

Hardella thurjii (Gray 1831) – Crowned River Turtle

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SUMMARY. – The crowned river turtle, *Hardella thurjii* (Family Geoemydidae), is a large (CL to 65 cm) freshwater turtle, largely confined to lentic waters in the Indian subcontinent. The species shows extreme sexual size dimorphism, females attaining a length over three times that of the males. Only plant matter is taken by the species in some areas, but elsewhere prawn or fish may be taken, possibly as carrion. Courtship and mating take place during the summer months in northern India, and 8–19 ellipsoidal eggs may be produced. Heavy exploitation for its flesh and extensive wetland development projects are among the factors suspected to have made the turtle rare in localities where it was once common, although there is some evidence that the species is difficult to observe in the wild.

DISTRIBUTION. – Bangladesh, India, Myanmar?, Nepal, Pakistan. Distributed across the northern Indian subcontinent from Pakistan to Bangladesh, and possibly in western Myanmar.

SYNONYMY. – *Emys thuryi* Gray 1830 (nomen oblitum), *Emys thurjii* Gray 1831, *Hardella thurjii*, *Emys flavonigra* Lesson 1831, *Clemmys thurgii* Fitzinger 1835 (ex errore), *Emys thurgii*, *Batagur thurgii*, *Hardella thurgii*, *Kachuga oldhami* Gray 1869, *Batagur falconeri* Lydekker 1885, *Batagur cautleyi* Lydekker 1885, *Batagur floweri* Lydekker 1885, *Batagur watsonii* Lydekker 1886, *Geoemyda pilgrimi* Prasad and Satsangi 1967.

SUBSPECIES. – Two subspecies are currently recognized by some authorities: *Hardella thurjii thurjii* (Ganges Crowned River Turtle) and *Hardella thurjii indi* (Indus Crowned River Turtle) (synonymy: *Hardella indi* Gray 1870); but other authorities do not recognize these subspecies as distinct.

STATUS. – IUCN 2007 Red List: Vulnerable (VU A1cd+2cd) (assessed 2000); CITES: Not Listed.

Taxonomy. – Originally described as *Emys thuryi* by Gray (1830), it was renamed *Emys thurjii* by Gray (1831), and that name has remained in use. The species was later allocated to the genus *Hardella* Gray 1870. Lydekker

(1885, 1886) placed the species in the genus *Batagur*, in his monographs on the fossil turtles of India. All authors have, however, continued to recognize *Hardella* as a distinct genus for this species. Synonyms include *Emys flavonigra*



Figure 1. *Hardella thurjii*; adult male. National Chambal Sanctuary, Madhya Pradesh, India. Photo by Indraneil Das.



Figure 2. *Hardella thurjii*; adult female. Shella, Cherrapunji, Meghalaya, India. Photo by Indraneil Das.

Lesson 1831, *Kachuga oldhami* Gray 1869, *Batagur floweri* Lydekker 1885, *Batagur cautleyi* Lydekker 1885, and *Batagur watsonii* Lydekker 1886.

Two subspecies are recognized by some authorities: *H. t. thurjii* (Gray 1831) from the Brahmaputra–Ganga drainage, with a weak vertebral keel and no lateral keels, and a western subspecies *H. t. indi* (Gray 1870) from the Indus drainage, with a pair of weak, discontinuous lateral pleural keels, and with the region around the keels darker than the rest of the costal scutes (Das 1991). A Plio-Pleistocene turtle from the Siwaliks of Haritalyanagar, Himachal Pradesh, *Geoemyda pilgrimi* Prasad and Satsangi 1967, was shown by Das (1994) to be synonymous with *Hardella thurjii*, and in showing the presence of lateral keels, was assignable to the subspecies *indi*. The type locality of the fossil turtle lies closer to the known range of the nominal subspecies, rather than to the western one. Praschag et al. (2007) found no evidence for

genetic distinctiveness of *H. t. indi* and synonymized it under a monotypic *H. thurjii*.

Description. — Shell thick and heavy in adults, moderately depressed, with a single weak vertebral keel in the eastern form, or a vertebral and a pair of pleural keels in the western form. The bridge is well-developed and the carapace fully sutured to the plastron, with hypertrophied buttresses that extend to the neural bones. The head is large with a projecting snout. The digits are fully webbed. Neural bones are generally hexagonal with the short sides anteriorly directed. Neurals I to IV are relatively long and narrow, but those posterior to this point are shorter and wider. The ground color of the carapace is dark brown, with grey-black keel or keels, and the costo-marginal juncture is marked with an orange-yellow band. The plastron is yellow, with a large blackish blotch on each scute. The head has four orange-yellow stripes on each side; sometimes a short crossbar of the same color on the forehead. Limbs are brownish, with yellow edges.

Sexual size dimorphism in this species is extreme; perhaps more so than in any other geoemydid turtle, although comparable to that shown by some American emydids (*Gratemys barbouri*, *G. pulchra*). Any specimen longer than about 21 cm in carapace length (CL) may be identified as a female based on size alone. Males close to that size generally appear quite old, with smooth carapacial scutes and no evidence of growth annuli. Bony shells in the 15–20 cm CL range may easily be sexed by the presence of open intercostal fontanelles only in the females; these remain open in the females until a CL of at least 25–30 cm is reached. The tail of the male is longer and thicker than that of the female, but the adult male shows no plastral concavity, and may indeed have a slightly convex or bulbous plastron, like the females.

In India, females attain 61 cm in straight CL, while males reach only about a third of that length. Shrestha (1997)



Figure 3. *Hardella thurjii*; adult female portrait. Shella, Cherrapunji, Meghalaya, India. Photo by Indraneil Das.