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**Title** First photographic evidence of nesting behaviour of Leith's Softshell Turtle (*Nilssonia leithii*, Gray 1872) in the Cauvery Wildlife Sanctuary, Karnataka

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Leith's softshell turtle (*Nilssonina leithii*) is endemic to Peninsular India and is listed as “Critically Endangered” under the IUCN Red List. The species is reported to have a declining population trend with severely fragmented habitat (Praschag et al., 2021). *Nilssonina leithii* has been reported from the Cauvery, Tungabhadra, Ghataprabha, Bahvani, Godavari, and Moyar drainages.

Fellows & Saha (2023) reported the northernmost distribution of the species from a reservoir constructed on the Tawa River flowing through the Satpura Tiger Reserve, Madhya Pradesh. Although there are historical reports from northern Indian drainages, Das et al. (2014) clarify that these are erroneous and likely the result of misidentification. Despite their wide distribution in the Indian peninsula, data on this species' conservation status, ecology and biology are sparse.

In the Cauvery basin, Gerard et al. (2023) report having sighted two individuals near the Grand Anicut in Tamil Nadu during a survey of the Cauvery River, and Das et al. (2014) report the species at Talakad, above the Shivanasamudram waterfalls, and from the Moyar River, a tributary of the Cauvery. Reports on citizen science platforms such as India Biodiversity Portal and iNaturalist, along with unpublished reports from researchers and fishermen in the Cauvery South Wildlife Sanctuary in Tamil Nadu, suggest that this river stretch (117 km) hosts a healthy breeding population of the species.

In the Cauvery Wildlife Sanctuary, several anecdotal sightings are reported from the Galibore Nature Camp run by the Jungle Lodges and Resorts (Personal observation; Basavaraju Nayak, Hegganur). The turtles are more frequently observed surfacing for air than basking. All sightings are from the river habitats characterized by large and deep slow flowing pools with sandy and rocky banks, often adjoining shallow-fast flowing rapids.

There has been hardly any direct sighting of the nesting in this species. Nesting observations are rare and crucial for understanding their reproductive ecology. Previously, breeding observations from the Sharavathi Wildlife Sanctuary (April–May) and Kali River (December–January) suggest that at least two clutches may be laid in a year (Sirsi, 2011; Das, 2014).

This note adds a new observation of nest excavation by a female Leith's softshell turtle on the 4<sup>th</sup> of January 2023 between 17:25 and 17:40 hours on the South bank of the Cauvery River, Bheemshwari area (12°18'30.21" N 77°16'39.77" E). The turtle (carapace measuring approximately 100 cm in length, visual estimation) was observed from a boat (*theppa*). The observer stepped onto the bank to take a photograph of the turtle and immediately left the site to call others; after returning 15 minutes later, the turtle was found in the same location. It had begun excavating the nest about 2 meters from the water's edge. The turtle was observed excavating the nest from a distance of 5 meters for 5 minutes. Egg laying was not observed as the turtle abandoned the nest after being disturbed by the observers when they attempted to fasten the boat to a bush on the riverbank.

The riverbank comprised of sandy soil held together by dense root growth of tuft grasses (*Desmostachya bipinnata*). The nesting site was exposed to the sky, about 10 meters from the closest tree (*Syzigium sp.*), and on the edge of a moderately deep slow flowing pool. During the time of observation, it was noted that the river was in moderate flow conditions. The riparian vegetation along the riverbank is considered natural, undisturbed, and healthy, dominated by old growth trees such as *Terminalia arjuna*, *Pongamia pinnata*, and *Syzigium sp.* Riparian shrubs include, *Homonoia riparia*, *H. retusa*, *Phyllanthus lawii*, and *Crinum sp.*

This observation highlights the importance of riparian habitats as critical nesting habitats for Leith's softshell turtle. Nesting behaviour in this species is poorly documented, and further studies are needed to assess nesting site selection and success. The presence of nesting turtles underscores the need for the protection of riparian habitats in the Cauvery Wildlife Sanctuary, as these areas are susceptible to human disturbance and habitat alteration. The proposed Mokedattu dam, located approximately 22 km downstream of the observation will inundate the entire riparian habitat and permanently alter habitat available for turtles and other riparian specialists like the grizzled giant squirrel (*Ratufa macroura*), Indian mugger crocodile (*Crocodylus palustris*), smooth coated otter (*Lutrogale perspicillata*), humpback mahseer (*Tor remadevii*), and Holematthi trees (*Terminalia arjuna*), to name a few.

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Figure 1. (Left) Nest site on the water's edge. (Right) *Nilssonina leithii*, adult female excavating a nest.



Figure 2. Nest site characterized by well-drained sandy soil reinforced by tuft grasses.