

Formosan black bears are endemic to Taiwan and are kept at our center for conservation breeding. Wild bear habitats are threatened and there is a desperate need for the breeding of this species in captivity. Raptors such the crested serpent eagle, crested goshawk and honey buzzard are housed in an aviary and all these species are endemic to Taiwan. Disease-free animals are being released in their original habitat.

Conclusion

The rescue center will continue its effort to provide humane care for the confiscated and abandoned wild animals. It will also play a leading role in developing public educational programs to discourage pet trade and promote captive wild animal welfare in Taiwan. Rescue and rehabilitation centers in Thailand and Indonesia are collaborating with our center to rehabilitate confiscated gibbons and orangutans. The center also promotes wildlife conservation for local public through public education programs including specialized tours for high school and university students. Our center will co-ordinate with all rescue centers in South and Southeast Asia to promote captive wild animal welfare, wildlife conservation, research, management and public education.

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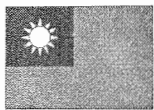
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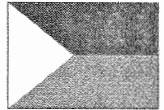
Table 1. List of mammals housed at Pingtung Rescue Center for Endangered Wild Animals, Taiwan ROC (Agoramoorthy, 1998).

Common name	Species name	Sex
Pygmy loris	Nycticebus pygmaeus	1.0
Formosan macaque	Macaca cyclopis	48.33
Long-tailed macaque	Macaca fascicularis	19.10
Pig-tailed macaque	Macaca nemestrina	1.0
White-handed gibbons	Hylobates lar	2.3
Silvery Javan gibbon	Hylobates moloch	0.1
Mueller's Bornean gray gibbon	Hylobates muelleri	2.2
Golden-cheeked gibbon	Hylobates gabriella	1.2
Borneo orangutan	Pongo pygmaeus	12.3
Tiger	Panthera tigris	3.3
Malayan sun bear	Helarctos malayanus	2.4
Chinese lesser civet	Viverricula indica pallida	1.1
Crab-eating mongoose	Herpestes urva	1.1



MANAGEMENT OF WILDLIFE RESCUE CENTER AND PROBLEMS ASSOCIATED WITH MAINTAINING CONFISCATED WILD ANIMALS IN THE PHILIPPINES

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Abstract

The Wildlife Rescue Center is part of the Protected Areas and Wildlife Bureau (PAWB) of the Department of Environment and Natural Resources (DENR), Government of Philippines. It is located within the Ninoy Aquino Park and Wildlife Nature Center in Quezon City. It was established during the early 1970's as a mini-zoo, primarily serving as an attraction to local visitors in 1992, it was developed as a wildlife rescue center in accordance with requirements of the regulations of the CITES convention.

The rescue center is divided into display/ holding facility, quarantine facility and enclosures. There are 51 holding cages, three quarantine units and two large enclosures capable of housing deer and other larger mammals. It presently houses 775 individuals of wild fauna, of which 315 are endemic and 460 are exotic species. Part of the Center's management protocol includes quarantining of newly confiscated and donated wild fauna, health monitoring, maintenance of sanitation, provision of proper diet, observance of feeding regime, and maintenance of individual records. The problems associated with maintaining confiscated animals include insufficient facilities, manpower, equipments, and national policy on wildlife conservation.

Introduction

The Wildlife Rescue Center is located within the Ninoy Aquino Park and Wildlife Nature Center, Diliman, Quezon City, Philippines and is directed by the Department of Environment and Natural Resources-Protected Areas and Wildlife Bureau. The Center occupies an area of about 3,000 sq. m. It was established in 1969, initially as a Mini-Zoo, serving as an attraction for Park visitors.

In 1992, it was established as a Wildlife Rescue Center in pursuit of the Philippine Government's international commitment to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES). As a Wildlife Rescue Center, it currently serves as a repository for confiscated and donated wild faunal species and as a training ground for students on veterinary care and management. Ultimately, the WRC aims to serve not only as a Model Wildlife Rescue Center, equipped with adequate trained personnel and necessary facilities for rescue and rehabilitation of injured, confiscated and donated wild fauna but as an education and research facility for academic and scientific communities in the Philippines.

Current Facilities, Manpower and Budget

The DENR-PAWB Wildlife Rescue Center features a quarantine area, a display area, a laboratory and an administrative office. The display

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area occupies the biggest portion of the Center. It has 51 holding cages/ display enclosures with sizes ranging from 2m X 4m X 5m to 3m X 6m X 3m. It has also 3 units of quarantine enclosures each measuring about 3m X 6m X 3m and bigger enclosures for deers and other larger mammals.

The Center is being manned by 17 personnel, with 3 performing technical/supervisory functions. The rest are either animal caretakers or laborers.

The Center used to operate at a meager budget of P2,500.00 per day for animal maintenance purposes, exclusive of salaries and wages of staff. This year, an amount of P5.0M was granted by the national government for the improvement/upgrading of the current facilities. This amount was taken from the revenues generated by the Park from entrance, parking and filming fees and charges from use of Park facilities (e.g. picnic tables, cottages).

Current stock

The Center is presently maintaining a total of 773 individuals of wild fauna and 315 are endemic/ resident species while 458 are exotic. Our stocks are dominated by reptiles numbering to about 344, followed by birds 295, mammals 126 and arthropods 8. A complete list of animals currently being maintained at the Rescue Center is shown in Table 1.

Management protocol

1. Quarantine

New arrivals are placed under physical check-up and laboratory examinations to determine their health status. They are being investigated for possible wounds/ injuries and external parasites. Blood and fecal samples are obtained for laboratory examinations for possible internal parasites and/ or infection. This process is being done in collaboration and assistance of the Bureau of Animal Industry, private company or the University of the Philippines Diliman Veterinary Hospital. Deworming, when necessary, is applied within the first week of confinement. After this process wild fauna are placed in close observation and quarantine period on the following schedules:

Psittacines - minimum of 45 days

Other birds - 30-35 days or longer if deaths occur during quarantine

Primates and other mammals - 60 days

Reptiles - 30 days

2. Health monitoring

All animals undergo regular physical and laboratory examinations every six months as part of health monitoring activities. Daily inspections are also done to detect any symptoms of abnormality. Cases needing treatment/ laboratory measures are immediately isolated.

3. Diet and feeding

Except for carnivorous animals which are fed once a day only, all other wild fauna at the Center are fed twice a day, i.e. 9:00 in the morning and 2:00 in the afternoon. Diet varies depending on species. Vitamin supplements are also being provided daily or thrice a week depending on the condition of the animal. Clean drinking water are made available at all times.

4. Sanitation and hygiene

All left-over food are immediately removed from each cage two hours after feeding. Feeding and drinking utensils are cleaned and disinfected thereafter. Cleanliness of the cages/enclosures and premises of the Center are also observed at all times.

5. Records

Individual animal file contains all historical and clinical records, i.e. source; given name; date turned over; mode of transfer; associated court case and status, if any; individual characteristics; injuries/ wounds sustained or sickness/ disease diagnosed and measures/ treatment applied, if any; and other information. These files are updated from time to time.

6. Reports

The Center is required to submit a monthly inventory and status reports to the Director, PAWB and Resident Auditor. Necropsy and natality reports are also submitted as called for.

General policies:

1. Commercial/ TV/ Movie filming at the Center and use of cameras with flash are not allowed.
2. Access to the Center is subject to entrance fees of P8.00 for adults and P5.00 for young children with ages from 5 years and above, including students. Children 5 years and below, including disabled and senior citizens are given free entrance.
3. Animals at the Center remain property of Philippine Government and their disposition is governed by DENR Administrative Order No.97-17.
4. Feeding/ offering of food by visitors is strictly prohibited.
5. Visitors are only allowed in the designated pathwalk/ trail.
6. Practicum/ internship by students at the Center is subject to permit granted by the Director, PAWB.

Problems in managing the Center

Insufficient facilities and equipment

Since the Philippine Government strengthened its campaign on illegal collection and trade of wildlife through the creation of Wildlife Monitoring Teams, the Center has been receiving confiscated and donated wildlife beyond its carrying capacity. This resulted to overcrowding at the Center. One cage which can normally accommodate 4-5 individuals now houses more than 20 individuals. Also, some animals remain in the quarantine cages longer than necessary because of inavailability of holding cages.

The laboratory, which also serves as the clinic, is also quite small (about 9 sq.m.) to accommodate patients needing confinement. Equipment for laboratory and clinical examinations are likewise limited. As of date, the Center is equipped only with a compound microscope, centrifuge, medical oxygen, freezer and refrigerator. It does not have hospital, diagnostic equipment and other life-saving devices.

Bacterial/ fungal isolations are done in other facilities outside the Center. Also, dead animals are stocked at the freezer awaiting availability of outside facilities to stuff the animals. Often dead bodies are buried rather than preserved for education or museum specimens.

Although the Bureau recognizes this lack of facilities and equipment, the Bureau does not have sufficient funds to address the same. Also, the annual appropriation for the Center's operation does not provide for funds specifically for capital and equipment outlays, and therefore, utilization of appropriation for the purpose is not allowed under the Philippines Government's accounting and auditing rules and regulations.

This year, however, it is hoped that some necessary equipment can be purchased and structures can be developed from the P5.0M trust fund provided by the Government.

National Legislation on Wildlife

The existing law specifically for wildlife conservation and protection was enacted in 1916. This law, which is Republic Act 2590 entitled, "An Act for the Protection of Game and Fish", provides minimal fine penalty of not less than P10.00 but not more than P200.00.

Imprisonment of not more than 30 days may only be imposed in case of subsequent offenses and at the discretion of the court.

The NIPAS Act of 1992 provides a higher penalty of not less than P5,000 but not more than P500,000.00 or imprisonment of not less than one year but not more than six (6) or both the fine and imprisonment for hunting, destroying, disturbing, or possessing any plant or animal or products derived therefrom without permit. However, this only applies to illegal wildlife collection and other illegal activities done inside a protected area.

One significant development, however, is the approval of Executive Order (EO) No.247 regarding research, collection and utilization of the country's biological and genetic resources. This provides that illegal collection and use of the country's resources shall be subject to perpetual ban from undertaking research/ collection activity in the Philippines; confiscation of illegally collected resources and paraphernalias in favor of the Philippine Government; and publication of violation committed, nationally and internationally. However, the EO also makes use of the provisions of other existing, appropriate legislations as regards to imposition of other penalties, which includes RA 2590 and 7586. In effect, the penalties of fine and imprisonment as provided in these Acts are the ones being imposed.

Also, there is no legislation yet to strictly address importation of wildlife. While the Philippines is a member of CITES, its international rules and regulations cannot be applied nationally unless a local legislation is passed.

To address these problems, the DENR, in collaboration with other agencies/ organizations, formulated a bill in 1993 entitled, "An Act Providing for the Protection and Conservation of Wildlife Resources and Their Habitats, Appropriating Funds. Therefore, and for Other Purposes". Unfortunately, the bill is still pending at the Philippine congress awaiting sponsorship from interested senators. The PAWB has already solicited the assistance of Sen. Leticia Ramos-Shahani and Sn. Vicente Sotto III for the passage of the bill during the forthcoming Tenth Congress.

Inadequate manpower

As mentioned in the preceding section, the Center is manned only by 17 personnel. The Center has two (2) veterinarians and one administrative staff who handles the technical and administrative matters, respectively. The Center does not have a biologist, taxidermist, and other personnel of appropriate field of expertise to operate the Center more effectively. The Bureau cannot hire additional personnel in view of budgetary constraints.

Other measures being taken

These problems are being addressed by PAWB within its limited capability and resources. The measures being taken by Bureau are as follows:

1. Improvement/ upgrading of capacities - As mentioned earlier, funds in the amount of P5.0M was granted for the improvement/ upgrading of the Center's facilities. Plans have been prepared and actual structural development is to start very soon. Also, lack of technical expertise is gradually being addressed through solicitation of any attendance to local and international training opportunities.

2. Registration and accreditation of zoos and wildlife facilities of private individuals - in 1995, the DENR-PAWB started accrediting zoos and wildlife facilities of private collectors, including their wild faunal stock. This measure is aimed at controlling illegal collection and trade of wildlife, generating support by the private sector to conserve and propagate the species, legalizing private collections, and therefore minimizing confiscations. The filing of application for registration and accreditation is until 31 December 1997 only. Thereafter, all

possessions not registered and accredited by the DENR-PAWB shall be confiscated. As of date, 44 facilities have been accredited by our office. Two of these have been designated by the DENR as Wildlife Rescue Centers for DENR Regional Offices.

3. Disposition of Excess Animals - To address overcrowding of animals at the Center, PAWB initiated the formulation of a policy to dispose excess animals at the Center. This policy, approved as DENR Administrative Order No.97-17, is entitled "Establishing the Disposition program for confiscated and Donated Wild Fauna in the Custody of DENR Wildlife Rescue Centers and Similar DENR Facilities". Under this Order, PAWB is allowed to dispose excess animals either through release to their natural habitat, transfer to other agencies for official use, loan, exchange, donation, sale, or euthanasia. Exotic animals are allowed to be disposed of through repatriation to the country of origin or other range state. As of date, 4 exotic animals have been repatriated, such as two (2) white-handed gibbons (*Hylobates lar*) and two (2) drill monkeys (*Mandrillus leucophaeus*). The gibbons were repatriated to Thailand last August 1996 while the drill monkeys were repatriated to Lagos, Nigeria on 25 July 1997. Also, 55 individuals have been transferred to other government agencies or loaned to scientific/ academic institutions/registered zoos/ private facilities for propagation, educational and/ or research purposes.

Table 1. Inventory of Wild Animals at the DENR-PAWB Wildlife Rescue Center as of 31 July 1997

Common name	Scientific name	Quantity (hd)
A. Aves		
1. White-breasted sea eagle	<i>Haliaeetus leucogaster</i>	15
2. Purple heron	<i>Ardea purpurea</i>	3
3. Grey heron	<i>Ardea cinerea</i>	1
4. Rufous night heron	<i>Nycticorax caledonicus</i>	8
5. Small egret	<i>Egretta garzetta</i>	1
6. Intermediate egret	<i>Egretta intermedia</i>	1
7. Gray imperial pigeon	<i>Ducula pickeringii</i>	2
8. Blue-naped parrot	<i>Tanygnathus lucionensis</i>	12
9. Spotted dove	<i>Streptopelia chinensis</i>	6
10. Red-sided eclectus	<i>Eclectus roratus</i>	5
11. Philippine eagle owl	<i>Ninox scutulata</i>	3
12. Palawan talking mynah	<i>Gracula religiosa</i>	16
13. Philippine serpent eagle	<i>Spilornis holospilus</i>	8
14. Bleeding heart pigeon	<i>Gallicolumba spp.</i>	2
15. Rufous hornbill	<i>Buceros hydcorax</i>	3
16. Rose-ringed parakeet	<i>Psittacula krameri</i>	17
17. White-eared brown fruit dove	<i>Phapitreron leucotis</i>	2
18. Brahminy kite	<i>Haliastur indus</i>	58
19. Jungle fowl	<i>Gallus gallus</i>	2
20. Pompadour green pigeon	<i>Treron pompadour</i>	1
21. Indonesian hornbill		1
22. White cockatoo	<i>Cacatua alba</i>	11
23. Lesser sulphur crested cockatoo	<i>Cacatua sulphurea</i>	4
24. Red-vented cockatoo	<i>Cacatua haematuropygia</i>	2
25. African grey parrot	<i>Psittacus erithacus</i>	7
26. Orange-winged amazon	<i>Amazona amazonica</i>	7
27. Red-bellied macaw	<i>Ara manilata</i>	2
28. Indian Peacock	<i>Pavo cristatus</i>	3
29. Rainbow lory	<i>Trichoglossus haematodus</i>	3
30. Philippine hanging parakeet	<i>Loriculus philippensis</i>	11
31. Colecto	<i>Sarcops calvus</i>	1
32. Red and blue lory	<i>Eos histrio</i>	10
33. Scops owl	<i>Otus megalotis</i>	3

Common name	Scientific name	Quantity	Common name	Scientific name	Quantity
34. Changeable hawk eagle	<i>Spizaetus cirrhatus</i>	2			
35. Zebra dove	<i>Geopelia striata</i>	19			
36. Black-capped lory	<i>Lorius lory</i>	2			
37. Chattering lory	<i>Lorius garrulus</i>	7			
38. Red-billed barrot	<i>Pionus sordidus</i>	2			
39. Dwarf turtle dove	<i>Streptopelia tranquebarica</i>	8			
40. Grass owl	<i>Tyle capensis</i>	3			
41. African love birds		2			
42. Black-masked lovebird	<i>Agapornis personata</i>	2			
43. Cockatiel	<i>Nymphicus hollandicus</i>	11			
44. Red-shouldered macaw	<i>Ara nobilis</i>	3			
45. Large-billed parrot	<i>Tanygnathus megalorynchos</i>	2			
46. Black-crowned night heron	<i>Nycticorax nycticorax</i>	2			
B. Mammalia					
1. Palawan bear cat	<i>Arctictis binturong</i>	2			
2. Philippine civet cat	<i>Paradoxurus hermaphroditus</i>	6			
3. Palawan bearded pig	<i>Sus barbatus</i>	1			
4. Philippine deer	<i>Cervus mariannus</i>	7			
5. Fallow deer	<i>Dama dama</i>	2			
6. Philippine monkey	<i>Macaca fascicularis</i>	97			
7. Patas monkey	<i>Erythrocebus patas</i>	1			
8. Grivet monkey	<i>Cercopithecus aethiops</i>	3			
9. Yellow baboon	<i>Papio hamadryas cynocephalus</i>	1			
10. White-handed gibbon	<i>Hylobates lar</i>	1			
11. Philippine cloud rat	<i>Phloeomys pallidus</i>	1			
12. Lesser tree squirrel	<i>Callosciurus spp.</i>	4			
			C. Reptilia		
			1. Indian python	<i>Python molurus</i>	4
			2. Philippine/ Freshwater crocodile	<i>Crocodylus mindorensis</i>	3
			3. Saltwater crocodile	<i>Crocodylus porosus</i>	1
			4. Red-eared slider	<i>Chrysemis (Trachemys) scripta</i>	29
			5. Variable monitor lizard	<i>Varanus salvator</i>	8
			6. Asian box turtle	<i>Cuora amboinensis</i>	230
			7. Caiman crocodile	<i>Caiman crocodylus</i>	1
			8. Reticulated python	<i>Python reticulatus</i>	10
			9. Boa constrictor	<i>Boa constrictor</i>	6
			10. Ball python	<i>Python regius</i>	2
			11. Common iguana	<i>Iguana iguana</i>	25
			12. Sailfin lizard	<i>Hydrosaurus postulosus</i>	3
			13. Burmese python		1
			14. Indian thorn turtle	<i>Pyxidea mouhoti</i>	1
			15. Philippine cobra	<i>Naja naja</i>	2
			16. Dog-faced water snake	<i>Hurria rynchops</i>	2
			17. Soft-shelled turtle	<i>Trionyx sp.</i>	3
			18. Tegu	<i>Tupinambis teguixin</i>	2
			19. Plated lizard	<i>Gerrhosaurus sp.</i>	3
			20. Savanna monitor lizard	<i>Varanus exanthematicus</i>	1
			21. Yellow anaconda	<i>Eunectes notaeus</i>	2
			22. Giant velvet gecko	<i>Cedura sp.</i>	1
			23. Spiny-tailed agamid	<i>Uromastix aspera</i>	2
			24. Pacific boa	<i>Condoia bibroni</i>	2
			D. Arthropods		
			1. Choco millipede		1
			2. Black millipede		2
			3. Pink-toed spider		2
			4. Tarantula		3



GIBBON REHABILITATION PROJECT OF THE WILD ANIMAL RESCUE FOUNDATION OF THAILAND

Chisanu Tiayacharoensri



Abstract

The Gibbon Rehabilitation Project was founded by T.D. Morrin during 1992 in Bang Pae forest reserve, Thailand. Large number of abandoned, unwanted and confiscated gibbons, mainly the white-handed gibbons have been brought to the project for rehabilitation. All arriving gibbons are tested for diseases and medicines were given for de-worming. To date, two animals have been tested for Hepatitis-B. Diseased animals are separated for treatment and monitoring. Captive gibbons are fed with a mixture of fruits and vegetables. Human contact with gibbons have been minimized. Animal keepers are advised to wash their hands before and after feeding or handling the gibbons to avoid Salmonella contamination. Disease-free gibbons are selected for release and are put into large cage at the release site in order for the gibbons to adjust to their new environment. A week later, the cage door is opened and the gibbons begin to explore the forest. It is important to have the collaboration of gibbon pet owners, wildlife veterinarians, forestry department personnel and field primatologists to carry out the rehabilitation and release work in a professional manner. It is also essential to educate the local community to understand the importance of this project and gibbon conservation in Thailand.

Introduction

Gibbons are arboreal, monogamous apes and they inhabit the tropical rain forests of south-eastern Asia. They are distributed from Assam in the northwest, eastward to Vietnam and southern China, south through the Malay Peninsula to Sumatra, Borneo, Java, and the Mentawai islands (Groves, 1972; Chivers, 1997). Gibbons are decreasing rapidly throughout Southeast Asia. Selective logging has affected the activity budgets and altered the distribution of their food resources without apparent change in their range sizes. Hydroelectric development projects are also causing serious concerns about their survival. In Thailand, gibbon are collected for pet trade and also eaten as food in rural areas. More recently, baby gibbons are being used by tourists to have their photos taken. Gibbons are protected by law in Thailand.

Problem overview

Early in 1992 Wild Gibbons in Thailand were gradually declining in number as poaching and pet trade took their toll. Enforcement of the ban on primate exports has caused an accumulation of unwanted animals in captivity in Thailand. The proposed center for gibbon conservation