



# CBSG News

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Volume 1  
Number 3  
Fall, 1990

This issue of the Newsletter is devoted primarily to a summary of the results of the annual meeting in the pleasant surroundings at Kollekolle near Copenhagen. More than 120 people attended, exceeding our anticipated participation of about 80. The meeting was very productive with working groups producing summary reports and recommendations. Most of these were reviewed and approved by the full group. Items of interest include the agreement to propose a transponder standard by January for adoption by the entire community, formation and activity of multinational faunal groups, the initiation of a genome banking group, recommendation to establish studbooks for all marine mammals in captivity, the resolution on conservation of giant pandas, and recommendations for the reintroduction of the Przewalski's horse.

The continued positive response to the Newsletter and the volume of material we are receiving leads us to the step of planning to produce four issues a year in 1991 (this is our third in 1990). Another change is in the designation of our support organizations and people as shown on page 2. Recognizing the active and participatory role of these supporters, the group is organized as a CBSG Conservation Advisory Council as indicated.

I have just returned from a very exciting meeting in Nagoya, Japan at the Species Survival Planning sessions of the Japanese Association of Zoological Gardens and Aquariums. There are 153 member institutions in the organization and 124 people were in attendance. Regional studbooks are being maintained for 35 species and masterplans have been drafted for many of these species. Computer problems have been solved and the Ueno Park and Tama Park zoos are planning to begin in ISIS this year. These developments are significant for the increase in our capacity for global coordination of captive breeding programs for conservation.

The CBSG meeting in 1991 is to be held in Singapore 27-29 September (the week before the IUDZG meeting). Arrangements are being made with the Hornbill Specialist Group to conduct a Captive Breeding Action Plan Workshop for Hornbills and perhaps a PVA Workshop for a selected species on 23-26 September. *It is important that you complete and mail the form on the last page of the Newsletter as soon as possible to let us know of your intention to attend so that arrangements can be made for meeting and hotel rooms.* The CBSG meeting has been extended to three days by consensus to allow time to hear and discuss all of the topics from the working groups. Time was too short this year. We hope to see a much larger representation of our members and colleagues from Southeast Asia, Japan, and Australasia at this meeting. A preliminary agenda will appear in the next Newsletter. If you have items to include please send them to the CBSG office.

The end of the three-year appointment period for all Specialist Group chairs and members occurs with the General Assembly of the IUCN at Perth, Australia, November 29 - December 14. Dr. George Rabb, has agreed to stand for reappointment as Chairman of the SSC and I have agreed to stand for reappointment as Chairman of the CBSG. After these reappointments are confirmed, the CBSG office will send out letters to all of our old members and to a number of new members asking for your agreement to continue to serve as a member of the CBSG. If you agree, an official letter of reappointment will come from the office of the Chairman of the SSC.

I wish to express my appreciation to all of you who have agreed to work on the CBSG for your active and enthusiastic participation. I look forward to a very active and productive three years with a rapid increase in the global role of small population management and captive breeding in the preservation and conservation of species.



Newsletter of the  
Captive Breeding  
Specialist Group,  
Species Survival Commission,  
World Conservation Union

Ulysses S. Seal, CBSG Chairman



**CBSG Conservation  
Advisory Council**

*Participating*

American Association of Zoological Parks and Aquariums  
Chicago Zoological Society  
Columbus Zoological Gardens  
Denver Zoological Foundation  
Fossil Rim Wildlife Center  
Friends of Zoo Atlanta  
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Lubee Foundation  
Minnesota Zoological Garden  
New York Zoological Society  
Omaha's Henry Doorly Zoo  
White Oak Plantation  
Zoological Society of Cincinnati  
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North Carolina Zoological Park  
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Audubon Zoo  
Banham Zoo  
Caldwell Zoo  
Calgary Zoological Society  
Cologne Zoological Garden  
Copenhagen Zoo  
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Givskud Zoo  
Japanese Association of Zoological Parks and Aquariums  
Jersey Wildlife Preservation Trust  
The Living Desert  
Marwell Zoological Park  
National Federation of Great Britain and Ireland Zoos  
National Zoo, USA  
North of England Zoo  
Odense Zoo  
Penscynor Wildlife Park  
Riverbanks Zoological Park  
Royal Zoological Society of South Australia  
Royal Zoological Society of Antwerp  
Royal Zoological Society of Scotland  
San Francisco Zoological Gardens  
Thrigby Hall Wildlife Gardens  
Union of German Zoo Directors  
Urban Council Hong Kong  
Washington Park Zoo  
Wildlife Preservation Trust International  
Wilhemta Zoo  
World Parrot Trust  
Yong-in-Farmland  
Zoological Society of London

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**CBSG News**

The CBSG news is published by the Captive Breeding Specialist Group, Species Survival Commission, World Conservation Union. CBSG News is intended to inform CBSG members and other individuals and organizations concerned with the conservation of plants and animals of the activities of the CBSG in particular and the conservation community in general. We are interested in exchanging newsletters and receiving notices of your meetings. Contributions and comments are welcome. Send materials to: CBSG News, 12101 Johnny Cake Ridge Rd., Apple Valley, Minnesota 55124 USA. Fax (612) 432-2757.

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## Reports from the 1990 Annual Meeting of the Captive Breeding Specialist Group

Below area summary and the reports submitted by the Working Groups during the annual meeting of the CBSG held on 24-25 August 1990 in Copenhagen, Denmark. They are listed in no particular order; no priority or level of importance is implied.

### Summary and Selected Recommendations

The CBSG endorsed by consensus the following recommendations and resolutions at the Copenhagen meeting 25-26 September 1990. These have been taken directly from the working group reports.

1. Resolution on the Brazilian Initiative for the Conservation of the Spix's Macaw

*CBSG congratulates the Brazilian Government on its initiative in the formation of the Permanent Committee for the Recovery of the Spix's Macaw. CBSG offers its help and support to the Committee in this important effort.*

2. Recommend a Conservation Coordinators Committee be formally organized within CBSG to guide formulation and development of global propagation and management masterplans and programs (this committee was formed at Copenhagen).

3. Encourage and expand development of Captive Action Plans that provide recommendations for strategic program development, especially identification of priority taxa for captive breeding, and resource allocation of captive resources at global and regional levels. Membership of each of the Captive Action Plan working groups should include representatives of the major organized regions of the zoo world.

4. Recommend that regional and central archives be established for all studbooks and masterplans. The regional archives should be in the respective conservation coordinators office. The global archives should be at the CBSG/ISIS offices and the World Conservation Monitoring Centre.

5. Encourage an attempt to reconcile and integrate the various global and regional databases and software being developed for captive propagation and management programs. Towards this end it is proposed a working group be formed to include ISIS and the various regional database and software developers. (A meeting is being held in the ISIS offices October 15-18).

6. Suggest CBSG consider preparation of a Zoo/Aquarium Conservation Strategy Document analogous to what has been produced by the world's botanic gardens.

7. It is recommended at this time that specimens of *Pteropus livingstonei* and *P. voeltzkowi* should be taken into captivity as soon as possible to establish species survival

programmes, as the status of each gives cause for great concern.

8. The CBSG, which is working in collaboration with the AAZPA, other regional zoo associations, IUDZG, and Veterinary Specialist Group, would like to request that your organization identify one or two people to join a working group to further formulate the problems and to plan a workshop to bring together the current state of the art on problems of disease risk assessment in wild and captive populations, comparative risk assessment, and development of strategies and protocols for the conduct of release programs to minimize the risks of introduction of new diseases into wild populations. (Letters sent 20-26 September 1990).

9. CBSG SSC/IUCN urges the Peoples Republic of China (P.R.C.) to facilitate a comprehensive plan for wild and captive Giant Pandas and requests present holders of Giant Pandas outside of the P.R.C. to dedicate their animals to a collaborative program for these purposes. The CBSG offers the Peoples Republic of China its services and cooperation to help develop a Comprehensive Giant Panda Conservation Plan. (See complete resolution on page 16)

10. Appreciating the importance of invertebrates in the natural world, CBSG endorsed unreservedly the resolution (see page 17) on the conservation of invertebrates.

11. To develop self-sustaining captive populations of marine mammals with long-term genetic and demographic viability, as security for those species for the future, the CBSG approved the following preliminary recommendations:

- a) Pursue the immediate development of an accurate and complete data base for all captive marine mammals through ISIS;
- b) Develop regional studbooks for all species of marine mammals maintained in captivity.

12. That the Vietnam and Philippine initiatives be consolidated under one umbrella programme. That a regional field coordinator be appointed, based in the area and charged with developing the programme, establishing long-term relationships in country and ensuring the efficient coordination and implementation of specific projects. That the scope and number potential species and the number of institutions involved be increased. That there was an urgent need to respond to the

Philippine Government's request for assistance with the Tamaraw.

13. The Captive Breeding Specialist Group endorses the Global Management Plan Working Group (GMPWG) for the Przewalski's Horse as the appropriate entity, working in consultation with CBSG, Equid Specialist Group, Veterinary Specialist Group and Reintroduction Specialist Group, to develop scientifically based program for the management of the species gene pool and for collaboration with appropriate national authorities in the design and implementation of reintroduction programs. CBSG recommends to the SSC and to the IUCN itself that they also recognize the GMPWG and endorse its objectives.

14. The CBSG Herpetological group is urged to help develop with other herpetological groups a global plan and program of conservation priorities, considering the vast range of reproductive and population biology patterns, the ecological requirements, the evolutionary significance, and the conservation status of amphibian and reptile taxa and their habitat.

15. Establish model management programs and standards for captive breeding of amphibians and reptiles. Identify other conservation priority areas and taxonomic groups and then foster a wide-scale effort to breed representatives of as many genera and families as possible. In other words, develop the technology of captive propagation for more taxa.

16. After evaluation of all vendors of transponders systems, it is clear that only two can provide the levels of product availability and prices, international distribution, and future product development to warrant their consideration as an international standard for captive breeding community. The time being we were unable to compare the performance of the two potential systems. One of the systems was only available in Europe while the other was only available in the U.S. Therefore the recommendation to the CBSG was that a decision would be delayed until 1 January 1991 to allow testing of the two systems.

17. CBSG recognises that the captive population of Waldrapp Ibis urgently needs management. The two regional programmes (Europe and North America) should undertake to collect whatever breeding data are available, as information for the international studbook is presently inadequate. Identification of wild caught birds, the development of appropriate genetic studies at the family and population level and the recognition of management problems should be a high priority for the regional coordinators. CBSG recommends that a population viability workshop be held in 1991, to examine and recommend conservation strategies for the species as a whole. The meeting should address the management of the wild and captive populations.

18. CBSG News, the quarterly newsletter of the CBSG, offers space and encourages any regional groups or individuals to provide material appropriate for international distribution.

## Antelope Action Group Reports

### Desert Antelope

Georgina Mace reported on the issue of chromosome translocations in Arabian oryx. Alexandra Dixon reported on the addax/scimitar-horned oryx workshop that was held in Niger earlier this year. The addax reintroduction program should continue to move forward. There are several issues on the scimitar-horned oryx reintroduction program that still need more review.

### Regional Antelope Planning

There is an antelope interest group being formed through the AAZPA. Within this group will probably be several related taxa groups, i.e., desert antelope, duikers, etc.

The regional antelope stocking plan for Australia/New Zealand is under development. This plan is based upon both current regional holdings and a willingness to support captive propagation programs for identified priority species.

Within the UK there is no actual regional plan for antelope. However, there are several forms which have joint management plans including bongo, scimitar-horned oryx, addax, Arabian oryx, and dama gazelle. They are also reviewing the status of several important taxa including red/kafue lechwe, Nile lechwe, and bontebok.

Within Europe, there are EEP programs for several species: addax, scimitar-horned oryx, Arabian oryx, dama gazelle, bongo. There is also interest in reviewing the captive management of lesser kudu, caama hartebeest, impala, and Nile lechwe.

### Priority Activities for the Coming Year

The group identified several priority activities for the coming year:

1. Continue to research the chromosome question in Arabian oryx.
2. Continue to develop the reintroduction program in Niger for addax.
3. Coordinate the importation into Europe of priority species to increase both the numbers and genetic variability of these species. It is urgent that this be undertaken during the next two years before importation regulations make it virtually impossible to import hooved stock.

4. Coordinate the importation into Australia/New Zealand of priority species for their regional stocking plan as soon as possible.

5. Continue to monitor those priority species that are not currently in captivity and be prepared to start a captive program if



the opportunity presents itself. These species include giant sable, dibatag, beira, red-fronted gazelles, and several forms of dorcas gazelles. With regard to giant sable, it was felt that we should be very cautious in evaluating the various offers to collect this species.

6. Continue to develop the CBSG Antelope Survey and Action Plan with particular attention to the various regional plans that are starting to evolve.

## Report from the Avian Advisory Group

A meeting of the American members of the Avian Advisory Group, under the chairmanship of Stephen Wylie, was held at the Bronx Zoo, New York, in August 1990. Notes from that meeting were included in the documentation made available at the CBSG meeting in Copenhagen and formed the basis of the discussion of the Avian Group which met on 25 August. The recommendations from the group in New York were broadly endorsed by the group meeting in Copenhagen. A number of suggestions, amendments and comments were made and will be sent to the chairman. Other items of interest included:

1. Members: a number of potential members were added to the list.

2. Captive breeding action plans: the list of families of concern was discussed. More information was sought on the criteria which were used to establish the three categories of priorities. Individuals and organizations were suggested which should also be involved in formulating captive breeding action plans for particular families. Overall, the list was agreed upon, though some doubt was expressed on the order of priority which had been given in some cases.

3. Population Viability Analysis (PVA): The list of taxa identified as in need of population viability analyses was discussed and generally agreed upon. It was thought that there was not an immediate need for a PVA on the yellow-eyed penguin and it was pointed out that there was a meeting on the Nene in November in Hawaii.

4. Workshops: Three proposed workshops were agreed upon. A workshop on the Threskiornithidae is scheduled to take place in Wuppertal in April or May 1991 and will deal with only one member of that family, the Waldrapp Ibis.

5. Spix's Macaw: It was agreed that the Avian Group and CBSG should endorse the positive steps taken by Brazil, in particular the formation by Brazilian decree of the Permanent Committee for the Recovery of the Spix's Macaw. This committee and its functions and rules were created by the Brazilian Institute of the Environment and Natural Renewable Resources (IBAMA) and will be serviced by that Institute. This committee and its binding rules lay the foundation for a workable solution for the Spix's Macaw problem. The Avian Group and CBSG should

offer its help and advice to this committee. The following resolution on the Brazilian initiative for the conservation of Spix's Macaw was drafted:

*"CBSG congratulates the Brazilian Government on its initiative in the formation of the Permanent Committee for the Recovery of the Spix's Macaw. CBSG offers its help and support to the Committee in this important effort."*

The Avian Advisory Group of the CBSG is currently seeking new Individual or country potential members. The Avian Advisory Group identified an effective means of communication.

This was deemed necessary to address the numerous and varied issues facing the Group. This communication route flows from the CBSG through Steve Wylie (chair) to the advisory group. Materials will be designated "information purposes only" or "response requested to Chairman". In the event that an "immediate" response is required, members will correspond directly with the CBSG office.

A lengthy process was conducted to identify and prioritize taxon and taxa that are of concern. The Group also identified individuals knowledgeable on those topic areas who hopefully can formulate captive breeding action plans. The below listing utilizes the following classification: 1 = Primary List, 2 = Secondary List, 3 = Tertiary List.

### *Ciconiiformes*

- (1) Ciconiidae - S. Potzwahl
- (2) Therdkionithidae - D. Jeggo

### *Anseriformes*

- (3) Anatidae - S. Ellis Joseph/Wildlife Trust

### *Falconiformes*

- (1) Cathartidae - New World Vultures (D. Watson)  
Old World Vultures (to be decided)
- (1) Accipitridae/Falconidae - P. Jenny

### *Galliformes*

- (3) Megapodidae - R. Decker
- (2) Cracidae - S. Strahl
- (3) Phasianidae - J. Casadei/WPA

### *Gruiformes*

- (2) Gruidae - Crane Foundation
- (2) Rallidae - K. Muller
- (1) Otidae - P. Goriup

### *Columbiformes*

- (2) Columbidae - B. Bohmke

### *Psittaciformes*

- (2) Psittacidae - D. Bruning/Regional Groups

### *Coraciiformes*

- (3) Alcedinidae - M. Healy
- (1) Bucerotidae - C. Sheppard/K. Brower

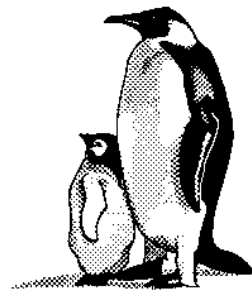


*Passeriformes*

- (3) Pittidae - B. Cavender
- (3) Drepaniidae - W. Turner

A number of taxa were identified that need population viability analyses (PVA). Two other "taxon of concern (Spheniscidae and Psophidae)" were also suggested for future scrutiny. The taxa needing PVAs are:

- Malaysian Pheasants - Khan/Bruning
- Yellow-eyed Penguin - (to be decided)
- Horned Screamer - (to be decided)
- Kagu - (to be decided)
- Nene - Jersey Wildlife Trust
- Hawaiian Crow - (to be decided)
- Bali Mynah (completed)
- St. Vincent's Amazon - D.Bruning/D. Jeggo



## Report from the CBSG Action Plan Data Base Group

The CBSG Action Plan Group met to discuss further development of CBSG Captive Action Plans and evolving relationships between CBSG and broader-based regional planning committees, such as the AAZPA Taxon Advisory Groups and similar groups in the U.K. and Australia/New Zealand.

It was proposed that the chairpersons of related regional advisory groups serve on CBSG Action Groups and that the latter focus their attention on strategic planning from a global perspective. CBSG Action Groups would generally be on the same taxonomic level as the comparable to the IUCN/SSC Specialist Groups in order to facilitate interface with these Groups.

The primary objective of the CBSG Action Groups would be to formulate recommendations for strategic program development and resource allocation, especially identifying priority taxa for captive breeding. To accomplish this goal, it will be necessary to have access to the most current information on the conservation status of various species, both in captivity and in the wild. Committees will therefore be in close communication with ISIS, the World Conservation Monitoring Center, and the regional Taxon Advisory Committees. Database formats are currently being developed to aid in strategic planning tasks.

Regional Taxon Advisory Groups would be responsible for providing the CBSG Action Plan Groups with relevant data on existing collections, for assessing regional priorities based on CBSG recommendations, and for implementation of regional plans. They would also be responsible for identifying research priorities and for documenting and disseminating relevant information on animal management and husbandry.

The following data need to be stored in a database system. The exact structure of the files still needs to be decided. The database should be composed of the following divisions:

### 1. Taxonomic

Data should include scientific name, English common name, local common name, and taxonomic reference. There is also a need to store alternative scientific names. Taxonomic uniqueness can be calculated from the database.

### 2. Geographic

Data to include geographical location, country name, and range (a general description using longitude and latitude). WCMC can provide information on distribution, geographic locations, and standard names for countries.

### 3. Wild

Data should include census (total census, if available; minimum/maximum, if not. This should be estimated where reasonable exact figures are not available and the degree of estimate should be entered), density range(s), trend in the wild, sub-populations, IUCN category (Red Data Book Category), type of habitat (description and standards provided by WCMC), status of habitat protection, habitat preference (pristine or dis-

The remaining comments address recommendations of the Group pertaining to miscellaneous items, as well as potential future avian workshops.

- Use Parrot Captive Breeding Action Plan as a model for future avian plans.
- Distribute Quattro and dBase formats on disks for action plan organizers to use.
- Form an avian subgroup to work with the Madagascar Fauna Group. Madagascar will be treated in the same fashion as a taxon with regard to an action plan. Mark Pigeon and David Watson are recommended as potential members of this subgroup.

The Avian Advisory Group recommends that the following workshops be conducted:

#### Threskiornitidae

Where: Wuppertal  
 Leaders: Wuppertal/Jersey  
 When: March 17-10, 1991  
 Funding: Approximate cost \$15-20,000.

#### Bucerotidae

Where: Singapore  
 Leaders: Sheppard, Poonswood, Worth, Brower  
 When: Fall 1991 (before or after IUDZG)  
 Funding: Approximate cost \$15-20,000. Assistance for funding sources to be sought from NYZS.

#### Accipitridae/Falconidae

Where: Boise, Idaho  
 Leader: Peter Jenny  
 When: Spring 1992  
 Funding: Approximate cost to be determined

## Small Felid Interest Group Report

Those interested in small felids who met at Kollekolle saw themselves as an extension of the AAZPA Felid Interest Group. There was limited discussion of the need to list the special species interests of various institutions, the viability of genetic material currently housed in zoos in Europe and North America, and the availability of fresh genetic material.

It was agreed that there was a need for prioritization of those species which would be good candidates for a propagation group. Prioritization is also necessary for species most urgently needing field study e.g. *Felis jacabita* and *F. badio*.



Opinions were exchanged on sponsorship and placement of surplus animals, i.e. existing animals extensively inbred or of questionable origin.

Several members of the Cat Specialist Group are actively involved in captive breeding. It has already been decided that CAT NEWS will contain more items on captive breeding. They will be compiled by Gail Foreman, the Cat Group's Research Librarian, who is also Research Director of the International Society of Endangered Cats (ISEC). Efforts will be made to extend the database of those interested in captive breeding of small felids.

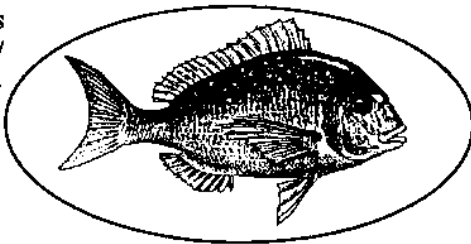
## Report of the Fish Working Group

### Desert Fishes

The following institutions have agreed to participate in the desert fishes SSP: New York Aquarium\*, New England Aquarium, National Aquarium in Baltimore, Belle Isle Aquarium\*, Shedd Aquarium\*, Columbus Zoo Aquarium\*, Dallas Aquarium\*, Arizona/Sonora Desert Museum\* (\*denotes institutions presently displaying or maintaining populations of species extinct in nature, officially designated as endangered or of special concern).

Paul Loiselle has secured material support for the Autonomous University of Nuevo Leon's desert fishes breeding center from Tetra (U.S.A.), a division of the German firm Tetra-Werke, a major manufacturer of aquarium products.

The second draft of formal proposal of collaboration between the New York Aquarium and the Autonomous University of Nuevo Leon that will permit the shipment of endangered Mexican fishes to foreign participants in the desert fishes SSP is presently under review by those agencies of the Mexican govern-



ment having jurisdiction in this area. These negotiations have engaged most of Loiselle's efforts over the past year. A decision is expected at any moment.

The preliminary draft of a proposal to reintroduce the extinct Monterrey playfish, *Xiphophorus couchianus*, to selected habitats within its former range have been prepared and submitted to Mexican authorities.

A proposal for a critical evaluation of goodeid populations and habitats in the Rio Ameca basin in western Mexico has been submitted to Mexican authorities. This investigation will entail collaboration between the New York Aquarium, the American Museum of Natural History, and the University of Guadalajara. The proposal has received preliminary approval and a decision on funding is pending.

In order to free Paul Loiselle to work exclusively on the problem of establishing a mechanism to bring critically endangered species into the program, two additional persons have been recruited to the committee. Dr. Howard Lawler (ASDM) has agreed to handle matters relating to American desert fishes and to bring together the information needed to establish a studbook for the desert pupfish, *Cyprinodon m. macularius*. Mr. Douglas Sweet (Belle Isle Aquarium) has agreed to coordinate program activities relating to Mexican live bearers of the Family Goodeidae and to assemble information necessary to establish studbooks for captive populations of those species extinct in the wild or of special concern due to deterioration of their habitats.

### Other Fishy Matters

The first direct importation of endangered Lake Victoria cichlids was made into the U.S. under a collaborative arrangement between the New England Aquarium, the Kenyan Fisheries Department, and a Florida-based importer of aquarium fish. Dr. Les Kaufman has sorted the imported fish and identified them to species. Participants in the Lake Victoria SSP can anticipate hearing more from him on this subject in the near future. Mr. Paul Sackley, New England Aquarium, has just returned from a collecting trip to Kenya.

Les Kaufman has submitted a revised studbook petition for Lake Victoria cichlids to the CBSG and has received an IMS Grant to fund the studbook development. An NSF Grant has also been received to help Kenyans do populations evaluations.

Observations made by Loiselle during several trips to the Peruvian Amazon over the past six years suggest that the arapaima, *Arapaima gigas*, has been severely impacted by over fishing and is

likely to experience local extinction in many areas within the decade. It is strongly suggested that the CBSG consider establishing an *Arapaima* SSP as soon as possible.

### Personal Communication from Les Kaufman

Current estimates are that only 25 percent of the fish species in Lake Victoria have been described with another 25

percent in survey collections, but not yet described and named. However, of these known species, 50 percent appear to now be extinct. Additionally, most of the fish currently being brought out of Victoria from new collecting sites are totally new species not represented in any reference collections. The major food species, *Oreochromis escalantes*, that was feared lost has been rediscovered in isolated populations not in the lake, but potentially available for breeding and reintroduction into the main body of the lake.

The recommendations put forth at the 1989 meeting in San Antonio continue to be supported as appropriate. There is also a need for institutions holding fish to address regional needs of freshwater fish species threatened by habitat destruction and pollution. This is timely, especially in North America and Europe, and will be a topic of discussion at the upcoming meetings of AAZPA and EUAC in September and October.

## Genome Preservation Group Report

At the first meeting of the Genome Preservation Group, it was recognized that information must be gathered and compiled. Therefore, it was recognized that:

1. People and institutions that are involved in the manipulation and storage of genetic material should be identified at the onset.
2. A directory of species and techniques involved in the manipulation and storage of genetic material should be compiled and include both animals and plants. It was noted that there may already be a compiled list for plants to include.
3. There is an independent value of germplasm banks from tissue banks in that they represent DNA storage and that there is an inexpensive way, in most situations, to store DNA.
4. There is a need to summarize and evaluate present germplasm banks and their viability as well as the criteria used to assess viability. However, "dead" germplasm should not be discarded as the DNA in the samples may be useful.
5. There is a need to emphasize the collection of germplasm/tissue from founder animals in Species Survival Plans.
6. Additional literature needs to be added to the initial collection of information in the CBSG book such that a reference list will be readily available identifying the state-of-the-art technology, e.g., the NSF booklet on Frozen Tissue Collections.
7. An outline needs to be produced that will simply describe collection methods for preserving genetic material for the present time while information is being gathered and coordinated so as not to miss opportunistic collections.
8. The workload needs to be distributed by putting together an international team. We have compiled an initial list and will seek others at the upcoming London Conference on Biotechnology and Conservation of Genetic Diversity.

## Herpetological Discussion Group Report



The discussion group considered the Herpetology Group Annual Report written by John McLain and made the following observations:

1. There is merit in the concentration of effort on geographical areas already selected for conservation attention by groups associated with CBSG efforts. However, the selection of target species from these areas for captive breeding needs more critical analysis lest resources be fully used up before all herp conservation needs are assessed.

2. The non-geographic special list of targeted species should be reviewed in collaboration with other specialist groups, particularly the Crocodylian Specialist Group and the Trade Specialist Group since the majority of the identified priorities involve crocodylians and pet and commercial trade problems.

In addition to the above, the discussion group recommended that the CBSG Herpetological Group, in consultation with other SSC specialist groups and professional herpetological societies:

1. Identify other conservation priority areas and taxonomic groups and then foster a wide-scale effort to breed representatives of as many genera and families as possible.
2. Conduct a survey of amateur communities as well as zoos and aquariums and academic facilities to determine overall capacities for breeding and long-term maintenance of amphibian and reptile populations in captivity.
3. Launch an education program among amateur herpetologists to integrate them into the breeding and husbandry programs needed for conservation and to encourage them to make the commitment of resources needed in cooperative programs. In this connection, establish model management programs and standards for captive breeding of amphibians and reptiles.
4. Recognize that captive breeding can serve conservation in different ways and therefore should be encouraged (e.g., taking pressure off wild populations by supplying demand from captive bred stock; short-term supplementation of wild populations momentarily impacted by natural or man-made disasters; etc.).
5. While noting the general paucity of long-term systematic information from field studies on the population status of amphibian and reptile species and the unlikelihood of adequate population viability analyses, we nevertheless urge that the CBSG Herpetological Group help develop with other herpetological groups a global plan and program of conservation priorities which considers the vast range of reproductive and population biology patterns, the ecological requirements, the evolutionary significance, and the conservation status of amphibian and reptile taxa and their habitat.



## Summary of Report on Indian Zoos

An official census of zoos in India has been done by Dr. J. H. Desai, Assistant Director, Wildlife Institute of India, reflecting 192 zoos in India under a variety of administrative bodies.

The Indian Zoo Directors' Association has been formed on an ad hoc basis. A president and four regional vice-presidents have been elected. The process of registering the association under government is continuing.

A National Zoo Policy has been finalized by a consensus of zoo directors and chief wildlife wardens and put in a final draft. This has been incorporated into the amendments to the Wildlife Protection Act which will be enacted into law in the next parliamentary session. In the Zoo Policy are provisions for improving species conservation and international cooperation. The Zoo Policy includes a provision for creation of a central coordinating body or Zoo Authority of India which would operate autonomously but under the Ministry of Environment, Forests, and Wildlife. This authority will coordinate all zoo activities including the conduct of accreditation examination to insure minimum standards of quality as well as organize a national breeding program.

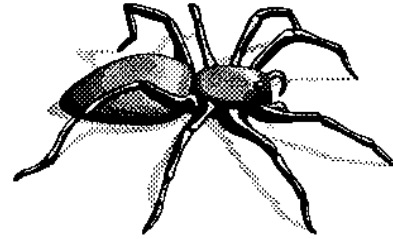
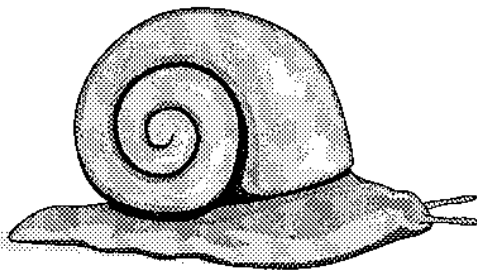
Studbook assignments have been revised and a number of zoos have begun the process of collecting information. The Musk Deer Studbook is complete and the Asian lion is nearly complete. A studbook of white tigers and those carrying gene for white color has been completed.

The Wildlife Institute of India has prepared a training program which includes various aspects of zoo biology including ISIS use. As of today there are 20 Indian zoos that are members of ISIS.

## Invertebrate Working Group Report

The following comments refer principally to papers provided at the 1990 CBSG meeting.

Appreciating the importance of invertebrates in the natural



world, the CBSG should endorse unreservedly the resolution (provided by Mark Collins) on the conservation of invertebrates. However, there is a need to evaluate the potential and precise role

of captive propagation in the conservation of terrestrial and aquatic invertebrates. To this end, data are required on which taxonomic groups have been bred successfully or have not been bred despite significant efforts and for which there is a significant interest with regard to captive propagation. This could be achieved by a postal survey and suggestions are available on who might be able to undertake this survey and its collation for the U.K. and the USA. This information does not exist for invertebrates in a centralized, easily accessible, and maintained form. Where information does not exist on the captive propagation of certain taxonomic groups, "model taxa" may need to be identified for the development of suitable techniques.

Methodology on the techniques for the population management of invertebrates in captivity is not available in a relevant form.

"Flagship" species which can become part of reintroduction programs and other zoo-based conservation efforts should be identified. However, "zoos" should devote some of their efforts to the conservation of locally-threatened species and not exclusively the "charismatic mega-invertebrates" from elsewhere in the world.

Advice on these and other actions regarding invertebrate conservation must be developed with wide consultation, including the SSC Invertebrate Specialist Groups and the newly formed Invertebrate Task Force.

The next update on *Partula* and its captive breeding program will be available after a spring 1991 meeting. This meeting is to be followed by a field visit to Moorea in the summer of 1991 to investigate the wild status of the snails in certain previously poorly-known areas of the island and to determine the feasibility of a reintroduction program at some time in the future.

Attention is drawn to the AAZPA and the U.K. Zoo Federation Invertebrate Groups, and the forthcoming (1992) AAZPA symposium on invertebrates. The formation of other regional invertebrate groups is recommended.

The proposal to investigate the cryopreservation of genetic material from endangered freshwater molluscs may have wider implications for the conservation of other invertebrates. Members of this review group can provide information on other workers in the field.

A forthcoming issue of the International Zoo Yearbook is to feature invertebrates. Papers are invited for submission to Peter Olney by January 1991. Intention to submit a manuscript should be confirmed as soon as possible.



## Report from the Marine Mammal Working Group

Recent improvements in facilities, husbandry, medicine, and an understanding of reproductive biology have led to an increase in the number of viable cetacean and pinniped births in captivity. The success of our primary goal is implied by the observation that several species of marine mammals, most notably *Zalophus californianus* and *Phoca vitulina*, appear to exist in self-sustaining captive populations. The development of a regional *Tursiops*' studbook is proceeding at the Antwerp Zoo for Europe. The Japanese Association of Zoological Gardens and Aquariums is in the process of developing studbooks for sea otters, otaria, Californian sea lions, common harbor seals, and Kuril harbor seals.

The general goal is to develop self-sustaining captive populations of marine mammals with long-term genetic and demographic viability as security for those species for the future.

The CBSG Marine Mammal Working Group makes the following preliminary recommendations:

1. To pursue the immediate development of an accurate and complete data base for all captive marine mammals through ISIS;
2. To develop regional studbooks for all species of marine mammals maintained in captivity.

## Report from the Philippine Fauna Group

Activities relating to the captive-breeding of species in the Philippines fauna this year have focused primarily on three animals: (1) the tamaraw (which is found only on the island of Mindoro and which is listed as "endangered" in the IUCN Red List of Threatened Animals), (2) the Philippine spotted deer (which occurs only on the islands of Panay and Negros and which is also listed as "endangered"), and (3) the Philippine cloud rats, of which there are two genera *Crateromys* and *Phloeomys*.

With regard to the tamaraw, in February this year a technical evaluation of the Tamaraw Conservation Program was carried out at the invitation of the Philippine government. This exercise was funded by IUCN and the London and Bristol zoos. It would appear that the Filipinos have approximately 14 tamaraw held in a 280-ha enclosure at present. This figure is unconfirmed because there have been no reliable records kept of births and mortalities in the captive breeding facility since the project began. There are several reasons for this, the two most important of which relate to extreme difficulty in gaining access during the

wet season and armed intimidation by NPA guerrillas.

For these and other reasons, a decision was taken to relocate the breeding facility to a more accessible location near Manila where contact with the tamaraw will be available all year and the dangers associated with armed insurgents will be avoided.

## Report from a Joint Meeting of the Philippine and Viet Nam Working Groups

Both the Philippines and Viet Nam have been identified as priority candidates for CBSG consortia. In the Philippines, this has led to a technical evaluation of the tamaraw project, the collection and establishment of in situ and ex situ breeding programs for the Philippine spotted deer, and a preliminary survey of cloud rat populations. In Viet Nam, considerable effort has been made to document the continued existence and location of kouprey, to build facilities, and to establish a captive breeding program for the species, to investigate the status of surviving Javan rhinos, and to survey the country's primates. The results of this projects have been reported and form the basis of the following recommendations.

1. That the Viet Nam and Philippine initiatives be consolidated under one umbrella program. This would streamline operations, maximize the use of restricted resources, reduce the perhaps unrealistic pressure upon a single project to succeed within a limited period, and facilitate the presentation of a cohesive coordinated front.
2. That a regional field coordinator be appointed. The coordinator should be based in the area and charged with developing the program, establishing long-term relationships in the country, and ensuring the efficient coordination and implementation of specific projects.
3. That there was an urgent need to respond to the Philippine government's request for assistance with the tamaraw, as indicated in the Tamaraw report. Currently, there are estimated to be thirteen (10.3) animals in the gene pool, another 1.1 in an enclosure within the gene pool, and another male being held at the capture site. The Government's decision to relocate the animals was endorsed by the technical evaluation report; funding and technical assistance are now being sought, but time is running out. The area is occupied by the New People's Army and elections scheduled for next year could result in the disappearance of established relationships with Government representatives.
4. That the scope and number potential species and the number of institutions involved be increased. Consolidation of the initiatives and appointment of a coordinator based in the region would facilitate both the expansion of the consortium and the implementation of the field program.

5. That it would be easier to fund and execute discrete projects within the overall program because of shared costs and increased efficiency gained with experience and continuity in the region.

6. That there is strong interest in the conservation of high-priority species in these countries and therefore collaborative agreements are needed between faunal groups and these governments at the highest level possible.

## Reintroduction and Gene Pool Management of Przewalski's Horse

At the 5th International Symposium on the Preservation of the Przewalski's Horse (Leipzig, DDR, 19-23 May 1990), a mechanism was agreed upon whereby the captive breeding community would offer its experience and animal resources to promote well-designed programs for reintroduction. A Global Management Plan Working Group (GMPWG) was formulated and a steering committee created to organize and administer the Group's activities in coordinating efforts to link the global management of the captive population with efforts to reestablish the species within its historic range.

### Objectives

1. Assist nations within the historic range of the species in evaluation of potential sites for acclimatization and release of Przewalski's horse.

2. Provide groups of captive-bred Przewalski's horses of appropriate ages and sex composition as well as appropriate genetic background for national programs of reestablishment and reintroduction.

3. Assist nations within the historic range of the species in the construction of facilities for acclimatization and release.

4. Assist nations within the historic range of the species in the training of personnel in aspects of project planning and management, husbandry techniques, research methodologies, animal health procedures, systems of animal record keeping, and in the development of programs for the long-term monitoring of released populations.

5. Ensure that complete representation of the Przewalski's horse gene pool is achieved in the separate release sites through multiple provisions of animals from the genetically and demographically managed captive population and through long-term monitoring of released populations.

6. Assist nations within the historic range of the species in establishing a total of five to ten wild populations consisting of at least 250 adult animals each and a total population size of at least 5,000 animals.

7. Manage the captive population to provide animals as

needed for the acclimatization and reintroduction programs while ensuring that the genetic variation and demographic security of the captive population is not compromised.

8. Maintain effective collaboration among the management authorities, scientists, and other project personnel in each nation within the historic range of the species with the Przewalski's Horse Global Management Plan Working Group, the regional management programs in zoological parks, and representatives of appropriate SSC/IUCN Specialist Groups.

9. Within suitable habitats and with appropriate collaboration with the Equid Specialist Group and CBSG, establishment of natural breeding regimes (in which several family units can coexist without regular human intervention) offers significant opportunities to increase the available knowledge of behavioral ecology, reproductive biology, and nutrition as model systems in support of pending reintroduction programs.

### Recommendations

1. The CBSG endorses the objectives, noting its role in facilitating the technical working session that resulted in the formulation of the objectives.

2. The CBSG endorses the GMPWG as the appropriate entity, working in consultation with CBSG, Equid Specialist Group, Veterinary Specialist Group, and Reintroduction Specialist Group, to develop a scientifically-based program for the management of the species gene pool and for collaboration with appropriate national authorities in the design and implementation of reintroduction programs.

3. The CBSG recommends to the SSC and the IUCN that they also recognize the GMPWG and endorse its objectives.

4. The CBSG recognizes that the GMPWG will necessarily have to raise substantial funds in order to achieve the stated objectives.

## Disease Risks Associated with Translocation Projects

The following is a Veterinary Specialist Group (VSG) position statement prepared by Dr. Michael Woodford, Chairman of the VSG:

The disease implications associated with the translocation of wild animals, whatever the motive for these operations may be, are broadly as follows: (1) A pathogen present at the source of the animals may be carried by them to the release site where it may present a hazard to indigenous wild or domestic animals; (2) The translocated animals, due to relative isolation at their source, may be immunologically naive and thus may succumb when challenged by new pathogens present at the release site. If this occurs a disease outbreak at the site may result in the failure of the translocation project and bring the technique into disrepute.

The source of founder animals for translocation may be

## Report from the Rhino Working Group

### African Rhinos

Wild populations of the black rhino continues to decline. John Knowles reported that poaching in Zimbabwe has increased in recent months. Other isolated populations appear to be suffering even more. Plans for the coordinated international in-situ and ex-situ support for the Zimbabwe black rhino population through the International Southern Black Rhino Survival Trust were updated. It is expected that Zimbabwe would sign the Memorandum of Intent allowing for this program to begin. A black rhino workshop is planned for Perth Zoo on the 23 November 1990, while an International Symposium on the Biology and Conservation of Rhinos will take place at the San Diego Zoo 9-11 May 1991.

Encouraging reports continue for the small wild population of the northern white rhino which is now increasing in numbers. Efforts to rearrange the captive populations of this race continue. A male has been moved from Khartoum to San Diego.

### Asian Rhinos

Discussions on a Javan Rhino Population Viability Analysis will continue at the Indonesian Rhino Workshop, planned for February 1991, which addresses the future of the Javan Rhino in Ujung Kulon. Concern was expressed over the future of the small population of Javan Rhinos believed to be in Viet Nam and it is recommended that the CBSG, through the Viet Nam Fauna Group, more rapidly assist these animals.

A male Sumatran Rhino has now been captured in Indonesia after relocating capture sites. Breeding activity has been reported from captive populations in Malaysia and the U.K.

Several Indian Rhino were exported from Nepal in the last year, where the wild population is on the increase. Poaching is on the increase in India but, to date, it is not affecting the population in Nepal.

Note was made of the excellent rhino-conservation newsletter, "Around the Horn" published by Kings Island Wild Animal Habitat.

## Update on the International Southern Black Rhino Survival Trust

*Zimbabwe.* The Minister of the Environment and tourism is expected to sign "Memorandum of Intent" in the next few days.

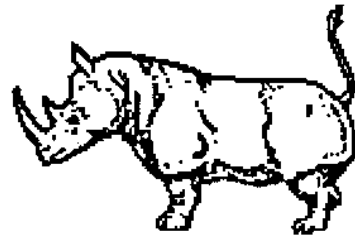
*IRT Trustees.* Two additions were made during the year; the Game Coin Representative is Lee Bass and the Australian/New Zealand Representative is Paul Garland. John Knowles is now the UK Zoo Representative.

*Participating Zoos.* Current estimates put zoo spaces available as 32 in the U.S.A. and >20 in Australia. Lord McAlpine is no longer participating in this program for the time being.

*Recent South African Sales.* Recent sales of the 2.3 black rhino by Natel Parks Board at \$250,000 (U.S.) each raised some concern over the future availability of animals for the IRT from Zimbabwe.

*Quarantine Requirement.* Because of more stringent testing and quarantine for Australian animals, it has been proposed that all Black Rhino be tested for the Australian conditions. Animals not passing Australian testing should be transferred to the USA. Ideally, this should be done via the Cocos Islands Quarantine Station.

*Catching and Transportation.* If approval is available soon, catching could begin within the next 60 days. No long-term holding is available in Zimbabwe. Some animals could be transferred to USA/ANS by the end of 1990.



## Report from the Waldrapp Ibis Working Group

### Status

The wild population is now seriously endangered with the collapse of the Eastern population in Turkey and the Western form in Morocco and Algeria reduced to no more than 300 birds. Uncertainties about the taxonomic relationship between the two wild races remain. The world-wide, captive population numbers at least 644 individuals. However, the population is not well managed. Very few details of sex and of parentage are recorded and for most colonies it is impossible to trace birds back to wild-caught stock. There is little information on how breeding success is distributed among birds within colonies. Many collections are facing difficulties finding suitable locations for surplus individuals; zoos are receiving birds with no information on their background; and potentially important wild caught birds are no longer identifiable. From what pedigree data are available, it seems likely that the entire captive population could soon be descended from only a limited founder stock.

### Recommendations

1. The CBSG recognises that the captive population urgently needs management. The two regional programmes (Europe and North America) should collect whatever breeding

data are available, as information for the international studbook is presently inadequate. Identification of wild-caught birds, the development of appropriate genetic studies at the family and population level, and the recognition of management problems should be a high priority for the regional coordinators.

2. The difficulties of assembling information for the international studbook are recognized. However, it will be important to maintain an overview of the population status internationally. The CBSG recommends that one of the regional coordinators assume responsibility for the international studbook, as they will have access to the data.

3. A meeting, to be held in Zurich in October 1990, should aim to establish the framework for the development of the EEP program and the relationship with WWF projects.

4. The CBSG recommends that a population viability workshop be held in the Spring of 1991 to examine and recommend conservation strategies for the species as a whole. The meeting should address the management of the wild and captive populations. In order to be effective, the meeting should be limited to about 30 people. Participants should include the CBSG Chairman, the regional coordinators, field biologists, representatives of wildlife departments in the countries of origin, the major captive breeders, a population biologist, a geneticist, experts on nutrition and husbandry, representatives of ICBP, representatives of the Stork and Ibis Specialist Group, representatives of WWF, and a biologist with experience in release and reintroduction techniques.

Wuppertal Zoo has kindly offered to host the workshop. It is recommended that plans be developed by Ulrich Schurer with advice from Ellen Thaler (EEP coordinator), David Waugh (JWPT), and the CBSG office. It is recognized that funding for travel, meeting expenses, and publication and dissemination of meeting materials will have to be sought in advance.

## Conservation Coordinators Report and Recommendations

The following recommendations to the CBSG were formulated at the Conservation Coordinators meeting in Amsterdam on 21-22 August 1990:

1. Recommend a Conservation Coordinators Committee be formally organized within CBSG to guide formulation and development of global propagation and management masterplans and programs. This group will consist of the conservation coordinators/directors of those regions or nations which have formally organized captive propagation programs (currently Australasia, British Isles, Europe, Japan, Netherlands, North America), the Executive Officer of CBSG, and several technical advisers. This group will coordinate and advise development of global programs in a manner similar to the way the regional

conservation centres conduct the regional programs. It is envisioned that where more than one viable regional program and population exists for a particular taxon, they will combine as equals to form a global program. A global taxon coordinator will be appointed with advice and consent of the CBSG Coordinators Committee. Where there are some animals in a region but little prospect that a viable population or program can develop in the near future, those institutions will be encouraged and advised by the Coordinators Committee to associate with one of the organized programs. Where too few animals exist worldwide for more than one viable population, the captive propagation program will be initiated as a global effort under the direction of the CBSG Conservation Coordinators Committee with later division into regional programs as the population expands.

2. Encourage and expand development of Captive Action Plans that provide recommendations for strategic allocation of captive resources at global and regional levels. Membership of each of the Captive Action Plan working groups should include representatives of the major organized regions of the zoo world, specifically including the chairs of the relevant AAZPA Taxon Advisory Groups, the British Joint Management of Species Groups, and EEP broad taxon management committees.

3. Propose that no specimens of species classified as endangered by various recognized authorities (Red Data Lists of the World Conservation Monitoring Centre, CITES, the U.S.A. Endangered Species Act, the relevant EEC legislation, and the Action Plans of the IUCN Species Survival Commission Specialist Groups) should be obtained from the wild by zoos and aquariums without the endorsement of the organized national/regional/global programs and the CBSG. Evaluation of proposed procurement of such specimens must be based on a Population Viability Assessment that would involve as participants the CBSG, representatives of organized national/regional/global programs for the taxa concerned, the relevant IUCN SSC Specialist Groups, ICBP Specialist Groups, other interested and involved conservation organizations, field researchers, managers and official governmental representatives of the countries of origin of the taxon, CITES and other regulatory authorities of the countries of proposed importation.

4. Suggest CBSG consider establishment of a steering committee to advise and assist the Chairman of CBSG on strategic development of objectives and activities.

5. Encourage CBSG to continue and expand publication of a calendar of forthcoming meetings and events in CBSG News. Also, that there be communication with the Conservation Coordinators Committee by any institution or individual interested in organizing a meeting or symposium in order to reduce conflicts of time and effort. Also recommend that CBSG News announce recent relevant publications.

6. Recommend that regional and central archives be established for all studbooks and masterplans. The regional archives should be in the respective conservation coordinators office. The global archives should be at the CBSG/ISIS offices and the World Conservation Monitoring Centre.

7. Encourage direct communication among taxon coordinators in various regions. National/regional conservation coordinators/directors and the CBSG Executive Officer should be included in the network for all such communication.

8. Encourage an attempt to reconcile and integrate the various global and regional databases and software being developed for captive propagation and management programs. Towards this end it is proposed a working group be formed to include ISIS and the various regional database and software developers. A first step might be an initial orientation meeting to identify problems and assess options for further pursuit of solutions.

9. Encourage more cooperation in training taxon coordinators in general and in particular the production of a standard taxon manager/coordinator manual through the joint efforts of

the EEP and SSP, with input from other national/regional programs and with review, editing, and hopefully endorsement by the CBSG.

10. Suggest that more regional and special CBSG meetings be organized to facilitate participation by particular constituencies, e.g., meetings in conjunction with regional propagation program conferences or professional taxonomic meetings or symposia (e.g., herp or bird groups).

11. Suggest that regional faunal groups (e.g., Indonesia, Madagascar) be organized at the global level but with prominent roles for regional interests and efforts.

12. Suggest CBSG consider preparation of a Zoo/Aquarium Conservation Strategy Document analogous to what has been produced by the world's botanic gardens.



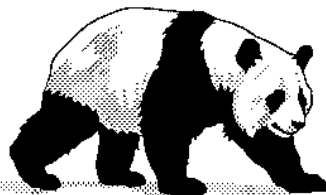
## CBSG Resolution on the Giant Panda (*Ailuropoda melanoleuca*)

RECOGNIZING that the Giant Panda is increasingly in need of urgent world-wide attention to protect and increase its population and maintain suitable habitat for the long-term survival of the species, and

REFERRING to the resolution made by the IUCN, General Assembly in Costa Rica, February 1988, regarding the Conservation of the Giant Panda, and

CONCERNED that uncoordinated initiatives to utilize and move Giant Pandas will delay the implementation of a concerted and effective, global action plan to preserve the species, the CBSG

RESOLVES that full attention must be given to develop and implement a global Giant Panda conservation and breeding plan to include movement of Giant Pandas out of the People's Republic of China and collaborative relevant research.



Consequently, it urges the international zoo community to impose a moratorium on any new initiative to move Giant Pandas out of their country of origin, or elsewhere, unless by way of a non-financial transaction specifically designed to enhance the propagation of Giant Pandas in the context of a global Giant Panda Conservation and Propagation plan.

The CBSG SSC/UICN URGES THE PEOPLE'S REPUBLIC OF CHINA (PRC) to facilitate a comprehensive plan for wild and captive Giant Pandas and requests present holders of Giant Pandas outside of the PRC to dedicate their animals to a collaborative program for these purposes.

The CBSG offers the Peoples Republic of China its services and cooperation to help develop a Comprehensive Giant Panda Conservation Plan.

## CBSG Resolution on Subspecies, Hybrids, and Introgression

RECOGNIZING that the definitions and uses of the concepts of biological species and subspecies have been changing as more is learned about the processes and patterns of divergence between biological populations, and

RECOGNIZING that hybridization and introgression can complicate further the classification of populations and the delineation of population boundaries, and

RECOGNIZING that the methodologies available to assess the distinctiveness of populations are rapidly increasing, and

RECOGNIZING that the biologically appropriate

assignment of populations to species and infra-specific categories is essential to the definition of programs for the conservation of biota, to the design of strategies for achieving conservation goals, and to the adequacy of legal instruments for conservation,

THE CBSG RECOMMENDS TO THE SSC that a conference of taxonomists, population biologists, conservation biologists, conservation managers, and legal experts be convened to discuss and clarify the most appropriate definitions and uses of specific and infra-specific categories for conservation efforts.



## Invertebrate Conservation Resolution Recommended

The following recommendation was set forth by Dr. N. M. Collins, Royal Entomological Society, for consideration for adoption at the 1990 IUCN General Assembly in Perth, Australia. It was endorsed by the CBSG.

### The Conservation of Insects and Other Invertebrates

RECOGNISING that there are over one million identified insects and other invertebrates, constituting at least three-quarters of the world's known species of animals and plants;

RECOGNISING FURTHER that unknown millions of species of insects and other invertebrates are believed to inhabit tropical rain forests and other rich, but poorly studied, environments;

ACKNOWLEDGING that insects and other invertebrates, by virtue of their long evolution, variety and adaptability, have colonised virtually all ecosystems on earth, many of them uninhabitable by other forms of life;

APPRECIATING that insects and other invertebrates are of economic importance as food, in soil processes, in controlling harmful species, as pollinators, in medicine, as indicators of environmental quality, and in monitoring ecosystem disturbance, pollution and change;

ALSO APPRECIATING that insects and other invertebrates are of enormous cultural, educational and aesthetic benefit to mankind;

RECALLING that insects and other invertebrates have proved to be of great value in the identification of key areas for the conservation of global biodiversity;

COMMENDING the Council of Europe's farsightedness in publishing the "Charter on Invertebrates" and the wisdom of the Committee of Ministers to Member States in adopting Recommendation No R(86)10 calling for governments to take account of the Charter when drawing up their management policies;

RECALLING that insects and other invertebrates are, amongst other wildlife, the subjects of international conventions, including CITES, the Bonn and Berne Conventions, and that many nations have legally protected threatened insects and other invertebrates;

CONCERNED that the main threat to insects and other invertebrates is destruction and degradation of natural habitats, that the richest habitats, those in tropical climates, are under growing threat, and that even in the temperate nations their habitat requirements of invertebrates are poorly understood;

CONSCIOUS that many insects and other invertebrates, particularly those endemic species inhabiting island ecosystems, have been brought to extinction through the accidental or purposeful introduction of alien species, and recalling IUCN Recommendation 17/51 in this regard;

BELIEVING that collecting of insects and other in-

vertebrates for science, education and curiosity is rarely damaging to their populations, but that commercial collecting for food or trade needs to be controlled at a sustainable level;

NOTING that efforts to protect invertebrates and their habitats, and to educate the general public, are being supported by the activities of a growing number of zoos and butterfly houses;

WELCOMING the formation by the National Federation of Zoological Gardens of Great Britain and Ireland of an Invertebrate Working Group and by the American Association of Zoological Parks of an Invertebrate Management Advisory Group, both aimed at promoting awareness, conservation and welfare of invertebrates;

AWARE that many nations have recorded the decline of their invertebrate faunas in Red Data Books, and that IUCN has published Red Data Books on Invertebrates and Swallowtail Butterflies;

THE GENERAL ASSEMBLY OF IUCN, at its 18th Session in Perth, Australia, 28 November to 5 December 1990:

CONGRATULATES the IUCN Species Survival Commission on the formation of an Invertebrate Task Force charged with developing a strategy for IUCN activities to conserve insects and other invertebrates;

URGES the IUCN Secretariat and IUCN members to provide support for the Task Force, and to make every effort to assist in the identification and execution of priority activities;

CALLS FOR support for the IUCN/SSC Specialist Groups concerned with invertebrates, and particularly for assistance from IUCN members in the implementation of published and forthcoming Action Plans for Swallowtails, Molluscs and other invertebrate groups;

URGES Governments to recognise that the primary threat to insects and other invertebrates is habitat destruction, and to draft their protective legislation accordingly;

RECOMMENDS that accidental and purposeful introductions of exotic species should be avoided as far as possible, and only undertaken after all other options have been eliminated and a full environmental impact assessment has been carried out and subjected to public scrutiny;

INVITES zoos and butterfly houses to strengthen their invertebrate displays, begin captive breeding programmes with a view to reestablishment of rare and threatened species, improve their educational facilities on invertebrates, and develop codes of practice on the welfare and management of invertebrates in captivity;

ENCOURAGES trade in invertebrates where this is shown to be based on sustainable practices that are not damaging to wild populations, and where there are conservation benefits in terms of public education and continuity of natural habitats;

CALLS UPON Governments to support integrated and multidisciplinary programmes of conservation science, applying taxonomy, ecology and other relevant scientific fields.



# Invertebrate Management Advisory Groups Formed



Two regional invertebrate groups have formed to address the need for a coordinated approach to invertebrate captive management. These are the Invertebrate Working Group (National Federation of Zoological Gardens of Great Britain and Ireland) formed in January 1987 and the Invertebrate Management Advisory Group (American Association of Zoological Parks and Aquariums) formed in September 1990. Shortly after the formation of the second group, Dr. Ulie Seal, Chairman CBSG, granted a request from the two groups for the formation a CBSG Invertebrate group.

Invertebrate specialists from the existing membership of CBSG will be recruited to form a core group; it will then be strengthened with experts and specialists outside CBSG. It is expected that the CBSG Invertebrate Group will initially consist of about twelve members. The group will be coordinated by three to four co-chairpersons, each representing a major regional group and allowing at least one co-chair in attendance at annual CBSG meetings. At present there are acting chairpersons for the North American and European regions and a need to identify two co-chairs from the Australasian region.

The CBSG Invertebrate Group will provide another dimension to the invertebrate conservation work being carried out by the SSC Specialist Groups. The objectives outlined below will give a global perspective to invertebrate captive management and conservation.

## Communication:

1. Promote formation of regional groups for invertebrate captive management and conservation.
2. Serve as a communication forum for regional representatives.
3. Network with SSC Invertebrate Specialist Groups, the Invertebrate Task Force, and other invertebrate management/conservation organizations.

## Education:

1. Promote global awareness of the vital ecological roles played by invertebrates, and particularly the need to conserve invertebrates as important natural resources.
2. Support the use of invertebrates as exhibit animals in zoos and aquariums, and as such, encourage the use of invertebrates as educational tools.

## Research:

1. Encourage research relating captive husbandry to conservation programs.
2. Promote development of new or improved captive husbandry techniques.
3. Encourage scientific alternatives i.e., cryopreservation.

## Conservation:

1. Coordinate global conservation efforts directed at specific regions.
2. Identify and develop flagship species for reintroduction or restocking programs of zoo-based conservation efforts.
3. Promote habitat preservation and in situ species conservation by using flagship and umbrella species as a focus for conservation programs.

Should you require further information please contact David G. Hughes - Glasgow Zoo, Phone - 041-771-1185, Fax - 041-771-2615 or Randy C. Morgan - Cincinnati Zoo, Phone - 513-281-4701, Fax - 513-281-2278.



## Gazelles (*Gazella saudiya*) Given to Wildlife Research Center

In February, 1990, the King Khaled Wildlife Research Center in Thuama, Kingdom of Saudi Arabia, took delivery of four *Gazella saudiya*. Known as Saudi dorcas gazelle or afri, the animals were a gift from Al Areen Wildlife Park in Bahrain to the Saudi Arabian National Commission for Wildlife Conservation and Development.

The group consisted of two adult females and two subadult/juvenile males. Two separate breeding pairs have been established and all matings will be planned in accordance with accepted principles of genetic management.

Individual pedigrees for the animals are not available and it is planned to construct a comprehensive genetic profile for each individual. Blood samples were submitted to the Population Genetics Unit of the Institute of Zoology in London for karyotyping. The chromosome number of *Gazella saudiya* is different from that of *Gazella dorcas* suggesting that it may be improper to refer to *G. saudiya* as the Saudi dorcas gazelle. A detailed report of these findings is in the process of being published. These findings are particularly important as the afri is apparently extinct in the wild, having not been seen for ten years.

At present, neither female appears to be pregnant and one male may be infertile. Although no offspring will be produced this year, there is hope that additional animals can be received from Al Areen.





*CBSG Chairman's Report...***Workshop Recommended to Study the Risk of Disease**

Disease, whether induced by viruses, procaryotes, or eucaryotes has long been recognized as an important selective factor in the evolution of all organisms on the planet. The numerous physiological and molecular mechanisms for recognition and defense against invasion by foreign organisms and mechanisms for repair of damage are especially prominent in vertebrates and present in all eucaryotes. We have come to appreciate the possibility that such challenges may be the most powerful selection forces acting on all life forms.

There has arisen a concern about the risk of diseases acquired in captivity being introduced into wild populations with the release or reintroduction of captive held and captive-bred wild animals. The suggestion has been made that this risk is sufficiently serious to totally preclude the use of such captive managed animals for releases into existing populations because of the danger of introduction of novel diseases that would escape detection in any conceivable quarantine or surveillance procedures. Returns would be permitted only when the species in question was extinct or 'moribund'.

Such concerns and the stringent prohibitions suggested would make difficult captive breeding programs for endangered species that are intended to provide populations that are managed in concert with the wild populations to increase the gene pool with genetic exchanges or to supplement populations that had fallen to critically low levels or suffered a catastrophic loss. There are many such programs for endangered species in progress at present and historically there have been a wide range of programs to support or supplement wild populations as a part of wildlife and game management programs.

Several recent events have served to focus these concerns. Documents for each of these examples accompany this letter. One was the recent ruling by the Center for Disease Control (Atlanta) that all primate imports be banned because of the finding of an Ebola-like virus responsible for deaths in several groups of imports. There is serological evidence that the antigen is widespread and that some animal handlers had seroconverted recently, although without any signs of illness. They further ruled that all captive born primate imports be banned. It was stated that captive born animals from individual zoos probably would not ever be allowed because of lack of resources to establish their lack of exposure or freedom from the disease.

Another example is the recent effort to establish a mainland colony of the Puerto Rican parrot as part of a recovery plan program. The concern has been expressed that such a move runs the risk of bringing new diseases to Puerto Rico if birds are brought back under any circumstances. Another example is the headstart program for sea turtles with the concern that these hatchlings will impact the wild population with acquired exotic diseases. More generally there has been a widely expressed concern about disease in other release programs which has led to

some care in quarantine and surveillance for diseases at the captive propagation facilities and at or near the site of release.

These fears of disease dispersal and the initial blanket prohibitions that are being offered adversely impact all present and planned programs for endangered species, that include handling or captive management, in the USA and abroad.

A feature of all of these discussions is the lack of data or information on the incidence or risks of disease either in wild or in captive populations. Thus the formulation of these concerns and recommendations is based upon individual experiences, preconceptions, 'basic principles', or the position that lack of information requires a 100% risk-adversive, protective response. These approaches do not take advantage of (1) the information that is available from many years of experience with release programs, (2) information on the incidence and distribution of diseases in captive programs, (3) information on the distribution and incidence of disease in wild populations, (4) the accrual of new knowledge about disease, its detection, and monitoring, and (5) the fact that disease has been a constant accompaniment of life on this planet. 'Disease' has likely been a major selective force in the evolution of vertebrates and of all life forms.

The potential adverse impact of these regulatory responses to such disease concerns on endangered species and captive breeding programs and a general lack of a suitable database for comparative risk assessments in wild and captive populations suggests the need for a combined effort to address the problems.

The CBSG, which is working in collaboration with the AAZPA, other regional zoo associations, IUDZG, and Veterinary Specialist Group, would like to request that your organization identify one or two people to join a working group to further formulate the problems and to plan a workshop to bring together the current state of the art on problems of disease risk assessment in wild and captive populations, comparative risk assessment, and development of strategies and protocols for the conduct of release programs to minimize the risks of introduction of new diseases into wild populations.

It is my impression that one of the needs will be the acquisition and assembly of much information that is available but widely scattered in individual institutions on disease outbreaks and mortality in captive and wild populations. Another need will be access to information on geographic distribution of individual diseases as they impact specific species. Also needed will be assessment of the efficacy of quarantine, monitoring, and surveillance procedures. I suspect also that the the potential impact of a sick animal or carrier on a wild population will be dependent upon the life history characteristics and social structure of the individual species.

It is our intention that working group meetings start early this fall with the objective of planning a workshop in the spring of 1991.



## AAZPA Conservation News

### Priorities of AAZPA Conservation and Science Programs

Wildlife conservation has been recognized as the AAZPA's primary objective. Long-term priorities include: (1) a reorganization and expansion of the Species Survival Plan (SSP), (2) the integration of the SSP with other regional breeding programs, in collaboration with the IUCN/CBSG, (3) the organization and expansion of science in support of the SSP, including greater collaboration with the academic community, (4) the development and facilitation of stronger linkages between zoos, aquariums and field conservation and (5) improved training opportunities for current and future SSP coordinators and support personnel.

### Chimpanzee Masterplan

The first SSP masterplan session for chimpanzees (*Pan troglodytes*) was held at the North Carolina Zoological Park from 11-14 July. Participants completed genetic and demographic analyses of the present populations and formulated breeding recommendations.

### SSPs Established for African Elephants and Gibbons

Two new SSPs have been established in North America: one for the African elephant (*Loxodonta africana*) and one for gibbons (*Hylobates spp.*). Species coordinators are Dale Tuttle, Jacksonville Zoological Park and Dr. Ron Tilson and Kathy Castle, Minnesota Zoological Garden, respectively. Mike Blakely, Kansas City Zoo has been named North American Regional Studbook Coordinator for the African elephant.

### Behavior Workshop

The 5th Annual Workshop on Applying Behavioral Research to Zoo Animal Management was held at Zoo Atlanta from 2-9 June, 1990. This eight-day workshop introduced zoo professionals to observational research methodology and illustrated how a knowledge of animal behavior can aid in the development of successful husbandry and breeding techniques. In the last five years, over 150 individuals from 50 different zoological institutions and universities and four countries have been trained. The 1991 workshop is tentatively scheduled for 8-15 June at the Metropolitan Toronto Zoo. For more information contact: Marilyn Cole, Metro Toronto Zoo, P.O. Box 280, West Hill, Ontario, Canada M1E 4R5.

### Conservation Biologist

Dr. Robert Wiese has been hired as AAZPA Conservation Biologist. Dr. Wiese recently completed his doctorate in Biology at Colorado State University. His dissertation focused on the demographic and genetic structure of small, introduced frog populations.

### Zoo and Aquarium Research Manual Available

The New York Zoological Society (NYZS) has published the first edition of its *Zoo and Aquarium Research Manual*. The manual details research-related protocols used by NYZS, including regulations for visiting scientists, methods for handling biological materials requests and animal welfare guidelines. Copies of the manual can be obtained from Dr. Dan Wharton, Curator, Animal Management Services, New York Zoological Society, 185th Street and Southern Boulevard, Bronx, NY 10460.

### Tree Kangaroo Publication Available

A publication titled "*The Biology and Management of Tree Kangaroos*" can be obtained by writing Miles Roberts, Deputy Director, Department of Zoological Research, National Zoological Park, 3000 Block Connecticut Ave. NW., Washington D.C. 20008. Edited by Miles Roberts and AAZPA Director of Conservation and Science, Michael Hutchins, the 39-page monograph contains four edited papers covering many aspects of tree kangaroo (*Dendrolagus spp.*) biology and captive management. Cost of the publication is \$10 (U.S.) and proceeds will be used to fund future publication projects of the AAZPA Marsupial and Monotreme Advisory Group.

### Annual Report on Conservation and Science

The AAZPA Board of Directors has approved plans to produce an *Annual Report on Conservation and Science*. The report will contain standardized summaries of the activities of the Association's Species Survival Plans (SSPs), Taxon Advisory Groups (TAGs), Consortia, Trusts and Task Forces, as well as a variety of other useful information.

### Taxon Advisory Groups to Form

Preliminary efforts are underway to establish new AAZPA North American regional taxon advisory groups (TAGs). TAGs will be responsible for regional strategic planning, including recommendations for new SSPs and studbooks. Those interested in receiving information should contact the following:

*Amphibians*: Bob Johnson, Metropolitan Toronto Zoo or Rick Paine, Buffalo Zoological Gardens

*Canids*: Roland Smith, Point Defiance Zoo and Aquarium or Jack Grisham, Oklahoma City Zoological Park

*Edentates*: Dennis Meritt, Lincoln Park Zoological Gardens

*Freshwater Fish*: Les Kaufman, New England Aquarium or Paul Loiselle, New York Aquarium

*Great Apes*: Terry Maple, Zoo Atlanta or Les Schobert, North Carolina Zoological Park



## News from Australia and New Zealand

### Regional Reorganization

At the 1990 Annual Conferences of the Association of Zoo Directors of Australia and New Zealand (AZDANZ), the following major changes were agreed to: 1) wind-up of the Association of Zoo Directors; 2) establishment of a Council of Governing Bodies of the Statutory Zoos of Australia and New Zealand, with Boards to be represented at Council meetings by their Chief Executive Officers; 3) formation of ARAZPA - Australasian Regional Association of Zoological Parks and Aquaria with full membership open to persons employed in zoological parks and aquaria who are interested in the professional management of zoos; and 4) formation of a Species Management Coordinating Council made up of three nominees of statutory zoos, with one from New Zealand and three nominees of ARAZPA, with one from New Zealand and one representing private zoos.

The above recommendations are subject to approval by the Boards of AZDANZ zoos, along with requests for funding support for the new bodies.

### Administration of the Species Management Program

Nominations to the new Species Management Coordinating Council were made as follows:

- Representing Statutory Zoos - Robert Baker (Adelaide Zoo), John de Jose (Perth Zoo), and Paul Garland (Orana Park Wildlife Trust).
- Representing ARAZPA - Richard Jakob-Hoff (General Curator, Auckland Zoo), Graeme Phipps (General Curator, Taronga Zoo), and Kevin Langham (Director, Tipperary Wildlife Sanctuary, Northern Territory).

At a brief inaugural meeting held at Auckland on 3 April Robert Baker was elected Chairman.

The Species Management Program will continue to operate under current arrangements, at least until the end of June, but on a maintenance budget as no additional funding has been allocated for this financial year. During this period the Species Management Council will consider its aims and objectives and any changes to operational procedures. A forward program and budget for 1990/91 will be developed in the light of responses from the Zoo Boards to the recommendations formulated during workshops at the New Zealand Conference.

### Species Management Workshops

A series of workshops was conducted this year to review Species Management Plans and the Species Management Program.

A Workshop for Species Coordinators was held at Healesville Sanctuary on 26-27 February for those not able to

attend the Annual Conference in New Zealand. The first day was devoted to discussion of population genetics and SMP/Studbook procedures for those who had not had any formal previous training. The second day was devoted to reviewing priorities for SMP's and to discussions on individual species including proposals to develop management plans for three new species. Recommendations were developed for consideration by the AZDANZ Business Meeting.

The Regional Coordinator subsequently extended the review to all Category 2 taxa and circulated a comprehensive set of recommendations. These were considered at a half-day Species Management Workshop held for all registrants attending the Christchurch segment of the Annual Conference. This meeting went even further, drastically pruning the list of species that we are trying to collectively manage.

The recommendations that resulted from these two workshops were adopted by the final AZDANZ Business Meeting at Christchurch on 30 March. These included reclassification of 46 Category 2 species to Category 3, because:

- 1) their small populations are not viable on their own and are best managed as sub-populations of other regional or international programs.
- 2) the current registered populations are not viable or are of uncertain ancestry and require proposals for viable programs, including importation of new stock or capture from the wild of animals of known provenance, before re-instatement.
- 3) they are of low priority and can be adequately managed via Species Management Guidelines and Studbooks, without full regional SMP's:

Recommendations to commence management plans for Sumatran Tiger (Category 3/SSP), Golden-shouldered Parrot (Category 2), and Lake Eacham Rainbow Fish (Category 2) were also accepted. This leaves four species in Category 1 and 25 species in Category 2 for a total of 29 taxa requiring regionally coordinated management.

Several recommendations covering databases and the future relationship between ARKS, ARMS, SPARKS, REGASP, and ISIS have been referred to Boards for consideration.

Concurrent with the Directors' meeting at Christchurch, an informal "CBSG" meeting was held to take advantage of the presence, as guest conference speaker, Dr Ulie Seal, CBSG Chairman. A range of regional conservation programs in New Zealand and Australia with actual or potential captive-breeding components were discussed.

During the Auckland segment of the Conference, a number of concurrent workshops were convened to commence development of Regional Plans for New Zealand Birds, Marsupials, Primates, Carnivores, Ungulates and Herps. Several staff from the New Zealand Department of Conservation attended the Auckland meeting and participated in these workshops. The

Ungulate group recommended extending the Regional Antelope Species Plan (RASP) to cover all Artiodactyls (no change to the acronym) and commencement of a separate Regional Plan for Perissodactyls.

#### Changes to Species Coordinator Appointments

The following appointments have been made:

- Andrea Miles, Melbourne Zoo, for the Grey Dorcopsis Wallaby, taking over from the Regional Co-ordinator.
- Lesley Muirhead, Adelaide Zoo, for the Brush-tailed Bettong, another species that has been in the Regional Co-ordinator's portfolio.
- Peter Stroud, Adelaide Zoo, for the Golden-shouldered Parrot.
- David Pepper-Edwards, Taronga Zoo, for the Sumatran Tiger.

#### Other Staff Changes

Dr Graham Mitchell, from the Walter and Eliza Hall Institute, has been appointed Director, Royal Melbourne Zoo, commencing late May. Gaye Hamilton, who has been Acting Director since June last year, on secondment from the Department of Education, has been appointed Assistant Director.

At Taronga Zoo, Dr Dedee Woodside has taken twelve months leave. Dr Leong Lim has been appointed Curator of Research and Conservation for the period. Graeme Phipps has been appointed General Curator. Judy Lanagan has resigned as Records Officer and has been replaced by Carol Bach.

Dr Sherri Huntress was appointed Curator at Wellington Zoo earlier this year. Joe Christman has taken up the new position of Curator at Orana Park Wildlife Trust, Christchurch. Both Sherri and Joe come to New Zealand from the Dallas Zoo, Texas.

*This report was submitted by Graeme G. George*

## Report from the Japanese Association of Zoological Gardens and Aquariums



The conservation of wildlife species in danger of extinction is one of the major tasks of zoos and aquaria today. The Nature Conservation Division of the Executive Committee of Japanese Association of Zoological Gardens and Aquariums (JAZGA) has been promoting activities to: 1) implement surveys on breeding rare animals, 2) collect data their population status, 3) maintain studbooks of rare animals in captivity, and 4) promote breeding loans, etc.

On 29 February 1988, JAZGA also established the Species Survival Committee Japan (SSC Japan) as a supplementary organization to the Board of Directors. While maintaining the species' hereditary diversity, the Species Survival Commit-

tee aims to secure breeding groups of animals in need of systematic conservation and multiplication efforts. The committee consists of a chairman, who is the president of the Association, area representatives, Nature Conservation Division staff of the Executive Committee, and other members of learning and experience.

International cooperation is indispensable for conservation of species. The role of the SSC Japan is to serve as an organization for sharing information with the SSC/IUCN, the CBSG, the International Union of Directors of Zoological Gardens (IUDZG), international studbook keepers, and the International Species Information System (ISIS).

In the 1988 and 1989 conferences of SSC Japan, 35 species in need of captive propagation were identified. Studbooks are being maintained on 33 of these. The species are arranged in eight taxonomical groups, with each group having a coordinator and a propagation plan priority for each species within the group. Under each group coordinator is a species coordinator and propagation group members. The species coordinator is usually the studbook keeper for the species. The species coordinators devise propagation plans. The plans devised are then submitted to conferences organised according to species. At these conferences, the Species Survival Committee attempts to implement breeding loans and transfer of animals. The group coordinators and species coordinators of the 35 species to be propagated are as follows:

#### Marsupials

Group Coordinator: M. Masui (Tama Zoo, Tokyo)

Koala, *Phascolarctos cinereus*: M. Masui (Tama Zoo, Tokyo)

#### Primates

Group Coordinator: S. Kotera (Japan Monkey Center)

Lion-tailed Macaque, *Macaca silenus*: M. Miyashita (Tennoji Zoo)

Concolour Gibbon, *Hylobates concolor*: T. Kikuchi (Takarazuka Zoo)

Orang-utan, *Pongo pygmaeus*: M. Yoshiwara (Tama Zoo, Tokyo)

Chimpanzee, *Pan troglodytes*: M. Yoshiwara (Tama Zoo, Tokyo)

Gorilla, *Gorilla gorilla*: S. Kotera (Japan Monkey Center)

#### Carnivores

Group Coordinator: T. Miyake (Nihondaira Zoo, Shizuoka)

Polar Bear, *Ursus maritimus*: M. Kosuge (Asahiyama Zoo, Asahikawa)

Lesser Panda, *Airulus fulgens*: T. Miyake (Nihondaira Zoo, Shizuoka)

Amur Tiger, *Panthera tigris altaica*: M. Gondo (Kobe Oji Zoo)

Cheetah, *Acinonyx jubatus*: T. Hayashi (Adventure World)

**Ungulates**

- Group Coordinator: M. Masui (Tama Zoo, Tokyo)  
 Asian Elephant, *Elephas maximus*: (Ueno Zoo, Tokyo)  
 Grevy's Zebra, *Equus grevyi*: Y. Sakakibara (Kyoto Zoo)  
 Malayan Tapir, *Tapirus indicus*: Y. Inatsu (Fukuoka Zoo)  
 Indian Rhinoceros, *Rhinoceros unicornis*: N. Akama (Yagiyama Zoo)  
 White Rhinoceros, *Diceros bicornis*: N. Akama (Yagiyama Zoo, Sendai)  
 Black Rhinoceros, *Diceros simus*: H. Otsu (Asa Zoo, Hiroshima)  
 Japanese Serow, *Capricornis crispus*: H. Kawamura (Higashiyama Zoo)

**Marine Mammals**

- Group Coordinator: C. Fujimoto (Enoshima Aquarium)  
 Bottlenosed Dolphin, *Tursiops gilli*: E. Mori (Kamogawa Seaworld)  
 Sea Otter, *Enhydra laris*: M. Furuta (Toba Aquarium)  
 Otaria, *Otaria byronia*: T. Isogai (Aburatsubo Marine Park)  
 California Sea Lion, *Zalophus californianus*: T. Isogai (Aburatsubo)  
 Larga Seal, *Phoca largha*: Y. Takahashi (Enoshima Aquarium)  
 Kuril Harbor Seal, *Phoca vitrina kurilensis*: T. Sumiyoshi (Kushiro Zoo)

**Birds**

- Group Coordinator: H. Kaneta (Maruyama Zoo, Sapporo)  
 Andean Condor, *Vultur gryphus*: K. Iguchi (Tokushima Zoo)  
 White-tailed Sea Eagle, *Haliaeetus albicilla*: M. Kamata (Maruyama Zoo)  
 Steller's Sea Eagle, *Haliaeetus pelagicus*: M. Kamata (Maruyama Zoo)  
 Blakiston's Eagle Owl, *Ketupa blakistoni*: T. Sumiyoshi (Kushiro Zoo)  
 Eagle Owl, *Bubo bubo*: H. Otsu (Asa Zoo, Hiroshima)  
 Red-crowned Crane, *Grus japonensis*: T. Komiya (Ueno Zoo, Tokyo)  
 White-naped Crane, *Grus vipio*: K. Nippachi (Saitama Children's Zoo)  
 Hooded Crane, *Grus monacha*: T. Hosoda (Tama Zoo, Tokyo)  
 Japanese White Stork, *Ciconia c. boyciana*: T. Hasegawa (Tama Zoo)  
 Bali Mynah, *Strunus rothchildi*: Y. Osaka (Nogeyama Zoo, Yokohama)

**Amphibians**

- Group Coordinator: H. Morimoto (Asa Zoo, Hiroshima)

- Giant Salamander, *Andrias japonicus*: Y. Fukumoto (Asa Zoo)

**Fish**

- Group Coordinator: H. Yoshida (Suma Sealife Park, Kobe)  
 Asian Arowana, *Scleropages formosus*: H. Yoshida (Suma Sealife Park)

Other news since the SSC Japan was organized in 1988:

(1) Koala: A Koala Propagation Group was formed by the seven zoo staffs which keep koala. Already more koala have been raised in captivity then have been imported from Australia. In November, 1989, one male was sent from Tama Zoo, Tokyo to Higashiyama Zoo, Nagoya as a breeding loan.

(2) Lion-tailed Macaque: Under the coordination of Mr. Gledhill, the international studbook keeper, Woodland Zoo, Seattle, USA, and Mr. Miyashita of Tennoji Zoo, Osaka, the domestic coordinator for the same, one pair was sent from the National Zoo, Washington, D.C. to the Tennoji Zoo for propagation. Mr. Miyashita attended to the Third International Lion-tailed Macaque Symposium which was held at the San Diego Zoo.

(3) Black Rhinoceros: Under the propagation program for the species, three rhinoceros were relocated between Hiroshima Asa Zoological Park, Osaka Tennoji Zoo, and Nagoya Higashiyama Zoo.

(4) Asian Arowana: In January, 1989, propagation for the species started using a part of the Big Exhibit Tank and an experimental tank of Suma Marinelife Park, Kobe under the cooperation of Himeji Aquarium, Ueno Zoo Aquarium.

**EEP - European Breeding of Endangered Species Program**



Submitted by Gunther Nogge

The EEP Conference 1990 took place 11-13 June 1990 at Cologne, Germany. Sixty-five delegates from 13 European countries attended. The main conference objective was to bring together all species coordinators in order to exchange thoughts and experiences and to discuss mutual problems including the use of computer software in breeding programs. Formal presentations were given on genetic and demographic aspects of breeding programs and general problems like founder representation, implementation of social structures in breeding programs, and genetic and biochemical techniques for assessing (sub)specific status of breeding program taxa.

To strengthen links between EEP and other regional coordinated breeding programs, reports were heard on the progress

on the Joint Management of Species Group (JMSG) presented by Dr. Miranda Stevenson and on recent developments of the Species Survival Plans (SSP) as well as the Captive Breeding Specialist Group presented by Dr. Tom Foose.

Presently, there are EEPs for 58 species including mammals, birds, and reptiles. More than 190 institutions from 25 European countries take part in one or more EEPs. Some of the EEPs are based on very low numbers of founders, so that global management was recommended for several species such as the black gibbon, Moloch gibbon, pileated gibbon, Douc langur, sloth bear, Anoa, and Dama gazelle.

A number of new EEPs were proposed including Sumatran tiger, clouded leopard, Grevy zebra, great Indian rhinoceros, and pygmy hippopotomas.

The expanding number of EEPs makes an executive office for the EEP necessary. However, in contrast to other regional programs, such as SSP and JMSG, there is no organization behind EEP. The EEP is a voluntary form of collaboration between zoological gardens in Europe. For the purpose of an EEP executive office, the EEP coordination committee now believes a formal all-European zoo federation has to be established. The European Association of Zoological Gardens and Aquaria (ECAZA) may serve as a nucleus for this. Zoos in countries outside the European Community and zoo federations will also be approached. Another opportunity to discuss a more structured cooperation of zoos in Europe will be the annual conference of IUDZG held in August in Copenhagen which is attended by representatives from all European countries.

The next EEP conference will be held in Budapest, 13-15 May 1991.

## Summary of Species Management Activities in the British Isles



This document briefly summarizes species management activities in the British Isles. Increasingly, these activities grow closer to other regional and international programmes, especially those of the EEP group.

The Joint Management of Species Group (JMSG) continues to develop coordinated captive breeding programmes for mammals and birds in the British Isles and Republic of Ireland. The activities of this group, which was formed in 1980, are overseen by a Steering Committee consisting of 13 Zoological Societies and Trusts. Fundamental to participation in JMSG breeding programmes is the memorandum of participation, whereby an institution agrees to abide by the decisions of a Species Coordinator who is charged with attempting to maintain a genetically diverse and demographically stable population. There are two levels of participation in JMSG programmes. A

Full Member of JMSG undertakes to manage cooperatively all the species targeted for coordinated breeding programmes, whether or not they are currently held. An Associate Member of JMSG agrees to only commit selected species held in its collection to the breeding programmes. Peter Bennett acts as the Executive Secretary for JMSG.

The JMSG has two schedules of targeted species for coordinated captive breeding programmes. As a priority, the JMSG gives consideration to species which are under threat in the wild or are likely to become so, and endeavors to respond to the recommendations of IUCN Specialist Groups. The species currently targeted are listed in Schedule A. The JMSG also coordinates the management of species which are of national importance to the British Isles zoo community (particularly for educational purposes) but which may not be endangered in the wild.

Over the past year JMSG has been active in organizing Species Management workshops, the genetic and demographic analysis of studbooks as a basis for making management recommendations, and surveys to assess current and projected capacity for various taxonomic groups. Over the last year, particular emphasis has been placed on primates and large cats. For example, a very successful meeting entitled 'Coordinated Breeding of Captive Primates' was organized by Miranda Stevenson and was held at Edinburgh Zoo on 24-25 April 1990. Introductory papers were presented on the aims and objectives of captive breeding programmes and the CBSG Primate Action Plan. Coordinators gave presentations during sessions conducted on lemurs and lorises, cebids, cercopithecines, colobines and macaques, callitrichids, and gibbons. Presentations were also made by field-workers on black lemur, diana monkey, colobus monkeys, and lowland gorillas. In addition, there was an evening workshop for species coordinators.

Recommendations resulting from the Edinburgh Primate Meeting include:

1) The next meeting of primate coordinators will take place at Paignton Zoo in early 1991. At this meeting a series of coordinators workshops will take place on primate species grouped according to whether they are competing for similar captive space. Neil Bemment and Roy Powell of Paignton Zoo are carrying out a survey of current and projected captive accommodation for primate species in the British Isles and Ireland. This survey will form the basis for allocating resources at this meeting.

2) A meeting of the Cotton-top Tamarin Management Group also took place at Edinburgh Zoo (this group comprises Rob Colley, Bill McGrew, Bryan Carroll, Miranda Stevenson, Peter Bennett). Cotton-top Tamarins are at capacity in the British Isles. The group recommended that the following actions be implemented in order to manage Cotton-top Tamarins: 1) no further importations, 2) no hand-rearing to be undertaken, 3) targeted females to be implanted, and 4) over-represented males to be vasectomized.

Animals will be targeted for implantation and

vasectomization after the genetic and demographic analysis of the population undertaken by Peter Bennett in 1988 is brought up-to-date with current data from the Regional Studbook.

The species management programmes for Great Apes continue to be coordinated by the Anthropoid Ape Advisory Panel which meets annually.

For birds, particular emphasis has been placed on assessing priorities and establishing coordinated breeding programmes for threatened parrot species. A species management workshop on parrots was held at Chester Zoo in February 1990. A workshop on cranes is planned for November 1990. Species management programmes for reptiles are organized by the Reptile Management Group and priorities for this group are being discussed at a forthcoming meeting at London Zoo.

The Invertebrate Working Group has been particularly active over the last two years.

Animal records are essential for developing species management programmes. Regional Studbooks are being established for an increasing number of species. In addition, 18 zoos in the British Isles are now using ISIS's software package ARKS to keep their animal records. Their data is centralized on National Online Animal Histories (NOAH) computer based at London Zoo and sent to ISIS. The hardware and software for NOAH is being upgraded in collaboration with the Dutch Federation of Zoos.

Sound husbandry practices are also essential for coordinated captive breeding programmes. The National Federation of Zoos has appointed a Research Assistant to develop detailed management guidelines for species maintained in captivity primarily through literature review.

For further details of species management activities in the British Isles contact: Dr. Peter Bennett, Conservation Coordinator, National Federation of Zoos, Zoological Gardens, Regent's Park, London NW1 4RY. Telephone: 071-586-0230. FAX: 071-722-4427.

## Schedule of Population Viability Analyses

Individuals having an interest in a particular threatened species, may wish to attend its Population Viability Analysis (PVA). Not all dates have been finalized at this time. Additional information on location, contacts, etc. may be obtained by contacting the CBSG office.

- Carribean Parrot PVA, February or March, 1991
- Lemur PVA, March, 1991
- Freshwater Mussels PVA, 1991
- Pink Pigeon, April 17, 1991
- Tana River Mangabey PVA, May or June, 1991
- Hornbill PVA, 24-26 September 1991
- Waldrapp Ibis, May or June, 1991
- Cranes, August, 1991

## CBSG Chairman's Schedule

For those having difficulty keeping up with the activities of the CBSG chairman, Ulie Seal, or having trouble believing that Ulie *really* isn't in the office when they call, we offer the below schedule for your information:

- Visit Australian zoos 14-22 November 1990
- SSC Steering Committee, November 24, Perth, Australia
- International Rhino Meeting, November 23, Perth, Australia
- SSC Meeting November 25-26, Perth, Australia
- IUCN General Assembly, November 28 - December 5, Perth, Australia.
- African Wild Dog PVA, 28-31 January 1991, Tanzania.
- Asian Rhinoceros PVA Workshop, January, 1991, Bogor, Indonesia

## Meetings...

**Gametes and Embryos of Animals—Storage and Manipulation**, 5-9 November 1990, Liblice, Czechoslovakia. Contact: Institute of Animal Physiology and Genetics, Department of Genetics, 277 21 Libechov, Czechoslovakia.

**IUCN General Assembly**, November 28-December 5, 1990, Perth, Australia. Contact: IUCN, Avenue du Mont-Blanc, CH-1196 Gland, Switzerland.

**Giant and Lesser Panda Conference**, 27-29 July 1991, Washington, DC, USA. Contact: Devra Kleiman, Smithsonian Institute, Washington, DC, USA.

**Wildlife 2001: Populations**, 29-31 July 1991, Oakland, California, USA. Contact: Dale R. McCullough or Reginald H. Barrett, University of California, Department of Forestry and Resource Management, 145 Mulford Hall, Berkeley, CA 94720, USA.

## Parting Shots...

Dr. Lee Simmons (Omaha Zoo) and Dr. Simon Stuart (IUCN Species Survival Commission) report that a kouprey survey team led by Dr. Roger Cox and Ha Dinh Duc was attacked by gunfire in the Yok Don Reserve, Vietnam, in mid-October. Three members of the team were wounded. No further information is available at this time. Simmons and Stuart (Co-ordinators of the Kouprey Conservation Trust) as well as Jim Dolan and Larry Killmar (San Diego Zoological Society) are still intending to proceed with their visits to Vietnam this fall to further development of the kouprey and other conservation programs. More later.



## Reader Survey

The CBSG needs information from our readers in order to develop an effective communication network. If you are interested in receiving this newsletter and in helping with the goals of the CBSG, please take a few minutes and complete the below questionnaire. *Current CBSG members do not need to complete this form.*

Title: Prof. \_\_\_ Dr. \_\_\_ Mr. \_\_\_ Ms. \_\_\_ Other \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Institution Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: (office) \_\_\_\_\_ Telefax: \_\_\_\_\_

My areas of interest and specialization are: \_\_\_\_\_

Are you interested in participating in the CBSG? Yes \_\_\_\_\_ No \_\_\_\_\_

Would you be interested in becoming a national correspondent for the CBSG News? Yes \_\_\_\_\_

Are you interested in continuing to receive the CBSG News? Yes \_\_\_\_\_ No \_\_\_\_\_

Thank you for your cooperation. Please remove this page and mail to:

**CBSG News**  
**12101 Johnny Cake Ridge Road**  
**Apple Valley, MN 55124 USA**



## Planning to Attend the 1991 CBSG Meeting?



If you are planning to attend the 1991 annual meeting of the CBSG to be held in Singapore, we would like to know in order that appropriate meeting accommodations can be arranged. We would also like to know if you plan to attend the Hornbill Population Viability Analysis to be held just prior to the CBSG meeting. *Completion and return of this information does not commit you to attend either meeting.*

I am planning on attending the following meetings (please mark one or both meetings):

Annual CBSG Meeting (27-29 September 1990) \_\_\_\_\_

Hornbill Population Viability Analysis (24-26 September 1990) \_\_\_\_\_

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

INSTITUTION: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

PLEASE COMPLETE AND RETURN TO: **CBSG**  
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*Completion and return of this information does not commit you to attend either meeting.*



# CBSG News



*Newsletter of the Captive Breeding Specialist Group  
Species Survival Commission  
International Union for the Conservation of Nature and Natural Resources*



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