Two new species of the *Trimma tevegae* species group from the Western Pacific (Percomorpha: Gobiidae)

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Abstract
Two new species of the *Trimma tevegae* species group are described. Members of this group are characterized by having a broad interorbital region about equal in width to the pupil diameter, and at least the first haemal arch greatly expanded, accommodating the posterior extension of the swim bladder. Both the new species have been misidentified as *T. griffithsi* in popular and/or scientific publications. *Trimma marinae* n. sp. is characterized by the presence of a large, bilateral, open nasal pit, few or no melanophores on the caudal peduncle, no scales on cheek, usually two rows of scales anterior to the pelvic fin base, an elongate second spine in the first dorsal fin, and a rounded medial ridge on the snout and anterior interorbital region. *Trimma nasa* n. sp. is distinguished by a small nasal sac with a tubular anterior opening and a raised rim to the posterior opening, a large spot consisting of melanophores and dark brown chromatophores over the hypural region of the caudal peduncle, a dark suffusion over the abdominal region, no scales on the cheek, usually four to five rows of scales anterior to the pelvic fin base, a broad interorbital region with a rounded, medial ridge on the snout and anterior interorbital region, and usually a thin dark stripe from the upper lip to the mid-region of the interorbital.

Zusammenfassung
Zwei neue Arten der Gruppe um *Trimma tevegae* werden beschrieben. Die Angehörigen dieser Gruppe sind durch eine breite Interorbitalregion, etwa so breit wie der Pupillendurchmesser, gekennzeichnet und außerdem dadurch, dass mindestens der erste Hämalbogen stark ausgedehnt ist, sodass er der hinteren Reichweite der Schwimmblase Platz macht. Die beiden neuen Arten wurden in der populären und/oder wissenschaftlichen Literatur bisher als *T. griffithsi* fehlbestimmt. *Trimma marinae* n. sp. ist durch folgende Merkmale gekennzeichnet: große, bilaterale, offene Nasen-
cailles sur la joue, habituellement par quatre à cinq rangées d’écailles antérieurement à la base de la pelvi-

een, une large zone interorbitale avec une extension médiale arrondie sur le rostre et la région interorbitale antérieure, et, d’habitude, par une fine ligne sombre, de la lèvre supérieure vers la région médiane de l’inter-

biiale.

Sommarìo
Due nuove specie del gruppo *Trimma tevegae* sono descritte. I membri di questo gruppo sono caratteriz-

data all’avere un’ampia regione interorbitale circa uguale al diametro pupillare e almeno il primo arco emale grandemente espanso, tale da accomodare l’estensione posteriore della vescica natatoria. Nelle pubblicazioni scientifiche e divulgative entrambe le
due nuove specie sono state confuse con *T. griffithsi*. *Trimma marinae* n. sp. si caratterizza per la presenza di una larga, bilaterale, fossa nasale aperta, pochi o nessun melanoforo sul peduncolo caudale, guancia priva di scaglie, di solito due file di scaglie anteriormente alla base delle pelviche, la seconda spina della prima dorsale allungata e una cresta mediana arro-
tondata sul muso e nella regione interorbitale anteri-
ore. *Trimma nasa* n. sp. si distingue per un piccolo sacco nasale con un’apertura tubolare anteriore e un bordo rialzato nell’apertura posteriore, una grande macchia contenente melanofori e cromatofori brun.
esi sopra la regione ipurale del peduncolo caudale, una zona scura soffusa sulla regione addominale, guancia priva di scaglie, di solito quattro o cinque file di scaglie anteriormente alla base della pelvica, un’ampia regione interorbitale con un’arrotondata cresta mediana sul muso e sulla regione interorbitale anteriore e di solito una sottile striscia scura dal labbro superiore alla regione centrale dello spazio interor-
binate.

Introduction
*Trimma* is a large group of about 80 species of small 
(30 mm SL or less), usually colourful, coral reef fishes 
which can be recognized by the lack of cephalic sen-
sory canal pores, much reduced cephalic sensory papillae pattern, wide gill opening extending to below 
the vertical limb of the preopercle or anterior to this, 
lack of spicules on the outer gill rakers of the first gill 
arch, less than 12 dorsal or anal fin rays, and a fifth 
pelvic fin ray that is equal to or more than 40% of 
the fourth pelvic fin ray. There are 43 valid nominal 
species of *Trimma* and approximately 40 additional 
species that have yet to be described in addition to 
the two species described here. Several phenetic 
(and possibly some of them phylogenetic) groups may 
be recognized within the genus. One of the better cir-

cumscribed of these is the *T. tevegae* group, charac-
terized by a broad bony interorbital and at least the 
first haemal arch greatly expanded (up to five such 
arches in *T. taylori* – see fig. 26 in Winterbottom,

1984). Described species in this group include *T. 
fishelsoni, T. griffithsi, T. hoesei, T. taylori, T. teve-

gae, and T. winchi*, and there are several other 
species yet to be described. The purpose of this 
paper is to describe two of these undescribed species 
that have been identified as *T. griffithsi* or listed as 
undescribed in recent popular and scientific writings.

Methods
Methods follow Winterbottom (2002), except that 
pectoral and pelvic fin ray branching is described from 
preserved material stained with a cyanine blue solu-
tion (Saruwatari et al., 1997). Abbreviations for re-
spositories of material examined follow Leviton et al. 
(1985). Values for the holotypes are in bold, where 
appropriate.

**Trimma marinae n. sp.**
Princess Pygmy Goby (Figs. 1-2, 3A, 4A)

*Trimma griffithsi* (non Winterbottom, 1984) – Akihito 
et al. (2002:1176); Senou et al. (2004:106)

Material Examined
A total of three lots, 29 type specimens, all from 
Palau.

**Holotype:** ROM 76678, 19.6 female, (ex-ROM 
74798), Nikko Bay, east side, just to the west of 
Kaibakku Island, 15-26 m, coral slope to 6 m lime-
stone cliff with caves, live hard and soft corals, then 
silt and sand slope, (7°19’19.9"N; 134°29’58.4”E), col-
lected with rotenone, by R. Winterbottom, B. Hubley, 
A. Bauman, W. Holleman and D. Winterbottom, 4 

**Paratypes:** ROM 74798, 21(13.4-20.0), collected 
with the holotype. ROM 76677, 7(17.2-19.7), Nikko 
Bay, east side, just west of Kaibakku Is., 9-16.7 m, 
very steep lagoon slope (about 80 degrees) leveling 
to a slope of 20 degrees at about 15 m, 7°19’22.8”N; 
134°29’ 59.6”E, collected with rotenone, by R. Win-
terbottom and party, 4 June 2004. ROM 1762CS, 3 
(15.7-19.0), ex-ROM 74798.

Diagnosis
A species of *Trimma* with predorsal scales and a 
bony interorbital approximately pupil diameter in 
width, an elonate second dorsal spine, a fifth pelvic 
fin ray which is branched dichotomously once and 55-
80% of the fourth, no scales on the cheek, one or two 
cyloid scales on the upper opercle, usually two rows 
of scales anterior to the pelvic fin base, a slight sprink-
ling of melanophores on the snout and the lower half 
of the caudal peduncle (in preserved material), a 
broad, rounded, median ridge on the snout and ante-
rior interorbital region and, unique thus far to the 
genus, a large, bilateral, open nasal pit (instead of the 
usual nasal sac with anterior and posterior openings).
Description
The description is based on the holotype and up to 22 paratypes. Dorsal fins VI + I 8 (n=20), second spine longest, reaching to mid-peduncle or as far posteriorly as procurent rays; all rays of second dorsal fin usually branched except posteriormost (four specimens in which all rays branched); last ray of second dorsal fin often elongate in females, reaching as far as mid peduncle; anal fin I 8 (n=20) with fin rays either all branched or all branched but last; last anal fin ray often elongate in females reaching as far as mid peduncle; pectoral fin 14-15 (n=23, mean = 14.3), all rays unbranched with longest ray reaching to a vertical with base of genital papillae or as far as first element of anal fin; pelvic fin I 5, no frenum, first four rays branched sequentially once, 5th ray 55-80% length of 4th, branched dichotomously once, basal membrane highly variable from 10% to full (but may be due to damage when less than full), fourth ray reaching to between just anterior to anal spine and as far posteriorly as third element of anal fin. Lateral scales 23-25 (n=20, mean = 24), anterior transverse scales 7 (n=20), posterior transverse scales 6 (n=20), pattern of scales very regular and easy to count; predorsal scales 6-7-8 (n=20, mean = 7.1); one vertical row of three cycloid scales on pectoral base, two (once three) rows of scales anterior to base of pelvic fin (n=9), one or two cycloid scales present on upper margin of opercle; cheek scaleless. Gill opening extending anteroventrally to below vertical between anterior edge and middle of pupil. Upper jaw with outer row of numerous, medium sized, slightly curved caniniform and two irregular rows of smaller straight
similar teeth which grade to single row posteriorly. Lower jaw with outer row of about four enlarged spaced canines along front of jaw, two inner rows of slightly curved caniniform teeth, posteriormost teeth oriented anterodorsally at about 65 degrees. Tongue truncate or slightly pointed, small and deeply recessed within mouth. Gill rakers on first arch 2-3 + 12 = 14-15 (n=4). Nasal opening a single large pit with a raised rim (Fig. 3A). Bony interorbital width slightly less than or equal to pupil width with a broad, gently raised ridge, no postorbital trough or trench. The surface of the female genital papilla rugose in appearance, ‘horns’ of papilla very well developed; male genital papilla elongate, often extending as far as second element of anal fin.

**Colour pattern freshly dead:** (based on a slide of a 20.0 mm SL female, ROM 74798, Fig. 1): Upper jaw and adjacent area above deep ochre, grading to

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**Fig. 3.** Dorsal views of snouts of: A) *Trimma marinae* n. sp., 17.3 mm SL male paratype, Palau, ROM 74798; B) *T. nasa* n. sp., 16.9 mm SL, Palau, ROM 74779; C) *T. griffithsi*, 13.6 mm SL female paratype, Chagos, ROM 41227. Photos by R. Winterbottom.

**Fig. 4.** Left lateral views of caudal peduncles of: A) *Trimma marinae* n. sp., 18.6 mm SL female paratype, Palau, ROM 74798; B) *T. nasa* n. sp., 17.2 mm SL female paratype, Solomon Is., ROM 46034; C) *T. griffithsi*, 14.3 mm SL male paratype, Chagos, ROM 41226. Photos by R. Winterbottom.
orange-red and then to diffuse red margin between eye and dorsal tip of upper lip; dorsal surface of snout and interorbital region hyaline; iris red below dorsal margin of pupil, rimmed with melanophores and a few red-brown chromatophores centrally above this; cheek and area immediately behind eye liberally sprinkled with red chromatophores; area covering branchiostegal rays transluscent greyish; a dark yellow-red, pupil diameter sized spot located centrally on nape above supraoccipital region, with another yellow spot between this and origin of first dorsal fin, a few red melanophores scattered along scale pockets in between spots. Body translucent with six diffuse saddles along dorsum formed by red chromatophores on margins of scale pockets, first below third to fifth dorsal spines, second at anterior base of second dorsal fin, third between bases of fifth to eighth dorsal fin rays, and three smaller saddles over peduncle. Diffusely bounded, irregular, almost pupil diameter wide, light yellow stripe passing posteriorly from about midway between origins of first dorsal fin and base of pectoral fin to two-thirds length of caudal peduncle, where it flanks dorsal midline. Translucent, pupil diameter width gap separating end of stripe from yellow blotch surrounding last of red saddles across dorsal surface of peduncle in vicinity of procurent caudal fin rays. Thin, vertical, red bar covering distal ends of hypural/parhypural complex for their full extent. Ventrally, half-pupil diameter wide yellow stripe passes posteriorly from region of anus along ventral margin of body, ending below dorsal yellow stripe; smaller, but similar ventral counterpart to dorsal yellow spot over anteriormost ventral procurent caudal fin rays. Ventral half of body liberally sprinkled with red chromatophores. Dark internal red stripe (underlaid with large melanophores in dorsal half of peritoneum and/or swim bladder) beginning at base of pectoral fin, passing along vertebral centra and upper abdominal cavity and continuing posteriorly along centra and haemal spines, narrowing as it does so, to join vertical red bar across tips of hypural complex; areas between haemal spines lighter red. Pectoral and pelvic fins hyaline; first dorsal fin with sprinkling of red and yellow chromatophores, especially basally; spine of second dorsal fin reddish, first ray yellow for its proximal two-thirds, second ray similar but with central unpigmented area in middle of yellow portion, third ray also yellow for middle two-thirds, amount of yellow decreasing in extent on remaining rays to form an attenuating yellow stripe; caudal fin dusted with yellow chromatophores; anal fin with clear basal stripe followed by diffuse yellow stripe becoming fainter and more diffuse distally.

**Colour pattern live:** (based on one slide from Kimbe Bay, New Guinea, by J. E. Randall, Fig. 2). Yellow pigment not visible on either body or fins; red internal body stripe lighter in colour, a white stripe running along its dorsal rim from skull to anterior region of peduncle (probably the spinal cord), and entire snout red.

**Colour in alcohol:** whole fish straw yellow to white, no pigment cells visible except occasionally a few scattered dark chromatophores in region of hypural plate (Fig. 4A); more rarely chromatophores on middle caudal fin rays and on ventrolateral surface of peduncle. In dorsal view, braincase between and behind eyes with a diffusely outlined triangle of melanophores with apex (anterior) deeply invaginated so that it appears bilobed.

**Etymology**

Named after Marina, one of the many names attributed to Aphrodite in her persona as Goddess of the Sea (http://www.members.aol.com/eeluna/Aphrodite.html), whose legendary beauty is reminiscent of this gorgeous little species. It is also, coincidentally, the name of my daughter, whose cheerful assistance in collecting and documenting coral reef fishes for my research program is much appreciated.

**Distribution**

The new species is currently known only from Palau, New Guinea, and Japan in the western Pacific Ocean. The type specimens were collected between 9-26 metres in a quiet sheltered bay.

**Affinities**

*Trimma mairei* is phytogenetically similar to *Trimma nasa* and *T. griffithsi*. The three species share many characteristics including eight dorsal fin rays in the second dorsal fin, eight anal fin rays and 13-15 (usually 14) pectoral fin rays (all unbranched), a fifth pelvic fin ray that is branched dichotomously once, an elongate second spine in the first dorsal fin, one or two scales on the upper half of the opercle, no scales on the cheek, a low sloping median ridge on snout and anterior interorbital region and a triangular patch of pigment between and immediately behind the eyes. The last dorsal and anal fin ray of each species is often but not always exceptionally long, sometimes reaching as far as the procurent rays in *Trimma nasa* and *T. griffithsi* and as far as mid peduncle in *T. mairei*. All three species have similarities in colour pattern when alive and freshly dead (compare Figs. 1 & 2 with Figs. 5, 6 and 7), differing primarily by the intensity and location of pigment on the hypural plate. In addition, the general coloration of these three species is similar to that of *T. hoesei* (Fig. 8), which latter is immediately separable from them by its forked caudal fin, usually ten fin rays in the dorsal and anal fins, and higher number of gill rakers (19 vs less than 16).

*Trimma mairei* can be distinguished from both *T. nasa* and *T. griffithsi* by the presence of single, open nasal pit (Fig. 3A) rather than a nasal sac with paired nasal openings (Fig. 3B & C). *Trimma griffithsi* also has a small but distinct spot on the lower half of the hypural region while *T. mairei* has at most only a
few melanophores in this area (Fig. 4 C & A respectively). *Trimma nasa* has a very strong caudal spot over the whole hypural region (Fig. 4 B), a medial blotch on the peduncle just behind the anal fin ray, a heavily pigmented peritoneum which creates the impression of a dark shadow along the body of the fish and, depending on the geographic location, many specimens have a dark stripe down the middle of the snout.

*Trimma nasa* n. sp.
Nasal pygmy goby (Figs. 3B, 4B, 5-6)

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**Material examined**

**Holotype:** ROM 53043, 19.7 mm SL female, Philippines, Siquijor Island, Tonga Point, (9°12’N 123°28’E), almost vertical drop-off with caves, 14-18 m, R. Winterbottom, R. Mooi and P. Benjamin, 8 May 1987.

**Paratypes:** Philippines: Balicasag Is: USNM 243917, 5(12.3-18.7), west side at drop-off (9°31’14”N, 123°40’00”E), 0-41 m, V. Springer and party 11 June 1978. USNM 246772, 21(13.0-21.2), west side at drop-off (9°31’14”N, 123°40’00”E), 0-24 m, V. Springer and party, 12 June 1978. Cebu: USNM

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Fig. 5. *Trimma nasa* n. sp., 13.7 mm SL, Palau, ROM 76103. Photo by R. Winterbottom.

Fig. 6. *Trimma nasa* n. sp., Biak, Irian Jaya, Indonesia. Photo by G. Barrall.
264603, 9(10.3-15.3), Caceres Reef near Huisan Point, east coast, 24-30 m, J. Libbey and party, 18 May 1979. Mactan Is: USNM 246368, 4(13.1-14.9), east side off Buyong Beach (10°17'09"N, 124°00'06"E), 0-30 m, V. Springer and party, 3 June, 1978; USNM 246372, 3(14.0-15.6), as for USNM 246368, 2 June 1978. Pescador Is: USNM 263538, (14.0), 2 km from Cebu mainland, nearest town resort of Moalboal (9°55'30"N, 123°20'30"E), J. Libbey and party, 8 May 1979. Negros Is: Bais Bay: ROM 53047, (14.7), drop-off slope (9°36'54"N, 123°11'06"E), 24-36 m, R. Winterbottom and party, 15 May 1987. ROM 53048, 2(11.4-16.8), drop-off slope (9°36'54"N, 123°11'06"E), 18-35 m, R. Winterbottom and party, 9 May 1987. USNM 243945, 2(14.5-17.5), east of Bais (9°36'58"N, 123°10'05"E), 0-37 m, V. Springer and party, 17 June 1978. Pamilikan Island: USNM 262620, (15.2), off SW tip (9°29'20"N, 123°55'00"E), 24 m, V. Springer and party, 12 June 1978. USNM 246366, 6(14.7-19.6), off SW tip, (9°29'20"N, 123°55'00"E), 0-24 m, V. Springer and party, 12 June 1978. Siquijor Is, Tonga Point: ROM 53044, (20.4), vertical drop-off with caves (9°12'16"N, 123°27'16"E), 9-18 m, R. Winterbottom and party, 10 May 1987. ROM 53045, 3(16.5-19.18), vertical drop-off wall with caves (9°12'16"N, 123°27'16"E), 15-21 m, R. Winterbottom and party, 12 May 1987. ROM 53046, (16.8), vertical drop-off with caves (9°12'16"N, 123°27'16"E),

Fig. 7. Trimma griffithsi, 16.9 mm SL female paratype, Chagos, ROM 41227. Photo by A. R. Emery/R. Winterbottom.

Fig. 8. Trimma hoesei, 26.0 mm SL female, Palau, ROM 74773. Photo by R. Winterbottom.
Two new species of the *Trimma tevegae* species group from the Western Pacific (Percomorpha: Gobiidae)

8-15 m, R. Mooi and party, 14 May 1987. ROM 60234, (19.3), collected with the holotype. Sumilon Is: ROM 49229, 10(10.0-15.3), drop-off slope (9°25’N, 123°20’E), 12-18 m, R. Winterbottom and party, 11 August 1985. Solomon Is: Guadalcanal: ROM 46034, 73(8.4-19.2), 12 km NW Honiara at wreck of “Ruaniu” (9°20’S, 159°45’E), 20-22 m, P. Nichols and party, 24 April 1983. ROM 46047, 3(12.1-18.3), 11.7 km NW Honiara at wreck of “Bonegi I” (9°20’S, 159°45’E), 20 m, R. Winterbottom and party, 13 March 1983. ROM 46051, 60(7.8-20.7), data as for ROM 46047, but 18-22 m, and 15 March 1983.


**Diagnosis**

A species of *Trimma* with predorsal scales and a bony interorbital about pupil diameter in width, an elongate second dorsal spine, a fifth pelvic fin ray which is branched dichotomously once and 50-60% of the fourth, no cheek scales, one or two scales on the upper opercle, usually four to five rows of scales anterior to the pelvic fin base, a large spot over the hypural region of the caudal peduncle, a dark area along the side of the body caused by peritoneal pigmentation, and in all but the specimens from Palau and New Caledonia, a thin, dark stripe from the upper lip to the mid region of the interorbital when preserved (white in life), a broad rounded ridge on the snout and anterior interorbital region, and a small nasal sac with a tubular anterior opening and a pore-like posterior opening with a raised rim.

**Description**

The description is based on the holotype and 25 specimens from the Philippines, Palau, New Caledonia and the Solomon Is. Dorsal fins VI + 18 (once 7, n=26), second spine of first dorsal fin elongate, reaching posteriorly to caudal peduncle when adpressed, all fin rays branched except last which is sometimes unbranched, last ray often elongate, may reach procurent caudal fin rays; anal fin I 7-9 (9 once, 7 three times, n=26), all rays branched except last which is sometimes unbranched, last ray often elongate and equal to last dorsal fin ray; pectoral fin usually 14 (13 twice, 15 twice, n=26), all rays unbranched; pelvic fin I 5 (n=25), first four rays with single sequential branch, fifth ray branched once dichotomously and about 50-60% length of fourth ray; basal membrane complete but often damaged; no frenum. Lateral scales 23-24 (24 once, n=12), anterior transverse scales 7, posterior transverse scales 5-6 (n=8), predorsal scales 5-6-7 (n=10). Two scales or scale pockets on upper half of opercle (n=10), vertical row 1-3 scales on pectoral base (n=6), usually 4-5 rows of scales (once three) anterior to base of pelvic fin (n=10). Outer row of teeth of upper jaw enlarged, curved, spaced canines, followed by several rows of small conical teeth; lower jaw with 2-3 straight canines projecting anterodorsally on each side of symphysis, followed by several irregular rows of small conical teeth. Tongue truncate. Gill opening extending anteroventrally to below mid-pupil; outer gill rakers on first arch 1-3 + 10-13. (mean = 2.0 + 11.8, n=12, not including holotype). Anterior nasal opening a short thin tube, the posterior opening a small pore, nasal sac virtually flat (Fig. 3 B), and entire organ difficult to distinguish from surrounding tissue unless specimen is stained with cyanine blue. Bony interorbital pupil diameter in width, shallowly concave with broad, gently sloped, median fleshy ridge anteriorly which widens out on snout; epaxial musculature reaching anteriorly to above posterior margin of pupil.

**Colour pattern freshly dead:** (based on three colour slides, two from New Caledonia and one from Palau, Fig. 5): Ground coloration off-white, the snout yellow to orange. Ring of melanophores surrounding outside of eye, yellow ring around pupil, and some red pigmented spots or red suffusion on iris. Pinkish blush-like stripe passing along side of body, resulting from red chromatophores on off-white background. Yellow stripe present along upper edge of pink stripe, reaching to dorsal surfaces on nape and caudal peduncle, but leaving off-white area around bases of dorsal fins. Similar stripe present along ventral margin of body, beginning at anus and ending at caudal spot. Eye-sized dark orange-red spot heavily invested with melanophores present on hypural region of caudal peduncle, extending onto caudal fin rays, melanophores within spot particularly concentrated on hypural plate and immediately anterior to it. Line of red chromatophores along base of anal fin and continuing to caudal spot. Similar line along dorsal surface, beginning at first dorsal fin, but not as intense. First and second dorsal fins with yellow stripe and sprinkling of red chromatophores in interradial membranes. Some yellow and red chromatophores present in anal fin. Procurent rays of caudal fin pink, pelvic and pectoral fins hyaline. Peritoneum
heavily pigmented with melanophores, creating dark patch along side of body beneath pinkish band. Melanophores present on braincase.

**Colour pattern live:** (based on one slide from Bali – Fig. 6): Body translucent, with sprinkling of red chromatophores on head and snout. Yellow chromatophores present on margin of eye bordering interorbital space, a white stripe running from anterior portion of snout right through interorbital region to posterior margin of pupil. Large, eye-sized, dark red-brown spot on hypural region of peduncle, rounded spot made of melanophores in centre. Red coloration beginning immediately behind eye and down side of body to mid peduncle appears to be entirely internal, an iridescent green suffusion present on peritoneum and along most of vertebral column (could be artefact of electronic flash photography). Sprinkling of red chromatophores around base of first two dorsal spines, with some red pigment present in fin rays of first dorsal and pectoral fins. Pigment pattern in other fins difficult to determine from available photograph.

**Colour in alcohol:** background coloration pale straw-yellow. Approximately eye-sized black spot lies over hypural region on caudal peduncle (Fig. 4 B), consisting primarily of dark brown chromatophores; a thin medial blotch on peduncle just posterior to last anal fin ray consisting of brown chromatophores and some centrally located melanophores, a few scattered chromatophores present on belly. Peritoneum covered with numerous melanophores and brown chromatophores, especially dorsally; and dorsal surface of braincase is covered with melanophores and chromatophores except for clear, medial area. Distinct dark medial stripe of melanophores and/or chromatophores (white in life) passing from tip of snout to posterior margin of pupil; margins of some predorsal and dorsal peduncular scales may be outlined by melanophores.

**Etymology**
Derived from the English word ‘nasal’, a bar descending from the front of many medieval helmets to protect the nose of the wearer, in allusion to the snout stripe of the new species. To be treated as a noun in apposition.

**Affinities**
Among the species possessing a broad bony interorbital, only *Trimma tevegae* and *T. griffithsi* have a dark mark on the hypural region of the caudal peduncle. *Trimma tevegae* often has a stripe on the snout but is generally more heavily pigmented than *T. nasa*, with scales along the dorsal surface strongly outlined, no dark ‘shadow’ along the side of the body, and a dusky snout. *Trimma tevegae* also has an unbranched fifth pelvic fin ray, more gill rakers on the lower limb of the first gill arch (16 vs 10-13), scales on the cheek, and more numerous opercular scales (5-12 vs 2). *Trimma griffithsi* can be distinguished from *T. nasa* by a much smaller peduncular spot which is positioned on the lower half of the peduncle (compare Figs. 4C with 4B respectively), and in having two to three (vs. usually four to five) rows of scales anterior to the pelvic fin base. *Trimma griffithsi* also lacks the darkened side of the body created by the pigment on the peritoneum and the stripe on the snout. *Trimma nasa* is clearly distinguishable from *T. marinae*, which has very little pigment on the caudal peduncle (a thin, red vertical line in life, sprinkling of melanophores when preserved – compare Figs. 1 and 5), no darkened area on the side of the body, usually four to five (vs. two) rows of scales anterior to the pelvic fin base, and a pair of open nasal pits lacking nasal openings.

**Remarks**
The snout stripe seen in *Trimma nasa* is of variable occurrence in juveniles (<15 mm SL), and appears to be less distinct in the populations from Palau and New Caledonia than those from elsewhere. In Palau some specimens have a vague line of melanophores on the snout and some have only a few melanophores in the middle of the snout (Fig. 3 B). In material from New Caledonia, even quite large specimens (21 mm SL) may have no pigment on the snout while others have a small spot on the anterior portion of the snout.

**Distribution**
*Trimma nasa* is currently known from the Solomon Is., Papua New Guinea, Indonesia, Vanuatu, New Caledonia, Australia (Great Barrier Reef), Philippines and the Republic of Palau. Specimens were collected between 0-41 m, on drop-offs, either sloping or vertical with caves. Observations of the living fish suggest that they tend to congregate in loose schools close to the shelter of caves and sea fans, to which they retreat when approached, and seem to be most abundant at about a 20 m depth range. They often form mixed schools with *Trimma tevegae*.

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References


ERRATA
P. 110: Fig. 1.: The shown photo did not reveal the entire length of the first dorsal fin of *Vanderhorstia nannai* (holotype, 29.8 mm SL female, ROM 76552) from Palau. Photo by R. Winterbottom.