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***Silurus imberbis* Gmelin 1789, a senior synonym of the platycephalid *Inegocia japonica* (Cuvier 1829), with a proposal to suppress the name**

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Abstract *Silurus imberbis* Gmelin 1789 is a replacement name for *Silurus inermis* Houttuyn 1782, a primary junior homonym of *Silurus inermis* Linnaeus 1766. Although *S. imberbis* has recently been regarded as a junior synonym of *Silurus asotus* Linnaeus 1758, it is considered here to be conspecific with *Inegocia japonica* (Cuvier in Cuvier and Valenciennes 1829) based on a comparison of the original description of *S. inermis* Houttuyn with specimens of *I. japonica*. Although *S. imberbis* has priority over *I. japonica*, an argument for a “reversal of precedence” of the International Code of Zoological Nomenclature is presented, establishing *I. japonica* as the valid name for the species. Although “*Platycephalus inermis* Jordan and Evermann 1902” has been regarded as an available name, it is not considered to be available.

Keywords *Silurus imberbis* · *Silurus inermis* · *Inegocia japonica* · homonym · synonym · Platycephalidae

Introduction

Houttuyn (1782) originally described *Silurus inermis* from Japan. Gmelin (1789) proposed *Silurus imberbis* as a replacement name for *Silurus inermis* Houttuyn 1782, a primary junior homonym of *Silurus inermis* Linnaeus 1766. Recently Ferraris (2007) considered *Silurus imberbis* to be a junior synonym of the silurid *Silurus asotus* Linnaeus 1758. In contrast, Jordan and Evermann (1902) treated *Silurus imberbis* as a platycephalid, *Platycephalus inermis* (Houttuyn), but no gave reason for the determination. Jordan and Richardson (1908) speculated that *Silurus imberbis* (as *Silurus inermis* Houttuyn) might be conspecific with *Inegocia japonica* (Cuvier in Cuiver and Valenciennes 1829) [as “*Thysanophrys japonicus* (Tilesius 1812)”] as the color description of *S. inermis* Houttuyn corresponds with that of *I. japonica*.

After examining the morphological description of *Silurus inermis* Houttuyn, for which the type is unknown (Eschmeyer et al. 1998; see also Boeseman 1995, who considered Houttuyn’s types must be lost), and specimens of *Inegocia japonica*, we support Jordan and Richardson’s (1908) proposition. Although *S. imberbis* would therefore become the senior synonym of *I. japonica*, we feel the “reversal of precedence” of ICZN (1999: Art. 23.9) should be invoked to preserve nomenclatural stability. We discuss our observations, reasoning and conclusion below.

Counts and measurements were made according to Hubbs and Lagler (1958). Measurements were made with calipers to the nearest 0.1 mm accuracy. Institutional acronyms are from Eschmeyer (1998), except for Hokkaido University Museum, Hakodate (HUMZ) and National Museum of Nature and Science, Tokyo (NSMT). Standard length is abbreviated as SL.

Results and discussion

Houttuyn (1782) stated that *Silurus imberbis* (as *S. inermis*) has a very flat head, small body scales, two dorsal fins and no barbels [see also Jordan and Richardson (1908), who translated Houttuyn's (1782) description into English], characters that agree with members of the family Platycephalidae. In contrast, representatives of the Siluridae lack scales, have a single dorsal fin and possess barbels (Burgess 1989). Although Houttuyn (1782) pointed out that the species has large eyes, which are close together as in the Uranoscopidae, it was also described as having the posterior margin of the gill membrane with two fine spines, a feature of platycephalids (Imamura 1996), but not uranoscopids (e.g., Pietsch 1989). The species was also described as having a reddish body and black and white spots on all fins. Although no Japanese platycephalids have this coloration, *Inegocia japonica* comes close in having a reddish brown body, and no white spots but brownish to black spots on all fins except for its pale anal fin (Fig. 1). Other platycephalids lack this color combination, especially the brownish to black spots on both dorsal and caudal fins. Jordan and Richardson (1908) also recognized the similarity of color in *S. inermis* Houttuyn and *I. japonica*. *Silurus imberbis* was described by Houttuyn (1782) as having 7 dorsal fin spines, 10 anal fin rays and jaws without teeth, while *I. japonica* usually has 9 dorsal spines, including a single isolated short anteriormost spine, 11–13 (mode 12) anal fin rays and jaws with minute villiform teeth. Similar differences between original descriptions in old literature and type specimens, especially with regard to fin ray counts, have been observed in several species of the Platycephalidae. For example, although *Platycephalus endrachtensis* Quoy and Gaimard 1825 was originally described as possessing 14 second dorsal and anal fin rays, it was revealed that the lectotype and paralectotype have 13 rays in the fins (Imamura 2008). Bleeker (1853) originally described *Platycephalus polijodon* as having 2 + 12 + 7 (thus 21 in total) pectoral fin rays, while Imamura and Amaoka (1996) pointed out two specimens of the species, including the holotype, possess 22–23 rays. We regard *S. imberbis* and *I. japonica* as being conspecific and support Jordan and Richardson's (1908) earlier assumption.

According to the ICZN (1999: Art. 60.2), if a rejected junior homonym has one or more

available and potentially valid synonyms, the oldest of these becomes the valid name of the taxon with its own authorship and date. However, if a rejected junior homonym has a replacement name, the name competes with any synonym recognized later for priority (ICZN 1999: Art. 60.3). Therefore, *Silurus imberbis*, the replacement name for *S. inermis* Houttuyn, has priority over *I. japonica*. However, *S. imberbis* does not appear to have been used as a valid name after 1899 and *I. japonica* has been regarded as valid in more than 25 publications by more than 10 authors in the immediately proceeding 50 years and encompassing a span of not less than 10 years (e.g., Anonymous 1962; Masuda et al. 1975; Knapp 1984, 1992, 1999, 2000; Ochiai 1984; Gloerfelt-Tarp and Kailola 1984; Sainsbury et al. 1985; Shao and Chen 1987, 1993; Paxton et al. 1989, 2007; Imamura 1996, 1997, 2005, 2010; Lee and Joe 1998; Nakabo 2000, 2002; Sadovy and Cornish 2000; Hutchins 2001; Youn 2002; Kim et al. 2005; Imamura et al. 2006; Imamura and Yoshino 2009). These conditions satisfy an article of ICZN (1999: Art. 23.9.1) dealing with a reversal of precedence. We therefore recognize the precedence of *I. japonica* over *S. imberbis* and consider the former to be valid.

Eschmeyer (1998) regarded “*Platycephalus inermis* Jordan and Evermann 1902” as an available species. Jordan and Evermann (1902) treated a specimen from Keerun, Taiwan, as:

169. *Platycephalus inermis* (Houttuyn)

(*Platycephalus crocodilus* Tilesius; *Platycephalus guttatus* Schlegel.)

We interpret Jordan and Evermann (1902) as recognizing *Platycephalus inermis* (Houttuyn) as a valid species of the family Platycephalidae, and *P. crocodilus* and *P. guttatus* as junior synonyms of *P. inermis*. Therefore, “*Platycephalus inermis* Jordan and Evermann 1902” is not an available name.

After the examination of the specimen regarded as *P. inermis* (Houttuyn) by Jordan and Evermann (1902) (SU 7973), it was found the specimen to be identical with *Cociella crocodia* in

this study. Therefore, Jordan and Evermann (1902) mistakenly recognized conspecificity of *P. inermis* (Houttuyn) (= *I. japonica*) and *C. crocodila*.

Material examined. *Inegocia japonica*: HUMZ 190441–190443, 3 specimens, 152.4–180.2 mm SL, Nha Trang, Vietnam; HUMZ 193320, 163.8 mm SL, Bintan Island, Indonesia; NTM S.10938-012, 143.5 mm SL, Northern Territory, Australia; NMW 11276, 94.6 mm SL, Tokyo, Japan; WAM P. 5885-001, 118.0 mm SL, Western Australia. Other materials, deposited at AMS, MNHN and NSMT, were listed by Imamura and Yoshino (2009).

Cociella crocodila: SU 7973, 171.8 mm SL, port at northern end of Keerun, Taiwan.

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Figure Caption

Fig. 1 Lateral view of *Inegocia japonica*, HUMZ 193320, 163.8 mm SL, from Bintan Island, Indonesia

