

Perkins,
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Florida State Museum

Ndumu Game Reserve,
P.O. Ndumu,
Zululand.
South Africa.
April, 1972.

DR : Wayne King .

I.U.C.N. CROCODILE SPECIALISTS GROUP: NEWSLETTER NO. 4.

AFRICA.

1. UGANDA.

Dr. Hugh Cott is at present carrying out a survey of nests along the Victoria Nile between Murchison Falls and Lake Albert. When complete this should provide useful information on changes in the numbers and distribution of breeding females since the last census of 1969. This survey is being financed by a grant from the Uganda National Parks.

Dr. Cott writes that crocodile numbers appear to have declined and the largest rookery is quite deserted as a result of the feasibility engineering survey a few hundred yards below the falls. Interesting observations were made on the various phases of courtship display - quite elaborate and long continued behaviour. He now hopes to obtain more data on nest sites, nests, parental care, enemies, activity in the nurseries after hatching, and behaviour of juveniles in the wild state.

2. REPUBLIC OF MALI.

Information has recently been received from the Ministere de la Production, service des Eaux et Forets:

It appears that C. niloticus and C. cataphractus are found in this country, protected in the National Park and in Nature Reserves, and partially protected in classified Forestry Areas by the Hunting Code contained in Ordinance no. 60/CMLN of November 11th, 1969.

Prior to introduction of this ordinance, the decline in crocodile numbers was rapid, due mainly to the demand for hides and because hunting and trapping by tribal peoples as well as professional hunters was permitted. Deterioration of habitat, due to extensive clearing of riverine forest and swamps for the purpose of establishing rice fields, has contributed to the decline in crocodile numbers.

The hunting was established to allow reasonable exploitation and to enable wild populations to increase. At present established professional hunters may hunt in specified areas only, requiring a permit from the Department of Water Affairs and Forestry. The permit allows each hunter to kill only three animals and permits need to be

renewed annually. No figures or even an assessment of remaining wild populations are available.

3. REPUBLIC OF TOGO.

From correspondence with the Ministry of Rural Economy, Water Affairs, Forestry and Game in Lome, it appears that the status of crocodiles is endangered.

Crocodiles receive no protection. In by-law no. 4 dated 16th January, 1968, crocodiles are mentioned as "depredators" and may be hunted or killed in defence of livestock. Permits may be obtained to hunt them anywhere but in fauna reserves.

This department reports a rapid decline in numbers over the past five years, mainly due to the arrival of reptile skin buyers. Additionally, people of the Yoroubas and Haoussas tribes who eat crocodile flesh have killed off large numbers. According to the department two species, C. niloticus and C. cataphractus occur in Togo.

Editors note:

Further indirect inquiries to this country revealed that live crocodiles are exported in considerable numbers. A Mr. Fouchard of Lome offered to supply me from his stocks, C. cataphractus and Osteolemus tetraspis tetraspis and mentions that the animals are captured 800 Km. north of Lome. He obtains a Veterinary Export Permit on payment of about 4 U.S. dollars. It would appear that O. tetraspis tetraspis does occur in Togo.

4. SOUTH AFRICA: Natal

Legislation protecting the crocodile has been strengthened by the addition of Amendment 8a, to the Reptiles Protection Ordinance no. 32 of 1968.

8a No person shall import into the Province of Natal any crocodile or python, whether alive or dead, or the skin of any crocodile or python; without a written permit granted by the Natal Parks Board, with the prior approval of the Administrator.

AMERICA.

5. 'PROPAGATION OF THE AMERICAN ALLIGATOR IN CAPTIVITY.'

Report presented to Southeastern Association of Game and Fish Commissions, October 1971, at Charleston, South Carolina.

by
Ted Joanen and Larry McNease
(Louisiana wild life and fisheries commission)

This excellent report details the programme of research work initiated in 1964 at Rockefeller Wild Life Refuge to develop proper methods of breeding and rearing alligators in captivity. Sections are devoted to pen design, methods and materials, construction, incubation and hatching and recommendations for pen design and maintenance of brood stock. The observations on behaviour alone make this report a valuable addition to our knowledge of the alligator.

6. 'STATUS OF THE AMERICAN ALLIGATOR IN SOUTH CAROLINA.'

Report presented at Augusta, Georgia, February, 1971.

by
Mark O. Bara
South Carolina Wildlife Resources Department.

Editor's note: Mark O. Bara,
Arundel Plantation,
Georgetown, South Carolina 29440,
U.S.A.

I am sure he would be happy to supply reprints.

7. EVERGLADES NATIONAL PARK.

Dr. John Ogden has two reports available on alligator and crocodile studies which are most interesting. His address:

Dr. John Ogden,
Everglades National Park ,
P.O. Box 279,
Homestead, Florida 33030.
U.S.A.

8. UNIVERSITY OF CALIFORNIA - Los Angeles.

Dr. Frederick B. Turner, Research Biologist is requesting data on the density and natural regulation of numbers of reptiles and particularly wants information on

crocodilians.

His address: Dr. F.B. Turner,
Laboratory of Nuclear Medicine and Radiation
Biology,
900 Veteran Avenue,
Los Angeles, California 90024.
U.S.A.

9. BREEDING OF MORELET'S CROCODILE *Crocodylus moreleti*
IN Atlanta Zoological Park, Atlanta, Georgia.
by
R. Howard Hunt: Curator of Reptiles

Most of the seven Morelet's crocodiles in the breeding colony at the Atlanta Zoological Park were obtained as 60cm juveniles in July 1965 from the Mexican state of Yucatan. A salt-water fish diet produced an unusually rapid growth rate in the crocodiles until sexual maturity was reached in 1969 at an average length of 2.25m.

In 1969 and 1970 the females built and guarded nests but the eggs produced only dead embryos. The solarium containing our Morelet's crocodiles has an average temperature of 32°C and a 85% humidity making it ideal for the incubation of crocodile eggs. We therefore looked for other causes for the failure of the eggs to hatch.

We had several clues to our hatching problem. Many of the crocodile embryos were deformed with rudimentary tails and twisted bodies. Necropsy of the dead 20cm Morelet's crocodile embryos revealed fatty infiltration of the livers. Our Spectacled caiman *Caiman crocodylus crocodylus* which had bred since 1967 (Hunt, 1969) had fewer young hatch every year. Many of the caiman that failed to hatch had white lesions on the ventricle. Jones, 1965 mentions fatty degeneration of the liver in mink fed on a fish diet resulting in a vitamin E deficiency. Fish oil is especially abundant in unsaturated fatty acids and these fatty acids are deposited in the tissues. Hens on a vitamin E deficient diet produce dead embryos. Sheep deficient in vitamin E sometimes develop lesions of the heart in the right ventricle. Rats can store a certain amount of vitamin E but after a few litters it is exhausted. Vitamin E can be passed from mother to offspring to be stored in the fetal tissues. Modha, 1967 mentions the Nile crocodile eating dying fish. He discovered five nests that had dead embryos in various stages of development. Two other nests had young with deformed bodies and tails.

In 1971, we changed the 90% fish diet of the crocodilians to 25% fish, 25% chickens and 50% rats. Large doses of Vitamin E was placed in rats and chickens fed to the crocodilians. In the summer of 1971 our Morelet's

crocodiles mated, built nest mounds and laid viable eggs resulting in 21 young hatched. In 1971 we also hatched 58 Spectacled caiman. In 1972 we will feed a 100% whole chicken diet with a Vitamin E supplement to all our crocodilians.

10. CROCODILES FOR SALE.

Midwest Reptile and Animal Sales Inc. of Fort Wayne, Indiana, 46801, U.S.A. are offering specimens of the following species: Johnson's, American, Nile, Saltwater, Siamese, and West African Dwarf Crocodiles; False Gaviol, American Alligator, Brown Caiman and Spectacled Caimans. Prices range from 25 dollars for an 18 inch Brown Caiman to 500 dollars for a 21 inch Johnson's Crocodile.

James Powell is of the opinion that there are quite a number of captive animals - already in the country before current import restrictions were imposed, legally owned by collectors. At least some of the specimens offered for sale were probably purchased by Midwest from amateur collectors.

James Powell mentions also that as far as he knows, crocodilians have no legal protection in British Honduras and that populations of Crocodylus moreletii still exist there, particularly in the wild southern portion of the country. Thus their capture and export would be perfectly legal. As of June 1970, Jackie Vasquez, of Central American Safaris, P.O. Box 313, Belize, was offering to obtain this species. Possibly illegally exported from Mexico or Guatemala or from British Honduras?

11. NEW BOOKS.

THE LAST OF THE RULING REPTILES. Alligators, Crocodiles and their Kin. Wilfred T. Neill : 1971 : Columbia University Press. 486 pages. 15.95 dollars.

Altogether this comprehensive book represents an enormous task in library research and is particularly valuable in that literature old and new has been incorporated into one volume. The bibliography contains 32 pages of references. Twenty seven chapters are contained in the following main sections: Little known survivors from an ancient day: Two hundred million years of crocodilian history: A little light on some ancient episodes: Natural history of the American Alligator and The modern Crocodilians.

The American Alligator has 116 pages devoted to it whilst all of the remaining species are included in

154 pages. In some respects the chapter on the Nile crocodile is disappointing in that the author, whilst admitting never having seen this species in its habitat, discounts observations on parental care, that in fact the parent uncovers the eggs .. and many more aspects of biology that have been reliably documented. I would also think that his ideas on the future conservation of crocodilians are unduly pessimistic.

Tony Pooley
TONY POOLEY.

EDITOR.