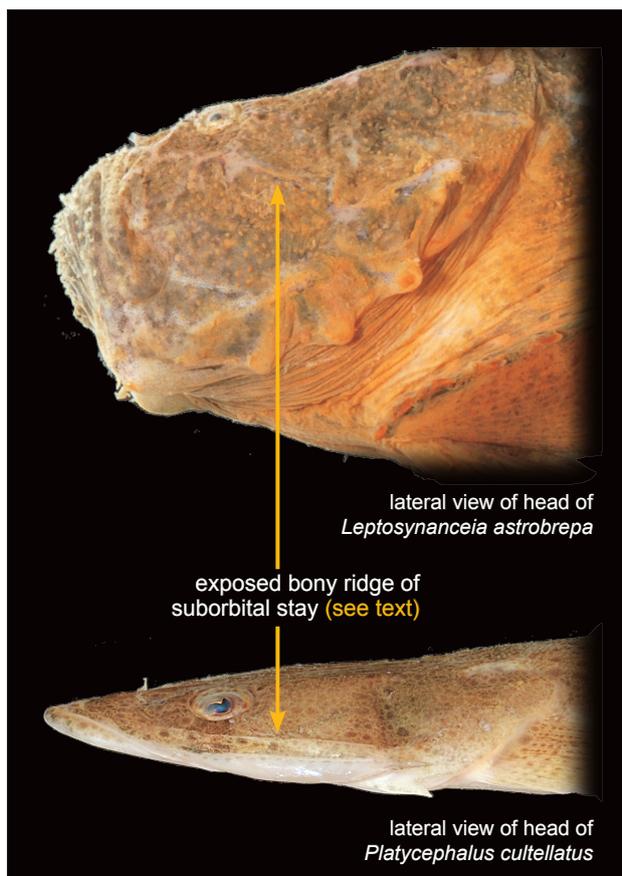


SCORPAENIFORMES – scorpionfishes and allies

Fishes of Scorpaeniformes (*sensu* Nelson, 2006) look similar to various kinds of fishes in the other orders (*e.g.*, Perciformes, pp. 355–485), but are characterized by having suborbital stay, a posterior extension of the third infraorbital bone across the cheek to preoperculum; the suborbital stay is seen as an exposed longitudinal bony ridge with spines in many species, but is entirely embedded under the skin or absent in some families. Following Nelson (2006), 26 families and *ca.* 1,477 species are placed in the Scorpaeniformes. Many of scorpaeniform fishes are found in the marine waters, but more than a few species are known to be confined to, or temporary enter into, the fresh- or brackish-water areas.

Although Nelson's (2006) classification is followed here, his Scorpaeniformes is, as already noted by himself, currently regarded as non-monophyletic (*e.g.*, Imamura, 2000; Imamura & Yabe, 2002; Smith & Wheeler, 2004). For example, Wiley & Johnson (2010) divided Nelson's (2006) Scorpaeniformes into 3 distinct orders, *viz.*, Cottiformes, Dactylopteriformes, and Scorpaeniformes; their Cottiformes and Scorpaeniformes include zoarcoids (eelpouts and allies) and serranids (sea basses, p. 362), respectively, both of which were considered as subgroups of Perciformes by Nelson (2006).

During our field surveys in the Mekong in 2007–2013, at least 3 species of scorpaeniform fishes were collected from the delta region in Vietnam. Several additional species are expected from the Vietnamese Mekong in particular in the brackish estuaries.



Leptosynanceia astroblepa (Richardson, 1844)

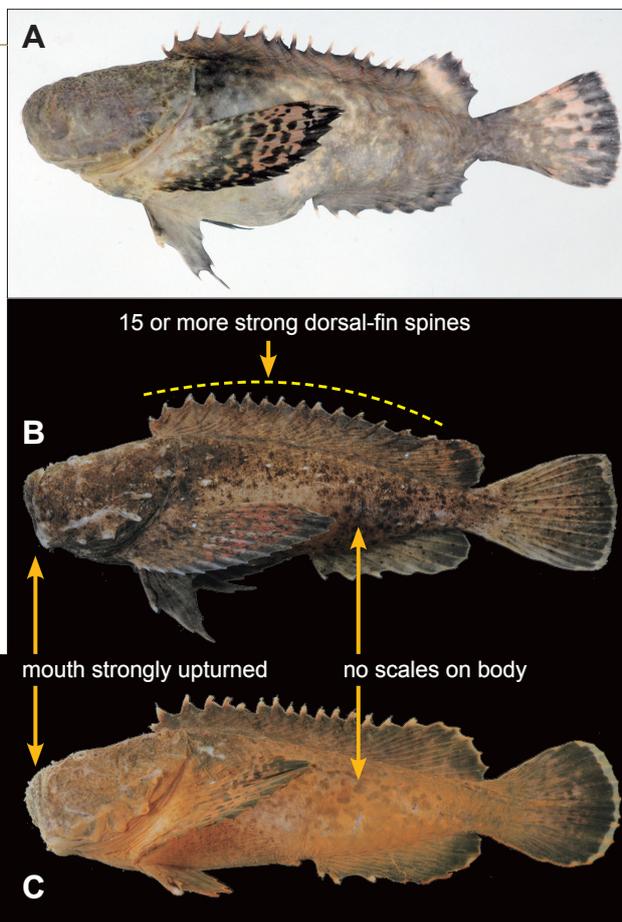
Family: Scorpaenidae (FC: 304)

Size: 11.7 cm SL (Poss, 1999: 2318).

Distribution: Mekong Basin in Vietnam; Western Pacific.

Notes: A small-sized species of scorpionfishes, found in brackish estuaries in particular in the mangrove areas.

Its peculiar appearance, including bony head with strongly upturned mouth, naked body, and 15 or more strong dorsal-fin spines, *Leptosynanceia astroblepa* is readily distinguished from the other Mekong fishes. Similar genera in the scorpaenid subfamily Synanceiinae (*e.g.*, *Synanceia* and *Trachicephalus*) are also expected around brackish estuaries of the Mekong, but have 14 or less dorsal-fin rays (Poss, 1999). Fishes of the other subfamily Tetraroginae (*e.g.*, *Tetraroge* and *Vespicula*) are also similar, and may enter into the brackish estuaries in this region; the tetrarogines, however, differ from the synanceiines (including *Leptosynanceia*) in having free rear margin of continuous gill membranes across the isthmus (*vs.* the gill membrane is broadly connected to the isthmus in the Synanceiinae).



A) CTU-P4881 (photo: HVM); B) CTU-P 1540 (photo by LXT); C and D) CTU-P 2188 (photo: LXT (C, freshly collected) and KS (D, preserved in ethyl alcohol))

Flatheads

Fishes of the family Platycephalidae have a broad and depressed head, and thus they are commonly known as "flatheads". General appearance of the platycephalids is somewhat similar to that of callionymids (pp. 418–419), but is readily distinguished by having: scales on body (vs. naked in the callionymids); moderately wide gill opening (vs. restricted to a small pore); and a larger mouth (vs. much smaller).

Two species of the Platycephalidae were collected from the Mekong during our field surveys in 2007–2013; occurrences of several additional species are highly expected from the brackish estuaries in this region. Key to the species of this family made by Knapp (1999) is useful for their identification, although *Platycephalus cultellatus* (below) is not included in the key.

Platycephalus cultellatus Richardson, 1846

Family: Platycephalidae (FC: 313)

Size: 45 cm SL (Imamura *in* Matsunuma *et al.*, 2011: 74).

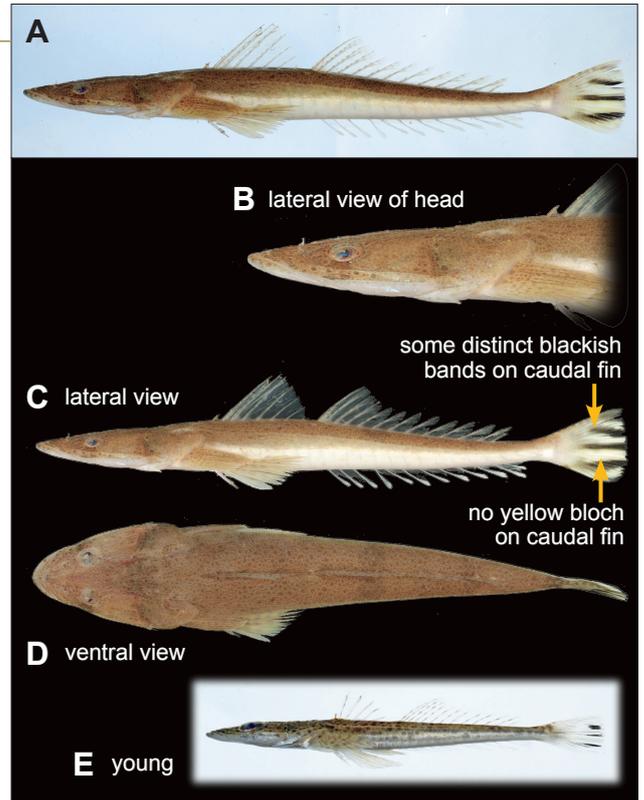
Distribution: Mekong Basin in Vietnam; South China Sea.

Notes: A relatively large-sized species of flatheads, found in shallow coastal marine waters; it is also known to enter brackish estuaries and adjacent freshwater areas.

This is one of the flathead species with some distinct blackish bands on the caudal fin, and is frequently confused with the similar-looking congener *Platycephalus indicus* in this region (e.g., Tran *et al.*, 2013). *Platycephalus cultellatus* differs from *P. indicus* in having no yellow part on the caudal fin (vs. a conspicuous yellow blotch near the middle of the caudal fin in *P. indicus*; see photograph of non-Mekong specimen, below) (Imamura *in* Matsunuma *et al.*, 2011; H. Imamura, pers. comm.). *Platycephalus cultellatus* has never been recorded from the Mekong previously, but the species, which is actually common in the delta, seems to be confused with *P. indicus* in many cases.



▲ Non-Mekong fish of *Platycephalus indicus* (Koh Kong, Cambodia, IFREDI-P 6299, photo: PT)



A–D) CTU-P 1088 (photo: KU); E) CTU-P 2228 (photo: LXT)

Grammoplites knappi Imamura & Amaoka, 1994

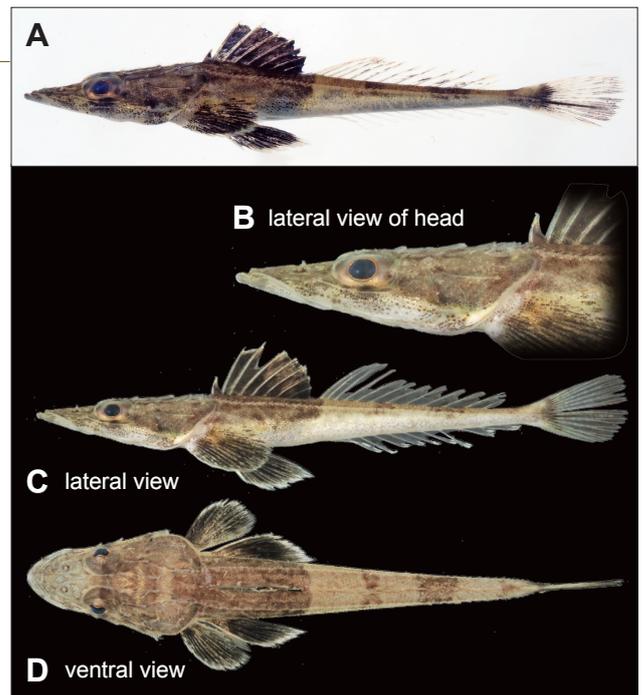
Family: Platycephalidae (FC: 313)

Size: 23.5 cm SL (Imamura & Amaoka, 1994: 174).

Distribution: Mekong Basin in Vietnam; Western Pacific.

Notes: A medium-sized species of flatheads, found in shallow coastal marine waters; it is also known to enter brackish estuaries. The photographed specimens shown here are young, collected from small brackish-water creek in mangrove area at Trà Vinh, Vietnam.

Grammoplites is unique within the Platycephalidae in having the following combination of characters (Imamura, 1996): a strong, backwardly directed spine on all lateral-line scales; sensory tubes on cheek not developed. *Grammoplites* comprises 3 species, and, of these, 2 species, viz., *G. knappi* and *G. scaber*, are known from the Western Pacific (Imamura, 1996). *Grammoplites knappi* is similar to *G. scaber*, but has a narrower interorbital width (6.4–8.4% of head length vs. 9.8–13.1% in *G. scaber*) (Imamura & Amaoka, 1994).



A) CTU-P 2190 (photo: LXT); B–D) CTU-P 2189 (photo: LXT)

