

Black-necked Stork *Ephippiorhynchus asiaticus* and Sarus Crane *Grus antigone* depredating eggs of the three-striped roofed turtle *Kachuga dhongoka*

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Black-necked Storks *Ephippiorhynchus asiaticus* are obligate carnivores, with their diet including waterbirds, fish and reptiles, including, occasionally, marine turtle hatchlings (Whiting and Guinea 1999, Sundar and Kaur 2001, Maheswaran and Rahmani 2002). Sarus Cranes *Grus antigone* are omnivorous, with their diet known to include cereals, potatoes, tubers, insects, frogs, snakes and eggs of birds (see Sundar and Choudhury 2003). Both species are sympatric and seldom seen in rivers, preferring shallow, freshwater inland wetlands (BirdLife International 2001, Sundar and Choudhury 2003, Sundar 2004). Observations of both species from riverine areas are few, and little is known of their habits when they occur in such habitats. Here we describe observations of the two species eating riverine turtle eggs, previously unknown in the diet of either species.

OBSERVATIONS

During a field visit to the National Chambal Sanctuary in Etawah district, Uttar Pradesh, India, under the aegis of the turtle egg protection programme of the Madras Crocodile Bank Trust on 27 February 2006, we observed an adult Black-necked Stork and a pair of Sarus Cranes near Ghadaita village (26°46.31'N 78°49.11'E) feeding on turtle eggs. The birds were observed for 40 minutes at 03h45 digging in the sand with their beaks to expose the turtle eggs. The stork swallowed the eggs whole while the cranes pierced the exposed eggs with their beaks, and swallowed the material inside before discarding the eggshells. Thirteen nests of the three-striped roofed turtle *Kachuga dhongoka* were depredated during the observation. Very few eggs remained undamaged in four nests, and the birds ate all the eggs in the other nests. The 13 nests were all dug by female turtles during the observation period and were then immediately depredated by the birds, which appeared to locate the nests by watching turtles walk back to the water after laying eggs.

On a second visit to the river on 9 March 2006, at Baswara village c.5 km from Ghadaita village, another Sarus Crane pair (presumed to be different owing to the distance; K. S. G. Sundar *in litt.* 2006) was seen depredating nest of the three-striped roofed turtle. During 12h15–12h45, the birds depredated five nests. As no turtles were seen laying, the birds presumably located the nest pits by probing the sand with their beak, perhaps using as a cue the different colour of the sand above freshly dug nests.

DISCUSSION

We have been visiting this region and other stretches of the Chambal River to study turtle breeding biology since

1992, and have not seen this behaviour by either species before. Additionally, it has not been noted by others who have worked in the Chambal region for many years (D. Basu and S. K. Sharma *in litt.* 2006). Furthermore, there are apparently no records of any species of stork or crane depredating freshwater turtle eggs (K. S. G. Sundar *in litt.* 2006), although Black-necked Storks in Australia have been observed to feed on freshly hatched marine turtles at night (Whiting and Guinea 1999). Nevertheless, local people at several locations along the Chambal River appeared to be familiar with turtle nest depredation by Black-necked Storks at least. Given that turtle eggs and hatchlings are a rich source of nutrition concentrated in relatively large quantities during a time when other foods may be in limited supply, it is surprising that this behaviour is not more widespread and/or better known.

The sand islands in the river here are used for nesting by several species of turtles during February–April, when food resources for Sarus Cranes are scarce, but when Black-necked Storks can readily find fish. The three-striped roofed turtle frequently lays eggs in the daytime, rendering it vulnerable to depredation by diurnal predators. The birds may have learned this behaviour by eating eggs left in nests that had been depredated by monitor lizards or mammals.

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