

INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE
CROCODILE SPECIALIST GROUP

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Editor's Note: I've had the opportunity of reading the early newsletters of the crocodile group edited by Tony Pooley, at the wildlife division library in Port Moresby, and was impressed with how well informed they were. We could get back to that standard - and size - if the editor was kept informed of the goings on, through short notes, papers and even copies of relevant correspondence. (My address until March 1980 is c/o UNDP, Box 3041, Port Moresby, Papua New Guinea).

AFRICA

Burrowing in crocodiles has been an interesting feature in papers and discussions on crocodile ecology. Thomas J. Larson, a Peace Corps volunteer who worked in Pendjari National Park in Benin, examined nine Crocodylus niloticus burrows. He found an adult and three young in one tunnel, and local people believe that crocodiles use these throughout the year, leaving them occasionally in the rains to catch food, but always returning. Of the tunnels examined by Larson, the width ranged from 0.5m to 0.8m, and tunnel length from .3m to 12.5m. 5 tunnels ended in a dead end, 2 in chambers, and one in a rise which prevented further investigation. Larson concludes that "Based on the evidence found, it appears that crocodiles at least occasionally make burrows in banks in Pendjari National Park. Some of the tunnels seem to be used by crocodiles at least part of the year. This habit may be a form of estivation to get through dry periods when finding food or water might be difficult. Further research is needed to find out how extensive this burrowing habit is, at what time of the year are burrows used, why are they used, are they used by the same crocodiles each year, and are young crocodiles raised in these burrows. These and other questions regarding the crocodiles burrowing behaviour must be answered to understand the ecology of the crocodile in Benin. The holes themselves may also be used extensively by other species and so may play an important role in their ecology"

Tony, what have been your observations on niloticus burrowing in Zululand?

Claude Martin, a Swiss zoologist, spent some months in Ghana for WWF. He writes about Osteolaemus tetraspis, "In Ghana hunting and capturing of the dwarf crocodile is absolutely prohibited. The species inhabits small creeks and freshwater swamps but moves very swiftly on land also. It appears to be fairly resistant to heavy habitat encroachment as it is sporadically found in badly polluted gutters of the outskirts of towns.

The dwarf crocodile is, however, hunted illegally for meat and may succumb to hunting pressure in densely populated areas.

Main occurrences of the species in Ghana and the Ivory Coast lie in the western, most remote lowland rainforest area of these countries.

AUSTRALIA

Applied Ecology Pvt Ltd, a Government supported research and development organization designed to develop economically viable wildlife industries to be run by aborigines, has set up an experiment in captive breeding of C.porosus at Edward River on the west coast of Cape York Peninsula on the Gulf of Carpentaria, Queensland. A 50 acre freshwater lagoon has been enclosed with 2 1/2 metre high chain link fencing. Still in the formative stage, already over 100 1 1/2 to 2 metre subadults (reared from wild collected eggs) have been released into the enclosure. In addition some wild caught adults up to about 3m have also been put in.

Dr. Graham Webb is presently studying C.johnsoni in the Northern Territory. Though we lack details, his study is apparently patterned after his work on the ecology of C.porosus including survey, reasons for relative distribution of johnsoni and porosus and studies on the behaviour including interaction with porosus.

Colin Limpus has been working on C.johnsoni on the Lynd River inland from Townsville in Queensland but we have had no further news on the progress of his work.

INDIA

chemical response?

A resident female mugger (Crocodylus palustris) from the Satkosha Gorge of the Mahanadi River in Orissa entered into captivity and mated with a captive male of the Gharial Research and Conservation Unit, Tikerpada. The female had frequented the river adjoining the Unit since the last breeding season (77-'78) and made three unsuccessful attempts to approach the captive males. On 31st January '79 she approached the enclosure again, and Research staff allowed her to enter. For the next twenty four hours she was seen continuously mating with the male, allowing him a leisure period of only two hours, on 1st February!

On 11th January '79 a ten foot C.porosus was caught in the swamps off Pedapatnam, Andhra Pradesh, and taken to the Nehru Zoological Park in Hyderabad. This was the first porosus found in South India since 1940.

The Crocodile Breeding and Management Institute in Hyderabad has enrolled eleven trainees from several states including the Andaman Islands, for a nine month course. In January they carried out a census of the saltwater crocodile in Bhitarkanika sanctuary in Orissa, and were fortunate in seeing 10-12 large adults up to 20' and several juveniles.

Sudhakar Kar of the Saltwater Crocodile Research Unit in Dangmal, Orissa has released 82 captive hatched and reared C. porosus into the Bhitarkanika Sanctuary.

At the Madras Crocodile Bank 6 mugger made nine nests (three females made two nests!). We were able to observe and photograph the entire laying process. A new hatchery complex is being constructed to accommodate this year's hatchlings.

JAPAN

Recently at the Moitaka Government in Port Moresby we met and interviewed Mr. Wataru Kimura, proprietor of the Atagawa Tropical and Alligator Garden in Shizuoka Prefecture, Japan. He was on a two week visit to PNG and mentioned his visits in recent years to Cuba, USA, India, Nepal and Cambodia to see and acquire crocodilians. He said that he has 350 crocodilians representing every species except C. johnsoni, including 6 chinese alligators and 4 gharial. 4 species and sub-species have bred at the farm: C. rhombifer, Caiman latirostris, Caiman c. crocodilus and Caiman c. aporansis.

The Garden is private and tourism oriented with 750,000 visitors per year. Mr. Kimura uses a natural hot spring (with an average temp. of 104 F) as his water supply which he says assures year round feeding and good growth rates.

Hatchling crocodilians are fed chopped chicken heads and fish (the sea is nearby); older crocodilians get pig, chicken and fish. All the crocodilians are housed in concrete pens with water, basking and in some cases nesting areas in a total area of about 35' x 800'.

Mr. Kimura is interested in exchanging information and would appreciate receiving literature relating to crocodilian breeding and status in the wild.

PAPUA NEW GUINEA

In 1978 Dr A de Vos was appointed Project Manager of the FAO/Govt of PNG programme on the national crocodile skin industry. Rom Whitaker joined as Production Manager in March 1979. Melvin Bolton, Eric Balson and John Hunt are the other officers for the project. Three UN volunteers have also been recruited. They are Gordon Parker (Moitaka), David Whiteside (Kikori) and Jerome Montague (Lake Murray).

Papua New Guinea has been temporarily exempted from the ban on trade of C. porosus skins by the Convention for International Trade in Endangered Species. Of the total number of skins exported from the country, some 20% are those of C. porosus.

Jeff Lang has just completed eight months of field work on Crocodylus porosus and C. novaguineae in Papua New Guinea, supported by a postdoctoral fellowship and

grants from the Australian Government and from Dr. Messel's Sydney University, Crocodile Research Programme. Most of his research was conducted at Moitaka, a government demonstration farm near Port Moresby, where he made detailed behavioural observations and monitored body temperatures of both species by radiotelemetry. Social behaviors, including territorial defense, courtship, mating, egg laying, and nest excavation (by male and female) were documented and filmed. Jeff spent the last five weeks in PNG travelling to Western and East Sepik Provinces, where he joined patrols to village farms along the Fly and Strickland Rivers and the Sepik River. In June, he will return to the USA from Australia, hopefully via India.

Extracts from the minutes of the second meeting of the CITES member nations at San Jose, Costa Rica, 19-30 March 1979.

"In Papua New Guinea, the saltwater crocodile C. porosus is currently on Appendix II although it has been proposed that the whole species be transferred to Appendix I. No action has yet been taken on this proposal and as the Papua New Guinea population is apparently the most viable in the world our recommendation is to reserve that population on Appendix II at least until the next meeting of the Parties. This recommendation reflects our view that the proper solution to the problems of this character is to list on Appendix II rather than Appendix I those populations which can be shown to withstand the exploration of ranching".

In other proceedings concerning crocodylians, Alligator mississippiensis was changed from Appendix I to Appendix II considering its recovered status. C. acutus was changed from Appendix II to Appendix I with reference to the critically endangered status of this species throughout its range.

RHODESIA

The crocodile workshop held at the Victoria Farms, Rhodesia, during September 1978 was a great success. Some 60 delegates attended the 3-day workshop, most of them coming from Rhodesia and South Africa.

The timing of the workshop coincided with laying taking place on the Spencer Creek Crocodile Ranch which was adjacent to the crocodile workshop venue. Delegates were therefore able, each evening, to stroll over and watch the females digging.

It is hoped to publish the proceedings of the workshop during 1979.

An interpretive centre was opened in September 1977 in the Kyle Recreational Park near Fort Victoria. The main theme of the centre is the life history of the crocodile and its conservation.

A holding pond nearby holds one male and two female C. niloticus which can be viewed from a special viewing platform by the public.

A full-time post graduate student, Mr J Hutton, is undertaking a population study of crocodiles in the Ngezi Recreational Park, and the following projects are being carried out by D K Blake of the Department of National Parks and Wildlife Management in collaboration with Dr. Loveridge and crocodile farmers:

1. Studies into rearing problems, methods of incubation, etc. on the rearing stations.
2. A study of nesting sites, clutch sizes and female sizes has been set up on the Sengwa Basin, Lake Kariba.
3. An aerial survey of the crocodiles on the shoreline of Matusadona National Park, Lake Kariba, was undertaken in November 1978 and will be continued annually.
4. A fourth rearing station was allowed to open in 1977.

John Loveridge at the University of Rhodesia has investigated aspects of thermo regulation, and the relationship between size and metabolic rate, in Crocodylus niloticus. Specimens ranging between one and four metres in length were used. Other research in which David Blake was involved as well, included a study of methods of egg incubation and population surveys. Marking/recapture and survey programmes at Sinamwenda on Lake Kariba had to be suspended for security reasons.

The Department of National Parks and Wildlife Management has laid down a policy for crocodile conservation, management, and research. Copies of this will be supplied if required to any members of the group.

SOUTH AFRICA

Jan Kuhlmann owns and operates the Crocodile Farm near Pretoria, a tourism/conservation oriented farm. A recent newspaper article from S. Africa says that the farm has 14 adult C. niloticus as breeding stock and produces about 1000 young per year. The article indicates that the farm is engaged in a release programme but further information would be welcome. The farm is reported to have almost 100% hatching success.

U S A

We are certain that there has been much of interest happening in America or with US "crocologists" elsewhere but we have received nothing current to report.

VENEZUELA

The most current news from South America is from April-May 1977 when Scott Maness and Jeff Lang spent eight weeks studying the thermal and social behaviour of Caiman crocodilus (sclerops) and a turtle Podocnemis voglii at Hato el Frio, south of San Fernando Apure in the llanos. Caiman were abundant on this particular landowners' property as a result of his interest. However they were noticeably absent in the large ranches enroute to this protected area. The pond which was studied was about 50m in diameter and 1.5m deep in the dry season and contained 220 caiman, mostly adults. The Orinoco crocodile (Crocodylus intermedius) was once fairly abundant in rivers in this area but is no longer seen.

Robert Godshalk has undertaken a status survey of C.intermedius in Venezuela with WWF help but so far we have heard no results. Hatchlings seen at the Hato el Frio Biological Research Station by Jeff Lang indicates at least a remnant breeding population there.