

INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE

CROCODILE SPECIALIST GROUP

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Africa

Sierra Leone: The British Herpetological Society newsletter 19:18 carried a note on Osteolaemus tetraspis from Robert H G Lowes in Sierra Leone, West Africa. A reserve is being developed for the dwarf crocodile where hopefully, numbers will increase and the surplus can be re-introduced into former habitats. If the project is successful similar reserves would be developed for the other two endemic crocodiles as well. Lowes' address is c/o Rehabilitation Project, P O Box 72, Magburaka, Sierra Leone, West Africa.

Gabon: James Powell's note on C. cataphractus has been circulated to the Group but is reproduced below for the benefit of non-members:

"As crocodilian studies were not the primary objective of my field work in Gabon during the winter of 1979, I only came by a few data, summarized below:

"The study area comprised the Ogooué River from the Albert Schweitzer Hospital at Lambarene upstream to the point where it is joined by the N'gounie, thence up the N'gounie to a point approximately midway between where the Ikoy flows into the N'gounie and where the N'gounie flows into the Ogooué: a distance of about 60 miles. I had been told by Protestant missionaries in Libreville that this section of N'gounie still harboured crocodile populations. By pirogue I traversed the area twice, one in each direction. No crocodiles of any sort were observed. Both traverses were made by day. I did not have the opportunity to observe at night. This could be significant, as in July, 1976, on the lower Ogooué between Lambarene and Port Gentil, I found Crocodylus cataphractus to be abundant by night in areas where there had been few if any sightings by day. I asked Michael Obiang, the old Fang witch doctor who was my guide, where the crocodiles were. 'They've killed them all', he replied. However he added that they could still be seen by night, and that if I wanted some crocodiles, he could get them for me.

"Near our furthest point of penetration up the N'gounie, at approximately 0°, 25' east longitude, we stopped at an abandoned village of the Onkounie tribe (a sub-group of the Garoua people). On the midden heap of this village there was a skull of a C. cataphractus which had presumably been used for food. It measured 19 1/2 inches from snout to condyle-- a pretty big cataphractus. I did not bring the skull back with me, as I had no permit to import part of an endangered species, and it was a bit large to smuggle. I did photograph it in situ, with a tape measure to show scale. Reproductions of this photograph are available to anyone interested, on request.

"In Libreville, I saw very few crocodile leather products for sale (in 1976 they were ubiquitous). Everything seemed to be either python or monitor. The few crocodile handbags I did see were almost all hornbacks. I found only one handbag made from a bellys skin. The initial asking price by the street vendor was the equivalent of \$100 US, which means that after proper haggling it would actually sell for about \$50- about the same as in '79".

The US Fish and Wildlife Service is reviewing the status of among others, the Nile crocodile, which was classified as threatened prior to 1975. 'Threatened' means that the species is likely to become endangered in the foreseeable future. Any comments on this should be sent to the Chairman Duke Campbell with a copy to Rene Honnegger (Curator of Herpetology, Zoological Garden, CH-8044 Zurich, Switzerland) for the Red Data Book III.

Australis

The following notes are extracts from letters from Dr. Grahame Webb, currently doing research on C.johnstoni on behalf of the Northern Territory Parks and Wildlife Commission, based in Darwin.

24.5.79- "The freshwater crocodile research is progressing extremely well, and is being realistically funded by the Territory Parks and Wildlife Commission. We've marked large samples for recapture in Aug./Sept. this year, so should soon have ample data on both growth and movement. Preliminary studies on nesting were carried out last year (varanids take a high proportion of nests), and will be extended this year. We took 100 stomach contents samples (using Janet Taylor's method, but substantially revised to improve efficiency), for comparison with a similar sample from the same area this dry season; they eat mainly fish and insects. On the whole it's very satisfactory. The Australian Research Grants Committee are funding a study of the C.porosus/C.johnstoni interaction, and now have John Barker (author of 'A Field Guide to Australian Frogs') full-time on that."

August '79- "Our first freshie nest was found yesterday and am now waiting for the "rush"! We caught 93 (C.johnstoni) in one night a few weeks back, in a pool 75m x 25m! Sixteen were gravid females..... National Geographic has sponsored a helicopter survey into the heart of Arnhem Land, where crocodiles have never been hunted. This will take place in October and should allow us for once to have a yardstick for comparing densities outside Arnhem Land".

The Australian National Parks and Wildlife Service and the University of Sydney (Crocodile Research Group) are holding a crocodile work shop in Darwin from November 12-14. Some of the subjects will be status reports, natural history, population survey techniques and resource management.

Bangladesh

According to Dr. M.A Reza Khan of the University of Dacca, the gharial has become extinct in Bangladesh. It was not rare around the 1950's, in the Ganges, old Brahmaputra, Padma, Jamuna and Meghna rivers. Between 1960 and 1974 two gharial were caught in the Padma and the Jamuna.

China

The International Herald Tribune of July 22 refers to a report by the Chinese news agency about the conservation of the Chinese alligator, Alligator sinensis. The original New China News Agency report reads: "Measures have been taken to protect China's alligator, a rare reptile on the verge of extinction at its home in the Jiaxing area of Chekiang Province. The measures include the setting up of an organization to look after the reptile and determine how best to protect the breed and ensure its survival. A recent study undertaken by the Institute of Zoology of the Chinese Academy of Sciences showed that the number of Chinese alligators has declined considerably and that the reptile is to be found in fewer and fewer places.

"The reptile has survived for more than 200 million years. It used to frequent the reed marshes along the middle and lower reaches of the Changjiang (Yangtze) River but with changes in geological and other natural conditions, it went to stay in the bamboo groves on the beaches of the Xizhoaxi river in the Jiaxing area of northwest Zhejiang (Chekiang).

"Since the founding of New China, it has been used as a gift for foreign (dignitaries) or as a favourite for international animal exchanges, and the reptile has now been listed as one of those species deserving urgent protection.

"During the present season the alligator comes out to search for food, and this is also the mating season. Local people have been instructed to safeguard the bamboo groves which are part of the creature's natural habitat."

Dr. Huang Chu-chien is working on the biology of the Chinese alligator. His address is c/o Peking Institute of Zoology, Academia Sinica, Peking, China.

India

The 12.5 ft male gharial from Frankfurt Zoo has been received by the Government of India Crocodile Project in Hyderabad, and is housed in a 50m x 15m x 4m pool at the Nehru Zoological Park.

Extracts from a letter from Binod Choudhury of the Indian Crocodile Project:

The Uttar Pradesh Wildlife Preservation Organization, Forest Department Gharial Project has released 29 gharial of 1975 stock in the wild at Chambal National Gharial Sanctuary (15) and at Katraniaghat Sanctuary (14) in March-April this year. This is the first release by the U.P. state project and a further release of 250 gharial is being planned for November '79.

The West Bengal crocodile project has also released 39 1976 and 1977 hatched saltwater crocodiles in the Sunderbans area under their "grow and release" technique.

The first batch of Forest Range Officer trainees completed the first nine month course at the Crocodile Breeding and Management Institute in August. The next

course will start in the first week of December.

The 25 mugger being reared in Simlipal, Orissa are to be released shortly in the Simlipal Tiger Reserve.

The Madras Crocodile Bank made its first sale of captive-bred 3 year old mugger to the Shivpuri National Park in Madhya Pradesh for release.

At the Crocodile Bank, 13 nests were laid by 8 female mugger. We are still waiting for the total hatching results.

D. Basu, from the Gharial Rehabilitation Centre in Lucknow, Uttar Pradesh, writes in a letter of September 3, '79- "We hatched nearly 360 gharial from 390 eggs but the post hatching fish pinch that we face during the monsoon prevents the hatchlings from growing as well as we would like them to and we lose quite a few every year. Presently 320 surviving from this years hatchlings. We had an outbreak of mouth canker (fungal) disease which attacks the snout, rotting teeth and bone but we have brought that under control through medication. We are setting up our own fish farm here at Kukrail so that eventually live fish can be supplied to the hatchlings but it will take a couple of years to go into full production. A 13 ft female gharial was caught from the Ganges at Kanpur recently and is being kept in a fairly big lake in Kanpur Zoo.

"We are building a museum/information centre at Kukrail. I have designed the building and am soon going to start on the exhibits".

Press release about the National Chambal Sanctuary Project:

The National Chambal Sanctuary Project was the logical follow up to the Gharial Rehabilitation Scheme started by the Wild Life Preservation Organisation in 1975.

As a result of the high degree of success achieved in egg collection and captive rearing of juvenile gharial and the large captive stock built up at Kukrail between '75-'79 a viable river sanctuary was required where the gharial produced under the Gharial Rehabilitation scheme could be restocked.

The river Chambal has many properties which fulfill such a requirement. These are: 1. A good fish population 2. Low level of disturbance from human beings as the river is bordered by uninhabitable ravines and 3. Ecologically pristine habitat not affected by hydroelectric/irrigation projects and relative low erosion levels.

In order that the gharial which is given to migration during high water season in the monsoon may drift out of the sanctuary, a river length of several hundred kilometres was required and this has led to the foundation of a tristate sanctuary including nearly 530 kms of the Chambal river within the states of Rajasthan, Madhya Pradesh and Uttar Pradesh.

The river will be divided into manageable sectors each under the jurisdiction of a research/protection unit. Boats are being provided besides motor cycles and jeeps for quick travel on land. A wireless network is to be built up for providing excellent communication facilities, and accommodation will be provided to all field staff.

Trial release exercises have already been undertaken and in November/December 1979 nearly 350 gharial between 4-6 feet in length will be released under the restocking programme to be followed by 500 animals per annum. This sanctuary which will ensure the survival of the gharial will also attempt to formulate scientific river resources management for the first time in India and a Project Biologist is to be appointed for this purpose.

Papua New Guinea

Melvin Bolton has taken over as Project Manager of the UNDP/FAO Crocodile Project, replacing Antoon de Vos who recently retired. The census/monitoring programme is getting underway in late 1979 with the recruitment of FAO expert Alistair Grahame and two UN volunteers, Phil Hall and Jack Cox to assist. The Papua New Guinea Wildlife Division is on the lookout for a suitable candidate for a crocodile ecologist post and will provide counterpart staff for the monitoring. Two commercial farms have started operation during 1979 with over 4000 crocodiles. There are now over 15,000 crocodiles in village, government and commercial farms in Papua New Guinea and the farm network as originally proposed in the National Crocodile Policy (Max Downes, 1968) is a working reality.

Rhodesia

A three year project concerning population dynamics of a crocodile population in a national recreational park has recently been designed by a research fellow who will be full time on it.

Roelf Attwell writes that the Victoria Falls Crocodile Workshop was an unqualified success; but among the 50 or so participants the number from overseas was low.

South Africa

Regarding Tony Pooley: (14th September '79): "We opened the St Lucia Crocodile Centre on March 19th and have had excellent response from the public. We only charge 20 c admission at present because the internal exhibits are not all completed. In due course admission charges will probably rise to a minimum 50 c per adult. So far we have a marine and fresh water aquaria section, a crocodile biology/anatomy section, exhibits on poaching, wild flowers, and relief maps of the lake and surrounding areas, plus of course live crocodiles. With four of us working full time, plus outside help it has taken months to get to the present stage. I am now going to do full time research

and over past months have had to train a successor to run the new centre. Its' opening in March ended three years of planning and landscaping and on the whole I'm very pleased with the result. We have a small theatre and will show films, color slides etc, and have a full time interpreter office in the building particularly for dealing with school groups.

"Have also been partly involved with a TV crew from BBC-TV natural history unit doing a documentary on crocodiles and their behaviour and this had been time consuming. We will still be busy on and off right to the end of March next year. Its a lot of work but worthwhile in the end.

"My sincere apologies for not sending news material for the Newsletter. I used to complain bitterly that no-one sent me news- now I have been worst of all!!! Am frantically busy trying to complete a manuscript of a book and the deadline is just 6 weeks off..."

Thailand

Jeff Lang visited the Samut Prakan Crocodile Farm in June and the following are a few notes from his letter. "The farm itself is really spectacular for the numbers of crocs there. I spent most of my time watching C.porosus and C.siamensis in the large breeding pens containing some 100-300 adults. The overall impression is that there is a considerable amount of breeding and successful propagation of crocs. The siamensis by far outnumber the porosus, and several of the larger pens contain 'hybrids' which from appearances have external characters running the gamut between C.porosus and C.siamensis. After watching individuals of both species it was apparent that the breeding success they've had is due to large numbers of siamensis which is a more tolerant and less aggressive species than C.p... They've also had some success with Tomistoma, and had all sizes from hatchlings to large subadults."

U S A

The U S Fish and Wildlife Service has proposed to buy about 5000 acres of Key Largo, Florida, to set up the "Crocodile Lake National Wildlife Refuge". If acquired it would be primarily managed for crocodiles.

Three surveys over the past 12 months have failed to turn up any conclusive evidence that crocodiles still inhabit the lower Florida Keys, once a reported nesting area. Additional surveys are planned this year and a restocking programme may be in order if no animals are found.

An 8 1/2 ft female crocodile in Florida is proving to be a problem. She was caught while causing a commotion in a heavily populated area near Pompano Beach last year and

moved to Key Largo, tagged and released. Five weeks later she turned up on Big Pine Key in a Subdivision, a distance of about 85 miles. She was moved back to Key Largo and again headed south, turning up in a Subdivision at Islamorada 2 weeks later. She was then moved back to Ft Lauderdale and put into a secluded canal system. She stayed there for about 2 months but has now again started her southward migration, winding up in a canal in a Subdivision in north Miami. Debate continues on where to relocate our errant lady with a fondness of subdivisions, this time.... (Duke's joke, not mine).

From Duke: Following the reclassification of the American alligator from Appendix I to Appendix II, the US is considering allowing the entry of gator hides into international commerce (see below). The proposal includes a restriction that no sales be allowed to countries which are not signatories to CITES or which have signed but taken exceptions on any Appendix I species (France, for example). The Crocodile Specialist Group should support the argument that only full signatories be allowed to deal in alligator hides, otherwise the real intent of the CITES would be subverted!

Lat3 news: The alligator hunting season closes on October 7th this year and selling the skins on the world market will soon begin for the first time in many years. Although not exactly a comparable situation to underdeveloped nations, the alligator has nevertheless made a classic comeback and its economic importance will hopefully ensure its perpetuation.

From Endangered Species Technical Bulletin March '79, Vol IV No.3.

The service has approved a recovery plan for the Endangered US population of American crocodile (Crocodylus acutus) which has as its prime objective, "a self-sustaining population of American crocodiles throughout suitable habitat in the United States." The plan calls for extensive surveys to determine the location of habitat and the habitat needs of the species in all phases of its life cycle.

Crocodiles can be found in small ponds or creeks with two to five feet of water, which are protected from wind and strong currents, and are adjacent to larger bodies of water. Generally inactive during the day, crocodiles move about at night, moving into creeks, canals, and open bays primarily to feed.

Restricted to southern Florida, the U.S. crocodile population numbers only a few hundred. The Florida range currently includes the Everglades National Park, the upper Florida Keys from lower Plantation Key north to the upper end of Key Largo, and the lower Florida Keys, where a disjunct group of crocodiles is found. One estimate cites the population at 100 to 400 crocodiles, with no more than 20 breeding females.

The recovery team places the onus for the population decline (there were roughly 1000 to 2000 crocodiles in southern Florida near the end of the Nineteenth Century) on human activity. Crocodiles have been forced out of portions of their historic range by urbanization. Direct, human-caused mortality to crocodiles has been recorded in 14 instances between 1971 and 1977. These were mainly cases of shootings and highway road kills.

According to the team, observations indicate that crocodiles, relatively shy animals, are less tolerant of human activity than are alligators. They suggest that some of the species may have abandoned habitat solely because of human activities such as fishing and boating. (Along the north shore of the Florida Bay, which the National Park Service has seasonally closed to humans since the early 1970's, nesting activity has apparently increased).

The recovery plan calls for the protection of sufficient habitat for all of the crocodile's needs, to be ascertained through an extensive survey effort. Then, according to the plan, the current Critical Habitat designation (F.R. 9/24/76) should be reviewed and altered if found inadequate.

Because the crocodile's status and distribution are not well known, the team states, "No quantitative goals can be set for our crocodile population at the present time. Future research may provide a basis for specific recommendations, but a specific effort to enhance the present population is needed immediately."

Some of the immediate steps recommended by the team are:

- (1) public education, via the mass media in South Florida, on the critical status of the crocodile;
- (2) removal of eggs from 'high risk' nests for captive hatching and rearing of the young (starting with the 1978 breeding season);
- (3) an overview of ongoing and planned habitat disruption outside the Everglades National Park;
- (4) a review of human related mortality, both inside and outside the Everglades National Park; and
- (5) a review of potential genetic dilution of the native population by escaped Jamaican specimens in the Fisheating Creek area. (The recovery team reports that escapees from a crocodile farm may be in Fisheating Creek and possibly mixing with native crocodiles in southwestern Florida).

The recovery team is under the leadership of Dr. Howard W. Campbell, U S Fish and Wildlife Service, and includes: Richard Klukas, National Park Service; John C. Ogden, National Audubon Society; Tommy Hines, Florida Game and Fresh Water Fish Commission; Dr William B Robertson, Everglades National Park; and Dr. James A Kushlan, Everglades National Park.

Alligator tails are considered a delicacy but so far the Fish and Wildlife Service is not permitting the sale because of the lack of controls inherent in the proposed marketing. Tight controls on the skin industry are possible through hunting quotas and the tagging system but marketing of meat would open up the chances of meat from illegally taken alligators entering the market. It is acknowledged that more complete economic use of alligators is desirable in the long term but there is still no guarantee that only farmed and legally killed alligators would be used.

Captive breeding:

From AAZPA Newsletter 19 (12):12- On June 9, a nest was constructed by the female Cuban crocodile with alfalfa hay provided for that purpose and 19 eggs were laid at the California Alligator Farm. These eggs were set up in various mediums; some left in the nest, some in Vermiculite in a styrofoam container in the snake house, some in damp paper in a crock in the snake house and some in Vermiculite placed in a dead air type of incubator, held at 87° F. The latter proved successful after 86 days, and three Cuban crocodiles were hatched on Labor Day. The hatchlings are doing well accepting crickets, pink mice, cut beef and cut liver.

From Rene Honegger: According to a newspaper note with picture, the West-Berlin Zoo had two hatchling C.niloticus appearing within the mixed-group exhibit one morning. "They apparently hatched fully unnoticed, and the parents are not known." From my personal knowledge of said croc-exhibit at Berlin (I have seen it in April '79) it might be well possible that eggs were laid, as there is sand/gravel available, and if the other crocs agree, also space for nest-digging!

David R Jardine, Head of Reptiles and Amphibians at the Cincinnati Zoological Society has successfully bred the smooth-fronted caiman, Paleosuchus trigonatus. On May 3-7, '79, six caiman hatched from captive laid eggs. This is the first time Paleosuchus has been bred in captivity. Five of the six hatchlings are now being reared at the zoo.