SHORT COMMUNICATION

AN ECOLOGICAL NOTE ON THE NEW RECORD OF CUORA AMBOINENSIS (RICHEN IN DAUDIN, 1801) (REPTILIA: TESTUDINES: GEOEMYIDAE) IN NORTHEASTERN INDIA

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26 July 2017 | Vol. 9 | No. 7 | Pp. 10459–10462
10.11609/jott.1915.9.7.10459–10462
AN ECOLOGICAL NOTE ON THE NEW RECORD OF
CUORA AMBOINENSIS (RICHE IN DAUDIN, 1801)
(REPTILIA: TESTUDINES: GEOEMYDIDAE) IN NORTHEASTERN INDIA

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Abstract: The present study documents the first report on the occurrence of Cuora amboinensis in Cachar and Karimganj districts of the Barak Valley region of southern Assam.

Keywords: Cuora amboinensis, ecological note, northeastern India.

Abbreviation: SCL - Straight carapace length (cm); SCW - Straight carapace width; CCL - Curve carapace length; CCW - Curve carapace width.

Cuora amboinensis (Family Geoemydidae) is known by different names such as Malayan Box Turtle, Southeast Asian Box Turtle or Amboina Box Turtle. The species has four currently recognized subspecies: (i) C. a. amboinensis East Indian Box Turtle or Wallacean Box Turtle, (ii) C. a. couro Indonesian Box Turtle, (iii) C. a. kamarama Malayan Box Turtle, and (iv) C. a. lineata Burmese Box Turtle (Schoppe & Das 2011). This species is also known by different vernacular names in different regions of India, viz., ‘Chapa katha’ (Bengali: Closed Turtle); ‘Diba kochchop’ (Bengali: Box Turtle); ‘Pani khatu’ (Bengali: Water Turtle); ‘Jap dura’ (Assamese: Closed Turtle); ‘Pahari kachua’ (Hindi: Hill Turtle); ‘Thanggu’ (Manipuri: Turtle); ‘Takurab, Ta-penyut, Penyut’ (Car Nicobar Island: Turtle); ‘Uptep’ (Central Nicobarese: Turtle); ‘Hetain/Itain’ (South Nicobar Islands: Turtle). The species is semi aquatic, inhabiting rivers, lakes, marshes, mangrove swamps and rice fields in and around lowland forests. They bask on banks or on logs. They breed during early monsoon and lay 1–6 eggs that hatch 45–90 days later. This is likely a rare species in India and categorized as “Vulnerable” according to the IUCN Red List (Asian Turtle Trade Working Group 2000). No intensive survey of semi-aquatic turtle fauna of Barak Valley have been conducted apart from a couple of publications documenting on-site records of Softshell Turtles (Das & Gupta 2011) and tortoise species (Das & Gupta 2015). Hence, this study was conducted from February 2002 to June 2007 with the objective of reporting the distributional status of Cuora amboinensis in Barak Valley region of Assam, northeastern India.

MATERIALS AND METHODS

The survey was conducted from February 2002 to June 2007, in the Barak Valley region of Assam that...
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*Cuora amboinensis* comprises the three districts of Cachar, Hailakandi and Karimganj (24.20000000–25.13333333 N & 92.20000000–93.25000000 E). Turtles were recorded through direct sightings and by making inquiries to the inhabitants in different areas, especially the fishermen as well as jhum cultivators who occasionally hunt turtles. Photographs and morphometric measurements of specimens were taken and carapace and/or plastron were collected from the villages near the study sites. Identification was made using standard keys (Smith 1931; Das 1991). The different physico-chemical variables of water in the turtle habitats include depth of the waterbody, transparency, temperature taking into account microhabitat differences; dissolved oxygen; pH; conductivity; nitrate; and biological oxygen demand were analyzed using standard methods (Michael 1984; APHA 1995). The photographs of live specimens and carapace samples are deposited in the Animal Biodiversity Museum of the Department of Ecology & Environmental Science, Assam University, Silchar, India.

**RESULTS AND DISCUSSION**

The live specimens of *Cuora amboinensis* (Image 1) (AU-Ecol/ABM/Reptilia/Chelonia/ca-4a-b) were recorded near Jirighat in Cachar District and carapaces of the species were also recorded from Balipunjee, a forest village adjoining Longai River and Longai Reserve Forest area in Karimganj District (Fig. 1).

Ecological notes: Site 1. On 05 February 2002, two live specimens (Image 1) (male: SCL=9.2cm, SCW=4.5cm; and female: SCL=15.8cm SCW=8.6cm) were recorded from a hill stream near Jirighat (24.80861111 N & 93.10638889 E; elevation 54m) and Jiri River in Cachar district, Assam. Jirighat is a suburban centre about 48km east of Silchar town at the foothills of Lower Jiri Reserve Forest. The area has dense forest, rubber plantation, tea plantation and agricultural fields. The Jiri River bank is covered with thick vegetation and flows from a densely forested area.

Site 2. On 10 September 2003, two carapaces of the species (AU-Ecol/ABM/Reptilia/ Chelonia/ca-4c-d) were found near Balipunjee (24.27805556 N & 92.26972222 E; elevation 67m) Balipipla, Karimganj District, Assam. Balipunjee is a forest village and has hill streams flowing through the village from the dense forests of Longai Reserve Forest near Assam-Mizoram-Tripura border with paddy fields on both banks of the Longai River. This village is dominated by the Halam or Choroi tribe. The morphometric measurements of both turtles’ carapace (Table 1) and environmental variables of two sites Jirighat and Balipunjee in Barak Valley, Assam are represented in Table 2.

Thus, the present study is the first record on the occurrence of *Cuora amboinensis* in Cachar and Karimganj districts of Barak Valley region of southern Assam (Das 2008). This species is known to have a widespread distribution in the floodplains of Brahmaputra River and is found in a variety of habitats. The Malayan Box Turtle is not restricted to rivers and ponds, but is also found in marshes, creeks, mangrove swamps and close to human habitations, for example in paddy fields (Ahmed et al. 2009). Anderson (1872) recorded this species from Samagooting in Naga Hills, now in Nagaland. In Arunachal Pradesh, it has been recorded from D’Ering Sanctuary (Bhupathy & Choudhury 1992). The other previous records in Assam were from Mongaldoi, Darrang District (Moll & Vijaya 1986), Kaziranga National Park, Manas National Park, Gelabil River of Jorhat (Das 1990), Orang National Park (Bhupathy et al. 1992), Dibru-Saikhowa Wildlife Sanctuary (Choudhury 1995), and Mazbat (Das 1995). Recently, Sengupta et al. (2000) recorded this species from wet grasslands near the Chandubi beel, in Mayeng Reserve Forest, Chandubi, in the Kamrup District of Assam. This species is illegally exploited in pet trade but besides habitat destruction (Sengupta et al. 2000), human consumption and hunting are the other threats. It was also reported from Salutikar near Sylhet and Cox’s
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Bazar, Chittagong, in Bangladesh (Frazier & Das 1994). Thus widespread distribution of this species in Assam, Nagaland and Arunachal Pradesh, the Nicobar Islands; also Bangladesh, Myanmar, Thailand, Indo-China, Indo-Malaya and the Philippines has been reported (Das 2002). The present records are from an area between these localities and fill the gap in the distribution of this species in the northeastern regions of India and Bangladesh. It is highly likely that this species rarely occur in the Barak Valley; however, the carapace records should be treated as possible sites where these turtles may be found and not as perfect site records as has also been pointed out by Frazier & Das (1994). The villagers in this region hang turtle and tortoise carapace in their cowsheds and homes as they ascribe some magico-religious properties to them (Gupta 2002; Das & Gupta 2004). The turtle and tortoise species are utilized as food, traditional medicine and pet by a number of non-tribal (Hindu-Bengali) and tribal communities (Mizo, Choroi, Hmar, Halam, Reang, Dimasa, Chakma, Pnar) of northeastern India. Tortoise shell and meat are used by different tribes for different purposes on the basis of their traditional practices, cultures and beliefs (Das et al. 2012).

Thus, the present study signifies that still the Barak Valley region of Assam has an affluent pool of aquatic turtle (Das & Gupta 2011) and tortoise species (Das & Gupta 2015). Both aquatic as well forest-dwelling species are well represented but semi aquatic species are least represented in this region and are encountered in a diversity of fragmented habitats. The study also points out the urgent need for ex-situ conservation of

### Table 1. Morphometric measurements (cm) of carapaces recorded from Baliapunjee site in Barak Valley, Assam.

<table>
<thead>
<tr>
<th>Species (numbers)</th>
<th>X±S.D. (range in parenthesis)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SCL</td>
</tr>
<tr>
<td><em>Cuora amboinensis</em> (2)</td>
<td>20.00±0.71 (19.5–20.5)</td>
</tr>
</tbody>
</table>

SCL - Straight carapace length (cm); SCW - Straight carapace width; CCL - Curve carapace length; CCW - Curve carapace width

### Table 2. Environmental variables of turtle recording two sites of Barak Valley, Assam

<table>
<thead>
<tr>
<th>Name of site</th>
<th>DW</th>
<th>TR</th>
<th>AT</th>
<th>ST</th>
<th>WT</th>
<th>Con</th>
<th>pH</th>
<th>DO</th>
<th>BOD₅</th>
<th>NO₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Jiri River</td>
<td>3.5</td>
<td>7.2</td>
<td>34</td>
<td>34</td>
<td>33</td>
<td>160</td>
<td>6.0</td>
<td>4.8</td>
<td>2.0</td>
<td>1.4</td>
</tr>
<tr>
<td>2 Longai River</td>
<td>2.5</td>
<td>3.2</td>
<td>32</td>
<td>33</td>
<td>32</td>
<td>154.2</td>
<td>7.0</td>
<td>6.0</td>
<td>2.0</td>
<td>4.5</td>
</tr>
</tbody>
</table>

DW - Depth of water (m); TR - Transparency (cm); AT - Air temperature (°C); ST - Soil temperature (°C); WT - Water temperature (°C); Con - Conductivity (µS/cm); DO - Dissolved oxygen (mg/l); BOD₅ - Biological oxygen demand for 5 days at 20°C (mg/l); NO₃ - Nitrates (mg/l).
this species because of severe threats like fragmentation of habitats, shifting cultivation, illegal hunting or trade etc. and therefore to include rare species, viz., *Cuora amboinensis* in the Schedule I of the Indian Wildlife (Protection) Act, 1972. This species is not yet listed under Indian Wildlife Protection Act 1972, but included under ‘Appendix II’ the Convention on International Trade in Endangered Species of Wild Fauna and Flora since 2000 (CITES 2017). This argument is justified by the inclusion of this species by the IUCN since 2000 (IUCN 2017) in the threatened “Vulnerable” category. The addition of this species in the Schedule I of the Indian Wildlife (Protection) Act is expected to progress the conservation status of this species of chelonians.

**REFERENCES**


Communications

The status of Arabian Gazelles *Gazella arabica* (Mammalia: Cetartiodactyla: Bovidae) in Al Wusta Wildlife Reserve and Ras Ash Shajar Nature Reserve, Oman

On the occurrence of the Black Spine-cheek Gudgeon *Eleotris melanosoma* Bleeker in Sri Lankan waters, with comments on the Green-backed Guavina *Bunaka gyrioides* (Bleeker) (Teleostei: Eleotridae)
-- Sudesh Batuwita, Sampath Udugampala & Udeni Edirisinghe, 10374–10379

Captive breeding for conservation of Dussumier’s Catfish (*Actinopterygii: Siluriformes: Clariidae: Clarias dussumieri*) a Near Threatened endemic catfish of peninsular India

Influence of seasonal and edaphic factors on the diversity of scolopendromorph centipedes (Chilopoda: Scolopendromorpha) and general observations on their ecology from Kerala, India
-- Dhanya Balan & P.M. Sureshan, 10386–10395

Butterflies of eastern Assam, India
-- Arun P. Singh, 10396–10420

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-- Ishwari Datt Rai, Amit Kumar, Gajendra Singh, Bhupendra Singh Adhikari & Gopal Singh Rawat, 10421–10425

New distribution records of three *Sarcophyton* species (Alcyonacea: Alcyoniidae) in Indian waters from Andaman Islands
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