Hemigobius hoevenii (Bleeker, 1851)

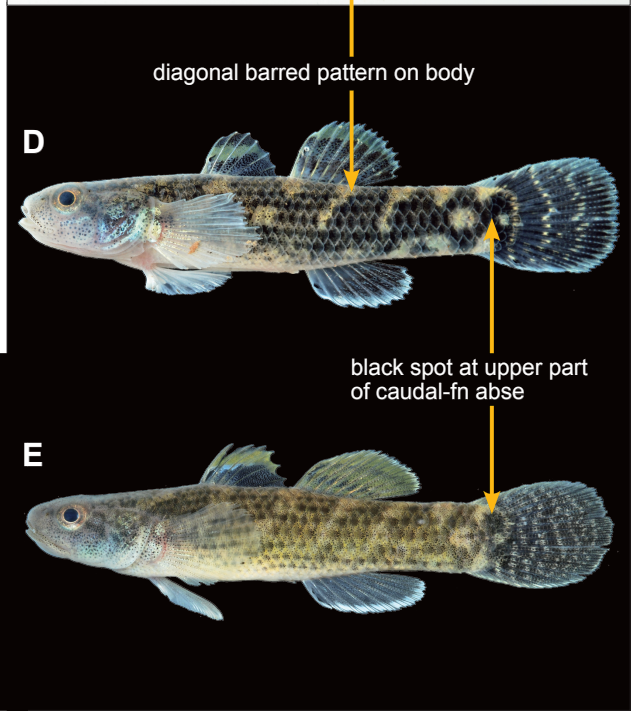
Family: Gobiidae (FC: 460)

Size: 3.7 cm SL (Larson & Lim, 2005: 109).

Distribution: Mekong Basin in Vietnam; Western Pacific.

Notes: A small-sized species of gobies, found in brackish estuaries and adjacent freshwater swamps and creeks; it is commonly seen at shallow mud bottoms of mangrove areas in the Vietnamese Mekong. Although the arera is not related with the Mekong, many specimens (*e.g.*, IFREDI-P 6843) were also collected from Koh Kong, Sihanoukville to Toek Chhou of Kompot, southwestern Cambodia.

Hemigobius hoevenii differs from the only congener *H. melanurus* (left page) in having: a more slender body; no scales on cheek; all teeth on jaws conical (not blunt and flattened); a dusky marking on first dorsal fin is, if present, faint and indistinct. Coloration of *H. hoevenii* varies depending on the fish condition. For example, the characteristic diagonal narrow black saddles are seen when the coloration of body is paler (photos A–C). When the coloration is darkened, the diagonal narrow beige or pale brown saddles may be seen (photos D–F) as in *H. melanurus*; even in this case, its slender body readily differentiates *H. hoevenii* from *H. melanurus*. The large male with nuptial coloration has the largely yellow dorsal fins (photo F).



A) One of CTU-P specimen (Sóc Trăng, Vietnam, aquarium photo: KS); B and C) CTU-P 4693 [photo: KS (B) and LXT (C)]; D) CTU-P 2455 (photo: LXT); E) CTU-P 1695 (photo: LXT); F) CTU-P 3151 (photo: LXT)

Gobiidae, indet. gen. & sp.

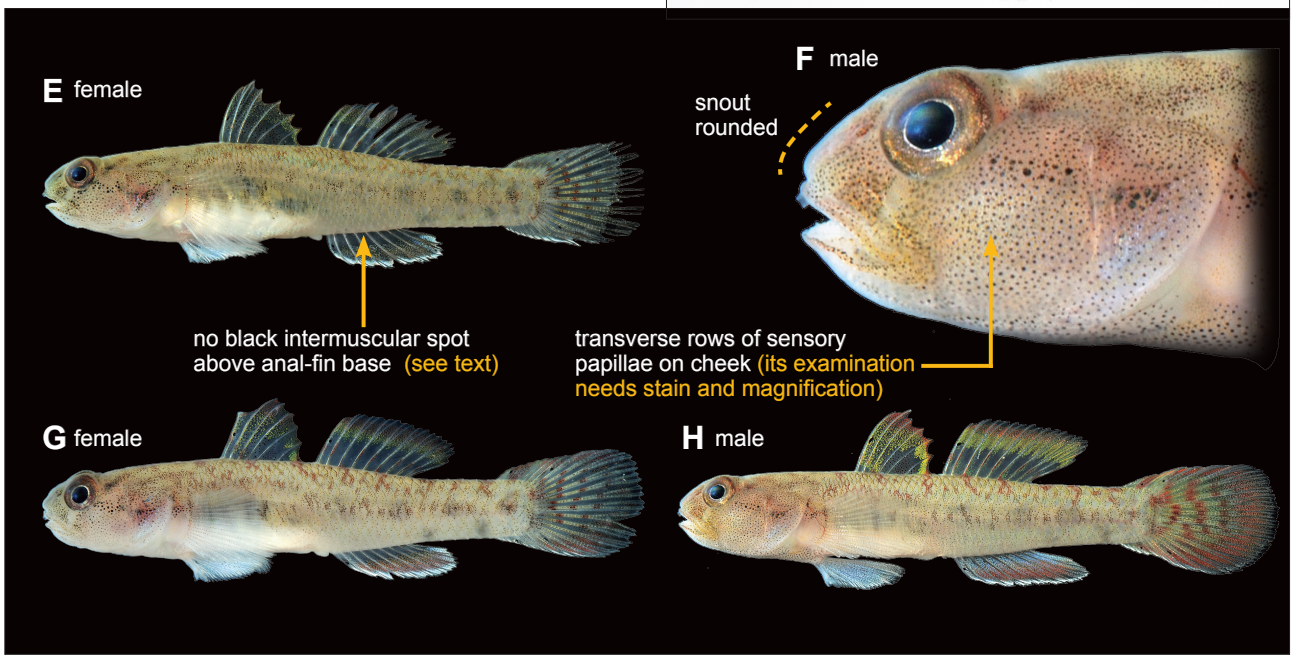
Family: Gobiidae (FC: 460)

Size: 2.7 cm SL (CTU-P 2324).

Distribution: Mekong Basin in Vietnam; Singapore.

Notes: A small species of gobies, found in brackish estuaries and adjacent swamps and creeks; it is not common, and is occasionally collected from small, shallow creeks with mud bottoms in mangrove areas of the Vietnamese Mekong. It is an undescribed species, to be described by H. K. Larson and us.

This goby is superficially similar to some species of *Pseudogobius* (pp. 454–459) and *Eugnathogobius* (pp. 463–467), but has a distinctive transverse pattern of sensory-papillae rows on the cheek (*vs*. no transverse rows of sensory papillae on the cheek in the latters). A row of intermuscular spots of meanophores along the ventral profile of the tail are restricted to the caudal peduncle (*vs*. may also be along anal-fin base in *Pseudogobius* and *Eugnathogobius* found in the Mekong).



A) One of CTU-P specimen (Sóc Trăng, Vietnam, aquarium photo: KS); B) CTU-P 5372 (aquarium photo: KS); C) CTU-P 2155 (photo: LXT); D and E) CTU-P 2274 (photo: LXT); F and H) CTU-P 2301 (photo: LXT); G) CTU-P 2149 (photo: LXT)

Eugnathogobius microps Smith, 1931

Family: Gobiidae (FC: 460)

Size: 2.65 cm SL (Larson, 2009: 140).

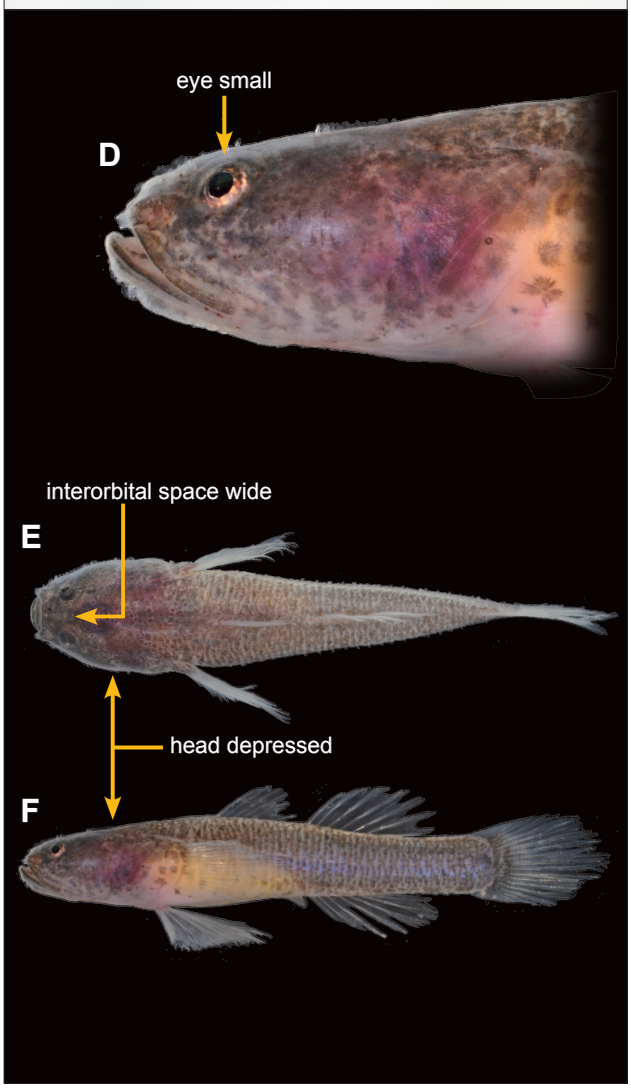
Distribution: Mekong Basin in Vietnam; central and peninsular Thailand.

Notes: A small species of gobies, found in brackish estuaries and adjacent freshwater areas; it is not common, and is occasionally dredged from tidal estuaries of large rivers of the Vietnamese Mekong. The photographed specimens shown here were picked up from amongst mixture of numerous brackish-water fishes, caught by small set nets (or bag nets).

Eugnathogobius is superficially similar to some other small-sized estuarine goby genera, *e.g.*, *Pseudogobius* (pp. 454–459) and *Pseudogobiopsis* (pp. 468–469). The general appearance is varied, and, in some species, gobies of *Eugnathogobius* may be difficult to be distinguished particularly from *Pseudogobiopsis* without a close examination of the head details on the basis of the preserved specimens. On the limits of the genera of these gobies, we tentatively follow Larson (2009), who recognized *Calamiana* as a junior synonym of *Eugnathogobius*. Huang *et al*. (2014a) subsequently re-classified the Larson's *Eugnathogobius* into 4 distinct genera (*viz*., *Calamiana*, *Eugnathogobius*, *Pseudogobiopsis*, and *Wuhanlinigobius*) based on their molecular and molphological analyses, but the taxon sampling for their analyses of the group was yet far from complete (see "Notes" of *E. polylepis*, p. 465).

Of 9 species of *Eugnathogobius sensu* Larson (2009), we collected 6 species from the Mekong Delta during our field surveys in 2007–2013: *E. illotus*, *E. kabilia*, *E. microps*, *E. polylepis*, *E. siamensis*, and *E. variegatus*. All of these are shown in this book. Rainboth *et al*. (2012) listed 9 species of *Eugnathogobius* in their book of the fishes of the "Greater Mekong Ecosystem," but at least 2 of these appear to be of *Pseudogobiopsis* (see "Notes" of *Pseudogobiopsis oligactis* and *Pseudogobiopsis* sp., pp. 468–469). They showed the photographs of *E. microps* and *E. siamensis* from Minh Hải in the Mekong Delta; the Mekong records of remaining 5 species they listed (*viz*., *E. illotus*, *E. kabilia*, *E. mindra*, *E. polylepis*, and *E. variegatus*) were not evidenced at then.

Eungathogobius microps, the type species of the genus, is readily distinguished from the other congeners by its small eyes ("*microps*" means "small eye" in the Greek) and broad interorbital space. It is a small and stocky goby with the characteristic "face," which never makes confusing the species with the other Mekong gobies.



A, D, E, and F) CTU-P 1526 (photo: LXT); B) CTU-P 1527 (photo: LXT); C) CTU-P 2526 (photo: LXT)

Eugnathogobius variegatus (Peters, 1868)

Family: Gobiidae (FC: 460)

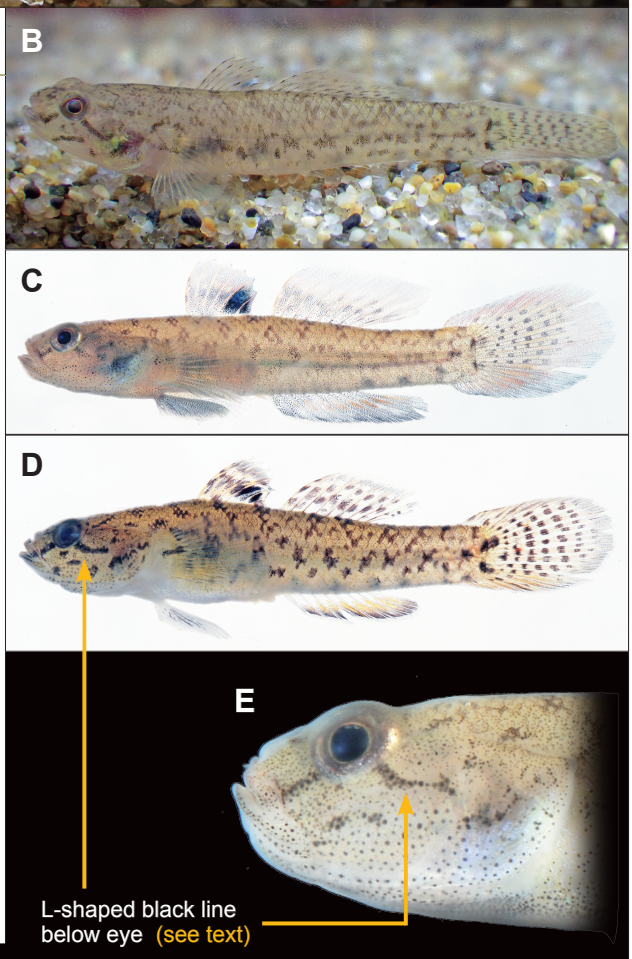
Size: 3.7 cm SL (Larson & Lim, 2005: 78, as *Calamiana variegata*).

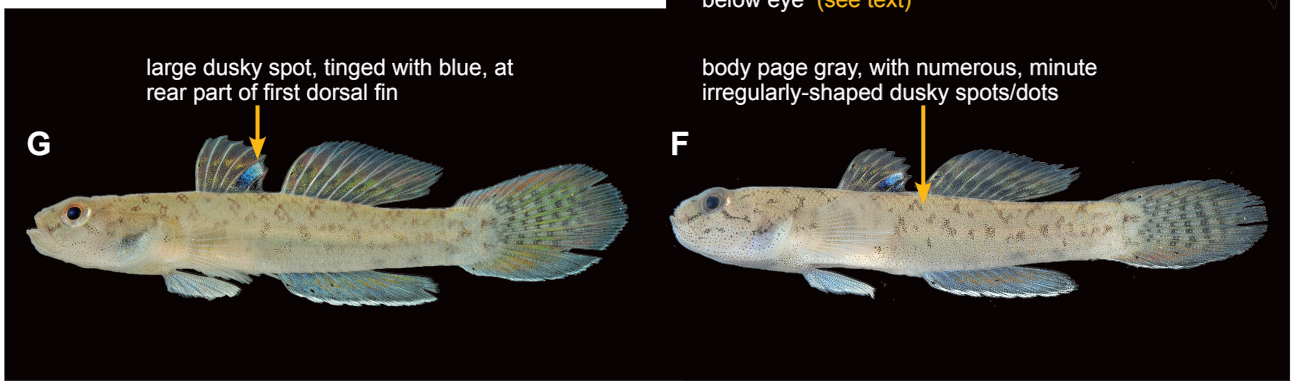
Distribution: Mekong Basin in Vietnam; Western Pacific.

Notes: A small species of gobies, found in brackish estuaries and adjacent freshwater swamps and creeks; it is fairly common at shallow mud bottoms of mangrove areas in the Vietnamese Mekong.

Its pale gray or beige body with black speckles may make it confusing with the species of *Pseudogobius* (pp. 454–469) rather than the congeners, although its snout is not rounded as in *Pseudogobius*. Scales on the body and predorsal area of *E. variegatus* are much smaller than those of species of *Pseudogobius*. *Eugnathogobius variegatus* has a characteristic L-shaped black line on the upper part of the cheek, which appears to be useful in the identification of this species amongst the Mekong gobies. Similar marking is also found in *Acentrogobius viridipunctatus* (p. 435), which has much deeper and larger body (attaining more than 10 cm SL), less conspicuous and fewer black speckling along lateral side of the body, and many small bright-greenish spots on body when alive.

Eugnathogobius variegatus has a single row of compressed teeth on the upper jaw (Larson, 1999: fig. 13). Although this peculiar dentition may be related with the food habits of the species, the ecological aspect of *E. variegatus* in detail is yet poorly known (as in many other small mangrove gobies).





A) CTU-P 4716 (aquarium photo: KS); B) one of CTU-P specimen, Bạc Liêu, Vietnam (aquarium photo: KS); C and G) CTU-P 3324 (photo: LXT); D) CTU-P 2208 (photo: LXT); E and F) CTU-P 2156 (photo: LXT)

Eugnathogobius illotus (Larson, 1999)

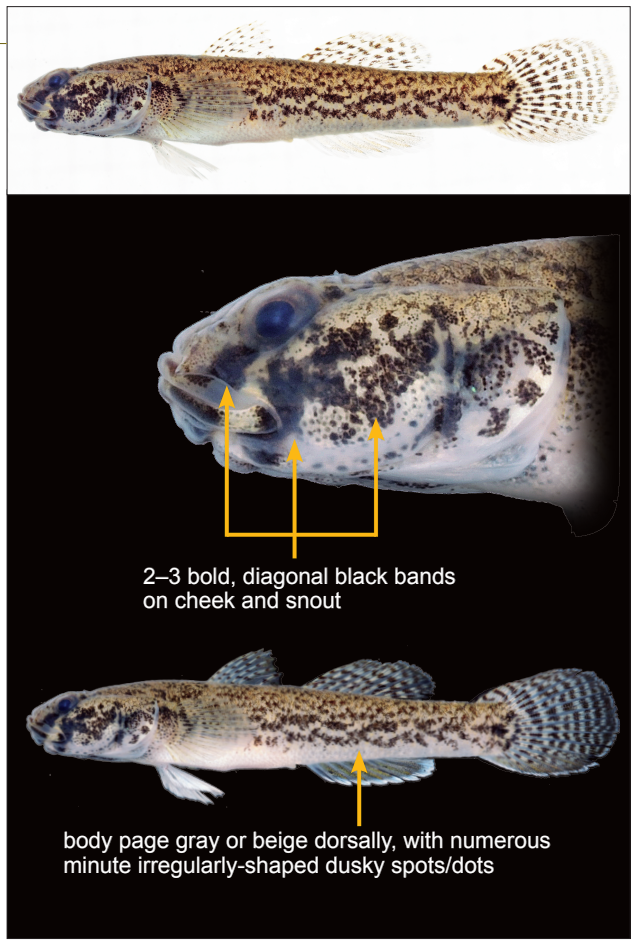
Family: Gobiidae (FC: 460)

Size: 4.5 cm SL (Larson & Lim, 2005: 77, as *Calamiana illota*).

Distribution: Mekong Basin in Vietnam; Western Pacific.

Notes: A small species of gobies, found in brackish estuaries and mangrove areas; it is not common, and occasionally collected from small, shallow swamps with mud bottoms in mangrove areas of the Vietnamese Mekong. The specimen shown here was collected from Hà Tiên in Kiên Giang Province, the westernmost of the Mekong Delta in Vietnam. A few additional specimens were collected from the Phú Quốc Island, off northwest coast of Kiên Giang.

Eugnathogobius illotus can be distinguished from the other Mekong congeners by having 2 or 3 bold irregular black bands across its snout and cheek. Larson (1999: 265), who named the species "*illota*" (a Latin adjective, meaning "unwashed" or "dirty"), noted that these black markings give "the fish the appearance of having an unwashed, smudged face (this species is known colloquially to the author as the "dirty-face goby")."



CTU-P 4056 (photo: LXT)

Eugnathogobius polylepis (Wu and Ni, 1985)

Family: Gobiidae (FC: 460)

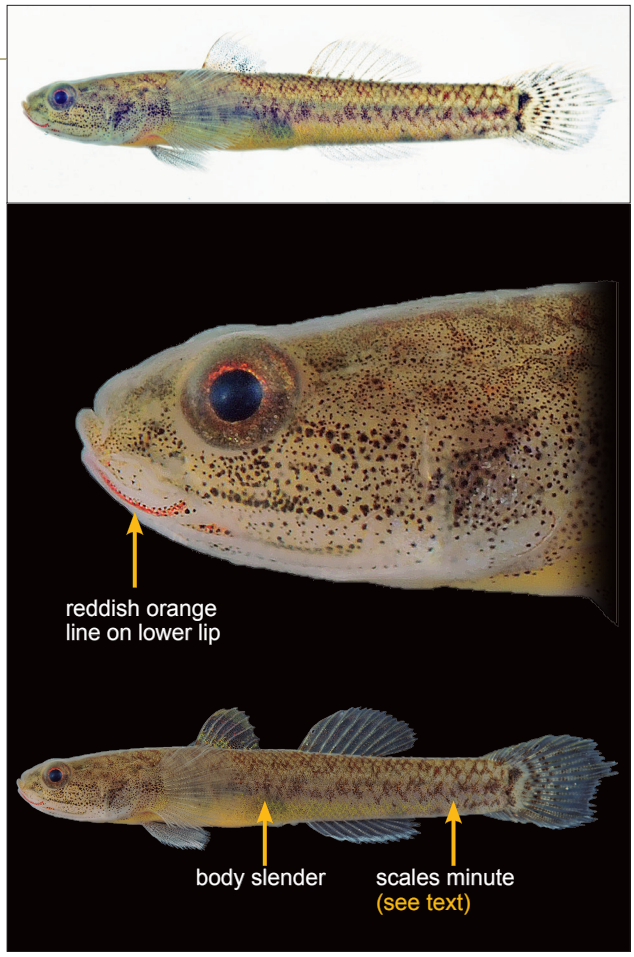
Size: 3.15 cm SL (Larson, 200: 143).

Distribution: Mekong Basin in Vietnam; Western Pacific.

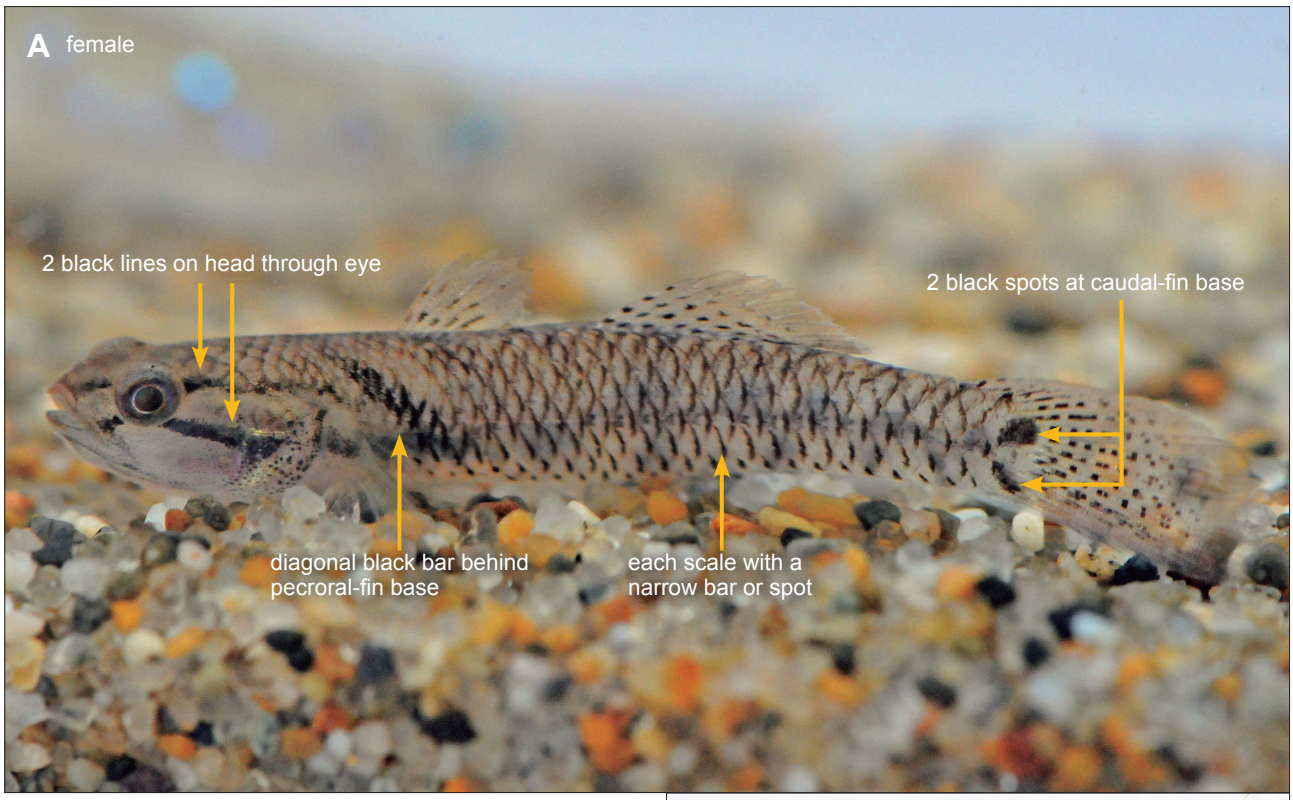
Notes: A small-sized species of gobies, found in brackish estuaries and adjacent shallow coastal waters. This goby appears to be uncommon in the Mekong; during our field surveys in 2007–2013, we could collect only a single specimen (CTU-P 4624) from Sóc Trăng, Vietnam. Unfortunately the Mekong specimen was not photographed when alive or freshly-collected. The specimen shown here was collected from the Phú Quốc Island, off the western coast of southern Vietnam.

Huang *et al*. (2014a) described the new genus *Wuhanlinigobius* for this species and an additional, similar-looking new species, *W. malayanus* (known from Malaysia). According to Huang *et al*. (2014a), *W. malayanus* can be distinguished from *W. polylepis* by having the following characters: 56–59 longitudinal scales (*vs*. 47–50 in *W. polylepis*), 23–29 predorsal scales (*vs*. 0–19); no black lines on the caudal fin (*vs*. 3–5 vertical black lines on caudal fin). The Mekong and Phú Quốc specimens agree well with the distinguishing characters of *W. polylepis* (rather than *W. malayanus*) given by Huang *et al*. (2014a). We, however, tentatively assign the species to *Eugnathogobius* (as done by Larson, 2009). Namely, we do not entirely follow Huang *et al*. (2014a) here, because their molecular analysis appears to be premature; the taxon sampling for their analyses was far from complete for re-classifying these small-sized mangrove gobies (*e.g*., *Eugnathogobius*, *Hemigobius*, *Mugilogobius*, *Pseudogobiopsis*, and *Pseudogobius*). Particularly, in their molecular analyses, they merely analyzed a single species each for *Brachygobius*/*Calamiana*/*Pandaka*/*Pseudogobiopsis* and none for *Eugnathogobius*.

Eugnathogobius polylepis is readily distinguished from the other Mekong gobies by its slender body and minute scales. A thin reddish orange line on the lower lip is also characteristic. Some species of *Mugilogobius* (*e.g*., *M. rambaiae*, p. 451) fairly resemble *E. polylepis*, but the body of the former is shorter.



Non-Mekong specimen, CTU-P 4313 (Phú Quốc Island, Vietnam, photo: LXT)



Eugnathogobius kabilia (Herre, 1940)

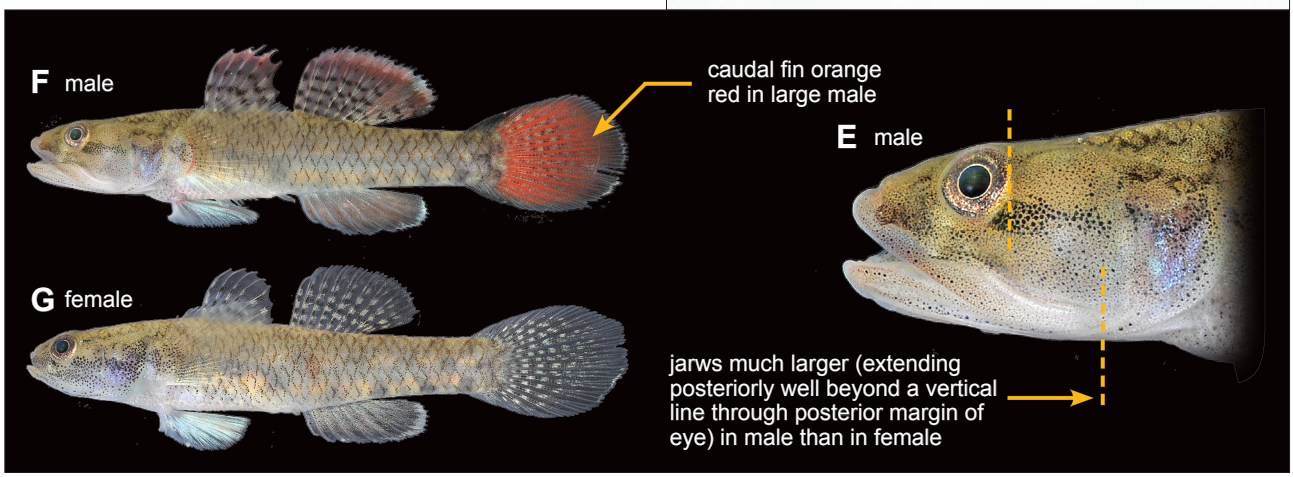
Family: Gobiidae (FC: 460)

Size: 4.7 cm SL (Larson, 2009: 136).

Distribution: Mekong Basin in southern Cambodia, and Vietnam; Western Pacific.

Notes: A small-sized species of gobies, found in brackish estuaries and adjacent freshwater swamps and creeks; it is fairly common (for the genus) at shallow mud bottoms of mangrove areas in the Vietnamese Mekong.

Eugnathogobius kabilia represents a distinctive sexual dimorphism, as in some other congeners (*e.g.*, *E. siamensis*, next page); the adult male has enlarged jaws (extending posteriorly well beyond a vertical line through the posterior margin of the eye), whereas this is not true of the females and young specimens. The large male sometimes shows an orange red caudal fin, as its nuptial coloration (see photos B and F). The other characters that are useful for the identification of this species are: each scale with a fine dusky bar or spot; dusky dots (not large spots/blotches) on dorsal-fin rays; 10–19 predorsal scales; usually 2 black stripes on the head; no sensory canals or associated pores on the head.



A) CTU-P 5376 (aquarium photo: KS); B, E, and F) CTU-P 826 (photo: LXT); C) CTU-P 4372 (photo: LXT; D) CTU-P 3535 (photo: LXT); G) CTU-P 827 (photo: LXT).

Eugnathogobius siamensis (Fowler, 1934)

Family: Gobiidae (FC: 460)

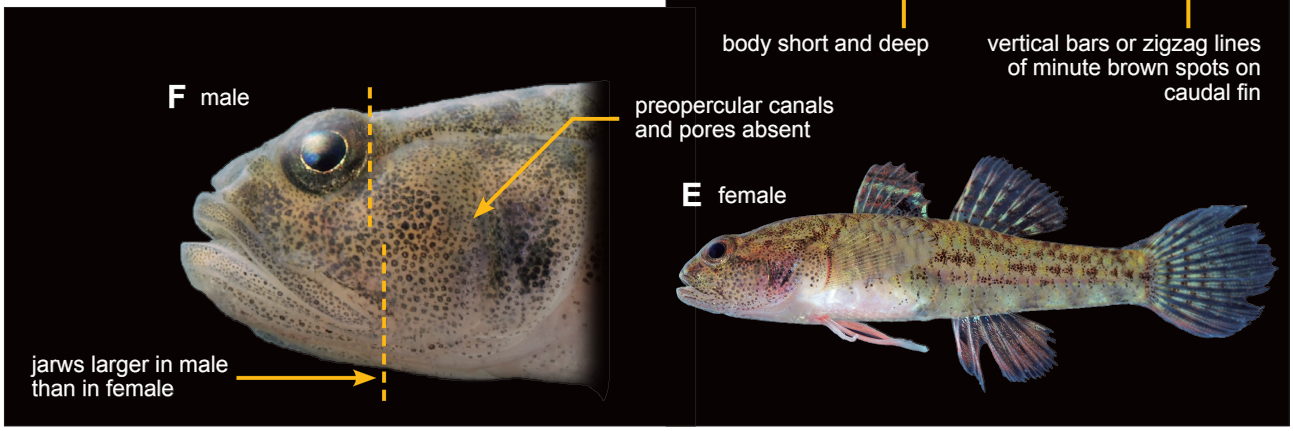
Size: 3.6 cm SL (Larson, 2009: 148).

Distribution: Mekong Basin in Vietnam; Western Pacific.

Notes: A small-sized species of freshwater goby, found in shallow waters of slow-flowing rivers in the Mekong. The underwater photograph shown above (A) was taken at a small freshwater stream (at a non-Mekong basin) in Koh Kong, western Cambodia.

Eugnathogobius siamensis is similar to, and easily confused with, *Pseudogobiopsis oligactis* (next page). *Eugnathogobius siamensis* has, however, a relatively short and deep body (*vs.* more slender in *P. oligactis*), subcylindrical head (*vs.* somewhat flattened), vertical bars or zigzag lines of minute brown spots on the caudal fin (*vs.* vertically oriented rows of minute brown spots on the caudal fin), and no preopercular pores (*vs.* 3 preopercular pores) (Larson, 2009).

Eugnathogobius siamensis of Vidthayanon (2008: 223, fig. 311) and *Eugnathogobius* sp. 2 of Rainboth *et al.* (2012: 105, pl. 106, fig. 2212) are likely re-identified as *P. oligactis* (p. 468).



A) Underwater photograph (fish not collected, Vinh Long, Vietnam, photo: KS); B, D, and F) CTU-P 3668 (photo: LXT); C) CTU-P 3763 (photo: LXT); E) non-Mekong fish, CTU-P 4511 (Phú Quốc Island, Vietnam, photo: LXT).

A small brackish-water creek in Vĩnh Long, Vietnam, where *Pseudogobius oligactis* and *Eugnathogobius siamensis* were collected together (photo: KS)

Pseudogobiopsis oligactis (Bleeker, 1875)

Family: Gobiidae (FC: 460)

Size: 4.1 cm SL (Larson, 2009: 157).

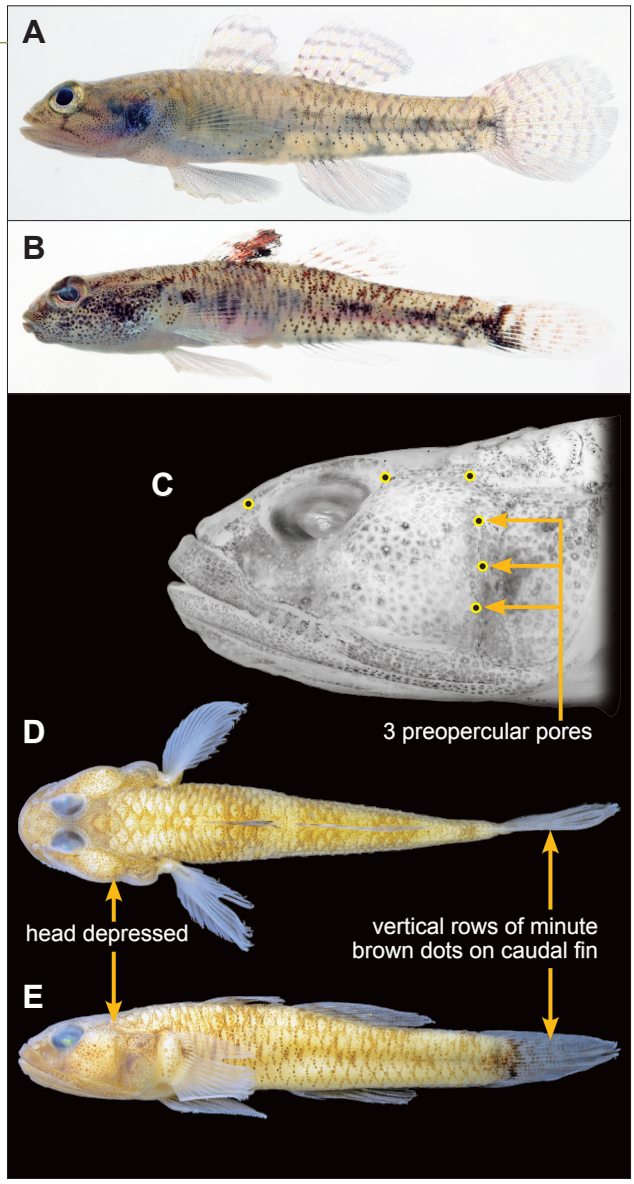
Distribution: Mekong Basin in Thailand, Cambodia, and Vietnam; South and Southeast Asia from India to Indonesia (eastwards to Sulawesi).

Notes: A small-sized species of freshwater gobies, found in shallow waters of slow-flowing rivers in the Mekong; it is common in freshwater areas of lower reaches, but is barely or not seen at all in brackish estuaries. A photograph above shows a habitat in Vĩnh Long of Vietnam, where some specimens of *Pseudogobiopsis oligactis* (including a specimen shown in photo C) and a similar-looking *Eugnathogobius siamensis* (photo C of p. 467) were collected together. Larson (2009: 162) noted that *Pseudogobiopsis oligactis* inhabits fast-flowing hill streams, out of the current.

Regarding the limits of the similar-looking genera *Pseudogobiopsis* and *Eugnathogobius*, we tentatively follow Larson (2009) (see also "Notes" of *E. microps*, p. 463), who recognized the following 4 species in the genus: *P. festivus*, *P. oligolepis*, *P. paludosus*, and *P. tigrellus*. Of these, only a single species *P. oligactis* is known from the Mekong, as well as an undescribed species shown in the next page.

Pseudogobiopsis oligactis is easily confused with *Eugnathogobius siamensis* (p. 467) due to the similar coloration of their head and body. *Pseudogobiopsis oligactis* can be distinguished in having relatively slender body (*vs.* stockier in *E. siamensis*), somewhat flattened head (*vs.* subcylindrical), vertically oriented rows of minute brown dots on the caudal fin (*vs.* vertical bars or zigzag lines), and 3 pores of preopercular canal (*vs.* pores are absent) (Larson, 2009).

Eugnathogobius siamensis of Vidthayanon (2008: 223, fig. 311) and *Eugnathogobius* sp. 2 of Rainboth *et al*. (2012: 105, pl. 106, fig. 2212 are likely re-identified as *P. oligactis*.



A) One of UNMF specimens (photo: KS); B) CTU-P 3764 (photo: LXT); C–E) alcohol preserved specimen, one of CTU-P 3875 (photo: KS)

Pseudogobiopsis sp.

Family: Gobiidae (FC: 460)

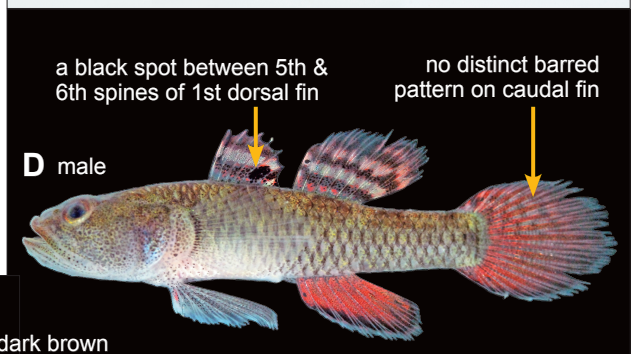
Size: 1.9 cm SL (CTU-P 5195).

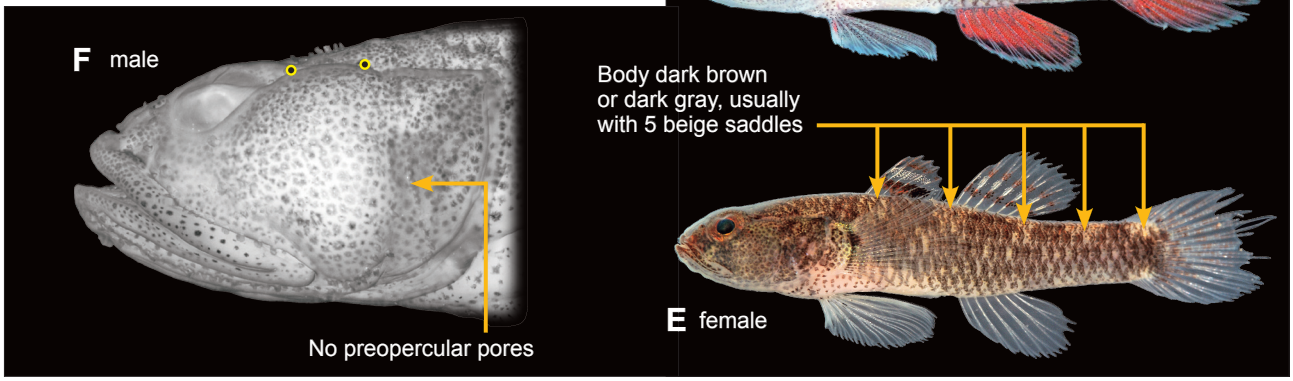
Distribution: Mekong Basin in Vietnam.

Notes: A putative undescribed species, found in brackish estuaries in the Vietnamese Mekong; it will be described by H. K. Larson and us. "*Eugnathogobius* sp. 1" of Rainboth *et al*. (2012: 105, pl. 106, fig. 2211) appears to be conspecific.

The present assignment of this species to *Pseudogobiopsis* (rather than to the similar-looking *Eugnathogobius*) is merely preliminary. Since this species has 17 segmented caudal-fin rays and a sensory-papilla row at the posteroventral part of the cheek following the preopercular margin, this agrees well with the diagnostic characters of *Pseudogobiopsis* (rather than *Eugnathogobius*) given by Larson (2009). Like 2 of 4 species of *Pseudogobiopsis* recognized by Larson (2009), this species lacks preopercular canal and associated pores.

This species is similar to *Eugnathogobius siamensis* (p. 467) in general appearance in particular the stocky body, but clearly differs in coloration; namely, *Pseudogobiopsis* sp. has no distinct barred pattern on the caudal fin (*vs.* present in *E. siamensis*) and a dark brown or grayish body, usually with 5 faint beige saddles (*vs.* pale gray, pale yellow or beige body, with 5 dusky saddles). Dorsal, anal and caudal fins of large male are tinged with red, like some species of *Eugnathorobius*.





A, B, D, and F) CTU-P 5195 [photo: KS (A and F) and HVM (B and D)]; C and E) CTU-P 5379 (photo: HVM)

Stenogobius mekongensis Watson, 1991

Family: Gobiidae (FC: 460)

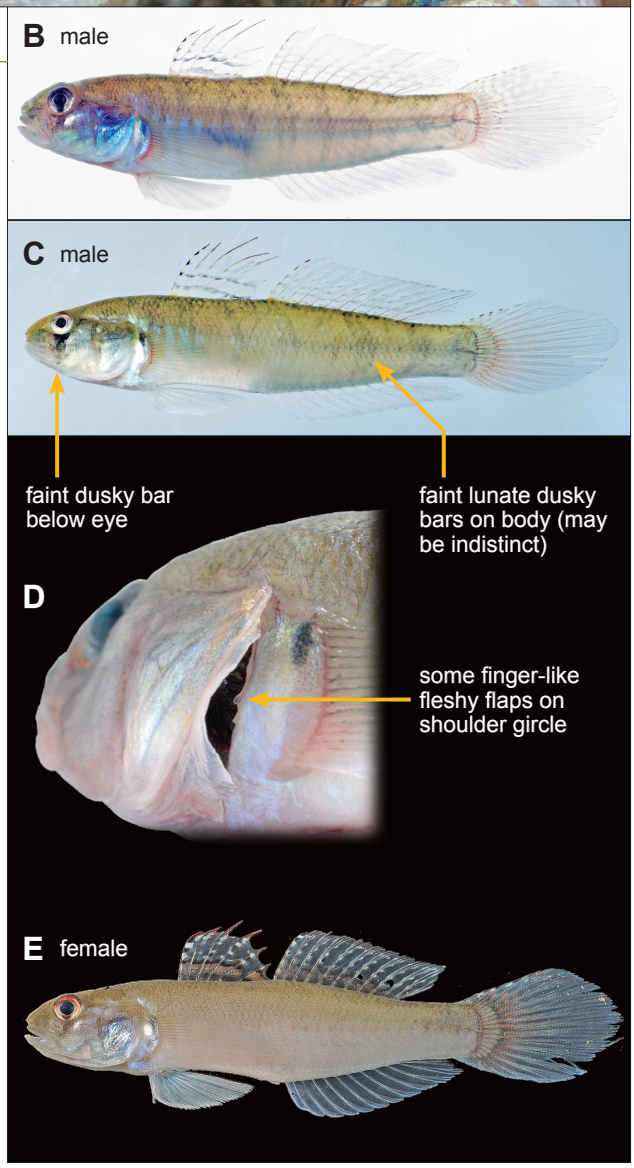
Size: 8.1 cm SL (CTU-P 387).

Distribution: Mekong Basin in southern Cambodia and Vietnam.

Notes: A medium-sized species of gobies, found in lower reaches of large rivers; it is commonly trawled in the Mekong Delta. Vidthayanon's (2008: 227, fig. 318) "*Stenogobius mekongensis*" is mis-identification of a species of *Oligolepis* [see "Notes" of *Oligolepis* sp. (cf. *jaarmani*), next page], although he showed a freshly-collected photograph of true *S. mekongensis* (with no caption) in the frontcover of the book.

Fishes of *Stenogobius* have a relatively elongated body and a compressed head, and they are readily distinguished from the other similar-looking genera in the Mekong (*e.g.*, *Oligolepis* and *Oxyurichthys*) by having some finger-like fleshy flaps on shoulder girdle (see photo D). This character is also found in the other gobiid genus *Awaous* (not yet recorded plausibly from the Mekong) and some *Mugilogobius* (see, *e.g.*, Larson, 2001: 16). Note that the gobies of *Awaous* has not yet been recorded plausively from the Mekong, and the record of *Awaous grammepomus* from the Cambodian Mekong Rainboth (1996b: 202) needs confirmation; subsequently he did not include the Mekong record of this species in his book of the "Greater Mekong Ecosystem" (Rainboth *et al.*, 2012). On the other characters of *Oligolepis*, *Oxyurichthys*, and *Stenogobius*, see "Notes" of *Oligolepis* sp. (cf. *jaarmani*) (next page).

Stenogobius mekongensis is the only known species of the genus from, and appears to be confined to, the Mekong Delta. Identification of *Stenogobius ophthalmophorus* shown by Rainboth *et al*. (2012: 106, pl. 108, fig. 2251) from the Mekong Delta in Vietnam needs confirmation based on the voucher specimen. In his taxonomic review of *Stenogobius*, Watson (1991) indicated that *S. ophthalmophorus* is known from east coast of Vietnam (Nha Trang), Taiwan, Japan, the Philippines, and western Indonesia.



A) Marketed fish, not preserved (Cần Thơ, Vietnam, photo: KS); B) CTU-P 3634 (photo: LXT); C) CTU-P 1956 (photo: LXT); D) specimen not preserved (Cần Thơ, Vietnam, photo: KS); E) CTU-P 692 (photo: LXT)

Oligolepis sp. (cf. *jaarmani*)

Family: Gobiidae (FC: 460)

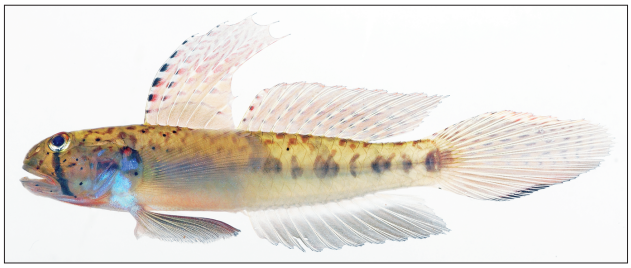
Size: 6.5 cm SL (CTU-P 1419).

Distribution: Mekong Basin in southern Cambodia and Vietnam.

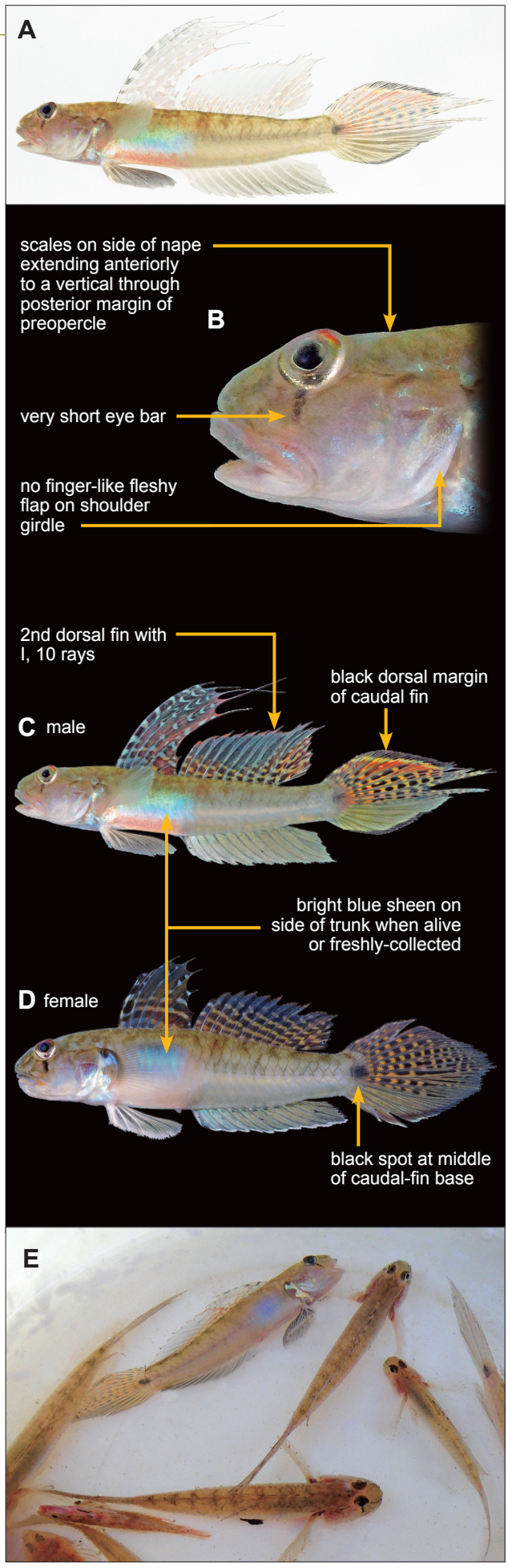
Notes: A medium-sized species of gobies, found in the lower reaches of turbid brackish-water rivers, mangrove creeks, and adjacent freshwater areas; it is commonly seen amongst fishes collected by small trawl nets in the Mekong Delta of Vietnam. Vidthayanon (2008: 227, fig. 318) mis-identified this goby as *Stenogobius mekongensis* (see "Notes" of *S. mekongensis*, left page).

Gobies of *Oligolepis* are superficially similar to *Stenogobius* (left page) and *Oxyurichthys* (next page), but lack the finger-like fleshy flaps on the shoulder girdle (*vs.* present in *Stenogobius*) and the cutaneous ridge along the predorsal midline (*vs*. present in many species of *Oxyurichthys*). Posterior oculoscapular and preopercular canals are found on head of *Oligolepis* and *Stenogobius*, but *Oxyurichthys* lacks both of these canals; and, teeth of upper jaw are arranged in 2 or more rows in *Oligolepis* and *Stenogobius*, whereas a single row in *Oxyurichthys* (except for a single South African species *Oxyurichthys keiensis*) (Pezold, 1991; Watson, 1991; Pezold & Larson, 2015).

During our field surveys in 2007–2013, we collected only a single species of *Oligolepis* shown here. This species is somewhat similar to a common Indo-West Pacific congener *Oligolepis acutipennis* (see photograph of a non-Mekong specimen, below). Actually, the photographed specimens, identified based on the Mekong specimens as *O. acutipennis* by Rainboth *et al*. (2012, pl. 106, fig. 2223) and Tran *et al*. (2013: 146), are identical with the Mekong species shown here. The Mekong species can be distinguished from *O. acutipennis* by having: scales on the side of the nape extending anteriorly to a vertical line through the posterior margin of the the preopercle (*vs*. not or barely extending anteriorly above the operculum); a very short vertical bar below the eye, not reaching the upper jaw (*vs*. extending beyond a horizontal line through the posterior corner of the lips); quite obscure or no longitudinal series of blackish spots on the midlateral body (*vs*. the spots are usually conspicuous); a black dorsal margin of the caudal fin (*vs*. dorsal margin of caudal fin not black). The coloration resembles the other congener *Oligolepis jaarmani* (H.K. Larson, pers. comm.), known only from New Guinea (see color photograph of *O. jaarmani* shown in Allen *et al*., 2008: 173), rather than *O. acutipennis*. Further detailed comparison with the New Guinean *O. jaarmani* is needed to identify the Mekong species. Note that we could not confirm any voucher specimens of *O. acutipennis* from the Mekong, during our field surveys in 2007–2013.



▲ Non-Mekong specimen of *Oligolepis acutipennis* (Ryukyu Islands, Japan, photo: KS)



A–C) CTU-P 5192 (photo: HVM); D) CTU-P 3649 (photo: LXT); E) some of CTU-P collection, just after collected (Cần Thơ, Vietnam, photo: KS)

Oxyurichthys microlepis (Bleeker, 1849)

Family: Gobiidae (FC: 460)

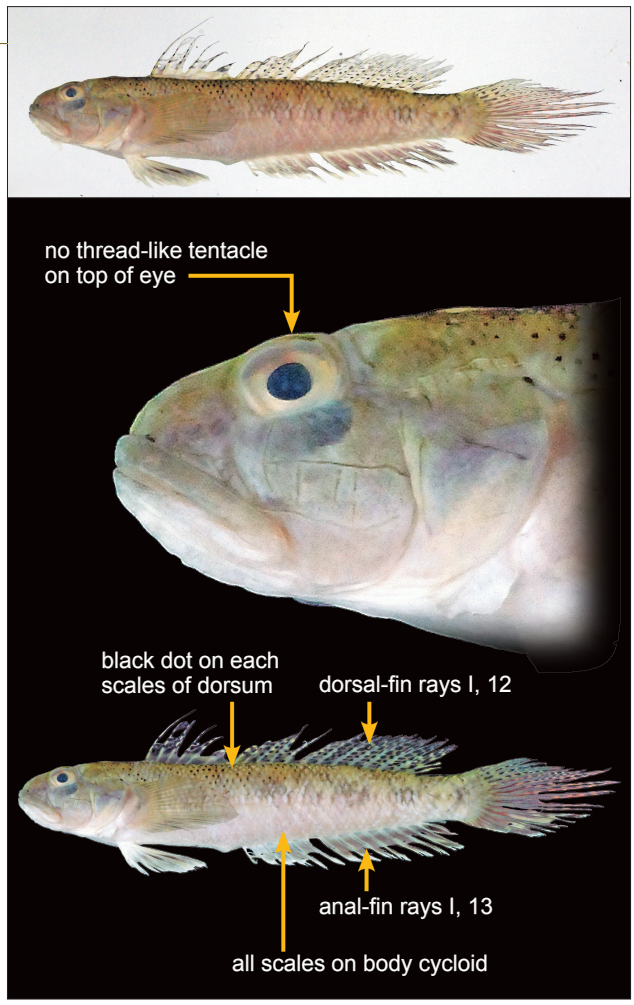
Size: 9.5 cm SL (Pezold & Larson, 2015: 41).

Distribution: Mekong Basin in Vietnam; Indo-West Pacific.

Notes: A medium-sized species of gobies, found in brackish estuaries and adjacent shallow coastal marine waters. The photographed specimen shown here, in addition to the other 10 specimens, was found at a fish market in Bến Tre, Vietnam, together with several estuarine fishes, *e.g.*, *Sillago sihama* (p. 371), *Acanthopagrus pacificus* (p. 370), *Leiognathus equulus* (p. 389), and *Brachyamblyopus brachysoma* (p. 484).

Taxonomy of *Oxyurichthys*, largely known from the Indo-Pacific region (except for the single species, *O. stigmatophorus*, from western Atlantic), was reviewed by Pezold & Larson (2015) and Larson & Pezold (2016), who recognized 12 species as being valid. Subsequently Shibukawa *et al*. (2016) reported 4 undescribed species from the Japanese waters, and resurrected *Oxyurichthys saru*, which was regarded as a junior synonym of *O. auchenolepis* by Pezold & Larson (2016), as valid; total number of species of *Oxyurichthys* is thus 17 in the world.

Species of *Oxyurichthys* can be divided into two subgroups: one has a short thread-like tentacle on top of eye, whereas the other lacks it; some species have a small nob or callus, that does not form a distinct tentacle (Pezold & Larson, 2015), and are assigned to the latter here. *Oxyurichthys microlepis* is one of 3 species with no ctenoid scales on the body (namely, all scales are cycloid) of the latter subgroup (Pezold & Larson, 2015); the other two species are *O. takagi* (having 18–21 pectoral-fin rays *vs.* 20–24, usually 22 in *O. microlepis*) and *O. zeta* (having a large black blotch on the posterior part of the first dorsal fin *vs.* no large black blotches). A black dot on each scale on the dorsum of the body is also characteristic for *O. microlepis* (*vs*. absent in *O. takagi* and *O. zeta*). See also "Notes" of *Oxyurychthys tentacularis*, below.



CTU-P 4932 (photo: LXT)

Oxyurichthys tentacularis (Valenciennes, 1837)

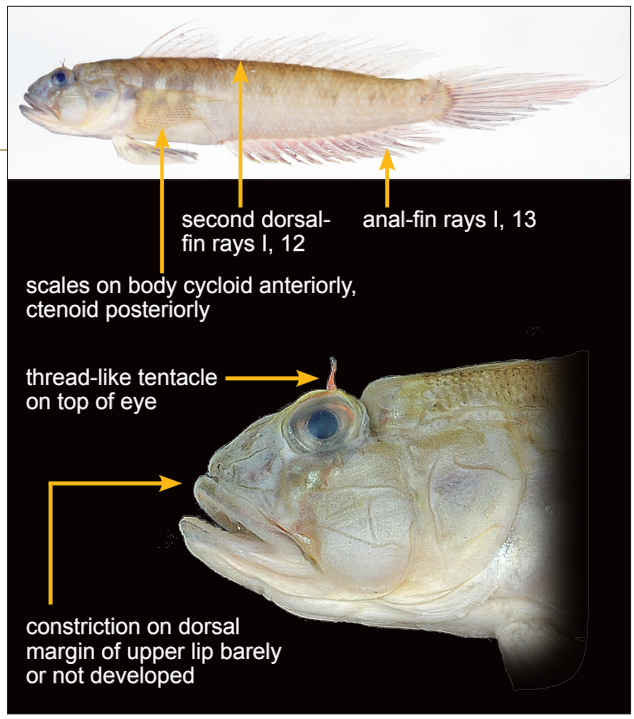
Family: Gobiidae (FC: 460)

Size: 10.0 cm SL (CTU-P 1069).

Distribution: Mekong Basin in Vietnam; Indo-West Pacific.

Notes: A medium-sized species of gobies, found in inshore waters and brackish estuaries. Rainboth (1996b) listed this goby in his book of the Cambodian Mekong, but Pezold & Larson (2015) disputed the record. His subsequent book of fishes of the "Greater Mekong Ecosystem" (Rainboth *et al*., 2012) merely showed two records of this goby from Vietnamese waters outside of the Mekong. The photographed specimen shown here was trawled from brackish estuary of Co Chien River, a distributary of the Mekong, in Trà Vinh, Vietnam. It represents the first reliable record of the species from the Mekong. Note that Rainboth *et al*. (2012) listed 5 species of *Oxyurichthys* (*O. auchenolepis*, *O. microlepis*, *O. ophthalmonema*, *O. papuensis*, and *O. tentacularis*) from their Greater Mekong Ecosystem, but did not provide any definitive records from the Mekong; the line drawing of *O. tentaculatus* shown by Rainboth (1996b: 206), reproduced from the Philippines specimen given by Herre (1927, pl. 20, fig. 3), appears to be misidentification of *O. cornutus*, which is not yet known from the Mekong.

This is one of 5 species of *Oxyurichthys* with a distinct thread-like tentacle on top of the eye (see "Notes" of *O. microlepis*, above); the others are *O. cornutus*, *O. paulae*, and *O. ophthalmonema*, and *O. uronema*. It has, *e.g.*, a distinct cutaneous crest along the predorsal midline (*vs*. undeveloped in *O. paulae* and *O. uronema*) and none or barely developed constriction on the dorsal margin of the upper lip at premaxillary symphysis (*vs*. developed in *O. cornutus*, and *O. paulae*) (Akihito, 1972; Pezold & Larson, 2015).



CTU-P 1069 (photo: LXT)

Oxuderces nexipinnis (Cantor, 1849)

Family: Gobiidae (FC: 460)

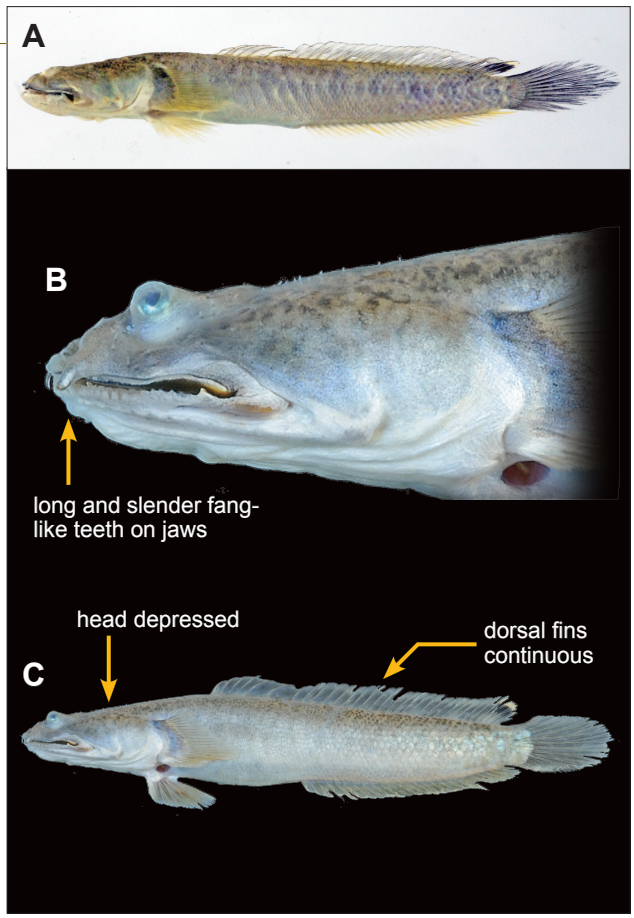
Size: 8.06 cm SL (Jaafar & Parenti, 2017).

Distribution: Mekong Basin in Vietnam; Indo-West Pacific.

Notes: A medium-sized species of gobies, found in brackish estuaries and adjacent areas. Vidthayanon (2008: 234) indicated *Oxuderces nexipinnis* (as *Oxuderces dentatus*) as "Locally common in the markets," although we could not see any specimens of the species in the markets in/around the Mekong Delta in Vietnam during our surveys in 2007–2013. Actually the species appears to be less common in this area, but sometimes collected from very shallow waters around mudflats in the Vietnamese Mekong (*e.g.*, Bạc Liêu, Bến Tre, Trà Vinh, Sóc Trăng provinces).

In his review of the mudskippers and allies, Murdy (1989) recognized 2 species in *Oxuderces*: *O. dentatus* and *O. wirzi*. Jaafar & Parenti (2017), however, regarded *O. wirzi* as a species of *Apocryptodon* (see also "Notes" of *Apocryptodon madurensis*, below), and resurrected *O. nexipinnis* that was treated as a junior synonym of *O. dentatus* by Murdy (1989) as valid. Note that *Oxuderces dentatus* is confined to Chinese waters (Jaafar & Parenti, 2017), and is not expected to be found in the Mekong; namely, previous records of *O. dentatus* from the Mekong were most likely based on misidentifications of *O. nexipinnis*.

The combination of its flattened head, single (continuous) long-based dorsal fin, large mouth extending posteriorly well beyond a vertical line through the eye, and long and slender fang-like teeth on jaws readily distinguishes *O. nexipinnis* from the other Mekong gobies.



A) CTU-P 4884 (photo: LXT); B and C) CTU-P 1706 (photo: LXT)

Apocryptodon madurensis (Bleeker, 1849)

Family: Gobiidae (FC: 460)

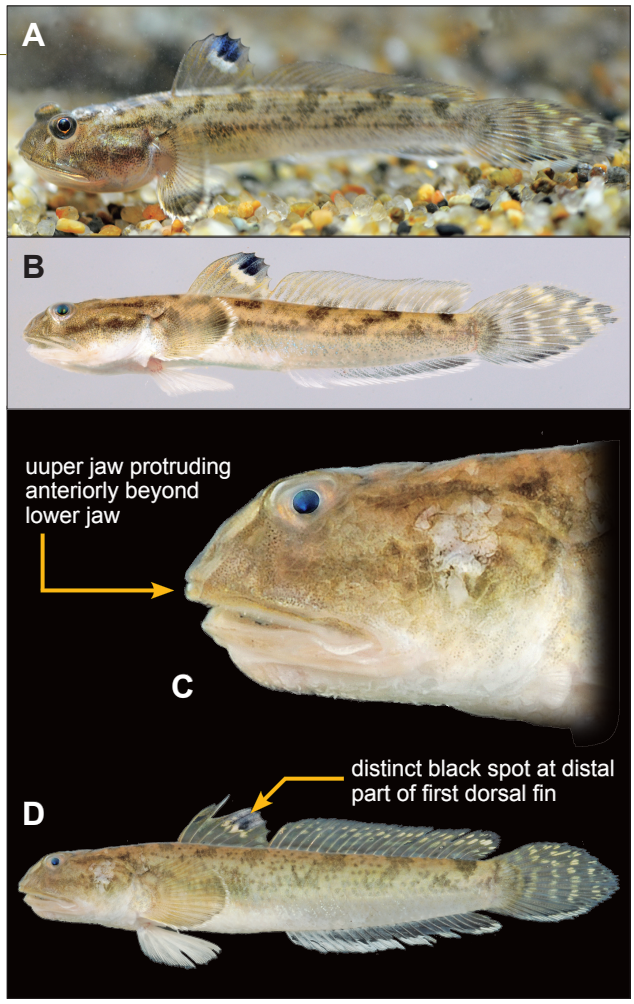
Size: 6.4 cm SL (CTU-P 3121)

Distribution: Mekong Basin in Vietnam; Western Pacific.

Notes: A medium-sized species of gobies, found in brackish estuaries and adjacent areas with soft mud bottoms. Due to the taxonomic confusion of the genus, both the identification and distribution of the Mekong species undoubtedly needs verification.

In his review of the mudskippers and allies, Murdy (1989) recognized 2 species in *Apocryptodon*: *A. madurensis* and *A. punctatus*; the former is found in subtropical and tropical regions of the Indo-West Pacific, whereas the latter is confined to East Asian waters. Jaafar & Parenti (2017) subsequently re-classified *A. wirzi*, considered as a species of *Oxderces* by Murdy (1989), to *Apocryptodon*.

The present identification of the Mekong species is highly tentative. During our field surveys in 2007–2013, we could collect several specimens of a single species of *Apocryptodon* with a conspicuous black spot at the distal part of the first dorsal fin from the Vietnamese Mekong. In his book of fishes of the Mekong Delta, Vidthayanon (2008: 231, fig. 324) showed a species with numerous black dots on the body. We also examined a specimen from Gulf of Thailand, similar to the Vidthayanon's (2008) fish, and concluded that it is not conspecific with our Mekong species. Nevertheless, both of these species can be identified as *A. madurenis* of Murdy (1989), which thus appears to comprise more than a single species. Murdy (1989) listed 8 nominal species in the synonym list of *A. madurensis*; E.O. Murdy and us are undergoing clarification of the identification of this Mekong species.



A and B) CTU-P 4655 [photo: KS (A) and LXT (B)]; C and D) CTU-P 3121 (photo: LXT)