this is not a straightforward exercise. It requires detailed preparation and training, education for stakeholder groups including local communities, etc. The PHVA recommended an aggressive education programme. The PHVA Report and a Summary for laypersons was widely distributed. The PHVA was generously funded by the U.S. Fish and Wildlife Service, Department of the Interior, Great Ape Conservation Fund and others. Soon after this, ZOO became the representative of the Primate Specialist Group in South Asia.

In 2006 ZOO and SAN-IZE, the regional educator network, designed an extensive Hoolock Gibbon education programme, with a Manual for educators of all types, educational packets to complement the education activities and programmes and other items. Also ZOO and SAN-IZE organised and conducted six intensive three-day educator training workshops in North East India, which were intended to train educators, including even field biologists of Hoolock Gibbon, in a variety of active learning techniques. This programme was also sponsored by USFWS Great Ape Conservation Fund.

In the meantime, realising that training in translocation was required urgently before anyone attempted it at the current level of understanding, we prepared a proposal for a translocation training workshop for Hoolock Gibbon to be held in Assam for field biologists, forest and wildlife staff and other relevant individuals facing a grim scenario. The problems for 120 Hoolock populations throughout 5 states of northeastern India are habitat loss and hunting, including 52 isolated populations (43%) of 1-10 individuals. Twelve healthy populations (10%) consisting of 51-160 individuals are distributed in two states while 56 populations (47%) vary widely from 11-50 individuals in 4 states. Given the difficulty of curtailing habitat destruction and hunting, and of effective protection, the implementation of immediate, radical conservation methods may save existing healthy populations from further decline and extinction. Wild-to-wild rapid translocations utilizing the small populations to strengthen the larger ones will thereby salvage many of those populations as well. Targeting localities nearby the larger and better protected Hoolock habitats as recipient sites would satisfy behavioural, genetic and demographic issues. A programme including rapid translocation, restoration, economic and social features strengthened by education and awareness, following IUCN Reintroduction Guidelines may save Hoolocks from extinction in India.

The proposal was accepted and we have conducted two workshops with slightly different target groups, the latter being forest and wildlife policy makers. Read more about these workshops in the RSG Newsletter opposite.

## **Ulysses S. Seal Award for Innovation in Conservation goes to Convenor, CBSG South Asia**

Dr. U.S. Seal was Chair of the IUCN SSC Conservation Breeding Specialist Group for many years and set this unique specialist group on the course that it is on still. Dr. U.S. Seal's passion was his innovations regarding the application of new science effectively to solving the problems of wildlife conservation. His achievements in this field were enhanced by his talent for finding, recognising, encouraging, and utilizing others with the potential to make such innovative contributions. Thus, his memory is honoured by the annual Ulysses S. Seal Award for Innovation in Conservation.

It was decided by the award committee that a nominee not necessarily be connected with the CBSG, but their achievements should reflect CBSG values of creative thinking and improved conservation action. In calling for nominations CBSG requires that nominators should describe how the person exemplifies innovation in the application of science to conservation. Nominees must be living individuals and nominators must address criteria of 1. Innovation, 2. Contribution to conservation science, 3. Conservation impact (divided into two sub-categories: a) impact on people, inspiring or enabling conservation action, and b) direct impact on conservation *in situ*.)

A committee appointed by the CBSG Chair reviews all nominations and makes a choice which is submitted to the CBSG Steering Committee for its endorsement. The Awardee is honored at the CBSG Annual Meeting. The Chair of CBSG creates a Citation from the nomination, comments from the committee and his own experience of the nominee and shares it before calling the Awardee to receive the attractive Medallion with the striking profile of Dr. Ulysses S. Seal engraved on it.

### **Ulysses S. Seal Award Winners**

**2003 Nathan Flesness**, International Species Information system, USA

**2004 Frances Westley**, University of Waterloo, Canada

**2005 Georgina Mace**, Natural Environment Research Council (NERC), Centre for Population biology, Imperial College, London, U.K.

**2006 Jonathan Ballou**, National Zoological Park, USA

**2007 Paul Pearce Kelly**, Invertebrate Conservation Centre, Zoological Society of London, U.K.

**2008, Sally R. Walker**, Zoo Outreach Organisation/CBSG, South Asia, India

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### **CBSG South Asia staff represented CBSG, RSG and our taxon based networks throughout South Asia and other parts of the world in 2008 at the:**

- 1st SERC school in Herpetology from 27 Dec -08 Jan 08, North Orissa University
- Intl Conference on "India's Conservation Breeding Initiative" 21-24th Feb 08, CZA, New Delhi.
- CBSG Steering committee, WAZA CPM & Meeting of WAZA Drafting Committee, April 2008.
- International Reintroduction meeting held in Chicago on 15-16 April 2008
- Intl Primatological Society XXII Congress, Edinburgh, Scotland (3-8th August 2008).
- CBSG and WAZA Annual meeting, October 08, Australia
- Biodiversity Assessment Subcommittee Meetin & workshops. Gland, Switzerland, 7-11 July 2008
- Intl. Herpetological Congress, August, Brazil
- World Conservation Congress, IUCN World Congress, October, Spain
- 2nd Asian Lepidoptera Conservation Symposium (ALCS) Penang Butterfly Farm PBF, Penang Malaysia from 24 - 28 November 2008 in Penang, Malaysia.
- National Conference on recent trends in climatic changes and coastal bio resources 11-12 December 2008. Trichedur, South India
- Conservation Educators Workshop in Bangalore from 18-19 December organized by ATREE.

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## At last! Indian Tarantulas on IUCN Red List

Sanjay Molur, Manju Siliwal and B.A. Daniel

*Editors' note: One of the skills we have picked by virtue of being associated with CBSG is how to plan and carry out assessments of species for IUCN. Although one of the best ways is to conduct a CAMP workshops, discussed on the cover page, if there is a dearth of field biologists who have surveyed and studied the species, a CAMP workshop, as we normally envision it, is unnecessary. That was the case with this charismatic, if a little scary for some people, mygalomorph spider, the Asian tarantula. Many people do not know even that Asia has its own tarantulas, even arachnologists. Surveys have been few and assessments for the Red List, never. ZOO office biologists got interested in the spider originally on a visit to the Zoological Survey of India in Chennai, Tamil Nadu, where the Postal Service and turned over a "jumping envelope" that appeared in the post office. Officials there asked our people if they could identify the creature than was being mailed out of India, now not jumping anymore. It was a tarantula and the rest is history. Our office adopted the genus *Pocillotheria* as a project and one of the results was the first Red List assessments and adoption of same by IUCN of Asian Tarantulas. Here is the story.*

In 1998, the Species Survival Commission Wildlife Trade Office in Cambridge contacted the Invertebrate Conservation Network of South Asia for information on tarantula spiders in the wild. It seems the Sri Lankan government and the US Fish and Wildlife Service had proposed inclusion of the genus *Pocillotheria* under the Appendices of CITES due to increasing trade. Lack of information on these spiders since their first descriptions in early 1900s prompted us to take up a preliminary survey under ICINSA, the Invertebrate Conservation and information Network of South Asia.

During the course of the study we realised that there was not a single tarantula expert in India and Sri Lanka, or even remote knowledge among spider biologists in the two countries on this charismatic group of spiders. Much of the information gathered on the distribution came from questionnaire surveys and interviewing tribals, locals and forest guards or officials in different forest areas of the country. A report of this preliminary finding was furnished to the SSC office. The information available on Eastern Hemisphere Tarantulas, we learnt, was not enough to justify including the group under CITES. However, trade in this group of spiders is continuing with some cases of confiscations (in Sri Lanka) and successful smuggling (from India) have come to our knowledge.

To create awareness about tarantula spiders among field researchers, academicians and foresters, a 5-day hands-on-training workshop was

organised by Wildlife Information Liaison Development Society (WILD) along with Zoo Outreach Organisation (ZOO), the Kerala Forest Department and US Fish and Wildlife Service, Department of the Interior, USA. The resource persons included three tarantula experts, Rick West of Canada, Andrew Smith and Peter Kirk of UK, who trained field biologists and foresters from 9-13 September 2001 at Parambikulam Wildlife Sanctuary, Kerala, India. After this workshop, many researchers started studying theraphosids in the wild and in museums. Based on various published literature and primary data collected by us in the last 7 years on theraphosid spiders, we carried out Red List assessments for 14 of the 53 known species of Indian theraphosids using the IUCN Criteria and Categories. Eight of the 14 species assessed are threatened with extinction and the rest are either Data Deficient or Least Concern due to their wide range of distribution.

It is the first time that Asian tarantulas have been assessed and listed on the IUCN Red List. It may be, as a result, easier to get those in trade listed in CITES. Many people with whom we have spoken about these *mygalomorph* (large bodied) spiders were almost disbelieving when told that there were Asian tarantulas. One hears of South American *mygalomorphs* often but rarely of Asian varieties, unless one is a hobbyist or a supplier of collectors. Zoos in western countries frequently display the more colourful varieties of South American large-bodied spiders, and occasionally maybe even the Asian varieties. It has been publicised among zoos that although there is no harsh punishment for smuggling them out of the country, they can be confiscated and also lead to much inconvenience for the smuggler. Collectors and smugglers catch young spiderlings and carry them out in suitcases. It is no wonder their numbers have decreased with trade combined with rapid habitat loss.

We in WILD and ZOO are very happy to have been in a position to do this work and have these 14 species accepted on the IUCN Red List. We are grateful to sponsors —DEFRA / FFI Flagship Species Fund, UK; Cleveland Metropark Zoo, USA; Oregon Zoo, USA; Oakland Zoo, USA; The Rufford Maurice Laing Foundation, UK; Chicago Board of Trade Endangered Species Fund, USA and to others too numerous to name, who have helped us with information and encouragement.

### List of Indian Tarantula spiders

... including their assessments with Scientific name, Common Name, Category and Criteria upon which the IUCN Category and Assessment was made. See the next page.

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1 *Chilobrachys fimbriatus* Pocock, 1899  
**Fimbriated Striated Burrowing Spider, Indian Violet**, Least Concern.

2 *Chilobrachys hardwicki* (Pocock, 1895)  
**Eastern Indian Striated Burrowing Spider**, Least Concern.

3 *Haploclastus kayi* Gravely, 1915  
**Parambikulam Large Burrowing Spider**, Endangered. B1ab(ii,iii). Restricted range, few locations & continuing decline in area and quality of habitat.

4 *Poecilotheria formosa* Pocock, 1899  
**Beautiful or Finely formed Parachute Spider, Salem Ornamental**, Endangered. B1ab(i,ii,iii)+2ab(i,ii,iii). Restricted range and area of occupancy, few locations & continuing decline in extent, area and quality of habitat.

5 *Poecilotheria hanumavilasumica* Smith, 2004  
**Rameshwaram Parachute Spider, Rameshwaram Ornamental**, Critically Endangered. B1ab(ii,iii,iv,v)+2ab(ii,iii,iv,v). Restricted range and area of occupancy, few locations & continuing decline in area, quality of habitat, number of mature individuals and number of locations.

6 *Poecilotheria metallica* Pocock, 1899  
**Peacock Parachute Spider, Gooty Tarantula or Metallic Tarantula or Peacock Tarantula**, Critically Endangered. B1ab(iii) Restricted range, few locations & continuing decline in quality of habitat.

7 *Poecilotheria miranda* Pocock, 1900  
**Wonderful Parachute Spider, Bengal Ornamental**. Endangered. B1ab(iii). Restricted range, few locations & continuing decline in a quality of habitat.

8 *Poecilotheria nallamalaiensis* Rao, Bastawade, Javed & Ramakrishna, 2007  
**Nallamala's Parachute Spider**. Data Deficient.

9 *Poecilotheria regalis* Pocock, 1899  
**Regal or King Parachute Spider, Indian Ornamental**, Least Concern.

10 *Poecilotheria rufilata* Pocock, 1899  
**Reddish or Rufus Parachute Spider, Travancore slate-red, Red Slate Ornamental**, Endangered. B1ab(ii,iii). Restricted range, few locations & continuing decline in area and quality of habitat.

11 *Poecilotheria striata* Pocock, 1895  
**Striped or Striated Parachute Spider**,

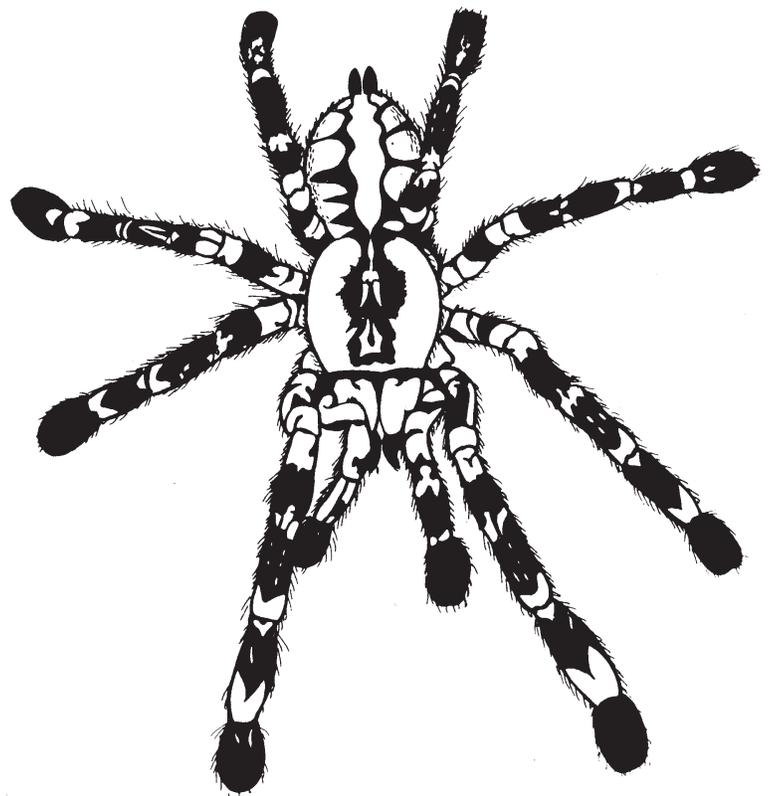
**Mysore Ornamental**, Vulnerable. B1ab(ii,iii)+2ab(ii,iii). Restricted range and area of occupancy, few locations & continuing decline in area and quality of habitat.

12 *Poecilotheria tigrinawesseli* Smith, 2006  
**Anantagiri Parachute Spider**, Data Deficient.

13 *Thrigmopoeus insignis* Pocock, 1899  
**Notable Large Burrowing Spider**, Vulnerable B1ab(ii,iii) +2ab(ii,iii). Restricted range and area of occupancy, few locations & continuing decline in area and quality of habitat.

14 *Thrigmopoeus truculentus* Pocock, 1899  
**Karwar Large Burrowing Spider**, Near Threatened.

**Summarised from ZOOS' PRINT, Volume XXIII, Number 12, December 2008, pp. 1-3.**



# South Asia: At the mercy of Climate change

B. A. Daniel\*

**Editor's Note : The Conservation Breeding Specialist Group CBSG and the World Association of Zoos and Aquaria WAZA have taken up Climate Change as one of their major issues, along with Amphibian decline. Zoos, with their large number visitors, are excellent places to educate the public about what they are doing to harm the Earth and what they can do to repair it. CBSG, South Asia and all our networks support taking Climate Change seriously and learning how it affects the animals in our taxon groups, our environment in the region and human beings. More important is how humans affect the climate. What will we do to change?**

Scientists report that the earth is warming up due to the emission of anthropogenically generated Green House Gases (GHG) such as carbon dioxide, methane, nitrous oxide, water vapor, halocarbon and other gases. The atmospheric amounts of many GHGs are increasing especially that of Carbon dioxide which has increased by 30 % over the last 200 years primarily as a result of changes in land use like deforestation and of burning of coal, oil, and natural gas in automobiles, industry, and electricity generation etc. An increase in the levels of GHGs could lead to greater warming, which in turn, could have an impact on the global climate leading to the phenomenon known as climate change. The Intergovernmental Panel on Climate Change (IPCC) assessed all the aspects of climate change using the best available information reported that the average global surface temperature has increased by 0.3°C - 0.6°C. Using computer simulation models scientist have predicted that, if the existing trend of emission of GHG continues, the earth in the next century could be warmed up to a range between 1°C - 4.5°C. If our earth increase by 3°C that would make the warmest period in the past 1,00,000 years while 4°C increase in temperature would make the earth the warmest it's been since the Eocene Epoch (about 4,00,00,000 years ago).

Climate changes have occurred in the past, but always gradually over thousands of years providing enough time for the ecosystems to adapt. The present trend of climate change will leave ecosystems vulnerable.

Predictions reveal that due to climate change a wide range of scenarios such as socio-economic, sea level, water resources, agriculture, forests, human health and biodiversity will be affected with particular reference to South Asia. This will have severe impacts on the global hydrological system, ecosystems, sea level, crop production and related processes. The impact would be particularly severe in the tropical areas such as South Asia. Predictions for some of the South Asian countries are given below.

## **Impact of climate change in South Asia: Two degree Celsius increase**

In India, climate change could represent additional pressure on ecological and socio-economic systems that are already under stress due to rapid urbanization, industrialization, and economic development. With its huge and growing population, a 7500-km long densely-populated and low-lying coastline, and an economy that is closely tied to its natural resource base, India is considerably vulnerable to the impacts of climate change.

An increase by 2°C global temperature will result in major agricultural impacts on India. The present wheat-producing states like Punjab, Haryana and Western UP will be affected by low productivity while West Bengal will gain. However, the overall country productivity will be reduced by 8%. A 2°C change will result in flooding resulting in refugee influxes from its neighbouring Bangladesh which will face their own climate problem. The river Ganga originates in the Himalayas, and is fed by several glaciers. The Gangotri is the longest of these, at 26km. There are many smaller rivers and one of these, is the Dokriani Bamak which is 5km long. Scientists studying this glacier have found that it has been retreating at a rate of 20m a year compared to about 16m per year in the past. If the present trend continues, then over the next 25 years, the Ganga could initially swell in volume because of increased melting but then dry out as the water supply in the mountains runs low. This will endanger the lives of about 400 million people who live in the river's plains and depend upon it for their supply of water

An increase by 3°C global temperature will intensify the monsoon in South Asia which will result in problems. It will increase the average rain fall resulting more heavy rains and associated extreme flooding. Also the monsoon is likely to become more variable. Some years the monsoon may fail.

Bangladesh is basically a vast river delta and it will suffer disproportionately from the stronger monsoon with an increase of 2°C global temperature. In 2007 Bangladesh reported dying of trees in Sundarbans which is one of the untouched places on Earth. Scientists think that the trees are dying because the water has turned from fresh to salty. It is reported that the sea has begun encroaching.

In Nepal, an increase of 2°C global temperature will result in the formation of new glacial lakes due to melting of glaciers high Himalayas. If the glaciers disappear the inhabitants of the entire Indian subcontinent will not get the delivery of

fresh water. The entire region may destabilize due to famine. This time Pakistan will be much affected.

An increase in 2°C global temperature will result in water shortages and famine, particularly in Pakistan. This will intensify with further increase in temperature. The Indus will change dramatically. Initially the river will swell with water due to melting of glaciers but the increased water will be short lived. Countries bordering Pakistan are also likely to experience problems with declining water supply. This will lead to crises in food production.

### **Climate change is likely to have an impact in the following ways globally**

The availability of water in the rivers of Australia, India, southern Africa, South America, Europe and the Middle East is expected to decrease. By the 2080's, substantial dieback of tropical forests and grasslands is predicted to occur, particularly in parts of South America and Africa. Cereal yields in Africa, the Middle East and India are likely to decline. A rise in sea level could inundate and erode coastal areas, increase flooding and salt-water intrusion; this will affect coastal agriculture, fisheries and aquaculture, freshwater resources, human settlements and tourism. The incidence of water-borne diseases, heat stress and vector-borne diseases such as malaria is expected to increase. All developing countries facing the problems of population and economic growth will be put under even greater stress as a result of these impacts.

### **How do we, as individuals, exacerbate for climate change?**

- Electricity is the main source of energy generated from thermal power plants. These thermal power plants are run on fossil fuels and are responsible for the emission of huge amounts of greenhouse gases and other pollutants.
- Cars, buses, diesel engines and trucks are the principal ways by which goods and people are transported. These are run mainly on petrol or diesel, both fossil fuels.
- We generate large quantities of waste in the form of plastics that remain in the environment for many years and cause damage.
- We use lots of paper in our work at schools and in offices. Have we ever thought about the number of trees that we use in a day? Wood is used for construction purposes also.
- With a fast growing population we have many mouths to feed. Because the land area available for agriculture is limited, high-yielding varieties of crop are being grown to increase the agricultural output from a given area of land which require large quantities of fertilizers; and more fertilizer means more emissions of nitrous oxide, both from the field into which it is put and the fertilizer industry that makes it.

All of us in our daily lives have contributed our bit to this change in the climate. Commit yourself to meet climate change challenges by slowing down the trend in global warming.

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## **Join ZOO Networks**

Z.O.O. and W.I.L.D. host several taxon and thematic networks which focus on neglected, highly speciose taxon groups, such as Invertebrates, Amphibians, Reptiles, Bats, Rodents, Insectivores, and Primates.

If you wish to become a member of any of these networks, please email Pravin [pravin@zooreach.org](mailto:pravin@zooreach.org) and he will send you a form. Fill the form with as much information as you think would reveal your talents and interests and send it in. There is no charge. We will send you notices and announcements and opportunities as well as occasional newsletters.



# Summary CBSG, South Asia Activities through our Networks

CBSG activities in South Asia take place through the organisations ZOO and WILD which are officially registered in India. The structure of Zoo Outreach Organisation ZOO and its close relative and partner Wildlife Information Liaison Development WILD are closely associated with IUCN SSC Conservation Breeding Specialist Group, having been attracted by CBSG's philosophy and process workshops and their potential for generating meaningful partnerships and linking for both ex situ and in situ conservation. CBSG workshops always result in an output of information, and we use that information in our public education and awareness programmes. Therefore in any CBSG report, we include our education network which is affiliated with the International Zoo Educators' Association IZE. This structure and organisation enables ZOO and WILD to provide a multiplicity of coordinated services which may not otherwise be possible.

**CBSG South Asia total members: 144**  
To see their profiles check our website url : <http://www.zooreach.org/Networks/CBSG/CBSG.htm>

## Taxon Networks :

### Amphibian Network of South Asia

Dr. Karthik Vasudevan is Scientific Chair along with Sanjay Molur, who continues as Technical and Administrative Chair of the regional network. ANSA represents IUCN SSC Amphibian Specialist Group in South Asia.



**Total members** :209 members. To see their profiles check our website url : <http://www.zooreach.org/Networks/Amphibian/Amphibian.htm>

ANSA has jumped on the CBSG and WAZA initiative to address the Amphibian Crisis by taking up the Amphibian Ark programme very serious. ANSA has helped organise and coordinate training. ANSA Chairs have participated in CZA amphibian training as Resource Persons and in other activities.

Because CBSG South Asia and ANSA want to go slow on captive breeding for amphibians in this region (until zoos learn to breed them for some years by working with common species) most of our energy has gone into education and public awareness. Our activities in this regard are included in the education section of this report.

### **AArk Amphibian Signature campaign**

ZOO has collected so far **17668** signatures through the South Asian Network of International Zoo Educators members and sent this to WAZA secretariat.

**Herpetological Congress in Brazil** - Sanjay Molur, Convenor of the Network was invited to the Intl. Herp congress in Brazil where he helped with an Action Planning process for readying regions for handling chitrid outbreaks.

## South Asian Reptile Network

**Total Members: 314.** To see their profiles check our website url : <http://www.zooreach.org/Networks/Reptile/Reptile.htm>

This network is under restructuring with activities planned in 2009. Sanjay Molur, as Chair of the Network, was invited as a Resource Person by North Orissa University to First SCRS School in Herpetology Training. A long pending reptile assessment with IUCN may be scheduled for this year.

## South Asian Primate Network

Represents the IUCN SSC Primate Specialist Group in South Asia



**Total members: 128** To see their profiles check our updated website url : [http://www.zooreach.org/Networks/Primate/Primate\\_directory.pdf](http://www.zooreach.org/Networks/Primate/Primate_directory.pdf)

Circulated current primate related news and articles and notices of granting and job opportunities to South Asian primate network members.

## Educational and Technical materials published

Many requests from forest departments generated a need to reprint Monkey Manners packets addressing conflict and coexistence between humans and free-ranging monkeys. This was translated into vernacular languages.

Distributed a pocket guide to South Asian primates created by SAP Network using CI's pocket guide model and published by CI. Compiled Brief Books for two Hoolock Gibbon Translocation training Workshops, special educational kits for distribution in NE India and 6000 an attractive Countdown 2010 Hoolock gibbon Calendar funded by USFWS and Chester Zoo.

## Primate Congress - Intl. Primate Society IPS

S. Walker and S. Molur participated in IPS Conference in Edinburgh and presented three papers, 2 on Primate Education using our Conservation Networking Model at an education seminar before the conference and during the conference, "Mind your Monkey Manners : People/ Primate Conflict in India and "Importance of and challenges to status assessments of South Asian primates and its impact on prioritization". Also Sally, Sanjay and South Asians from North East India (Jayantha Das, Dilip Chetra, Rekha Medi) led a successful initiative to retain Hoolock gibbon on the World's 25 Most Endangered Primate Species for another two year period, 2008-2010, a prestigious project of Primate SG and IPS. Jini Dela also attended this congress and presented a paper.

### **Two-part Wild to Wild Translocation Training Workshops for Hoolock Gibbon held in Assam:**

Two training workshops to address conservation actions recommended at the Hoolock Gibbon PHVA held at Dhaka, Bangladesh in 2005 were conducted in September 08 and January 09 at Forest Training School, Jalukbari and Monsoon Palace Hotel, Guwhati in Assam. Both workshops were much appreciated. The second workshop was planned for Chief Wildlife Wardens of the six Hoolock Gibbon states in India and featured Dr. Fred Launay, Chair, Reintroduction, Mike Jordan, Chair, Europe and North Asia RSG and Dr. Cecilia Kierulff, small primate translocation specialist, Fundação Parque Zoológico de São Paulo. Participants were enthusiastic in making plans. A detailed report is underway.

### **Asian Primate Crisis - SCB Conference**

Coordinator of the SAP Network, Sally Walker and Sanjay Molur played an active role along with Dr. Y. Long, Senior Advisor of PSG China and others, generating a symposium entitled the "Asian Primate Crisis" in the 23rd Annual Conference of the Society for Conservation Biology. It is to be held in Beijing, China organised by SCB and the Institute of Zoology, at the Chinese Academy of Sciences, Beijing, China, 11-16 July 2009. SCB's Annual Meeting is recognized as the most important global meeting for conservation professionals and students. Sanjay and Sally will present on Hoolock Gibbon and Man Monkey Conflict. Jini Dela and co-authors Anura Sathurusinghe, U K G Kalinga Padmalal, Asantha Ratnayake and Sangeeth Silva will present on the Purple-faced langur, on PSG's List of the World's 25 Most Endangered Primates. From South Asia Mewa Singh will also present a paper.

### **Chiroptera Conservation & Information Network of South Asia, CCINSA**

**Total Members:** 214. See profiles on website url: <http://www.zooreach.org/Networks/Chiroptera/Chiroptera.htm>



CCINSA consists of Chiroptera conservation experts, educators and enthusiasts as a community in the region by producing a Newsletter, Directory, occasional mailings, organisation of lobbying, training, and bat related web sites. CCINSA is sponsored by Bat Conservation International and Chester Zoo.

**Education :** CCINSA produces many educational materials and conduct frequent activities for bat education. See Education section for this.

**Training for 2009:** A Field Techniques training for bats and rodents will be conducted in Bhutan for personnel of the Wildlife Department of Bhutan in September. A training in echolocation and taxonomic identification will be held at Madurai Kamaraj University MKU sometime in November or December 2009.

### **Pterocount - Project for Monitoring bat roosts**

Pterocount has increased to 89 people having registered and 20 providing consistent roost

information. Over 200 roosts have been reported till now from three countries in South Asia, Bangladesh - 13; India - 184; and Nepal - 9. Roost information is now available in India for 12 states, all thanks to Pterocount volunteers. The output per Indian state follows below, also going by the order of roost identified and monitored by volunteers : Andhra Pradesh - 4; Assam - 11; Gujarat - 2; Himachal Pradesh - 16; Uttar Pradesh - 1; Karnataka - 86; Kerala - 36; Madhya Pradesh - 1; Maharashtra - 2; Rajasthan - 9; Tamil Nadu - 8; Gujarat - 8.

### **RICINSA – Rodent and Insectivore Network – The RICINSA directory was updated with new members.**

The Threatened Taxa Monitoring System website includes illustrations of South Asian rodents. A newsletter is pending.

**Total Members:** 118. To see their profiles check our website url <http://www.zooreach.org/Networks/Rodent/RDirectory06.pdf>



### **Activities of Invertebrate Conservation and Information Network of South Asia (ICINSA)**

**Total Members :** 464. See member profiles on website: <http://www.zooreach.org/Networks/Invertebrate/ICINSA%20Directory%20II.pdf> <http://www.zooreach.org/Networks/invertebrate/invertebrate.htm>



The Invertebrate network ICINSA has several subnetworks, e.g. Pollinator network with over 49 members from South Asia and a newly formed Network on Aquatic invertebrates. The members of these subnetworks receive support in terms of literature on their specialty and they publish their research findings in our new Journal of Threatened Taxa. These networks are supported by the Invertebrate Conservation Centre, London Zoo.

*Listed below are a few activities of the past year.*

- Extended support by way of literature to Darjeeling zoo about keeping invertebrates.
- Circulated pollinator related literature (14 full articles) to all the members of Invertebrate Pollinator Network of South Asia IPNSA.
- Uploaded the IPNSA news letter (version 2.1) and uploaded on the web which has 49 members from India, Pakistan and Sri Lanka.
- Formed Aquatic Invertebrate Network of South Asia which has 15 members in it. The aquatic network is a sub network of ICINSA. Dr. K.G. Sivaramakrishnan is the Scientific Chair along with the ICINSA coordinator of the newly formed network.
- Published the Newsletter of the Invertebrate Conservation & Information Network of South Asia (ICINSA) in July 2008.
- Assisted the Local government college students in identification of insect species for their projects. Delivered lectures on species conservation with particular reference to Invertebrates at university departments and colleges.

Fourteen of the the 53 known species of Indian theraphosids were listed on IUCN Red List see *ZOOS' PRINT XXIII(12): 1-3* (This article has been summarised elsewhere in this newsletter.).

Introduced the Journal of Threatened Taxonomy to all members of the network and solicited articles.

ICINSA coordinator attended the 2nd Asian Lepidoptera Conservation Symposium (ALCS) Penang Butterfly Farm PBF, Penang Malaysia. He presented an invited lecture on 'Conservation Assessment and Management Plan (CAMP) Workshop process: a tool for rapid evaluation of species'.

#### **Other projects :**

##### **Freshwater Biodiversity Assessments**

Finally, ZOO, WILD, CBSG South Asia with their expertise in doing things that CBSG does, was invited to organise two Freshwater Biodiversity Assessments in 2009 with the IUCN SSC Freshwater Biodiversity Program. The project for the Western Ghats has been funded and will begin in Summer 2009. Funding news is still awaited for the Eastern Himalaya assessment. If it comes through it will be conducted later. These have been initiated by the Freshwater Biodiversity Unit, IUCN and Conservation International, with lead organisation as ZOO/CBSG, South Asia.

**South Asian Species Red List information :** South Asian Species (bat, rodent, orchids, primates) Red List information compiled and given to add in a master database of all National Red Lists creating by Zoological Society of London. This online database was launched at the World Conservation Congress in Barcelona by October 2008 and is intended to provide a focal point for National Red Listing. By making this data readily stored, managed and accessible, countries will be able to learn from each other in creating and updating Red Lists, and that this will help towards effective conservation planning.

##### **Resuscitation of LTM, Asiatic Lion and Sloth Bear**

**International Studbooks :** CBSG South Asia has been trying to find an appropriate opportunity to revive the International Studbooks of LTM, Asiatic Lion and Sloth Bear which had been without a studbook keeper for some time. Unfortunately the perfect opportunity came just after the studbooks were cancelled by CIRCC. However an International conference February 21-24, 2008 entitled "India's Conservation Breeding Initiative" was organised by Central Zoo Authority in New Delhi. Before this meeting CBSG South Asia Convenor worked with people in USA and Europe who were interested in certain Indian species and with capacity to take up the International Studbooks trying to insure their presence and even funding the airfare of the LTM American Studbook Keeper by contacting zoos in USA which held the species. The individuals who put an application for the studbooks were Scott Carter for LTM, Neil

Dorman for Asiatic Lion, and Jose Kok and Lydia Kolter for Sloth Bear. The Indian counterparts are Mysore Zoo for LTM, Sakkarbaug Zoo for Asiatic Lion and Kartick Sathyanarayan for Sloth bear. The applications have been accepted by the Population Management Committee of WAZA (ne CIRCC). CBSG South Asia is keeping in touch with individuals on both sides of the world to insure that this does not slip away again.

##### **CBSG/ RSG Workshop & SAZARC Conference**

The 8<sup>th</sup> South Asian Zoo Association for Regional Cooperation and 5<sup>th</sup> CBSG RSG meeting was conducted in February 2008 in Ahmedabad, India organized by ZOO/WILD/Kamla Nehru Zoo-AMC/ Forest Dept of Gujarat/GEER Foundation, 29 Jan-6 Feb 2008. CBSG RSG meeting was conducted at GEER Foundation in Gandhinagar. There were explanations of both specialist groups followed by meaningful working groups on increasing prey base in satellite lion areas, and Gharial and Leopard conflict. The Forest Department of Gujarat and the GEER Foundation hosted and attended in good numbers. After the SAZARC meeting, the Forest Department hosted the whole group in a tour at Junagadh and Gir Forest.

##### **Major events for coming year:**

- Nine educator training workshops on Human Elephant Coexistence HECx to be held in Nepal, Bangladesh, and Sri Lanka.
- Annual CBSG RSG South Asian Network Meetings, Feb. 09, Sri Lanka
- SAZARC South Asian Zoo Association Meeting, Feb. 09, Sri Lanka. Theme: Fine tuning Zoo legislation; Zoo Inspections. Sri Lanka
- PHVA for Sri Lankan Elephant
- Training in the MIKE ;ldskfj;slkdjf;kdsjf Systematic Monitoring of Sri Lankan elephants using Dung DNA
- IUCN Assessments of fresh water biodiversity in Western Ghats and in Eastern Himalaya
- Small Mammals Hands on Training in Bhutan taxonomy training

##### **Newsletters**

BatNet Newsletter 2008. Newsletter CCINSA, Volume 9, No. 1, Jan-July 2008, Sally Walker and Sanjay Molur (Editors)

Reptile Rap 2008. Newsletter of the South Asian Reptile Network, No. 8, January 2008. Sanjay Molur, Sally Walker and R.J. Rao (Editors)

CBSG South Asia News, South, January 2008. Sanjay Molur and Sally Walker (Editors)

Reintro Reduex 2008. RSG, South Asia, January 2008. Sanjay Molur and Sally Walker (Editors)

##### **ZOO websites:**

<http://www.zooreach.org/>  
<http://www.zoosprint.org/>  
<http://www.journalofthreatenedtaxa.org/>  
<http://www.southasiantaxa.org/>  
<http://www.pterocount.org/>  
<http://www.southasianprimatenetwork.org/>

## South Asian Network for International Zoo Educators IZE

Zoo Outreach Organisation hosts the South Asian network of International Zoo Educators.

**Total Members: 242.** To see their profiles check our website url [http://www.zooreach.org/Networks/Education/SANIZE\\_directory.pdf](http://www.zooreach.org/Networks/Education/SANIZE_directory.pdf)

**The activities below represent a small fraction of the year's work in Education. For a complete report see ZOOS' PRINT Magazine, March 2009.**

### Amphibian Ark Education programme

#### AArk Summer Alert programme

AArk Five for Frogs was converted to Amphibian Summer Alert for South Asia and a new batch of materials were created and distributed to help thousands of people get exposed to the message. Materials included a handout that is really a bookmark with an attached sticker which was very popular throughout the rest of YOTF. Now, South Asia has a new programme for AArk, it is Countdown 2010, a programme of the Convention on biodiversity. The programme has aimed to stop biodiversity loss by 2010 which is not possible, particularly now. Nonetheless AArk and ANSA joined the campaign and pledged to try at least to reduce biodiversity loss in amphibian by 2010. This campaign will run for two years and is a uniquely south Asia campaign.

**Amphibian Education materials:** Amphibian packets were printed and distributed during Animal Welfare Fortnight, World Environment Day and Wildlife Week. Other amphibian education materials distributed were amphibian caps, amphibian calendar (a Countdown 2010 calendar) and bumper sticker. New materials almost ready for distribution are a colouring book representing most of the families of frogs in South Asia and some of the foods, an amphibian teaching manual. New packets will be developed in the coming weeks.

#### Amphibian Conservation Educator Skills Training at Central Zoo, Kathmandu, Nepal

Central Zoo Nepal, hosted a two day Amphibian Conservation Educator Skills Training that was organised by ZOO/SANIZE from 9-10 September 2008. The entire programme was sponsored by SeaWorld/Busch Gardens Conservation Fund, USA. The programme was attended by 27 teachers from Kathmandu schools and forest personnel from Bhutan.

#### HECx Getting along with elephants

Planning workshop for country partners -- the workshop was held from 11-15 February 2008 inviting country partners of our ambitious educator training project on the topic of Human Elephant Conflict HEC but named actually Coexistence HECx. Partners from Bangladesh, Sri Lanka, Nepal and West Bengal participated in this useful workshop.

West Bengal Educator Workshops -- From 31 October to 09 November, three educator training

workshops were held in Northern West Bengal on the topic of Human Elephant Conflict HEC interpreted as Human Elephant Coexistence HECx. The first and third workshops took place at the Forest Interpretation Centre in Sukna (Mahananda Wildlife Sanctuary) late October/early November, each workshop lasting three days. The second workshop was held at the Forest Department Auditorium at Lataguri near Gorumara National Park) November 2008. A total of 68 participants from education, forestry, ngo community, etc. attended the three workshops. The workshops were sponsored by U.S. Fish and Wildlife Service and various external partners.

Teaching guide: A teaching guide was developed for the West Bengal participants incorporating a new way of teaching and learning about the most burning issue existing in Asian elephant-bearing countries today. In the guide two issues such as Human-elephant conflict HEC and Human-elephant coexistence HECx were combined.

Nepal HECx Workshops : Immediately after CBSG RSG SAZARC ZOO/SANIZE will take the HECx teacher training workshop to Nepal, one workshop to be held in Sukhla Phanta Tiger Reserve, Bardiya National Park and two in Chitwan National Park.

#### Training

A staff of Wildlife Trust of Bangladesh underwent a week long training at our office by learning basics about printing software and thoroughly learnt about screen printing. His travel and accommodation for the tour was sponsored by WCS.

#### Internship

Three students from Thiyagarajar College, Madurai, Tamil Nadu underwent 2 weeks in plant training at the ZOO. They mainly focused on Wildlife Conservation and Conservation Education Training aspects. They done a weeklong amphibian signature campaign at VOC Park zoo. During this campaign they explained zoo visitors about the present amphibian crisis and also displayed amphibian education materials developed by ZOO. The interns also helped ZOO to test drive a survey with the people living in human elephant conflict areas. At last they attended ZOO's three day in-house training programme.

#### Educators Teaching Guides-New

We have developed two other education manuals on bear and elephant. Bear manual was completely tested in the third in-house training. The elephant manual was used in the West Bengal elephant workshops which were held in October and November 2008.

#### Second In-house training for educators

Organized second in-house training programme held on 25-27 June 2008. Sixteen participants from South India attended this training. Hoolock Gibbon and Bear manuals were used.