

INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE

CROCODILE SPECIALIST GROUP

NEWSLETTER NO. 14, JANUARY 1979

Editor's Note: With his new responsibilities as Deputy Chairman of the Survival Service Commission, Dr F Wayne King has stepped down as Chairman of the Crocodile Specialist Group. Dr Howard Campbell has taken his place.

The editor will leave shortly for a year in Papua New Guinea to work with the "Assistance to the Crocodile Industry" programme. Material for the CSG newsletter should be sent c/o UNDP, Box 3041, Port Moresby, Papua New Guinea. Incidentally our file for the newsletter is empty and the paper is threatened with extinction. Please send up to date material (ie articles, reprints, newsclips, one liners on croc developments) from your area.

The newsletter has received 60 Pounds from the Fauna Preservation Society of London.

AUSTRALIA

The Sydney University Crocodile Research Team under Harry Messel has completed its 1978 dry season surveying program in northern Australia. 60 rivers were surveyed, a number of them several times. To quote from Harry's memorandum: "...a total of 4353 C. porosus were sighted of which 974 were hatchlings and 3379 non-hatchlings. Using 95% confidence limits, this yields between 4827 and 6257 only, for the number of actual non-hatchling crocodiles present in the surveyable sections of the rivers. This is an exceedingly low figure....the numbers at best are stationary, but are most likely to be still falling. We have been unable (with one or two exceptions) to find evidence for a recovery of the C. porosus populations.

BRUNEI

The Borneo Bulletin, 20.5.78 carries a news item with photographs about crocodile sales. In Nyabor juveniles can be bought for as little as \$5 each, and in Miri they fetch as much as \$30 each. The buyers are mostly professional crocodile farmers who rear the young ones till they are big enough to be killed for their skins. On the Nyabor and Bakong rivers Ibans catch crocodiles at night. The young are picked up by hand, bigger ones are taken with hook and line.

CUBA

In notes appearing in the Rev. Agricultura, Cuba, R Gomez, J D Gutierrez and P M Gonzalez give preliminary information on determining fertility of and hatching C. acutus and C. rhombifer eggs. Unfortunately it is not clear which species the following results are from or whether they are hybrids as reported earlier from Cuba. "Observations were conducted on the process of the natural incubation of eggs from crocodiles reared in confinement, 209 nests having been laid containing 2545 eggs in all.

As soon as these nests were built and the eggs laid by the females, the order and date of the (hatching) were recorded. In this case, the average incubation period was 85 days; 67.7% of hatches were obtained. Under the conditions of this study, involving a large number of animals in confinement, these averages are usually affected by the losses of new hatched animals which are eaten up by mature crocodiles or birds of prey."

## INDIA

The Government of India has formerly sanctioned the Chambal River National Gharial Sanctuary Project. This will incorporate the states of Uttar Pradesh, Rajasthan and Madhya Pradesh. The scheme pre-conditions the declaration of an approximately 2500 sq km Chambal Valley Sanctuary. The total cost of the project, over the VIst Plan, is just over US\$ 1,000,000.

A news item in the "Hindu" of 3.11.78 says that the disappearance of crocodiles from many of the Indian rivers and reservoirs has led to an alarming increase in the population of undesirable predatory fish varieties such as the cat fish, which in turn harm the commercially important species. In many parts of India crocodile decline has been concomitant with fish yield decline and/or drastic changes in catch composition.

Five crocodile sanctuaries have been instituted in Andhra Pradesh. They are: Nagarjuna Sagar, Srisaillam, Papi Konda, Coringa and Majjira Croc Reserves. The last is only 65 kms from Hyderabad and tourists are assured of seeing crocodiles at any time.

A representative from the Andhra Pradesh Crocodile Project was in the Andaman islands for porosus egg collection in June-July this year. (The Andamans hold one of the last viable porosus groups). He writes, "It is certain that the mass commercial killing has stopped but mass egg robbing is still continuing."

The Govt of India/FAO/UNDP Central Crocodile Breeding and Management Training Institute was inaugurated in Hyderabad by the Forest Minister on 4 December '78. It is the first of its kind in the world.

The Forest and Fisheries Dept of the Tamil Nadu Government recently (November 78) issued orders for the releasing of 200, meter long Crocodylus palustris per year into protected wild habitats in the state. The Forest Dept is rearing over 800 juveniles (from wild collected eggs) and the Madras Crocodile Bank is offering 40 for the initial release in early 79.

The Government of India is considering the Crocodile Bank's application to import the 11ft male Gavialis gangeticus from Frankfurt Zoo for its captive breeding program. The big snag is the cost of transporting the animal to Madras which will be in the region of US\$3000. The Crocodile Bank is making an international appeal and hopes that an airline will sponsor the transport for publicity. If you can help please write to us. Dr Faust of the Frankfurt Zoo has been making efforts to give the gharial to the Crocodile Bank since '76.

## MALAYSIA

The Madras Snake Park's proforma questionnaire on Tomistoma schlegelii

resulted in some 15 fairly detailed communications from residents and wildlife personnel in Malaysia. There has been a rapid decline in Tomistoma numbers during the last decade and the hunters are in the main tribals using baited hooks, spears and guns. The eggs and meat are widely eaten and nests are sometimes robbed for rearing the young for the skin market. Skins are exported, usually to Singapore. In most areas there are no protective laws. On peninsular Malaysia Tomistoma is listed under a 1972 act, but hunting under a license or in self-defense is permitted. Aborigines require no license.

In his summary of the crocodile situation in Sarawak, East Malaysia, National Parks and Wildlife Officer Kenneth R S Proud says, "Although there are no details of the abundance of crocodiles in earlier years the increase in population with more powered boats using the rivers, increased logging activities (rafting of logs down river) and resultant erosion of the river banks, combined with the availability of modern firearms are all considered to have acted to reduce the numbers of crocodiles." This appears to be the situation throughout crocodile habitat in the Malayan region.

#### SRI LANKA

Jayanta Jayewardene, referring to the Madras Snake Park survey in Sri Lanka, wrote recently, "I do not agree with your contention that there are only 3000 marsh or mugger crocodiles (Crocodylus palustris) and only about 750 saltwater or estuarine crocodiles (Crocodylus porosus). I have just returned from a trip to certain parts of the Eastern Province of the Island, where I have gone into, very carefully, the crocodile populations both in the lagoons and in the fresh water tanks. I have noted that there are large numbers of crocodiles in Helawa, Panakelle, Kunukelle, Yakala, Panama kalapu, Uraniya, Komari kalapu, Kottaikallu, Bagura, Itikele, Andarakelle and Kumana villu. All these are salt water lagoons, the last four being inside the Okande Game Sanctuary. The fresh water tanks being examined by me were Rottai kulan, Sommani kulan, Panama wewa, Wadagana wewa, Helawa wewa, Radella, Naula aru, Thunmulla, Kotulindawela and Kumana Ganga. Of these, the last four are inside the Okande Game Reserve. I have, as far as possible, counted the populations in some of these tanks."

#### UNITED STATES

Cooperative Surveys of the American Alligator in the Southeastern United States During 1977, compiled by R H Chabreck, is a report on results of a 1977 survey of A. mississippiensis in the southeastern states where the alligator is found. Similar surveys were made each year since '76. Counts were made by State Game Department and National Wildlife Refuges personnel assisted by students and other interested persons. The 1977 counts were made on 122 survey lines (a survey line is about 10 miles of alligator habitat) in 7 states. Totally, 6,914 alligators were observed (5,921 were seen in '76). The number of alligators per mile was 5.64, the highest average in the seven years of the survey.

James Kushlan, Research Biologist with the National Park Service writes from the Everglades National Park: "Our intensive study of the ecology of the American alligator (A. mississippiensis) has completed

its third year. Over this period, 1,500 alligators have been tagged in a 10 sq km study area in the ~~xxx~~ Everglades. The primary objective of this research is to understand the ecology of the alligator in the Everglades, where it plays a dominant role, and to thereby provide for the more natural water management in the Everglades. The importance of this work was clearly shown during the 1978 nesting season when high water levels, aggravated by the operation of the south Florida water management system, caused, by preliminary estimate, the loss of about 40% of the eggs laid."

Kushlan adds that the study of the American crocodile (Crocodylus acutus) has just completed its first full year. "Of twelve clutches found in Florida Bay two factors thought to be limiting to nesting success, raccoon predation and embryonic mortality proved minimal. Survival of hatchlings (followed by tagging and radio telemetry) appeared to be high. A concern for the ability of hatchling crocodiles to survive osmotic stress was based on preliminary laboratory experiments. It appears that osmotic stress may not be a critical factor in survivorship. Behavioural adaptations appear to be sufficient to overcome saline conditions. John Behler of the New York Zoological Society proposed a report, commissioned as part of this study, on the feasibility of establishing a self-sustained captive breeding population of the American crocodile. This report will be available from the South Florida Research Center, Everglades National Park, Homestead, Florida, U S A.

Ed Froehlich, an alligator farmer in Florida has received his Federal harvesting permit and markets skins from his farm but the law does not allow him to sell the meat. "Its like killing a steer and throwing away the beef", he says. "The food conversion ratio for the alligator is 2-1, almost equal to that of poultry, and far above the 7-to-1 to 9-to-1 for cattle." He had an offer from a restaurant for 20,000 lbs of meat but actual sales are probably years away. (New York Times, 11. 6.78).

#### FILM ON CROCODILE STATUS

Miriam Birch and Wolfgang Bayer are interested in producing a film for U S and international television on crocodilians and their present status. If your organization can offer filming facilities write to them at 7268 Franklin Avenue #31, Los Angeles, California 90046, U S A.

#### CAIMAN CROCODILUS OFFER

On account of accomodation problems the Director of Agriculture and Fisheries in Hong Kong was looking for a suitable home for three Caiman crocodilus crocodilus (1 male, 2 females). The animals will probably be sent to Eric Worrell in Australia.

#### PAPERS

##### Australia

The status of the salt-water crocodile in the Glenelg, Prince Regent and Ord River Systems, Kimberly, Western Australia. Dept. Fish. Wildl. West. Aust. Rept. No. 34, 1...(1978) by A A Burnbridge and H Messel.

Surveys of populations of Crocodylus porosus and of tidal river systems in the Northern Territory of Australia, Parts 1-12, 1978.

### India

Singh, L A K and H R Bustard (1977): A method to identify individual young gharial (Gavialis gangeticus). British Journal of Herpetology, Vol 5 No 9: 669-671.

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Whitaker, R (1978): Note on the status of the Gir crocodiles. JBNHS, Vol 75 No 1: 224-227.

Whitaker, R and Z Whitaker (1978): Notes on vocalization and protective behaviour in the mugger. JBNHS, Vol 75 No 1: 227-228.

Whitaker, Z and R Whitaker (1978): Notes on captive breeding in mugger (Crocodylus palustris). JBNHS Vol 75 No 1: 229-231.

Whitaker, R and Z Whitaker (1978): Growth rate of Crocodylus palustris. JBNHS Vol 75 No 1: 231-232.

### U S A

Perrero, Laurie (1975): Alligators and Crocodiles of the World. Windward, Florida.

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