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On the identities of *Barbus mussullah* Sykes and *Cyprinus curmuca* Hamilton with notes on the status of *Gobio canarensis* Jerdon (Teleostei: Cyprinidae)

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Abstract

The identity and generic placement of *Barbus mussullah* Sykes, the type species of *Hypselobarbus* Bleeker, have for long been unclear, variously having been considered a synonym of *Cyprinus curmuca* Hamilton or a species of *Tor* Gray or *Gonoproktopterus* Bleeker. Here, through a re-examination of the original descriptions and the examination of specimens from western peninsular India, we redescribe *H. mussullah* and show that *Hypselobarbus* is a valid genus, of which *Gonoproktopterus* is a junior synonym. *Hypselobarbus mussullah* is distinguished from all other species of *Hypselobarbus* by possessing both rostral and maxillary barbels; having the last simple dorsal-fin ray weak and smooth; the lateral line complete, with 41 +1 pored scales; 9/1/4 scales in transverse line between origins of dorsal and pelvic fins; and 5½ scales between lateral line and anal-fin origin. Species of *Hypselobarbus* are distinguished from other genera of Cyprinidae by possessing long, branched gill rakers and the anal fin distally rounded in adults. *Hypselobarbus canarensis* was found to be a valid species and *H. kurali* is considered its synonym. *Hypselobarbus canarensis* can be distinguished from all congeners by possessing both rostral and maxillary barbels; having the last simple dorsal-fin ray weak and smooth; the lateral line complete, with 40–42+1 pored scales; ½7–½8/1/3½ scales in transverse line from dorsal-fin origin to pelvic-fin origin; 4½ scales between lateral line and anal-fin origin. *Hypselobarbus kolus* is considered a synonym of *H. curmuca*, which is redescribed: it is distinguished from all congeners by possessing maxillary barbels only; the last simple dorsal-fin ray weak and smooth; 41–43+1 lateral-line scales; 9–10/1/4½–5 scales in transverse line between origins of dorsal and pelvic fins; and 5½–6 scales between lateral line and anal-fin origin.

Key words: *Gonoproktopterus*, *H. kolus*, *H. kurali*, *Tor*, *T. khudree*, *T. neilli*, Mahseer, South Canara

Introduction

Colonel W. H. Sykes (1839), during his survey of the Deccan region of the Indian peninsula, described *Barbus mussullah* from the Goreh (Ghod) River, in Sirur, Maharashtra. Though his initial account was brief, he subsequently provided a more complete description in his "Fishes of Dukhun" (1841), in which he also provided a colour illustration of the species. Based on the latter work Bleeker (1860a: see Kottelat, 2011 for date) established the genus *Hypselobarbus*, of which *B. mussullah* is the type species (Bleeker, 1863a,b). The identity of *Barbus mussullah* has, however, since been subject to doubt and confusion. Day (1878, 1889) considered it to be a synonym of *Tor tor*; other authors assigned it to *Tor* (e.g., Annandale, 1919; Hora, 1943; Jayaram, 1997) while yet others retained it in *Hypselobarbus* (Rainboth, 1989; Menon, 1992).

The identity of *B. mussullah* in much of the current literature on Indian Cyprinidae derives from the conception of this species as a *Tor* by Hora (1943) (e.g., Suter, 1944; Silas, 1953; David, 1963; Manimekalan, 1998; Shaji & Easa, 2003; Jayaram, 1997, 2005; Sreekantha *et al.*, 2007; Shahnawaz & Venkateshwarlu, 2009). Few of these authors referred to the descriptions and illustration of *B. mussullah* by Sykes (1839, 1841), with those that did concluding that the figure was "defective" (Hora, 1943) or that "the description and figure do not tally in many respects. The fin ray and scale counts do not agree. Sykes cites that the upper part of the fish is covered with large,

F 8665, 1, 132 mm SL, below Athirapally waterfalls, Chalakudy River, Kerala, India, Pushpangathan, 11 Jul 2012.

Hypselobarbus pulchellus: ZSI/SRC F 8737, 3, 107–118 mm SL, Sita River, Karnataka, India, A. Rai, 20 Apr 2013; MKC 405, 3, 114–208 mm SL, Sita River, Karnataka, India, A. Rai, 20 Apr 2013.

Hypselobarbus dobsoni: ZSI/SRC F 8738, 1, 152 mm SL, Tunga River, Karnataka, India, A. Rai, 12 May 2013; MKC 406, 2, 115–130 mm SL, Tunga River, Karnataka, India, A. Rai, 12 May 2013.

Hypselobarbus jerdoni: ZSI/SRC F 8739, 2, 75.0–145 mm SL, Netravati River, Karnataka, India, A. Rai, 6 Jan 2013; MKC 407, 3, 130–151 mm SL, Netravati River, Karnataka, India, A. Rai, 6 Jan 2013.

Hypselobarbus dubius: ZSI/SRC F5439, 1, 207 mm SL, Amaravathy Dam, M.S. Ravichandran, 18 Dec 1997.

Hypselobarbus micropogon: ZSI/SRC URC, 1, 190 mm SL, Nelambur, Wynad, Manimekalan, 15 Mar 1996.

Tor khudree: ZSI/SRC URC, 4, 109–125 mm SL, Dhom Dam, Krishna River, K. C. Jayaram 18 Jul 1994. ZSI/SRC F5536, 3, 45.0–50.0 mm SL, Kallar River, 27 Mar 1998; ZSI/SRC F5112, 1, 165 mm SL, Cauvery River at Hogenakkal, 20 Sep 1996.

Tor sp. (labelled *T. neilli*): ZSI/SRC URC, 1, 114 mm SL, Krishna River, Satara, Maharashtra, 5 Nov 1990.

Tor putitora: MKC 409, 3, 110–146 mm SL, Teesta River, Darjeeling, West Bengal, A. Rao, 10 Dec 2011.

Tor malabaricus: MKC 410, 1, 94.0 mm SL, Payaswini River, Karnataka, A. Rai.

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