

The gharial in Bangladesh

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By 1975 the gharial *Gavialis gangeticus* was nearly extinct due to the combined effects of habitat alteration, hunting and fishing operations and it was made a priority species for the Government of India/FAO/UNDP Crocodile Breeding and Management Project initiated that year. Successful artificial incubation and release schemes in India and Nepal have generated optimism for its future in these two countries but the situation in Bangladesh is not so promising; in 1979 the gharial was believed extinct there. In 1983 the author visited a recently reported breeding site and reports on present conditions.

Present information on the gharial in Bangladesh suggests that fewer than 20 individuals occur, mainly along a short stretch of the Padma River (Ganges) near Rajshahi (24°22'N; 88°38'E) and the Indian border. Nesting may also occur in the Jamuna River. I visited the Padma during March to May, when nesting normally occurs, and returned at the end of June for the hatching period. The river is very low and slow-flowing from November to June with shallow sandbanks where the gharial bask for long periods during the winter. I studied a group near the villages of Char Khidipur and Diar Khidipur but was told that others were to be found both east, towards Charghat, and west, although I do not know whether they formed breeding groups. In the study area the south bank consisted of cliffs, about 15 m high, composed of sands interspersed

with muds, with an inlet floored at that time of the year with sand.

My first sighting was of a large male, about 5 m long, which I was told had arrived in November with a female. Later during my first stay I watched the male and two females, one 4 m long and the other 3.5 m, basking at the river's edge. The same stretch of river is used by the villagers for fishing and washing, and there is a regular countryboat ferry, but the gharials do not appear to be unduly disturbed. Although nesting occurs during March and April I was unable to ascertain at that time whether it had taken place. Villagers reported seeing a group of five basking females, so that along with the male there may have been up to six adults in this area. In the previous year, Whitaker (1982) reported that two females had nested on the sands of the inlet, while on another occasion 45 hatchlings were seen. On my return in late June I was told that females had been regularly observed in three places along the cliffs, indicating that they may have been guarding nests. Two of the females had already departed and villagers said they had seen female gharial at various times with young. One female remained, guarding a nest site, and was watched for nine days. She remained near the cliff, surfacing at intervals of 12–13 minutes, usually for about 30 seconds, each time showing only her head. Bustard (1980) described the normal nest site as a steep sandbank but this individual's behaviour indicates that a sandy near-vertical cliff face can also be utilised, although it is difficult to see how excavation and egg-laying could have been achieved. However, a Forest Department Wildlife scout told me that in 1982 just such a nest had been opened by villagers and he described it as being sunk 1 m or

so horizontally into the cliff at a similar height above water level. During the period of observation this female moved her guard position closer to the cliff, from about 10 m offshore to the water's edge. I was unable to observe hatching of this nest, but reports suggest that two, perhaps three, nests hatched successfully here in 1983.

Once hatching has occurred, and it may be triggered by rain, the female and her young remain at the river's edge for one or two days before moving on. At this time the river rises rapidly and may aid dispersal of the parents and young, though where they migrate to is not known for certain.

Many questions remain to be answered about the gharial in Bangladesh. As to the presence of other individuals in the country, I know personally of three juveniles, two in captivity in the Rajshahi town park (but due to be relocated soon) and one in the Jamuna River at Gaibanda. A large male was caught at Gaibanda in early 1983 and transferred to Dhaka Zoo, but died in February. The gharial has complete legal protection, though

enforcement is difficult, and the Wildlife Circle of the Forest Department has done all it can to protect the gharial at Rajshahi during the nesting period. However, with such a fragile adult population, efforts should be made to safeguard the breeding areas and other good gharial habitat, and to develop an artificial incubation and release scheme, which could be integrated with those in India and Nepal.

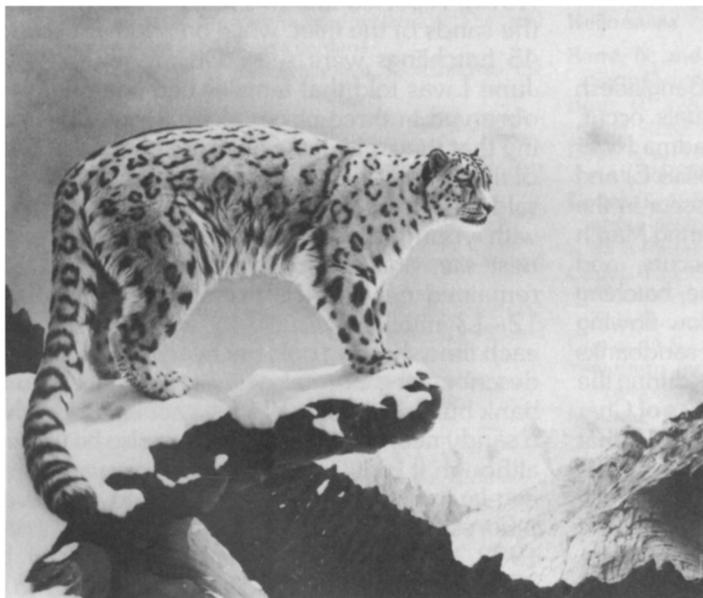
Acknowledgments

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