

New geographical distribution of Asiatic Softshell Turtle from Mizoram, India



Sub-adult male *Amyda cartilaginea* from Tuirial River, Mizoram, northeastern India.

Eight species of trionychid turtle are known to occur in India, including *Chitra indica*, *Lissemys punctata* (two sub species *punctata* and *andersonii*), *Nilssonina gangetica*, *N. hurum*, *N. leithii*, *N. nigricans*, *Pelochelys cantorii*, and *Amyda cartilaginea* (Frazier & Das 1994; Pawar & Choudhury 2000; Fritz et al. 2014). The Asiatic Softshell Turtle *Amyda cartilaginea* (Boddaert, 1770) (Testudines: Trionychidae) inhabits freshwater bodies

such as lowland rivers, ponds, canals, hill streams, and possibly estuaries (Boulenger 1912; Moll 1976; Ahmed et al. 2009). The first report of the country is from Ngengpui River basin in the extreme southern part of north-eastern India (Pawar & Choudhury 2000). Four species of trionychids (*Nilssonina gangetica*, *N. hurum*, *Chitra indica*, and *Lissemys punctata*) were reported from the Barak Valley, Assam (Das & Gupta 2011) and

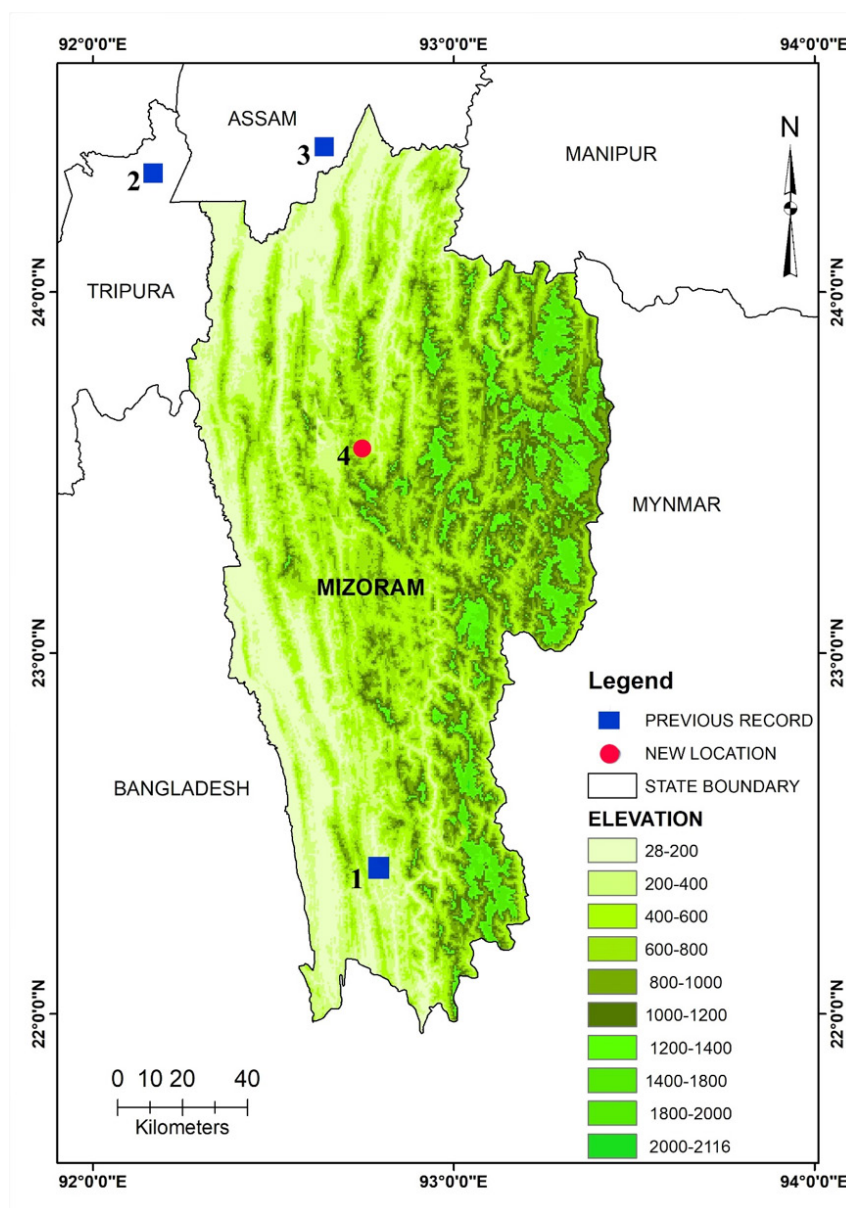
two individuals of *Amyda cartilaginea* were reported from Tripura (North District), Narichera Stream (Das et al. 2016). Recently, this turtle was reported from the Assam-Mizoram border at Dhalchera River, Phaisen

Hills, Cachar District, Assam (Nath et al. 2018).

While surveying the herpetofauna of Tuirial River drainage (23.555°N & 92.779°E), Aizawl District, Mizoram, a sub-adult individual of *A.*

cartilaginea was captured from the swift flowing water by V.L. Mawia at around 12.30h on 13 December 2019. This specimen represents the second report for the state of Mizoram and fourth for the country, respectively. Based on the presence of a distinct row of tubercles along the anterior edge of the carapace and a head with numerous indistinct yellow spots on an olive background, the specimen was identified as the Malayan Softshell Turtle (*Amyda cartilaginea*: Trionychidae: Trionychinae) (Ahmed et al. 2009). Although Ahmed et al. (2009) mentioned a greenish or olive carapace with yellow and black speckling, such speckling was not found in our specimen. As the tail extended beyond the posterior border of the carapace, it was probably a male (Ahmed et al. 2009).

The long axis length of the carapace measured 200.3mm, whereas its breadth was 170.3mm. The circumference of the carapace was 170mm and that of the plastron was 160mm. The length of the



Map showing geographical distribution of *Amyda cartilaginea* in India. 1) Ngengpui Wildlife Sanctuary. 2) Narichera Stream. 3) Dhalchera River. 4) Tuirial River.



plastron including the tail was 200mm. After taking measurements and photographs, it was released back into the natural environment. This report highlights the extension range from the previous locality at Ngengpui Wildlife Sanctuary (92.753–92.838 °E & 22.356–22.501 °N) from the southern part of Mizoram towards the north approximately 123km and links the type locality reported from Phaisen Hill (Assam-Mizoram border), Dhalchera (24.446°N & 92.698°E), Assam (Nath et al. 2018) to the north, which is about ca. 96km from the present locality.

The occurrence of *A. cartilaginea* in the drainage of Tuirial River which flows northward to join Barak River in Cachar plain of Assam suggests the possibility of this turtle species to migrate (or was washed downstream) from Mizoram to the adjacent Assam-Mizoram border as assumed by Nath et al. (2018). The presence of *Amyda cartilaginea* in the Tuirial drainage and Ngengpui River that joins Kolodyne River in the south, however, reveals that this species could be more widespread in other drainages than currently known in the state. In the present study, the specimens were occasionally found in various local markets of Mizoram and in the Aizawl Zoological Park but there is no proper record from where the specimens were collected. This shows that *Amyda cartilaginea* are not very rare species sparsely distributed in the state of Mizoram.

At present, the species is known to be harvested for local, regional, and international consumption (van Dijk 1999). Large numbers

are caught for rural consumption, while regional networks of hunters and traders supply restaurants and the international trade (Jenkins 1995; van Dijk 1999). The IUCN Red List of Threatened Species lists this species as Vulnerable (Asian Turtle Trade Working Group 2000). This turtle may also occur in the adjacent states of Manipur and Nagaland bordering Myanmar (Ahmed et al. 2009). Therefore, there is a need for the study of the distribution and population trend of this species to enrich scientific knowledge and to understand its threat status in order to implement conservation measures.

IUCN Red List: Vulnerable (Asian Turtle Trade Working Group 2000).

Global distribution: Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Singapore, Thailand, Vietnam, India and Bangladesh (Tana et al. 2000; Platt et al. 2007, 2012; Khan 2012; Kabir et al. 2015).

References

- Ahmed, M.F., A. Das & S.K. Dutta (2009).** *Amphibians and Reptiles of Northeast India. A Photographic Guide*. Aaranyak, Guwahati, 170pp.
- Asian Turtle Trade Working Group (2000).** *Amyda cartilaginea*. The IUCN Red List of Threatened Species 2000: e.T1181A3309466. Accessed 19 October 2015. <https://doi.org/10.2305/IUCN.UK.2000.RLTS.T1181A3309466.en>
- Boddaert, P. (1770).** *Brief van de Kraakbeenige Schildpad, uit de Verzameling van Wylen den Weledelen Zeer Geleerden Heere Johannes Albertus Schlosser/ Epistola de Testudine Cartilaginea, Descripta atque Accuratissima Icone Illustrata ex*



Museo Viri Celeberrimi Johannis Alberti Schlosseri.
Kornelis van Tongerlo/Cornelium van Tongerlo,
Amsterdam/Amstelodami, viii+40pp., 1 pl.

Boulenger, G.A. (1912). *A Vertebrate Fauna of the Malay Peninsula from the Isthmus of Kra to Singapore including the Adjacent Islands. Reptilia and Batrachia.* Taylor and Francis, London, xiii+294pp.

Das, B., A. Das & A.K. Gupta (2016). *Testudines–Turtles.* *Herpetological Review* 47(1): 78–79.

Das, K.C. & A. Gupta (2011). Site records of softshell turtles (Chelonia: Trionychidae) from Barak Valley, Assam, northeastern India. *Journal of Threatened Taxa* 3: 1722–1726. <https://doi.org/10.11609/JoTT.o2487.1722-6>

Frazier, J.G. & I. Das (1994). Some notable records of testudines from the Indian and Burmese subregions. *Hamadryad* 19: 47–66.

Fritz, U., R. Gemel, C. Kehlmaier & M. Vamberger (2014). Phylogeography of the Asian Softshell Turtle *Amyda cartilaginea* (Boddaert, 1770): evidence for a species complex. *Vertebrate Zoology* 64: 229–243.

Jenkins, M.D. (1995). *Tortoises and Freshwater Turtles: The Trade in southeast Asia.* TRAFFIC International, Cambridge, United Kingdom, iv+48pp.

Kabir, M.T., M.F. Ahsan, B.K. Das & A. Khatoon (2015). Range extension of the Asiatic softshell turtle, *Amyda cartilaginea* (Boddaert 1770) in Bangladesh. *Hamadryad* 37: 111–113.

Moll, E.O. (1976). West Malaysian turtles: utilization and conservation. *Herpetological Review* 7: 163–166.

Nath, A., H. Singha & P. Deb (2018). First report on the presence of *Amyda cartilaginea* (Boddaert 1770) from Assam, India. *Hamadryad* 38(1):39–43.

Pawar, S.S. & B.C. Choudhury (2000). An inventory of Chelonians from Mizoram, northeastern India: new records and some observations of threats. *Hamadryad* 25: 144–158.

Platt, S.G., W. Ko Ko, K. Platt, M.M. Myo, L.L. Khaing & T.R. Rainwater (2007). Notes on the occurrence, natural history, and conservation status of turtles in central Rakhine (Arakan) State, Myanmar. *Hamadryad* 31: 202–211.

Platt, S.G., W. Ko Ko., K. Platt., K.M. Myo, M.M. Soe & T.R. Rainwater (2012). Species inventory and conservation status of chelonians in Nat-ma Taung National Park, Myanmar. *Hamadryad* 36: 1–11.

Tana, T.S., P.L. Hour, C. Thach, L. Sopha, C. So-Phat, H. Piseth & H. Kimchay (2000). Overview of turtle trade in Cambodia. *Chelonian Re-search Monographs* 2: 55–57.

van Dijk, P.P. (1999). A Review of the Conservation Status of Tortoises and Freshwater Turtles in Thailand. Report to IUCN Asia Programme and Species Survival Commission IUCN/SSC Tortoise and Freshwater Turtle Specialist Group.

Acknowledgements: We would like to acknowledge Professor G. S. Solanki, Head of Department, Zoology, Mizoram University for allowing us laboratory facilities in this work and the Chief Wildlife Warden, Department of Environment, Forests & Climate Change, Government of Mizoram for issuing the collection permission No. A. 33011/2/99–CWLW/225.

**Gospel Zothanmawia Hmar¹,
Lalmuansanga², Lalbiakzuala³, H.T.
Lalremsanga⁴ & V.L. Mawia⁵**

^{1&2} Field Assistant, ³Research Scholar, ⁴Associate Professor, Department of Zoology, Mizoram University, Tanhril, 796009, Mizoram.

⁵Coordinator, Cluster resource Centre under Samagra Shiksha Abhiyan, Tlangnuam.

Emails: ¹goszhmar@gmail.com, ²muanapunte16@gmail.com, ³bzachawngthu123@gmail.com, ⁴htlr@a@yahoo.in (corresponding author), ⁵c.valalmawia@gmail.com

Citation: Hmar, G.Z., Lalmuansanga, Lalbiakzuala, H.T. Lalremsanga & V.L. Mawia (2020). New geographical distribution of Asiatic Softshell Turtle from Mizoram, India. *Reptile Rap* #199, In: *Zoo's Print* 35(5): 107–110.