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Two new species of stone loaches of the genus *Schistura* from the Koladyne basin, Mizoram, India (Teleostei: Cobitoidei: Nemacheilidae)

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Abstract

Two new species of *Schistura* are described from the Koladyne basin of Mizoram, India. *Schistura nebishwari* is distinguished from its congeners by the combination of the following characters: a prominent dorsal adipose crest on the caudal peduncle, 11–14 dark olivaceous bars on the body, the entire ventral surface of head with numerous small melanophores, an incomplete lateral line, three black spots at the dorsal-fin base, a complete prominent black basicaudal bar, lower jaw with a shallow median notch, and no suborbital flaps in males. *Schistura scyphovecteta* differs from its congeners by the combination of the following characters: six dark brown saddles, each one continuing to the flank, forming globular-shaped bars overlaying a background brown stripe along the lateral line, a complete lateral line, two black spots at the dorsal-fin base, an incomplete black basicaudal bar, no median notch on the lower jaw, and a suborbital flap present in males.

Key words: New nemacheilids, Ka-ao River, Kawlchaw River, Palak Lake, northeast India

Introduction

The Koladyne River, a major river system of the Chin Hills-Arakan freshwater ecoregion, originates in the Chin Hills in Myanmar and flows into India, draining the entire eastern and south-eastern part of Mizoram before finally flowing into the Bay of Bengal near Sittwe in Myanmar. It is an independent drainage neither connected to the Ganga-Brahmaputra-Barak-Surma-Meghna nor to the Chindwin-Irrawaddy drainages. There are only a few reports on the nemacheilid fishes of the Koladyne. Kar & Sen (2007) listed four species of *Schistura*, viz., *S. corica*, *S. kanjupkhulensis*, *S. multifasciata* and *S. tirapensis*, from the Koladyne basin, while Lokeshwor & Vishwanath (2012, 2013) described *Schistura koladyneensis* and *S. porocephala* from this river.

A recent ichthyofaunal survey of the tributaries of the Koladyne drainage, viz., Ka-ao River near New Serkawr, Kolchaw River near Kolchaw and a stream at Phura in the Saiha District of Mizoram, India, resulted in the collection of two unnamed nemacheilid species, which are herein described as *Schistura nebishwari* and *S. scyphovecteta*.

Material and methods

Counts and measurements follow Kottelat (1990). Measurements were made on the left side of specimens with digital calipers to the nearest 0.1 mm. Subunits of the head are presented as proportions of dorsal head length (DHL), measurements of body parts and of head length are expressed as percentages of standard length (SL) and subunits of head, as percentages of dorsal head length (DHL). Specimens having either a suborbital flap, inflated cheek, tubercles on the cheek or on the interradial membranes of the pectoral fin or combinations of some of these characters were identified as males. Specimens were also dissected to observe the gonads to determine sex. Values in parentheses indicates following a count indicate the frequency of that count. Fin rays, pores in the cephalic

- Schistura fasciata*, MUMF 11010, 51.5 mm SL, holotype; India: Manipur: Senapati District: Barak River at western side of Maram hill (Chindwin basin). MUMF 11001–11021, 20 specimens, 37.5–68.3 mm SL, paratypes; collection site same as holotype.
- Schistura kanjupkhulensis*, MUMF 3007, 3 specimens, 42.5–46.3 mm SL; Khujairok, Chandel District, Manipur, India. Unreg., 5 specimens, 30.3–49.8 mm SL; Chakpi stream, Chandel District, Manipur, India.
- Schistura khugae*, MUMF 5013, 67.0 mm SL, holotype; India: Manipur: Churachandpur District: Khuga River. MUMF 5001–5008, 8 specimens, 60.0–88.3 mm SL, paratypes; collection site same as holotype.
- Schistura koladyneensis*, MUMF 11048, 64.6 mm SL, holotype; India: Mizoram: Lawntlai District: Koladyne River at Kawlchaw (Koladyne basin). MUMF 11040–1047, 8 specimens, 54.1–76.1 mm SL, paratypes; collection site same as holotype.
- Schistura manipurensis*, MUMF 2079, 56.5 mm SL; India: Manipur: Ukhrul District: Challou River at Thetsi (Chindwin basin). MUMF 2155–2159, 5 specimens, 38.0–56.0 mm SL; India: Manipur: Ukhrul District: Tizu River at Zesami (Chindwin basin).
- Schistura minuta*, ZSI FF 3749, 35.0 mm SL, holotype; India: Manipur: Tamenglong District: Iyei River at Noney (Brahmaputra basin). MUMF 1001–1003, 3 specimens, 26.2–38.3 mm SL, paratypes; collection site same as holotype.
- Schistura multifasciata*, ZSI F 2677/1, syntype; India: Darjeeling; (purchased from Dr. F. Day; illustrated specimen in Day, 1878a: 617, pl.153 fig. 7; poor state of preservation).
- Schistura nagaensis*, MUMF 2074–78, 5 specimens, 31.5–41.0 mm SL; India: Manipur: Ukhrul District: Khamsom (Chindwin basin). ZSI F 100061, 1 specimen; India: Nagaland: Zu zeti stream at Larur (Chindwin basin).
- Schistura paucifasciata*, ZSI F 6313/1, 44.9 mm SL, holotype, Hwe-gna-sang River, Pazi Township, Monglong Subdivision of Hsipaw State, Northern Shan States, Myanmar
- Schistura porocephala*, MUMF 11092, 51.5 mm SL, holotype; India: Mizoram: Lunglei District: a stream of Mat River near Thualthu (Koladyne basin). MUMF 11090–11101, 8 specimens, 46.3–53.5 mm SL, paratypes, collection site same as holotype. ZSI FF 4614, 2 specimens, 46.0–48.0 mm SL, collection sites same as holotype.
- Schistura reticulata*, MUMF 4400, holotype, 62.0 mm SL, male; India: Manipur: Ukhrul District: Maklang River (Chindwin basin). MUMF 4401–4407, 7 paratypes, 39.5–74.0 mm SL, females; same data as holotype.
- Schistura tigrinum*, MUMF 4105, 84.5 mm SL, holotype; India: Manipur: Tamenglong District: Tamei Subdivision: Barak river at khunphung (Brahmaputra basin). MUMF 4106/7, 3 specimens, 83.0–84 mm SL, paratypes; collection site same as holotype.
- Schistura sijuensis*, ZSI VF/ERS 2629, 42.8 mm SL; stream form Achingre Nokrek Biosphere Reserve, West Garo hills, Meghalaya (Barak-Surma-Meghna River system), India; (labeled as *S. reticulofasciata* at ZSI/ERS Shillong).
- Schistura sikmaiensis*, MUMF 2150–2154, 5 specimens, 43.0–56.0 mm SL; India: Manipur: Ukhrul District: Challou R. (Chindwin basin). MUMF 3004, 56.8 mm SL; India: Manipur: Chandel District: Moreh market (Chindwin basin). MUMF 3005, 74.1 mm SL; India: Manipur: Ukhrul District: Litan stream (Chindwin basin)

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