

Turtles and Tortoises in Manipur

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Introduction

The State of Manipur is located between latitude 23°83'N – 25°68'N and longitude of 93°03'E – 94°78'E with an area of 22,347 km² (Plate 5.1 A). It forms part of the Indo-Burma global bio-diversity hotspot. It is also one of the most threatened biodiversity hotspots due to the rate of resource exploitation and habitat loss. However, the area has remained relatively unexplored owing to its difficult mountainous terrain.

Chelonian status

The records of chelonians in the region include ten species of turtles and tortoises (Table 1) viz. *Cyclemys dentata* that occurs in the hills of Ukhrul, Tamenglong and Jiribam regions; *Cuora mouhoutu* and *Cuora amboinensis* from Loktak lake and its adjoining wetlands; *Pangshura tentoria* from the Barak river and its tributaries, Lamphelpat, Imphal East district and *Nilssonina hurum* in Jiri, Barak and Makru rivers and Yangoupokpi-Lokchao Wildlife Sanctuary (Shamungou, 1987; Arunkumar and Singh, 1990 and Salam Rajesh, 2006). Recent field surveys conducted by the first author recorded five species for the first time from the region which include *Amyda cartilaginea*, *Cyclemys gemeli*, *Indotestudo elongata* (Plate 5.1 B), *Manouria emys* (Plate 5.1 C) and *Morenia petersi*. In addition to this, *Cuora mouhoutu* and *Cuora amboinensis* have been reported from new localities viz. Siguilong village, Imphal-Jiribam road and Moirang, Mayang Imphal respectively. This emphasizes the need for a detailed study and redefining of range records for Chelonians in the state of Manipur.

Amyda cartilaginea was reportedly caught in the river Makru and sold in the local market of Tamenglong bazaar (Plate 5.1 D). Three more individuals of *Amyda cartilaginea* were reported from Imphal river (Plate 5.1 E). Two individuals of the Indian leaf turtle (*Cyclemys gemeli*) (Plate 5.2 A) from Chandel district and twenty two individuals of box turtles (Plate 5.2 B) from Imphal river and Loktak lake were recorded between May 2008 - April 2010. Recently the Indian eyed turtle (*Morenia petersi*) has been recorded from Chingmeirong, Imphal East District (Plate 5.2 C).

Manipur has certain areas rich in freshwater chelonian diversity which include the Loktak lake as the prime habitat of the box turtles, Keibul Lamjao National Park, the Yangoupokpi Lokchao Wildlife Sanctuary, the Barak river, Jiri river and its tributaries in the Assam-Manipur border, the Makru river in Tamenglong district of Manipur, the Ningthi river in Chandel District, the Imphal river that flows through the Imphal valley and in small rivulets in the hilly areas of Churchandpur, Ukhrul and Senapati districts. There are many regions that are yet to be explored in the State.

Salam Rajesh of Manipur Nature Society gave a brief estimate of the beleaguered chelonians that were rescued and released by the members of the People for Animals, Manipur. Approximately 15 -20 representatives of *Cuora amboinensis* (Box Turtles) were rescued from the Thanga-Karang area market in Bishenpur district and released in its natural habitat at Loktak Lake (Plate 5.2 D). Box turtles were mainly exploited in the local market for meat and for pets and large numbers are bought and sold in local markets. The conservation of turtles and tortoises in the State of Manipur is in its infancy with very few organizations involved in turtle conservation in the region.

Habitat loss and exploitation

Changes in the hydrological regimes due to the construction of Ithai barrage in the Loktak lake may affect the turtle population and migration in the region and adjoining wetlands. Deforestation and the resultant loss of soil, especially in the hill areas, are also leading to increase siltation of rivers and streams. The deep pools that are the favored habitats of many species, are rapidly becoming shallow and choked with silt, leading to a decline in habitat. At the same time, swamps, marshes, and other wetlands are being reclaimed for urban and agricultural expansion. These changes are reflected in sharp decline of chelonian density. The Ningthouja clan of the Meiteis of Manipur, for example, considered it a taboo to consume turtle or tortoise meat (Gupta and Guha, 2002). Unfortunately, a rapid incursion of consumerist culture and the lure of easy money are making this market unsustainable. There is an urgent need for the set up of a cell for conserving the dwindling and still unexplored chelonians of Manipur. Illegal hunting and mindless exploitation by the locals still goes unnoticed due to the lack of awareness among them.

**Conclusion**

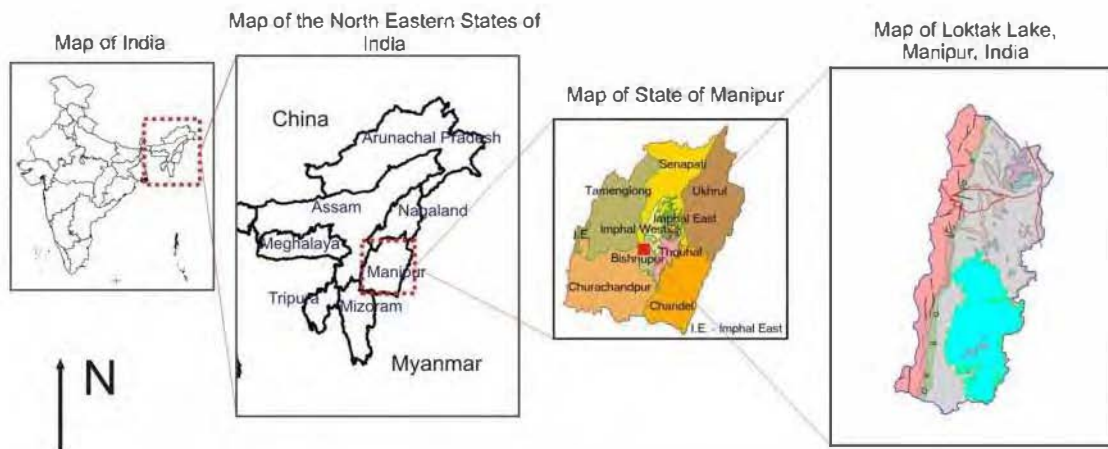
During the study *Cuora amboinensis* was the most abundant among all chelonians in the State. Loktak lake and its adjoining wetlands has been identified as a potential habitat of the box turtles. A significant find during the study is the report of the giant softshell turtle *Amyda cartilaginea* of the family Trionychidae in two districts of Manipur and that of the Indian eyed turtle (*Morenia Petersi*) from a hillock near Chingmeirong in Imphal East district. The turtle population in the state of Manipur remains poorly studied and other general reasons for the possible decline of some species are illegal exploitation for meat and eggs, water pollution and human disturbances (Gupta, 2000). It is expected that a more meaningful study of the distribution and status of chelonian diversity of the state of Manipur will be undertaken for their exploration and effective conservation.

| Name of the species | Locality | Source |
|-----------------------------|--|--|
| <i>Cuora amboinensis</i> | Loktak lake and its adjoining wetlands, Bishenpur District Loktak lake and its adjoining wetlands, Moirang, Bishenpur District; Mayang Imphal, Thoubal District; Moreh Market, Chandel District Thangga-Karang of Loktak lake, Moirang, Bishenpur District | Shamungou (1987) Photos and documentation by Naorem Linthoi (2007-2010) Salam Rajesh (2006) |
| <i>Cuora mouhotii</i> | Loktak lake and its adjoining wet lands, Bishenpur District Siguilong village, Imphal-Jiribam road, Tamenglong District | Shamungou (1987) Found by locals (documented by Naorem Linthoi, 2008) |
| <i>Morenia petersi</i> | Chingmeirong, Imphal east | Encountered by locals near a hillock (Photo: Naorem Linthoi, 2010) |
| <i>Amyda cartilaginea</i> | Naga river (a tributary of Nambul river), Laipham Khunou, Imphal East district; Imphal river Tamenglong bazaar, near Makru river, Tamenglong district Nambul river, Imphal | Naorem Linthoi (June, 2008) Sangai express (local newspaper, December, 2008) Photo identification by Naorem Linthoi Shamungou and Manipur Forest Department officials (2009) |
| <i>Pangshura tentoria</i> | Barak river and its tributaries Lamphelpat, Imphal east | Shamungou (1987) Salam Rajesh (2006) |
| <i>Manouria emys</i> | Found in Manipur (But locality yet to be confirmed) | Manipur Zoological Garden, Iroisemba (Photo: Naorem Linthoi, 2009) |
| <i>Indotestudo elongata</i> | Lamka, Churachandpur District | Encounter of a "shell" in a marshy area by locals (Photo: Naorem Linthoi, 2010) |
| <i>Nilssonina hurum</i> | Yangoupokpi-Lokchao Wildlife Sanctuary, Indo-Myanmar border Jiri, Barak and Makru rivers | Arunkumar and Singh (1999) Shamungou (1987) |
| <i>Cyclemys dendata</i> | Hills of Ukhrul, Tamenglong and Jiribam regions | Shamungou (1987) |
| <i>Cyclemys gemeli</i> | Moreh bazaar and Monshang Panthak village near Chakpi river, Chandel District | Encountered by locals (Naorem Linthoi, 2008) |

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Plate 5.1



(A)



(B)



(C)



(D)



(E)

(A): Map of Manipur, India; (B): A yellow tortoise (*Indotestudo elongata*) from Lamka, Churchandpur district; (C): Asian Brown Tortoise (*Manouria emys*); (D): A soft-shell turtle put up for sale in Tamenglong bazaar (December 5, 2008); (E): Soft-shell turtle from the

Plate 5.2



(A)



(B)



(C)



(D)

(A): Indian Leaf Turtle; (B): Box Turtle; (C): *Morenia petersi* from Chingmeirong, Imphal East District; (D): Box turtles rescued and rehabilitated by the members of People for Animals at Keibul Lamjao National Park, Loktak lake, Manipur (2006). Photos (A, B and C) by Naorem Linthoi.