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# *Channa andrao*, a new species of dwarf snakehead from West Bengal, India (Teleostei: Channidae)

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## Abstract

*Channa andrao*, new species, from Lefraguri swamp, West Bengal, India, differs from all its congeners except, *C. asiatica*, *C. bleheri* and *C. burmanica* and the recently described *C. hoaluensis* and *C. ninhbinhensis* by the absence of pelvic fins. It can be distinguished from all other pelvic fin-less species of snakeheads by its colour pattern, and differs further in its number of vertebrae, dorsal- and anal-fin rays, and lateral-line scales from individual snakehead species in this complex. *Channa andrao* raises the number of snakehead species endemic to the Eastern Himalaya biodiversity hotspot to ten, representing almost one third of the known species in the genus.

**Key words:** taxonomy, endemism, Himalayan mountain range, Indo-Burma biodiversity hotspot

## Introduction

Snakehead fishes of the family Channidae are medium-sized to large freshwater fishes distributed in tropical Africa, parts of the Middle East, and Asia (Berra 2001). Their closest relatives are the labyrinth fishes or Anabantoidei with which they share the possession of an accessory airbreathing organ (Britz 1995, 2003). This highly specialized organ is formed by an expanded epibranchial of the first gill arch and is housed in a suprabranchial cavity above the gills (Day 1868; Bader 1937; Liem 1980). Snakeheads are valued food fishes in their native habitats but some species have been introduced to areas outside of their natural range and have become highly invasive in several countries (e.g, see Courtenay & Williams 2004).

Though only a small group among teleosts, the species-level diversity of Channidae is still far from known and the taxonomy of some species groups is complex. Thirty-six species are currently recognized within the genus *Channa*. Their significance as food fishes lead to an early burst of species discovery and thus the majority of species was described before the start of the 20th century. The last two decades, however, have seen a renewed interest in snakehead taxonomy and eight new species have since been described (Musikasinthorn 1998, 2000; Zhang et al. 2001; Britz 2008; Geetakumari & Vishwanath 2011; Nguyen 2011). Material of a dwarf snakehead lacking pelvic fins from West Bengal has recently been brought to my attention. A detailed study and comparison demonstrated that it represents a new species of snakehead, which is described herein.

## Material and methods

Measurements follow Britz (2008) and were taken with digital calipers to the nearest 0.1 mm. Vertebrae were counted from radiographs. Fin-ray counts for unpaired fins were also obtained from radiographs, those of pectoral fins under transmitted light.

Specimens are deposited in the collections of The Natural History Museum, London (BMNH), the Raffles Museum for Biodiversity Research, Singapore (ZRC), the Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany (ZFMK) and the Zoological Museum of the University of Uppsala, Sweden (ZMUU).

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on the basis of colour pattern. *Channa andrao* lacks the conspicuous orange blotches in the caudal fin that are characteristic of *C. bleheri* (see Vierke 1991) and it has only two to three dark pectoral-fin bands, whereas *C. bleheri* has five. The two species also differ significantly in their reproductive behaviour. *Channa bleheri* guards a float of bouyant eggs at the water surface, while *C. andrao* is a male mouthbrooder that releases its fry after approximately nine days of brooding (Brede & Antler 2009). *Channa andrao* shares with *Channa orientalis* a comparatively small size, which renders the two species the smallest snakeheads to date. *Channa andrao*, however, is clearly distinguished from *C. orientalis* by longer dorsal- and anal-fin bases, fewer anal-fin rays, and its colour pattern; especially its alternating oblique light (reddish in life) and dark marks above the anal-fin base are lacking in *C. orientalis*. The latter also has five narrow parallel pectoral-fin bands reaching to the distal area of the fin, while *C. andrao* has only two to three bands that are located in the basal half of the pectoral fin.

*Channa andrao* has so far been collected only at its type locality in West Bengal. Its discovery reemphasizes the significance of the mountain regions of the Eastern Himalaya as a biodiversity hotspot for freshwater fishes (see also Vishwanath et al. 2011). A total of 10 endemic *Channa* species have so far been reported from this area, which makes it a center of diversity for snakeheads. The exploration of more remote areas of the Indian, Nepalese, and Myanmar mountain ranges will undoubtedly yield additional new snakehead species in the future.

Comparative material. *Channa asiatica*, ZMUU 171, holotype; BMNH 1933.3.11.900. *Channa bleheri*, ZFMK 16555, holotype, ZFMK 16556, paratype. *Channa orientalis*, BMNH 1853.3.30.68–70, BMNH 1853.12.27.14, BMNH 1859.5.31.38–39, BMNH 1866.7.12.19, 10 specimens from four different collections, unfortunately all now housed in the same jar with no way to seperate them; ZMB 5029, 6. *Channa burmanica*, ZRC 47206, 2; ZRC 47192, 4. Information on *C. hoaluensis* and *C. ninhbinhensis* was obtained from the original description (Nguyen 2011).

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