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### NOTE

#### A FIRST DISTRIBUTION RECORD OF THE INDIAN PEACOCK SOFTSHELL TURTLE *NILSSONIA HURUM* (GRAY, 1830) (REPTILIA: TESTUDINES: TRIONYCHIDAE) FROM MIZORAM, INDIA

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## A first distribution record of the Indian Peacock Softshell Turtle *Nilssonina hurum* (Gray, 1830) (Reptilia: Testudines: Trionychidae) from Mizoram, India

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The trionychid turtle species composition remains poorly documented in Mizoram. So far, only three turtle species under this family have been reported by previous workers. Here, we report the occurrence of the Indian Peacock Softshell Turtle *Nilssonina hurum* (Gray, 1830) based on two individuals collected from Buhchangphai and Serlui, Mizoram, India.

Chelonians are by far the most ancient quadruped vertebrates on Earth and are widely distributed in India (Das 1985, 1995, 2002). Having one of the most diverse chelonian fauna in the world, India is currently inhabited by 30 species of freshwater turtles and tortoises and six marine turtles (Ahmed et al. 2009; Das & Gupta 2015) including the recent record of *Manouria impressa* by Mital et al. (2019). Eight species of turtles belonging to the family Trionychidae (Reptilia: Chelonia) are known to occur in the country, viz., *Nilssonina gangetica*, *N. hurum*, *N. leithii*, *N. nigricans*, *Chitra indica*, *Amyda cartilaginea*,

*Pelochelys cantorii*, and *Lissemys punctata* which comprises three subspecies—*L. punctata punctata*, *L. punctata andersonii*, and *L. punctata vittata* (Das 1990, 1996; Bhupathy et al. 1992; Frazier & Das 1994; Choudhury 1995; Datta 1998; Sengupta et al. 2000; Pawar & Choudhury 2000; Praschag & Gemel 2002; Praschag et al. 2011). Till date, little is known about the distribution pattern and the actual species composition of trionychid turtles in Mizoram State, however, three distinct species are currently known to occur, namely, *L. punctata*, *P. cantorii* (Matthew 2007), and *A. cartilaginea* (Pawar & Choudhury 2000; Hmar et al. 2020).

The conservation status of *N. hurum* is presently listed as Vulnerable in the IUCN Red List (Das et al. 2010), Appendix I in CITES, and is also categorized as Schedule I under Wildlife Protection Act, 1972 in India (Das & Gupta 2011). In India, it was first reported by Annandale (1912a) from Puri, Orissa (Odisha). It is commonly

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known as the Indian Peacock Softshell Turtle, widely distributed in the northern and central parts of the Indian sub-continent; at tributaries of the rivers Indus, Ganga, Brahmaputra, and Subarnarekha (Smith 1931; Moll & Vijaya 1986). It was also reported from isolated water bodies of Maharashtra (Varghese & Tonapi 1986), Madhya Pradesh (Das 1987), Rajasthan (Bhupathy & Kumar 1988), Uttar Pradesh (Pai & Basu 1988), and Manipur (Singh 1995). There are records of *N. hurum* from several protected areas in the country such as the Pakhui Wildlife Sanctuary (Arunachal Pradesh), Mupa-Lanteng Reserve Forest (Assam), Bherihari Wildlife Sanctuary (Bihar), Hastinapur Wildlife Sanctuary and Sarnath Turtle Sanctuary (Uttar Pradesh), National Chambal Sanctuary (Madhya Pradesh), Keoladeo National Park (Rajasthan) (Rao 2001), Patbausai and Sundaridia (Assam) (Das & Saikia 2007), Kamakhya (Assam) (Purkayastha et al. 2013), Kaziranga National Park (Assam) (Basumatary & Sharma 2013), and Van Vihar National Park (Madhya Pradesh) (Manhas et al.

2018). Outside India, its distribution ranges include eastern Pakistan, Bangladesh, and Nepal (Mertens 1969; Das 1989; Mitchell & Rhodin 1996; Schleich & Kastle 2002; Noureen et al. 2008). In this paper, we report two individuals, male and female of *Nilssonina hurum* from Kolasib District which represents the first record for Mizoram State, northeastern India.

While surveying the chelonian diversity in different drainages of Kolasib District (24°–24.25° N & 93.5°–92.75° E), Mizoram, the first individual of the adult freshwater turtle was encountered and collected from Serlui drainage (24.237°N and 92.745°E; 94m), near Builum Village at around 10.30h on 27 June 2020, (Image 1). The specimen was found basking on a wooden log on the bank of a small island in the Serlui B Dam. The collection site is covered by a secondary forest type, dominated by different species of trees like *Gmelina arborea*, *Tectona grandis*, *Ficus semicordata*, *Michelia champaca*, *Bischofia javanica*, and bamboo species like *Melocanna baccifera* and *Dendrocalamus hamiltoni*.

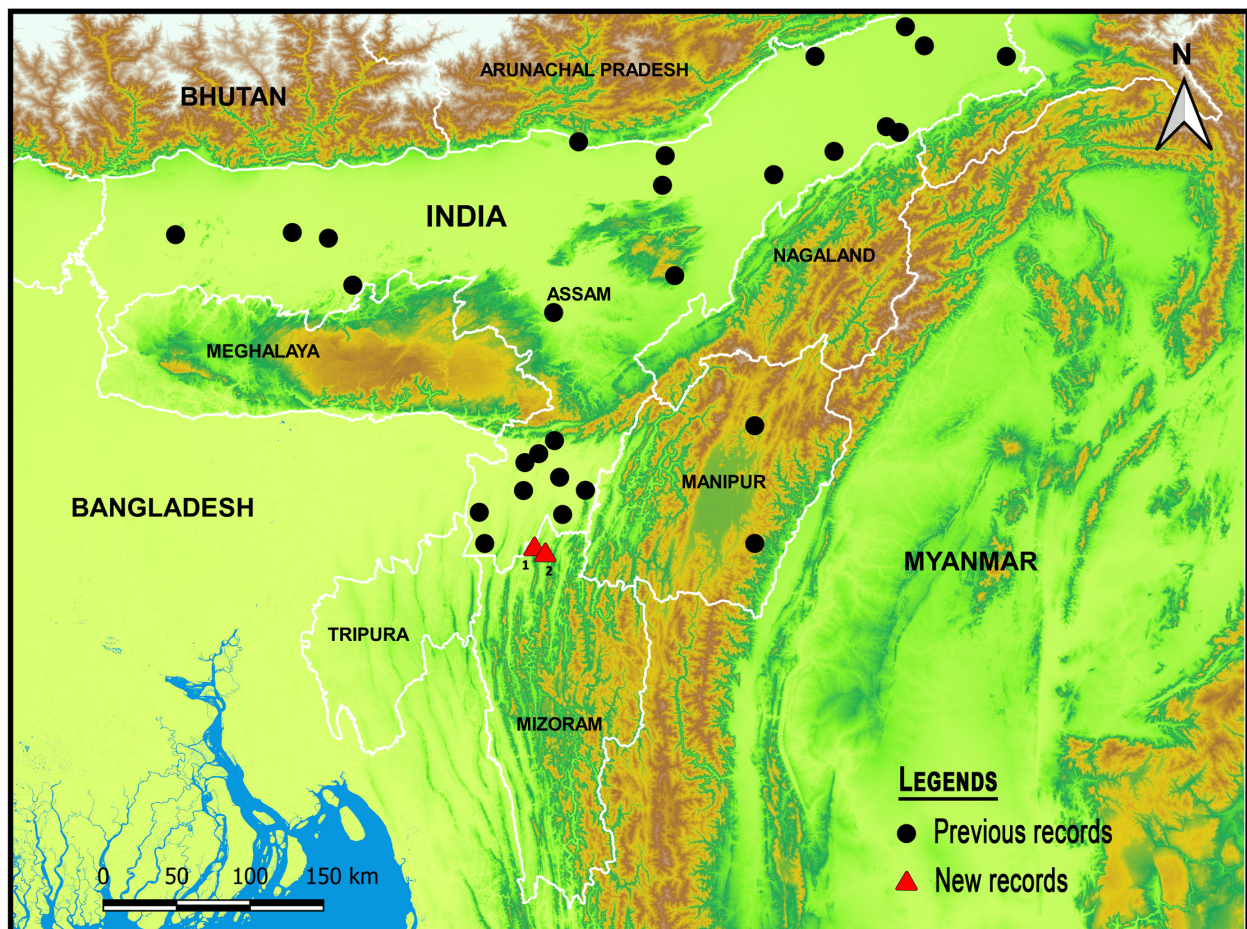


Figure 1. The distribution of *Nilssonina hurum* in northeastern India (Previous records in solid dark circles; new records in solid red triangles, i.e., 1 – Buhchangphai and 2 – Serlui).



Image 1. A—a female *Nilssonina hurum* (© Tlauliana) | B—collection site at Serlui (© Lalmuanawma).

The second individual was sighted on 23 July 2020 from a fish pond (24.324°N & 92.657°E; 52m), near Chhimluang River, Buhchangphai Village located ca. 11km to the west from the first collection site (Image 2). It was found burrowed in mud beneath the roots of *F. semicordata* on the banks of a fish pond at around 01.40h. The surrounding vegetation was mostly dominated by *T. grandis*, *F. semicordata*, *Artocarpus heterophyllus*, *M. champaca*, *Duabanga grandiflora*, and a species of bamboo like – *M. baccifera*, *D. hamiltonii* and *Bambusa*

*tulda*.

The two individuals were identified as the Indian Peacock Softshell Turtle *Nilssonina hurum* based on the identification key provided by Annandale (1912b), Rashid & Swingland (1997), Praschag et al. (2007), and Das et al. (2010). According to Das et al. (2010), the sex of the first individual was identified as a female due to its short tail and cloaca positioned close to the base of the tail and the second one as a male as the tail is thick, long and edgeless; also, the cloaca positioned close to the

Table 1. Morphometric measurement of the observed *Nilssonina hurum* from Mizoram, India.

	Sex	Morphometric measurement (in mm)				Weight (in kg)
		Carapace length	Carapace width	Plastron length	Plastron width	
1	Male	270	185	250	180	3.16
2	Female	390	315	310	325	7.17



Image 2. A—a male *Nilssonina hurum* (© Tlauliana) | B—collection site at Buhchangphai (© Lalmuanawma).

tip of the tail. After morphometric measurements were taken with the help of a measuring tape nearest to 1mm, both individuals were handed over to the field staff to be released into the natural habitat with the permission issued by the Chief Wildlife Warden, Department of Environment, Forest and Climate Change, Government of Mizoram. Details of both individuals are given in Table 1. The individuals have a large head and snout strongly turned down; the head and limbs are olive-green; forehead with dark reticulations and large yellow or orange patches or spots, especially behind the eyes and across the snout, that are larger than those in its sister species, *N. nigricans*; carapace low and oval, dark olive green to nearly black sometimes with a yellow rim and the anterior edge has blunt tubercles. The juveniles have four striking, orange ringed dark-centered ocelli that are subequal and symmetrically positioned on an olive green carapace with dark reticulation; the markings becoming obscured with growth. The plastron is dark in juveniles, turning light grey in adults. Males possess relatively longer and thicker tails than females, with the cloaca situated close to the tail-tip. No sexual dimorphism in shell colour or patterns or size has been

reported (Das et al. 2010).

Das et al. (2010) reported that the Indian Peacock Softshell Turtle utilizes rivers, lakes, and ponds, from the upper reaches of the rivers, to the lowest, while apparently avoiding the saline river mouths. Its ability to burrow into the mud may be associated with its ability to inhabit ponds and other lentic environments that may dry up during the dry season. Adults were observed to utilize deeper sections of the river, while yearlings appear to stay in the shallower parts. Rashid & Swingland (1997) mentioned that the species migrates from drying ponds, and are known to bask on the surface of the water.

The vegetation of the present surveyed area falls under the tropical wet evergreen forest and tropical semi-evergreen forest associated with moist deciduous forest corresponding to the Cachar tropical evergreen 1B/C3 and semievergreen 2B/C2 forest (Champion & Seth 1968) (Fig 1). The average annual rainfall of Kolasib District is 2,703mm and temperature ranges 23°C–35°C (NIC 2020). The closest published locality record for this species is in Rukri River, Hawaithai, Cachar District, Assam (24.5°N & 92.8° E) (Das & Gupta 2011), which is approximately 29.9km from the first distribution record and 24.9km from the latter to the south. Being the components of Barak drainage system, the three collection sites, Chhimluang, Serlui, and Rukri rivers join later in Assam that suggested the possibility of dispersal in between these two states. Due to construction of Serlui B Dam for hydroelectric power in 2006 that was completed in 2009, the dam creates a reservoir catchment area of ca. 53km<sup>2</sup> that drastically altered the natural habitat of these valuable species. Moreover, it had been reported that turtles and tortoises in these areas are commonly hunted for meat and trade by the local people and we suggest that a proper assessment on their conservation measures needs to be initiated.

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##### A first distribution record of the Indian Peacock Softshell Turtle *Nilssonina hurum* (Gray, 1830) (Reptilia: Testudines: Trionychidae) from Mizoram, India

– Gopel Zothanmawia Hmar, Lalbiakzuala, Lalmuansanga, Dadina Zote, Vanlalhruaia, Hmar Betlu Ramengmawii, Kulendra Chandra Das & Hmar Tlawmte Lalremsanga, Pp. 17036–17040

##### A frog that eats foam: predation on the nest of *Polypedates* sp. (Rhacophoridae) by *Euphlyctis* sp. (Dicroglossidae)

– Pranoy Kishore Borah, Avrajjal Ghosh, Bikash Sahoo & Aniruddha Datta-Roy, Pp. 17041–17044

##### New distribution record of two endemic plant species, *Euphorbia kadapensis* Sarojin. & R.R.V. Raju (Euphorbiaceae) and *Lepidagathis keralensis* Madhus. & N.P. Singh (Acanthaceae), for Karnataka, India

– P. Raja, N. Dhatchanamoorthy, S. Soosairaj & P. Jansirani, Pp. 17045–17048

##### *Cirsium wallichii* DC. (Asteraceae): a key nectar source of butterflies

– Bitupan Boruah, Amit Kumar & Abhijit Das, Pp. 17049–17056

##### *Hyecoum pendulum* L. (Papaveraceae: Ranunculales): a new record for the flora of Haryana, India

– Naina Palria, Nidhan Singh & Bhoo Dev Vashistha, Pp. 17057–17059

#### Addendum

##### Erratum and addenda to the article 'A history of primatology in India'

– Mewa Singh, Mridula Singh, Honnavalli N. Kumara, Dilip Chetry & Santanu Mahato, Pp. 17060–17062

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