

NOMENCLATURAL STATUS OF *CROSSOCHEILUS BURMANICUS*, *C. HORAI* AND *C. MULTIRASTELLATUS* (OSTEICHTHYES: CYPRINIDAE)

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ABSTRACT. – *Crossocheilus multirastellus* Su, Yang & Chen, 2000, is a junior subjective synonym of *C. burmanicus* Mukerji, 1934. *Henicorhynchus* Smith, 1945, is a junior subjective synonym of *Gymnostomus* Heckel, 1843. *Crossocheilus horai* Banarescu, 1986, is a species of *Gymnostomus*. *Cirrhinus lu* Roberts, 1997, is an unnecessary replacement name for *Crossocheilus horai*.

KEY WORDS. – Nomenclature, junior subjective synonym, Cyprinidae, *Henicorhynchus*, *Gymnostomus*, *Cirrhinus*.

INTRODUCTION

Su et al. (2000) recently described a new species of the genus *Crossocheilus* from the Irrawaddy and Salween basins in China. Unfortunately, the new species was described without being put into proper geographic and taxonomic contexts. While much weight was given to a discussion of or comparison with species of '*Crossocheilus*' from Chinese waters, the fish fauna of the Salween and Irrawaddy downriver of the Chinese border was not even mentioned in the discussion!

As is well known, fish ignore political boundaries. It is thus not surprising that *C. multirastellatus* Su, Yang & Chen, 2000, is also found further downstream in Myanmar and Thailand. In fact, *C. burmanicus* Hora, 1936, is the earliest available name for this species. This is discussed below, in conjunction with an evaluation of the nomenclatural status of *C. horai* Banarescu, 1986, and *Cirrhinus lu* Roberts, 1997.

Crossocheilus burmanicus Hora

Mukerji (1934: 52, fig. 6) discussed various populations of *Crossocheilus latius*, recognising a 'typical form' from northern Bengal, the 'Assamese and Burmese form' and a 'Punjab form'. Mukerji gave the formal name *C. l. punjabensis* to the 'Punjab form' but he did not use a formal name for the 'Assamese and Burmese form'.

Hora (1936: 319, 324) reviewed Mukerji's data and commented about the ambiguous use of the word Assamese as the Assam of that time included streams draining to the

Ganges as well as the Irrawaddy basins. Hora found that the Ganges basin Assamese populations belong to typical *C. latius*, "whereas the form *burmanicus* (this new specific name is proposed for the Assamese and Burmese form of Mukerji) is found in the various drainage systems of Burma".

On p. 319, Hora had used the spelling *burmanicus*. The first reviser (Kottelat, 1989: 7) retained *burmanicus* as the correct original spelling (and *burmanicas* as an incorrect original spelling). Hora is somewhat ambiguous in that he used the term 'form' and calls *burmanicus* a 'specific name'. I treat it as a specific name (*C. burmanicus*). Even if one were to treat it as a form, it does not change the following discussion and conclusion.

The name, however, was not accompanied by a diagnosis, but it is available under article 12.1 of the International Code of Zoological Nomenclature (ICZN, 1999), satisfying article 11, and is accompanied by an indication, in the form of a "bibliographic reference to a previously published description or definition" (article 12.2.1). The reference is Mukerji (1934: 52). Hora also further referred records of *C. latius* in Vinciguerra (1890: 280) and Mukerji (1932: 283) to *C. burmanicus*.

The type series of the species "consists of all the specimens included by the author" [here Hora, 1936] (ICZN, article 72.4.1). Therefore the syntypes are the Burmese specimens of Mukerji (1932, 1934) and Vinciguerra (1890), as well as those Assamese specimens of Mukerji (1934), if any is from the part of Assam draining to the Irrawaddy basin.

Mukerji (1934) mentions having examined "a large series

of specimens from Assam collected by Dr. S. L. Hora from various streams of Manipur, and from Burma only three specimens, one from the Kyenchaung river in the Mergui District and two from the Phungin Hka in the Myitkyina District". The Manipur specimens apparently refer to material reported by Hora (1921: 183) according to Hora (1936: 324). Hora (1921: 167, 183) records the following information for his "*C. latius*" in Manipur: "sluggish streams in the Manipur Valley" and "streams with rocky bed in the southern watershed of the Naga hills". Hora (1921: 168) explains that streams of the 'southern watershed' flow into the Manipur Valley. The Manipur Valley drains to the Irrawaddy basin.

All these specimens were in the Zoological Survey of India. It is not known whether they are still there. Some may have been lost with other collections in the 1943 flood of the Ganges (Chopra, 1946); some may have earlier been used for exchange with foreign museums.

The only specimen mentioned by Mukerji (1932: 283) is the specimen from Kyenchaung listed in 1934. Vinciguerra (1890: 286) based his account on 2 specimens from "Meetan" in the collections of the Museo Civico di Storia Naturale, Genova. "Meetan" is Mitan Chaung, a rivulet flowing south from the summit of Mulayet Taung, 16°11'N 98°32'E, in the Salween basin (Kottelat, 1988: 495).

Su et al. (2000) do not mention *C. burmanicus*. Neither do they mention any of the Myanmar or Thai records of the species, nor differences between their material from the Irrawaddy and Salween basins. The species is recorded from Thai waters by Ukkatawewat & Vidthayanon (1998: 20) and I have observed it to be frequent in the Mae Nam Moei, a tributary of the Salween. I am unable to see differences between *C. burmanicus* as figured and diagnosed by Mukerji (1934) and Hora (1936), *C. multirastellus* as described by Su et al. (2000) and my material from the Mae Nam Moei (CMK 14672, 13; CMK 14698, 3) and therefore I am treating *C. multirastellus* as a junior subjective synonym of *C. burmanicus*. A detailed comparison of the Irrawaddy and Salween populations might show differences, but at the moment I have no access to material from the Irrawaddy.

Su et al. (2000) compared *C. multirastellus* with, among others, *C. latius diplocheilus*. Kullander et al. (1999: 135) have commented that *C. diplocheilus* does not belong to *Crossocheilus* (difficulties with the nomenclature and identity of several available generic and specific names did not allow them to reach a definitive conclusion as to the generic name to be used for this species).

***Gymnostomus horai* (Banarescu, 1986)**

Banarescu (1986: 153) considered *C. burmanicus* Hora, 1936, to be a nomen nudum. This is erroneous as, as discussed above, the name is available by indication. Banarescu (1986) described *C. horai*, a species from the Salween basin, of which he was not sure whether it is the same species as the one recorded by Mukerji and Hora. A

comparison of the figures of *C. horai* and Mukerji's (1934) figure 6 immediately suggests they are different species and, in fact, Roberts (1997: 191) considered *C. horai* to be a species of *Cirrhinus*. As the name *Cirrhinus horai* has already been used by Lakshmanan (1966: 59), Roberts (1997) proposed *Cirrhinus lu* as a replacement name.

Cirrhinus sensu Roberts (1997) is not accepted as valid by several authors, who still recognise *Cirrhinus* only for the species with, among others, 10-15 branched dorsal rays and *Henicorhynchus* for species with 8-9 (e.g., Kottelat, 1998, 2001) (this is based on Southeast Asian species and *Henicorhynchus* may or may not include the South Asian species with short dorsal fin). Under this system, *C. horai* Lakshmanan, 1966, is a real *Cirrhinus* (in fact a junior subjective synonym of *C. cirrhosus* (Bloch, 1795); Roberts, 1997) and *Crossocheilus horai* Banarescu, 1986, is a species of *Henicorhynchus*, and the name is valid (ICZN article 59.4).

If the synonymies in Roberts (1997) are correct, and if all '*Cirrhinus*' with a short dorsal fin are congeneric, then the correct generic name for this genus should be *Gymnostomus* Heckel (1843: 1030) as this is a senior subjective synonym of *Henicorhynchus* Smith (1945: 256; type species: *Henicorhynchus lobatus* Smith, 1945: 257, by original designation). The type species of *Gymnostomus* is *Cyprinus ariza* Buchanan, 1807 (p. 344, pl. 30) by subsequent designation by Bleeker (1863: 197).

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