

Platygobiopsis hadiatyae, a new species of deepwater gobiid from Indonesia (Teleostei, Gobiidae, Gobiinae)

Helen K. Larson^{1*}, Zeehan Jaafar², Tan Heok Hui³ & Teguh Peristiwady⁴

Abstract. A new species of the gobiid genus *Platygobiopsis* Springer & Randall, 1992, is described based on a single specimen collected via dredge deployed at a depth range of 172 m and 182 m within the East Sunda Strait off Panaitan Island (Indonesia). The new species differs chiefly from congeners in having a scaleless (vs. scaled) chest and belly. A key to the four known species of *Platygobiopsis* is provided.

Key words. Gobiidae, Gobiinae, *Platygobiopsis*, new species

INTRODUCTION

The gobiid genus *Platygobiopsis* Springer & Randall, 1992, is presently known from three species: *P. akihito* Springer & Randall, 1992 (from Flores, Indonesia), *P. tansei* Okiyama, 2008 (off southern Japan), and *P. dispar* Prokofiev, 2008 (off central Vietnam). All these species are unusual-looking slender gobies; “specimens of which look as if someone had stepped on them”, as Springer and Randall (1992) state. The genus most closely resembles the Indo-Pacific *Gobiopsis* Steindachner, 1861, for two longitudinally-oriented fleshy cheek folds, and chin barbels present in some species.

During the joint Indonesia/Singapore South Java Deep Sea Biodiversity Expedition, a single specimen of *Platygobiopsis* was caught by dredge off Panaitan Island, East Sunda Strait. The dredge was first deployed at depth 182 m and retrieved at depth 172 m, with a total dredge time of 14 minutes. The characteristics of this specimen did not agree with any of the known species and it is here described as a new species.

MATERIAL AND METHODS

Measurements were taken using calipers and dissecting microscope. Counts and methods generally follow Hubbs & Lagler (1970), except as indicated. Lateral scale count follows scale rows. Transverse scale count (TRB) is the number of scale rows from directly in front of the anal-fin origin diagonally upward and back toward the second dorsal fin base. Circumpeduncular scale count is taken beginning at the first scale on top of the caudal peduncle immediately in front of the caudal fin, following the scale rows down and forward to the ventral edge of the peduncle, then around and back to the original scale. Head length is taken to the upper attachment of the opercular membrane. Interorbital width is least bony width. Head length (HL) is taken to the upper attachment of the opercular membrane. Papillae pattern terminology is based on that of Sanzo (1911). Radiograph was performed using Faxitron LX-60.

Institutional abbreviations. AMS, Australian Museum, Sydney, Australia; BSKU, Department of Natural Science, Faculty of Science, Kochi University, Kochi, Japan; MZB, Museum Zoologicum Bogoriense, Division of Zoology, Research Center for Biology, Indonesian Institute of Sciences, Cibinong, Indonesia.

TAXONOMY

Platygobiopsis hadiatyae, new species Renny’s Flat Goby (Figs. 1–4)

Holotype. MZB 17230, 43.0 mm SL male; East Sunda Strait, along Panaitan Strait, off southern end of Panaitan Island, SJADES-2018 station DW 19, 6°42.551’S, 105°11.143’E to 6°42.762’S, 182–172 m depth, mud and clay substrate, dredge, 27 March 2018.

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¹Museum and Art Gallery of the Northern Territory, P.O. Box 4646, Darwin, Northern Territory 0801, Australia; Museum of Tropical Queensland, 102 Flinders Street, Townsville, Queensland 4810, Australia; School of Marine and Tropical Biology, James Cook University, Townsville, Queensland 4811, Australia; Email: Helen.Larson@magnit.net.au (*corresponding author)

²Department of Biological Sciences, 14 Science Drive 4, National University of Singapore, Singapore 117543, Singapore; Email: jaafarz@nus.edu.sg

³Lee Kong Chian Natural History Museum, National University of Singapore, 2 Conservatory Drive, Singapore 117377; Email: heokhui@nus.edu.sg

⁴Bitung Marine Life Conservation Unit, Research Center for Oceanography, Indonesian Institute of Sciences, Tandurusa, Aertembaga, Bitung 97255, North Sulawesi, Indonesia; Email: ikan_teguh@yahoo.com

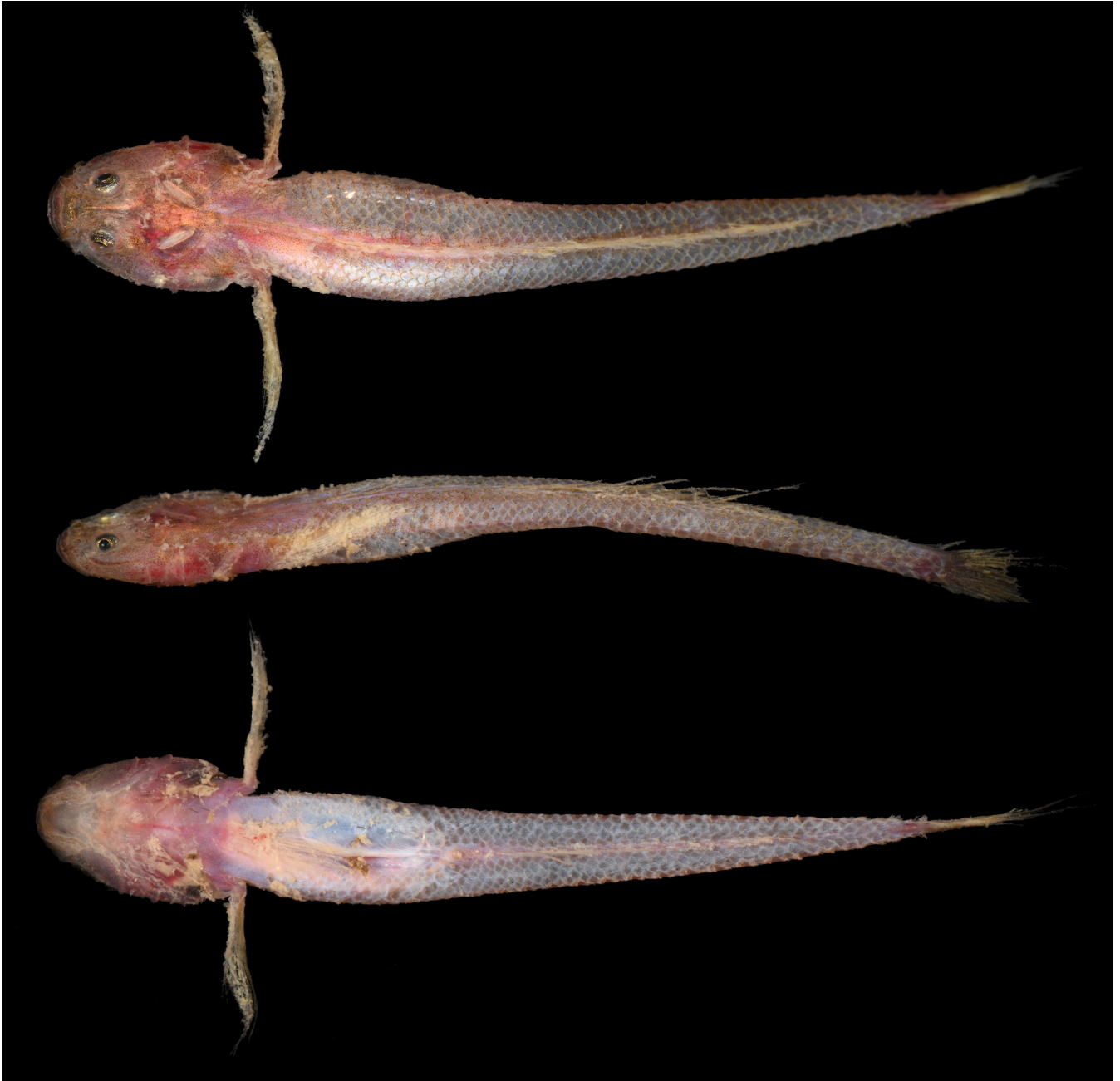


Fig. 1. *Platygobiopsis hadiatyae*, new species, MZB 17230, holotype, 43.0 mm SL, photographed soon after collection; Indonesia, Panaitan Strait along the Sunda Strait. Photographs by Tan Heok Hui.

Diagnosis. A very elongate, slender member of *Platygobiopsis* with flattened head and body, distinguished from congeners by the following combination of characters: total number of vertebrae 26; dorsal pterygiophore pattern 3-12210; sensory papillae on head in longitudinal pattern, with most papillae fleshy and forming two low fleshy ridges or folds on side of head; sensory pores on head absent; lateral scales 56; scales absent from head, predorsal, pre-pelvic area and belly; no barbels on underside of head; I,12 dorsal-fin rays; I,13 anal-fin rays; 17 pectoral-fin rays; translucent pinkish when fresh, upper part of head and body with fine dark brown speckling, fins translucent with variable brown speckling.

Description. Based on holotype (Figs. 1–4). Where more than one count is given, this refers to left and right side of body.

First dorsal VI; second dorsal I,12; anal I,13; pectoral 17; segmented caudal rays 17; branched caudal rays 8/7; caudal ray pattern 9/8. Longitudinal scale count 56; TRB 10; circumpeduncular scales 9. Vertebrae 10+16. First dorsal pterygiophore pattern 3-12210, 1 broad epural, 2 pre-anal pterygiophores (Fig. 4).

Body greatly elongated, slender, depressed anteriorly and becoming less depressed and narrower posteriorly; body depth at anal origin 4.6% of SL, body width at anal origin 9.3% of SL. Head length 8.5% of SL; wider than deep, considerably flattened; head depth at posterior preopercular margin 2.8% of HL; head width at posterior preopercular margin 6.5% of HL. Mid-dorsal low ridge of skin from dorsal-fin origin to back of cranium. Mouth slightly oblique, terminal but with chin anteriormost, reaching back to below anterior part of

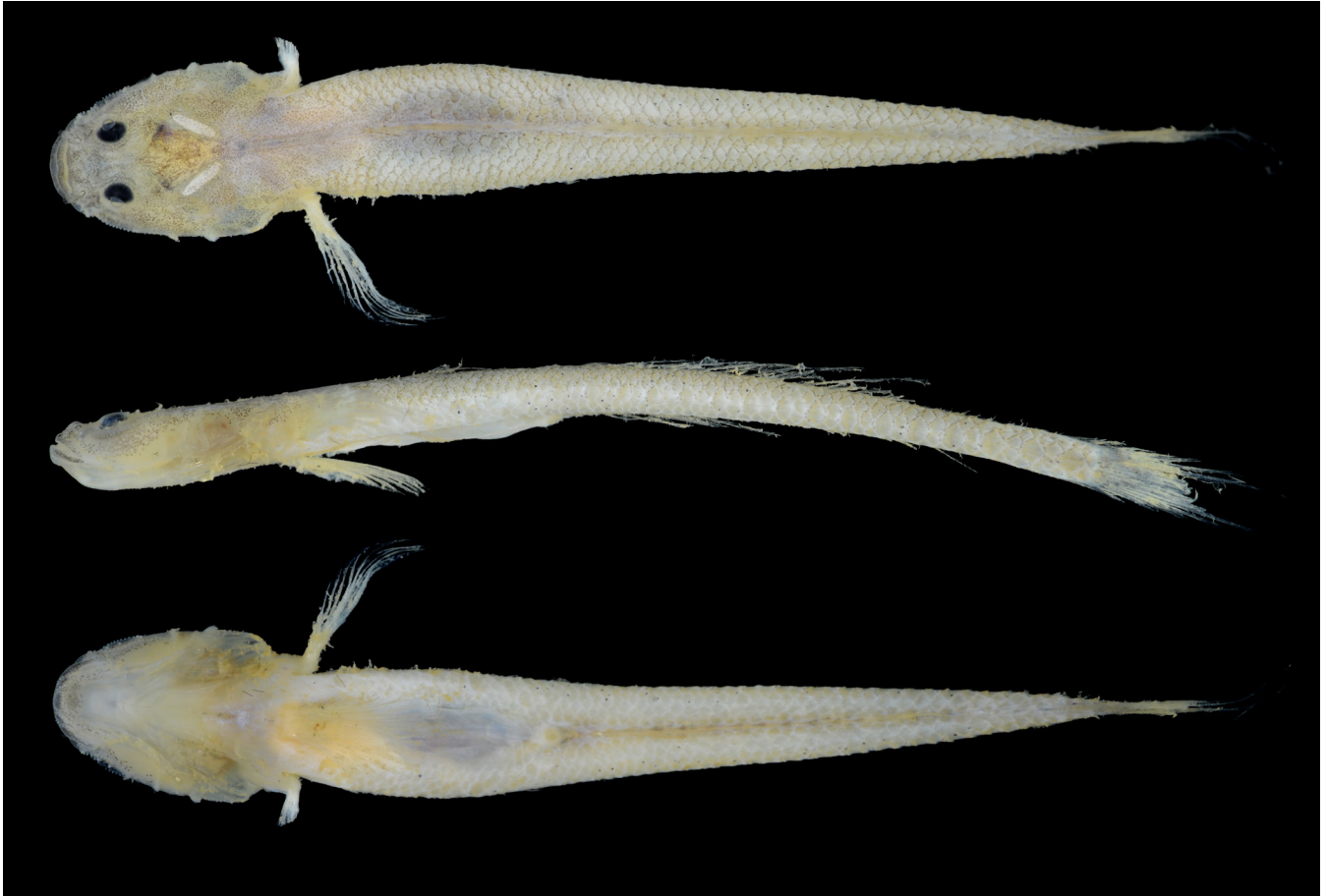


Fig. 2. *Platygobiopsis hadiatyae*, new species, MZB 17230, holotype, 43.0 mm SL; fixed specimen, lateral view. Right pectoral fin dissected. Photographs by Tan Heok Hui.

eye; lips smooth, lower lip free at sides, narrowly fused across front, with slightly raised fleshy pad on chin, lacking barbels. Papilla rows *b* and *d* supported by low fleshy ridge. Upper jaw 32.9% of HL. Eyes small, mostly dorsally angled, forming part of dorsal profile, 17.6% of HL. Snout short, rounded, 9.4% of HL. Interorbital broad, flat, 15.3% of HL. Caudal peduncle long, flattened, length 18.1% of SL. Caudal peduncle narrow, depth 3.5% of SL.

First dorsal fin low, short, 13.2% of SL. Second dorsal and anal fins low, long-based (second dorsal-fin base 33% of SL), damaged from trawl, rays falling well short of caudal-fin base when depressed. Low mid-dorsal groove on trunk from behind first dorsal-fin origin to caudal peduncle (to accommodate dorsal fins when folded). Pectoral fin slender, pointed, central rays longest, 16.7% of SL; rays branched but for upper and lowermost. Pelvic fins fused, oval, reaching about halfway to anus, 15.0% of SL; thin frenum present. Caudal fin probably pointed (as in congeners), damaged from trawl; what remains is 20.6% of SL.

Anterior nostril placed at preorbital edge, in short tube projecting anteriorly. Posterior nostril oval, placed close behind anterior nostril tube. Gill opening extending forward to posterior margin of preopercle. Tongue moderate in size, free, with blunt tip. Teeth in both jaws caniniform, in 2–3 rows, outermost row teeth large, more than twice the size of the inner row teeth, innermost row with small teeth except

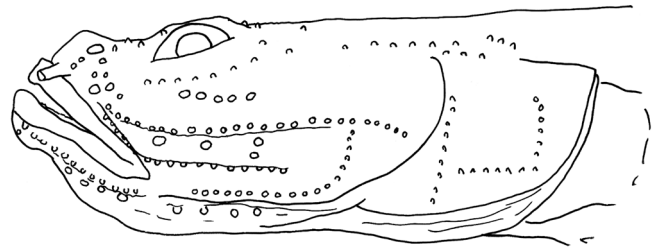


Fig. 3. *Platygobiopsis hadiatyae*, new species, MZB 17230, holotype, 43.0 mm SL; line drawing of head (lateral view) showing sensory papilla pattern. Scale bar equal to 8 mm. Drawing by Helen Larson.

for 2 large, recurved teeth near symphysis, the latter are same size as outermost teeth.

Cycloid scales on side of body extending forward to pectoral-fin base, with only 1–2 scales just above base; head naked. Pectoral-fin base, prepelvic area and belly naked.

Genital papilla elongate, narrowing toward tip.

Sensory papillae pattern longitudinal, as in Fig. 3. Cheek rows *a*, *c* and *cp* composed of large and fleshy, widely spaced papillae, and rows *b* and *d* of smaller, more numerous and closely spaced papillae. Two mandibular *f* rows of three small papillae, placed just behind fleshy pad on chin; no



Fig. 4. *Platygobiopsis hadiatyae*, new species, MZB 17230, radiograph of holotype, 43.0 mm SL; lateral view.

barbels present. On opercle, row *os* is vertical and meets the *oi* row (this arrangement is present in all other species of the genus). Head pores absent.

Colouration of fresh material. Head and body translucent pinkish, pinkish white ventrally on abdomen; head and upper part of body with scattered dark brown fine speckles (Fig. 1). Lips and anterior nostril tube darker brown than remainder of head; rim of posterior nostril margined with dark brown. Scale pocket margins on body with narrow dark brown margins except for scale pockets on ventral surface, which are unpigmented. Some of the fleshy sensory papillae on head with pale red-brown pigment, and papillae in row *b* alternately pale brown and red. Iris golden, darker gold dorsally. First dorsal-fin membranes damaged; what remains is translucent with scattered pale brownish speckling; anteriormost edge of first dorsal spine with narrow brown line. Second dorsal fin similar but rays brown at least on lower half. Caudal fin translucent pale brownish, rays darker brown than membranes. Anal-fin rays whitish to pink, membranes damaged. Pectoral fin transparent; rays with narrow line of brown along them. Pelvic fins translucent whitish.

Colouration of preserved material. Head and body whitish with fine pale brown speckling over top of head and upper part of cheek; most of opercle unpigmented; scale pocket edges on upper half of body outlined in pale brown; widely scattered very small blackish spots over ventral part of body (Fig. 2). Lips and fleshy pad on chin more heavily pigmented than rest of head.

Most fin elements whitish; membranes transparent to hyaline; small pale brownish spots present on some dorsal-fin rays; narrow blackish lines along caudal-fin rays and few scattered dusky grey spots basally. Ventral midline of caudal peduncle with indistinct small greyish blotches at anterior base of each fin ray. Prepelvic area with few very small blackish spots forming indistinct broken line in midline, from isthmus to base of pelvic fins. Underside of body plain whitish.

Comparisons. This species is unlike its three congeners by lacking scales from the chest, pectoral-fin base, and belly (the others have these areas covered in cycloid scales), as well as having the predorsal region scaleless (vs. at least some predorsal scales present).

Distribution. Indonesia, currently only known from Panaitan Strait along the Sunda Strait.

Ecology. Large polychaetes, many tube worms, molluscs, crustacea, and ophiuroids came up in the dredge with the goby. The dredge started at 182 m and was lifted at 172 m (after 14 minutes of bottom time), over mud and clay bottom.

Etymology. This species is named for our dear colleague Renny Kurnia Hadiaty, who died too soon (21 August 1960 to 30 January 2019). She co-authored 19 gobioid species names in addition to many other taxa.

Key to known species of *Platygobiopsis*

1. Scales present on pre-pelvic area and belly and always some predorsal scales present; chin barbels may be present2
 - Scales absent from pre-pelvic area, belly, and predorsal; no barbels on chin *Platygobiopsis hadiatyae*, new species
2. Second dorsal and anal rays I,12–14; predorsal scales extending to at least half-way above opercle; a short barbel on either side of chin present or absent3
 - Second dorsal and anal rays I,11; predorsal scales extending forward at side to half-way above cheek, with scaleless area in wedge at midline above opercle; a short barbel on either side of chin *P. dispar* Prokofiev, 2008
3. Second dorsal and anal rays I,12; predorsal scales extending forward to half-way above cheek; a short barbel on either side of chin *P. akihito* Springer & Randall, 1992
 - Second dorsal and anal rays I,13–14; predorsal scales extending forward to half-way above opercle; no barbels on chin *P. tansei* Okiyama, 2008

Comparative Material. AMS I.31467-001, *Platygobiopsis akihito* paratype, 85 mm SL female, off Sao Wisata Resort, Maumere Bay, Flores, Indonesia, 15–17 m, coll. J.E. Randall, 18 September 1988. BSKU 20124, *Platygobiopsis tansei* paratype, 45 mm SL male, off Boso Peninsula, Chiba Prefecture, Japan, RV SOYO-MARU station B1, 61–82 m, 4 March 1960 (label with fish states 10 November 1946). Note that no material of *P. dispar* was available to the authors but the original description gives sufficient detail on characters to separate the two species (Prokofiev, 2008).

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