

OCCURRENCE OF PARTIAL ALBINISM IN A WILD POPULATION OF THE SALTWATER CROCODILE (*CROCODYLUS POROSUS*, SCHNEIDER) IN ORISSA, INDIA

S. K. KAR¹ AND H. R. BUSTARD²

¹*Saltwater Crocodile Research and Conservation Centre, Dangmal, Via Rajkanika, District Cuttack, Orissa, India, and*

²*Central Crocodile Breeding and Management Training Institute, Rajendranagar Road, Hyderabad 500 264 (now at Airlie Brae, Alyth PH11 8AX, U.K.)*

(Received 2 March 1981)

During a population study of *Crocodylus porosus* inhabiting the tidal mangrove creeks of Bhitarkanika Wild Life Sanctuary in Cuttack District, Orissa (approximately 20° 40' N, 86° 50' E) the presence of several paler-coloured individuals in the population has been noticed. There is not a gradation of colour from light to dark coloration in the population but two discrete colour phases. Those comprising the majority are similar-coloured to *porosus* studied by the second

author in other parts of its range in Asia, New Guinea and Australia. Those in the minority have the ground coloration replaced by a pale whitish colour. These latter individuals are well known to the local people who consider that they are a distinct species of crocodile. They refer to them in the Oriya language as "Sankhua" (which means whitish) to distinguish them from typical *porosus* (known as "Baula" in Oriya).

Like the so-called "white" tigers of former Rewa

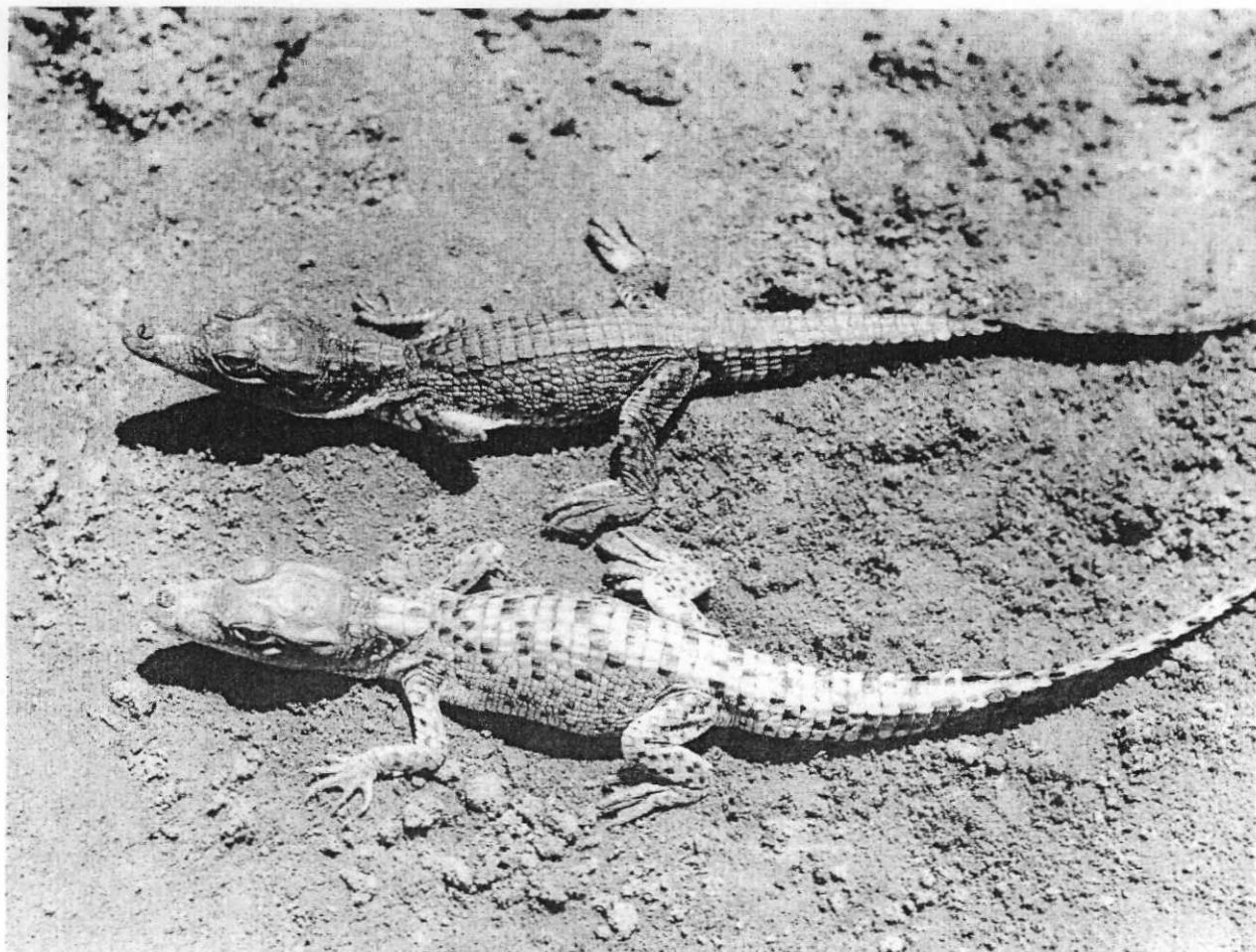


PLATE 1. Two hatchling saltwater crocodiles from the same clutch. The upper individual is of normal colour; the ground colour of the lower individual is whitish.

State in Central India (now part of Madhya Pradesh) the "white" crocodiles are not true albinos since they possess the normal black markings (spots or blotches, and stripes in crocodiles and tigers respectively). However, they both completely lack pigment in the ground colour.

At the time of the census conducted in December 1976 and January 1977, 35 adult and sub-adult saltwater crocodiles inhabited the sanctuary four of which were "white" crocodiles. These four are all present today. They comprise a female measuring 3.4–3.8 m and a juvenile (sex unknown) of about 1.2 m. A male of 5.2–5.5 m and a female of 4.0–4.3 m have a whitish face and a totally white face respectively. In adult crocodiles, the white colour is not as pale as in the baby crocodiles since, like other large reptiles, the colouring in *C. porosus* becomes dull with increasing size and age. The local people state that in very large (old) crocodiles the whitish colour of the body may become so dulled as to be indistinguishable from normal-coloured crocodiles. The face, however, is stated to remain white throughout life.

It is to be expected that the survival prospects for

such albinoid individuals in the wild would be poorer than for normally coloured individuals. However, there is good evidence from local people of their occurring in the Bhitarkanika mangroves over a long time-span and the data given in the preceding paragraph show that they can recruit to the breeding cohort of the population.

A clutch of 48 eggs was collected for hatchery incubation at Kalibhanjadian within this sanctuary. The mother is thought to be the 4.0–4.3 m "white" crocodile referred to above. The clutch produced 24 hatchlings between 21–23 August 1975, one of which was a "white" crocodile. The other 23 were all normal *porosus* hatchlings. The "white" crocodile and a normal-coloured member of the same brood are shown in Plate 1.

The "white" crocodile, which is a female, has been retained in captivity at the Centre at Dangmal. It has increased its birth weight of 55 g and length of 280 mm to 45.4 kg and 2.18 m respectively (November 1980).

It is hoped in due course to breed this female at the Centre.

BRITISH JOURNAL OF HERPETOLOGY, Vol. 6, pp. 221–222 (1982)

EMBRYONIC TAIL DEFORMATION IN THE SALTWATER CROCODILE (*CROCODYLUS POROSUS*, SCHNEIDER) IN ORISSA, INDIA

S. K. KAR¹ AND H. R. BUSTARD²

¹ Saltwater Crocodile Research and Conservation Centre, Dangmal, Via Rajknika, District Cuttack, Orissa and

² Central Crocodile Breeding and Management Training Institute, Rajendranagar Road, Hyderabad 500 264 (now at Airlie Brae, Alyth PH11 8AX, U.K.)

(Received 2 March 1981)

The clutch of 48 eggs laid in 1975 which gave rise to a "white" hatchling described in the paper immediately preceding (Kar and Bustard, 1982) also produced one abnormal embryo. This embryo developed to full-term but died without slitting the egg shell. On examination it was found to have a deformed and stunted tail similar to that described and figured for *Crocodylus novaeguineae* by Bustard (1969), where the cause was thought to be the result of high temperature egg incubation.

Saltwater crocodile eggs are usually laid during the last week of May/first week of June in Bhitarkanika. It is assumed that this nest was laid on 1 June then it incubated for 50 days prior to collection under an imperfectly known temperature regime. The nest was collected at 11 a.m. on 20 August 1975 (monsoon season). However, there was no rain on that day or on the two preceding days and the weather had alternated between sunny and overcast. The nest tem-

perature at the top of the egg mass at the time of collection was 31.0°C. This compares with a mean nest temperature of 31.9°C for a sample of 25 nests (Kar, 1981). Kar found that the mean nest temperature was considerably lower than air temperature throughout the day (by a mean of 2.3°C in the morning and 2.0°C in the afternoon) presumably due to evaporative cooling. In the present case air temperature was only 31.5°C, that is 0.5°C above nest temperature, at the time of collection. This is explicable on the basis that this nest was dry, so evaporation was minimal. The nest was also very compacted with much mud used in its construction resulting in reduced gaseous exchange with the outside. The nest was located in a generally shady place which may also account for the temperature being slightly lower than normal.

The eggs were incubated in an artificially prepared mound consisting of vegetation used in the natural nest. The temperature in the nest at egg level, measured