



Range extension of *Contia pectinata* Ng, 2005 (Teleostei: Sisoridae) in upper Brahmaputra River drainage in Arunachal Pradesh, India

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Abstract: This paper extends the range of distribution of *Contia pectinata* in Sille River, Brahmaputra drainage, East Siang District of Arunachal Pradesh and gives some information on its habitat and threats, which are still to be documented properly. Some brief additional characters are also added here. Our examination revealed that some morphological variations exist from originally described *C. pectinata* by having deep body at anus (10.3–11.9 vs. 7.5–9.4% SL); short dorsal-spine (length 15.7–20.8 vs. 20.9–24.0% SL), less number of serrae on anterior margin of dorsal-spine along the entire length (15–18 vs. 18–20) etc. The major threats identified are the frequent use of electrocution and the chemicals in the river during the winter season.

Keywords: Aquatic vegetation, *Contia pectinata*, electrocution, pectoral spine, range extension, Sille River, threats.

The catfish genus *Contia* belongs to the family Sisoridae and was first erected by Hora (1950), previously considered as monotypic. *Contia* is native to India and little information is known to science, so far merely two species, namely, *Contia contia* and *C.*

pectinata are known. *C. pectinata* was described from the Brahmaputra River drainage at Dibrugarh, Assam (Ng 2005a) and till date has not been reported from any other part of the Indian region except Meghalaya (Vishwanath et al. 2007). Ng (2009) remarked that there is no information available on the species habitat, ecology, distribution and population trends. This paper reports range extension of *C. pectinata* in Sille River, upper Brahmaputra River drainage in East Siang District of Arunachal Pradesh and gives a brief description of the species and information on habitat and potential threats.

Materials and Methods

Sampling was carried out using a cast net with diameter 2.5m and mesh size 7sq.mm during 13–17 October 2010. Specimens were preserved in 10% formalin and identified following Ng (2005a). Measurements were made point to point with digital calipers (Mitutoyo Corporation, Japan) to the nearest 0.1mm and expressed as a percentage of standard length (SL), head length (HL) or length of pelvic to anal-fin origin (PA-L). Vent to anal-fin origin is abbreviated as (VA-L). Counts and measurements were made on the left side of the specimens. Measurements follow Ng & Ng (1995) and Ng & Dodson (1999); measurements for pelvic to anal-fin origins and vent to anal-fin origins follow Nebeshwar et al. (2009). The number in parentheses after a specific fin rays count indicates the number of specimens examined. The length of adhesive apparatus was measured from its anterior margin to posterior margin. Data on *Contia pectinata* were obtained from the literature (Ng 2005a). The specimens are deposited in the Zoological Survey of India (ZSI), Itanagar, Arunachal Pradesh.

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***Conta pectinata* Ng, 2005
(Image 1)**

Conta pectinata Ng, 2005: 16(1): 23–28. Type locality: Brahmaputra River, Dibrugarh, Assam, India. Holotype: ZRC 49672, 46.4 mm SL. Paratypes: UMMZ 234675, 1, 47.9 mm SL; ZRC 49673, 2, 44.2–49.1 mm SL.

Material examined

Four specimens, 14–17.x.2010, 42.5–46.4 mm SL, Sille River, about 1km upstream from RCC bridge over Sille River, about 10 km from Ruksin or about 26 km before Pasighat, 27°52'626"N & 95°18'300"E; altitude: 127m; weight: 0.79–0.92 gm, coll. Lakpa Tamang (ZSI/V/APFS/P-523).

Description

Body slender, sub-cylindrical anterior, abdomen moderately flat. Head small, V-shaped when viewed dorsally, wider than deep. Post-temporo-supracleithrum process gently turned outwards towards the tip. The snout length is equal to the base length of the occipital

process and also equals the length of the supraoccipital spine. The length of the thoracic adhesive apparatus is almost equidistant between the pectoral and pelvic fin origins and also from the snout tip to the middle of the supraoccipital spine (Image 2). The position of the vent nearer the anal-fin origin (35.5–44.9 % PA-L). The body is deepest at dorsal-fin origin, deeper than wide; body depth at anus 10.3–11.9% SL, deeper than wide; length of dorsal-spine (15.7–20.8% SL); dorsal to adipose distance 30.4–32.7% SL and length of nasal barbel 8.1–11.0% HL.

Dorsal-fin with 5–6 rays, anterior margin of dorsal-spine consists of 15–18 strong serrae along entire length, and posterior margin with 9–15 serrae, both the serrations pointing towards base. Pectoral-fin with 5(1), 6 (3) rays, anterior margin of pectoral-spine with 26–32 serrae anteriorly-directed and posterior margin with 13–16 serrae directed towards base. Pelvic-fin with i, five rays and length 16.7–18.5% SL. Anal-fin with ii, 7(3) ii, 8(1) rays. Caudal-fin consists of i,5,6,i (2), i,6,5,i (1), i,6,6,i (1) principal rays.

Ecological notes

Specimens of *Conta pectinata* were collected from shallow (10–30 cm) and moderately clear water with pebbles, cobbles of variable colours and sand particles, at an altitude of 127m. Other species associated were: *Aborichthys elongatus*, *Acanthocobitis botia*, *Amblyceps mangois*, *Barilius barna*, *B. bendelisis*, *Balitora brucei*, *Botia rostrata*, *Chanda nama*, *Crossocheilus latius*, *Garra annandalei*, *G. gotyla*, *Neolissochilus hexagonolepis*, *Pseudolaguvia shawi*, *Psilorhynchus balitora*, *Puntius ticto*, *Schistura savona* and *Tor tor*.



Image 1. Dorsal, lateral and ventral view of *Conta pectinata*, 42.5mm SL.



Image 2. Thoracic Adhesive apparatus of *Conta pectinata*, length: 13.3mm.

Threats: During the winter season (October–January), some people employ modern hazardous techniques of fishing like electrocution, use of bleach and lime powder in diverted streams, in the lower reaches nearby Sille Village where electricity is available. Further, electrocution is also done using a mini generator or inverter towards upstream and downstream areas. As per the view of the fishermen, the capture rate of this fish is less in natural conditions in comparison to other fishes. The catch rate of fish within 3–4 hours of fishing using traditional methods is about 15–20 individuals and sometimes even less.

Distribution

Known from Sille River, Sille Village, East Siang District, Arunachal Pradesh. The Sille River is one of the tributaries of Siang River, which joins the Brahmaputra River in Assam. The species was originally described from Brahmaputra River, Dibrugarh, Assam and also reported from Meghalaya (Fig. 1). Although Vishwanath et al. (2007) included Meghalaya in the distribution but the exact locality was not mentioned. Probable locality is given in the map, i.e., from Umtrao River that flows adjacent to the Guwahati–Shillong road (W. Vishwanath pers. comm.).

Discussion

According to Ng (2005a), *Conta pectinata* differs from *C. conta* in having anteriorly-directed (vs. distally-directed) serrations on the anterior margin of the pectoral spine, and having a longer (24.6–25.6% SL vs. 21.9–23.4) and more slender (2.6–2.8% SL vs. 3.9–4.4) caudal peduncle. The specimens of *Conta* collected from Sille River of Arunachal Pradesh agree well with the description of *C. pectinata* sensu stricto based on the following characters: (i) Serrae on the anterior margin of the pectoral spine directed-anteriorly, (ii) in having long (23.0–25.8% SL) and more narrow (2.7–3.0% SL) caudal peduncle. However, further examination revealed that some morphological variations exist on the following: deep body at anus 10.3–11.9 (vs. 7.5–9.4% SL); short dorsal-spine (length 15.7–20.8 vs. 20.9–24.0% SL); long pelvic-fin (length 16.7–18.5 vs. 14.2–16.4% SL); larger post adipose distance (distance 30.4–32.7 vs. 21.8–25.0% SL) and a short nasal barbel (length 8.1–11.0 vs. 17.0–23.8% HL). Further, slight variations exist in the following:

less number of serrae on anterior margin of dorsal-spine along the entire length (15–18 vs. 18–20); a post-temporo-supracleithrum process moderately deflected from the base of the supraoccipital spine vs. more deflected (compare dorsal view in Image 1 here and Fig. 1 in Ng 2005a). We assume these variations might be due to different ambient microclimatic conditions, habitat and water quality that is beyond the scope of this study. The long thoracic adhesive apparatus in this species appears to be an adaptation to life in fast flowing waters upstream from the Brahmaputra River similar to other erethistids and sisorids (Hora 1930; de Pinna 1996). According to Ng (2005b; pers. obs.), the individuals of *Hara jerdoni* (Erethistidae) seem to remain at rest frequently supported by fin spines partially or fully erect amongst submerged vegetation. We also assume that the serrated dorsal and pectoral spine may help the fish to get entangled in aquatic vegetation, as some individuals were captured in a similar type of microhabitat.

The fish were generally found more towards river banks where water pressure is lower, dwelling under congested gaps of small stones or pebbles and also within the aquatic vegetation. The fish also dwell in small drainages with pebbly beds and aquatic grasses and feed on newly developed algae and minute debris particles on the substratum. The fish make clicking sounds when taken out from the water body (as per the information given by local fishermen).

The hazardous techniques used are more dangerous than traditional methods as the fish remain hidden under the gaps of the substratum which are severely affected by electrocution and chemicals. This non-conventional method of fishing, enable the fishermen to collect a large number of fishes in a short time, but it poses a serious threat to this fish and to other bottom dwelling aquatic fauna (Chaudhry & Tamang 2007). Traditionally, village fisher women (Mishing community) also collect this fish with a handmade circular netted disc (made up of cane and bamboo). This operation is done by removing the small stones and pebbles near river banks and also by dragging it through banks of small drainages consisting of aquatic vegetation.

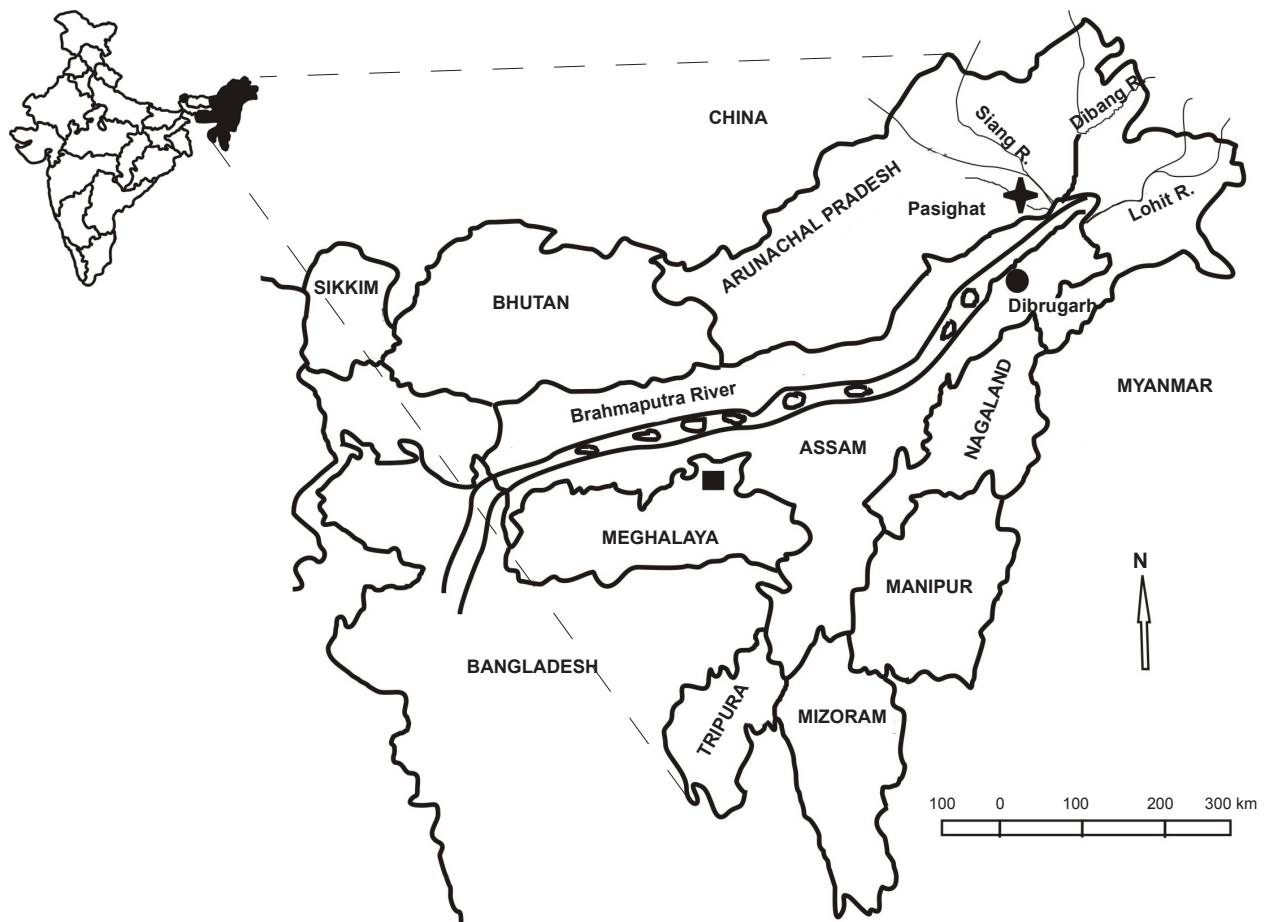


Figure 1. Map of northeastern India showing the distribution of *Conta pectinata* indicated by star (present collection); circle (Ng 2005) and square (Vishwanath et al. 2007).

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