



# Occurrence of Red-crowned Roofed Turtle (*Batagur kachuga*) from the Upper Ganga, Uttar Pradesh, India, after 30 years

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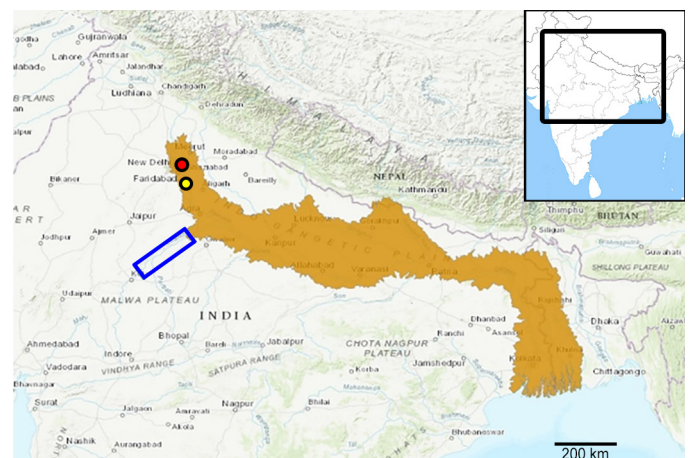
Thirty species in four families of tortoises and freshwater turtles (TFT) occur in India, three of which are large freshwater turtles in the genus *Batagur* (*B. baska*, *B. dhongoka*, and *B. kachuga*) (Ahmed et al. 2009). All three are assessed as Critically Endangered (CR) in the IUCN Red List (IUCN 2025) and are legally protected (Schedule I) under the Indian Wildlife Protection Act, 1972 (Government of India 2024).

The Red-crowned Roofed Turtle (*Batagur kachuga*) is a large riverine turtle that historically was distributed in major rivers and tributaries in a ~400,000-km<sup>2</sup> expanse of the Ganges River Basin (D. Moll and Moll 2004; Fig. 1). Intensive hunting of adults and eggs has caused catastrophic declines, reducing the population by over 80% and causing a dramatic decline in the species’ distribution (Praschag et al. 2019). Several individuals were found in the upper Ganga during a survey between Rishikesh and Kanpur in 1993 (Rao 1995), but *B. kachuga* was not detected in the Ganga during surveys conducted in 2006 and 2020 in Narora and Haidarpur (Singh et al. 2006, 2020). The absence of *B. kachuga* in the Upper Ganga has been attributed to overharvesting of eggs and adults (E.O. Moll 1990), illegal trade (E.O. Moll 1986; Das 1991; Praschag et al. 2019), habitat degradation including hydrological projects affecting river-flow dynamics and nesting banks (Das 1991, 1997; Choudhury et al. 2000), and entanglement in nets due to unsustainable fishing (Praschag et al. 2019). In the past 30 years, *B. kachuga* has not been seen throughout its historic range, except in the Chambal River straddling the states of Uttar Pradesh, Madhya Pradesh, and Rajasthan (Rao 1995; Rhodin et al. 2011), where fewer than 500 adult females are thought to survive (Sirsi et al. 2017; Singh et al. 2024).

Based on existing information, outside of India, Bangladesh and Nepal have only marginal habitats and no known populations are known to exist (Praschag et al. 2019). We believe that an old record from Bangladesh was either a released individual from the pet trade or a case of misidenti-

fication (SS, pers. comm.). The species was listed as extinct in Bangladesh in 2010 as the status of the few records was unclear (Rashid and Khan 2000; S.M.A. Rashid, pers. comm. at the Red List Workshop in Singapore, February 2011); nor do any recent vouchers document the species in Nepal.

On 30 May 2021, Mr. Anchal Kumar Singh called and requested that we identify a turtle found near a local pond adjacent to a house in Duhri Village, Hapur District, Uttar Pradesh, India (28.70126, 77.67210). The adult female (carapace length 63.7 cm, weight 12.4 kg) was identified as *B. kachuga* based on descriptions in Smith (1931) and Prachag et al. (2019) (Fig. 2). This is the first record of *B. kachuga* in the upper Ganga in 30 years. A photographic voucher was deposited in the University of Kansas Digital Archive (KUDA 14635) and the identity of the species was confirmed by Jayaditya Purkayastha.



**Figure 1.** Map showing the historic distribution of the Red-crowned Roofed Turtle (*Batagur kachuga*) in India. The red dot indicates the location of a female sighted in Duhri Village, Hapur District, Uttar Pradesh, India. The yellow dot indicates the location of a nest found in the Barasingha Sanctuary along the Upper Ganga in Hapur District of Uttar Pradesh. The rectangle indicates the current limited distribution in the Chambal River. Compiled by the Chelonian Research Foundation 2018.



**Figure 2.** A female Red-crowned Roofed Turtle (*Batagur kachuga*) recorded from a pond in Duhri Village, Hapur District, Uttar Pradesh, India. (KUDA 14635). Photograph by Anchal Kumar Singh.

Similarly, under the auspices of a community-led nest-protection program of the World Wide Fund for Nature (WWF) and the Uttar Pradesh Forest Department (UPFD) in 2022–23 in the Barasingha Sanctuary of the Upper Ganga in Hapur District of Uttar Pradesh (Dubey et al. 2025). On 03 March 2023, local villagers encountered two nests of *B. kachuga* near Ahar village, Bulandshahr District, Uttar Pradesh (Fig. 3). Twenty-one hatchlings emerged from 27 eggs in the two nests. All of the hatchlings were head started before being released at the natal site post-monsoon on 12 December 2023 to avoid mortality due to flooding. Photographic vouchers were deposited in the University of Kansas Digital Archive (KUDA 14636–7) and the identity of the species was confirmed by Jayaditya Purkayastha.

These sightings suggest that some adult *B. kachuga* remain in the upper Ganga in the area of Hapur and Bulandshahr Districts and that at least one female is nesting in the area. Intensive monitoring is needed to safeguard this small but crucial population of *B. kachuga* and possibly reestablish this charismatic species in its historic habitat.

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## Literature Cited

- Ahmed, M.F., A. Das, and S.K. Dutta. 2009. *Amphibians and Reptiles of Northeast India. A Photographic Guide*. Aaranyak, Guwahati, Assam, India.
- Choudhury B.C., S. Bhupathy, and F. Hanfee. 2000. Status information on the tortoises and freshwater turtles of India, pp. 86–94. In: P.P. van Dijk, B.L. Stuart, and A.G.J. Rhodin (eds.), *Asian Turtle Trade: Proceedings of a Workshop on Conservation and Trade of Freshwater Turtles and Tortoises in Asia*. Chelonian Research Monographs No. 2, Chelonian Research Foundation, Lunenburg, Massachusetts, USA.
- Das, I. 1991. *Colour Guide to The Turtles and Tortoises of the Indian Subcontinent*. R&A Publishing Ltd., Portishead, UK.
- Das, I. 1997. *Kachuga sylhetensis* recorded from northern Bengal, with notes on turtles of Gorumara National Park, eastern India. *Chelonian Conservation and Biology* 2: 616–617.
- Dubey, K., N. Kumar, N. Janoo, G. Prasad, A. Sharma, S. Babu, N. Kaushal, S. Yadav, and M.S. Khan. (2025). Community-led turtle conservation in the Rivers Ganga and Ramganga, Uttar Pradesh, India. *Reptiles & Amphibians* 32: e21505. <https://doi.org/10.17161/randa.v32i1.21505>.
- Government of India. 2024. India Code. The Wild Life Protection Act, 1972. <<https://www.indiacode.nic.in/bitstream/123456789/1726/1/a1972-53.pdf>>.
- IUCN (International Union for Conservation of Nature and Natural Resources). 2025. *The IUCN Red List of Threatened Species*. Version 2024-2. <<https://www.iucnredlist.org/>>.
- Moll, D. and E.O Moll. 2004. *The Ecology, Exploitation and Conservation of River Turtles*. Oxford University Press, New York, New York, USA.
- Moll, E.O. 1986. Survey of the freshwater turtles of India. Part I: The genus *Kachuga*. *Journal of the Bombay Natural History Society* 83: 538–552.
- Moll, E.O. 1990. India's freshwater turtle resource with recommendations for management, pp. 501–515. In: J.C. Daniel and J.S. Serrao (eds.), *Conservation in Developing Countries: Problems and Prospects*. Oxford University Press, Oxford, UK.
- Praschag, P., M.F. Ahmed, I. Das, and S. Singh. 2019. Red Crowned Roofed Turtle. *Batagur kachuga* (errata version published in 2019). *The IUCN Red List of Threatened Species* 2019: e.T10949A152043133. <<http://dx.doi.org/10.2305/IUCN.UK.20191.RLTS.T10949A152043133.en>>.



**Figure 3.** Red-crowned Roofed Turtle (*Batagur kachuga*) hatchlings from a nest in the 2022–23 nest-protection program of the World Wide Fund for Nature (WWF) and the Uttar Pradesh Forest Department in the Barasingha Sanctuary along the Upper Ganga in Hapur District, Uttar Pradesh, India (KUDA 14636–7). Photographs by Sanjeev Yadav.

- Rao, R.J. 1995. Studies on Biological Restoration of Ganga River in Uttar Pradesh; An Indicator Species Approach. Final technical report, Project No. J-11013/10/92 GPD, School of Studies in Zoology, Jiwaji University, Gwalior, India.
- Rashid, S.M.A. and S.M.M.H. Khan. 2000. Trade and conservation status of freshwater turtles and tortoises in Bangladesh, pp. 77–85. In: P.P. van Dijk, B.L. Stuart, and A.G.J. Rhodin (eds.), *Asian Turtle Trade: Proceedings of a Workshop on Conservation and Trade of Freshwater Turtles and Tortoises in Asia*. Chelonian Research Monographs No. 2, Chelonian Research Foundation, Lunenburg, Massachusetts, USA.
- Rhodin, A.G., A.D. Walde, B.D. Horne, P.P. van Dijk, T. Blanck, and R. Hudson (eds.). 2011. Turtles in Trouble. *The World's 25+ Most Endangered Tortoises and Freshwater Turtles—2011*. IUCN/SSC Tortoise and Freshwater Turtle Specialist Group, Turtle Conservation Fund, Turtle Survival Alliance, Turtle Conservancy, Chelonian Research Foundation, Conservation International, Wildlife Conservation Society, and San Diego Zoo Global, Lunenburg, Massachusetts, USA.
- Smith, M.A. 1931. *The Fauna of British India, including Ceylon and Burma. Reptilia and Amphibia. Vol. I—Loricata, Testudines*. Taylor and Francis, London, UK.
- Singh, S., S. Sirsi, D. Basu, and H. Andrews. 2006. Survey and sampling of turtles in Ganga along Narora, Bulandshahr district, Uttar Pradesh. *Herpinstance* 3: 5–6.
- Singh, S., S. Dutta, and A. Singh. 2020. Diversity and Distribution of Freshwater Turtles in and around Haiderpur Wetland Complex along Upper Ganges, Uttar Pradesh. Technical Report, Turtle Survival Alliance India, Lucknow, Uttar Pradesh, India.
- Singh, S., A., Tripathi, B.D. Horne, and P.S. Pareek. 2024. Conservation recovery of *Batagur kachuga* and *Batagur dhongoka* turtles in India: Development and operation of a head-starting facility. *Herpetological Bulletin* 167: 14–19. <https://doi.org/10.33256/hb167.1419>.
- Sirsi, S., S. Singh, A. Tripathi, S.F. McCracken, M.R.J. Forstner, and B.D. Horne. 2017. Variation in reproductive output of the Red-crowned Roofed Turtle (*Batagur kachuga*) and the Three-striped Roofed Turtle (*Batagur dhongoka*) in the Chambal River of North India. *Chelonian Conservation and Biology* 16: 203–214. <https://doi.org/10.2744/CCB-1236.1>.