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Eviota maculosa, a new dwarfgoby from the Western Pacific Ocean (Teleostei: Gobiidae)

DAVID W. GREENFIELD
Research Associate, Department of Ichthyology, California Academy of Sciences, 55 Music Concourse Dr., Golden Gate Park, San Francisco, California 94118-4503, USA
Professor Emeritus, University of Hawai'i
Mailing address: 944 Egan Ave., Pacific Grove, CA 93950, USA
E-mail: greenfie@hawaii.edu

LUKE TORNABENE
School of Aquatic and Fishery Sciences and Burke Museum of Natural History and Culture, University of Washington, 1122 NE Boat Street, Seattle, WA 98105, USA

MARTA GÓMEZ-BUCKLEY
School of Aquatic and Fishery Sciences and Burke Museum of Natural History and Culture, University of Washington, 1122 NE Boat Street, Seattle, WA 98105, USA

MARK V. ERDMANN
Conservation International Indonesia Marine Program, Jl. Dr. Muwardi No. 17, Renon, Denpasar 80235, Indonesia
California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118, USA

Abstract

A new species of dwarfgoby, *Eviota maculosa* n. sp., is described from reefs in the Western Pacific Ocean. Specimens from West Papua (Fakfak), Sulawesi, and Pohnpei match the DNA sequences of the type population from Teluk Saleh, Sumbawa, Indonesia. The new species is most similar to *E. punctulata*, described from Fiji, but can be distinguished by pigmentation patterns on the fins. Phylogenetic analyses using both mitochondrial and nuclear genes confirm that the new species is part of a species complex with *E. punctulata*, *E. tigrina*, and two additional undescribed species from Samoa and Tonga. Within this complex, the new species and *E. punctulata* and *E. tigrina* share the synapomorphy of having multiple rows of tricuspid teeth in both the upper and lower jaws, which is unique within *Eviota* and rare in gobiids in general.

Key words: taxonomy, systematics, ichthyology, coral-reef fishes, gobies, DNA sequences, phylogenetics.

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Introduction

Dwarfgobies (genus *Eviota*) are among the most diverse and rapidly evolving lineages of vertebrates, with 114 species being considered valid prior to this study (Greenfield 2017, Greenfield *et al*. 2017). Within the genus, several species were originally described almost exclusively from preserved specimens and have since proven to be complexes of multiple species when live coloration and genetic analyses are considered (e.g. Greenfield & Tornabene 2014, Tornabene *et al*. 2015, 2016).

A good example of this phenomenon is *Eviota punctulata*, originally described by Jewett & Lachner in 1983 with the holotype (USNM 224550) and some paratypes (USNM 224543 & USNM 224542) from Fiji. Additional paratypes were listed from Papua New Guinea, Australia, and the Philippines. The description featured illustrations of the holotype as well as one paratype (USNM 224548) from Papua New Guinea (Jewett & Lachner 1983; figs. 6 & 7). The illustrations show subtle differences in pigmentation patterns on the fins of the two specimens. Recognizing these differences in coloration in other specimens, Greenfield & Randall (2016) and Greenfield & Winterbottom (2016) suggested that populations outside of Fiji may represent additional species. Greenfield & Jewett (2016) illustrated differences between *E. punctulata* from Fiji and a putative *E. punctulata* from Australia.

In April 2017, the fourth author (MVE) was able to photograph and collect specimens of *E.* cf. *punctulata*, including ethanol-fixed specimens for DNA analysis, from Teluk Saleh, Sumbawa, Indonesia, which resembled the published illustrations of the paratype from Papua New Guinea and the Australian specimen. In May 2017, MVE photographed and collected specimens of true *E. punctulata* from Totoya, Lau Islands, Fiji, allowing comparisons to the live coloration and DNA sequences of specimens from the type locality. These data confirm that the Sumbawa population indeed represents a new species, described herein. In addition, we also collected and photographed specimens of *Eviota* cf. *punctulata* from Samoa and Tonga. We include photographs and DNA sequences for those two populations in this study, but refrain from describing them as one or more new species since the number and quality of the specimens and photographs are limited.

Materials and Methods

Type specimens are deposited at the Museum Zoologicum Bogoriense, Cibinong, Java, Indonesia (MZB) and the California Academy of Sciences, San Francisco, CA, USA (CAS).

Counts and measurements, descriptions of fin morphology, and the cephalic sensory-canal pore patterns follow Lachner & Karnella (1980) and Jewett & Lachner (1983). Postanal ventral-midline spots begin at the anal-fin origin and extend to a vertical about 2 or 3 scale rows anterior to the end of the hypurals, the additional smaller spot posterior to this, if present, is not counted. We follow Lachner & Karnella (1980: 4) in describing the membranes joining the first 4 pelvic-fin rays, which "…are considered to be well developed when the membranes extend beyond the bases of the first branches; they are considered to be reduced when they are slightly developed, not extending to the bases of the first branches". Dorsal/anal fin-ray formula counts (eg. 9/8) only include segmented rays. Measurements were made to the nearest 0.1 mm using an ocular micrometer or dial calipers, and are presented as percentage of standard length (SL). Lengths are given as standard length (SL), measured from the median anterior point of the upper lip to the base of the caudal fin (posterior end of the hypural plate); origin of the first dorsal fin is measured from the median anterior point of the upper lip to the anterior base of the first dorsal-fin spine; origin of the second dorsal-fin is measured from the median anterior point of the upper lip to the anterior base of its spine; origin of the anal fin is measured from the median anterior point of the upper lip to the anterior base of its spine; body depth is measured at the center of the first dorsal fin; head length is taken from the upper lip to the posterior end of the opercular membrane; orbit diameter is the greatest fleshy diameter; snout length is measured from the median anterior point of the upper lip to the nearest fleshy edge of the orbit; upper jaw length is the straight-line distance from the anterior tip of the premaxilla to the end of the upper margin of the dentary where the maxilla joins behind it; caudal-peduncle depth is the least depth, and caudal-peduncle length the horizontal distance between verticals at the rear base of the anal fin and the caudal-fin base; pelvic-fin length is the length of the longest ray; pelvic-fin length is measured from the base of the pelvic-fin spine to the tip of the longest pelvic-fin soft ray.

Cyanine Blue 5R (acid blue 113) stain and an airjet were used to make the cephalic sensory-canal pores more

obvious (Akihito *et al.* 1993, 2002, Saruwatari *et al.* 1997). Cleared and stained specimens were prepared following the protocol of Dingerkus & Uhler (1977), and were photographed using an AxioCam 503 digital camera mounted on a Zeiss Discovery.V20 SteREO microscope and controlled using the ZEN 2.3 Pro software. For measurements, values for the holotype are given first, followed by the range of all specimens and the mean in parentheses.

We sequenced a segment of the mitochondrial gene cytochrome c oxidase subunit I (COI), using the primers GobyL6468 and GobyH7696 (Thacker 2003), and the nuclear gene Protease III (Ptr), using the primers PtrF2 and PtrR2 (Yamada *et al*. 2009). The PCR conditions follow that of Tornabene *et al*. (2016). Sequences were combined with those from 15 specimens from outside the *E. punctulata* complex from previous studies (Tornabene *et al*. 2013, 2015, 2016), including members of the two main clades of *Eviota* (those with branched and unbranched pectoral-fin rays), and aligned in Geneious v.6.0.6 (Biomatters; www.geneious.com). New sequences generated in this study were deposited on GenBank (accession numbers in Appendix). The final alignment consisted of 1173 bp of COI and 614 bp of Ptr. A phylogenetic analysis of the concatenated alignment was done using Bayesian Inference in the software MrBayes v.3.2 (Ronquist *et al*. 2012), partitioning by gene. Substitution models were chosen using PartitionFinder2 (Lanfear *et al*. 2016). The analysis was run for 10^6 generations, discarding the first 10% of trees as burn-in.

Eviota maculosa, n. sp. Greenfield, Tornabene & Erdmann

Polkadot Dwarfgoby

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Figures 1–9.

Eviota punctulata [*non* Jewett & Lachner] Jewett & Lachner 1983: 794, Fig. 6 (Papua New Guinea); Masuda & Kobayashi 1994: 340, Fig. 4 (Japan); Senou *et al*. 2004: 124 (Japan); Randall 2005: 533 (Papua New Guinea); Allen & Erdmann 2012: 920 (West Papua); Greenfield & Jewett 2016: 76–77 (Australia); Tornabene *et al*. 2013: 393–397 (Pohnpei & Indonesia).
Eviota sp. Tornabene *et al*. 2018: 148–9, Figs. 7 & 8 (Pohnpei).

Holotype. MZB 24615, 16.3 mm SL male, Indonesia, West Nusa Tenggara, Sumbawa, Teluk Saleh, patch reef, -8.551°, 118.067°, reef crest, 2–6 m, clove oil and hand net, field number MVE-17-003, M.V. Erdmann & A. Sianipar, 5 April 2017.

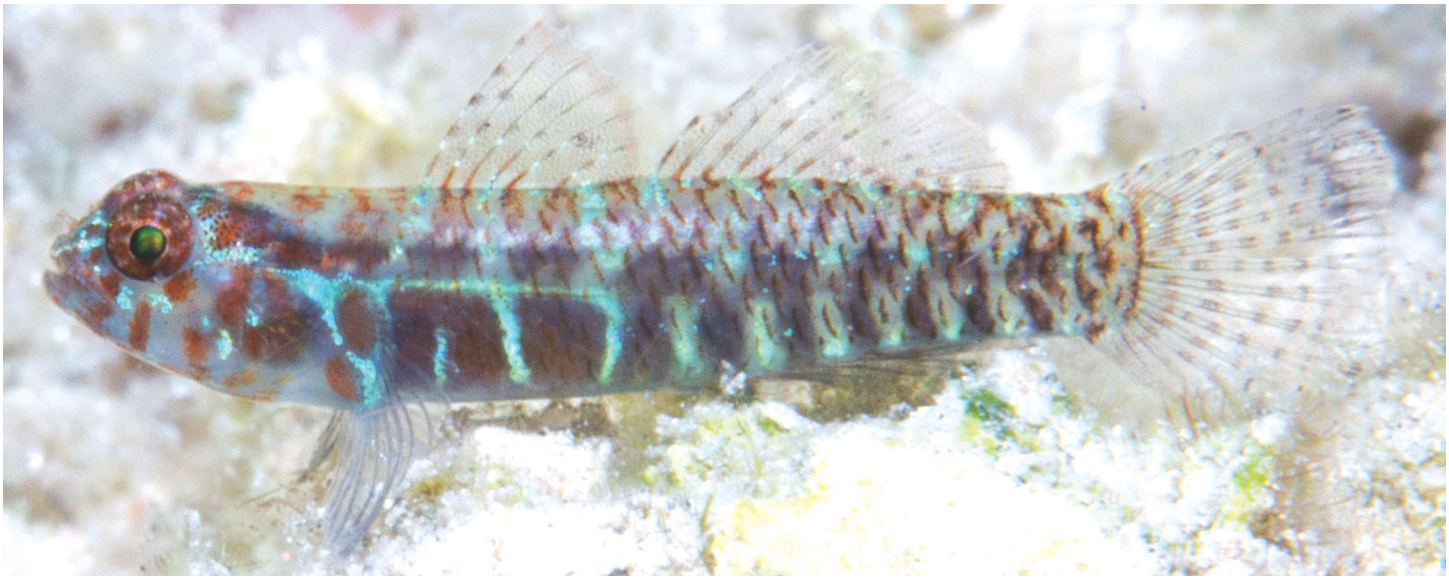

Figure 1. *Eviota maculosa,* underwater photograph of type series, Teluk Saleh, Sumbawa, Indonesia (M.V. Erdmann).

Figure 2. *Eviota maculosa,* underwater photographs of type series, Teluk Saleh, Sumbawa, Indonesia (M.V. Erdmann).

Paratypes. CAS 244633, 17.9 mm SL male, taken with holotype; CAS 244634, 7 females, 12.1–16.5 mm SL, 5 males, 13.0–16.3 mm SL, taken with holotype; CAS 244635, 2, taken with holotype, DNA samples PU4 & PU5; **Non-type material.** CAS 234530, Micronesia, Pohnpei; MZB 20912, Indonesia, Sulawesi, Wakatobi; CAS 244636, 1, Indonesia, West Papua, FakFak, Teluk Sebakor, clove oil and hand net, DNA sample PU3, M.V. Erdmann, 8 October 2014.

Diagnosis. A species of *Eviota* with cephalic sensory-canal pore system lacking only an IT pore (Pattern 2); dorsal/anal fin-ray formula 9/8; some pectoral-fin rays branched; fifth pelvic-fin ray present; urogenital papilla of male wide with straight smooth sides and many small papillae on end; no wedge-shaped mark at caudal-fin base and no dark spot over preural centrum; no distinct dark spots on pectoral-fin base; no postocular spot, but an oblong-to-teardrop-shaped mark dorsolaterally on head behind upper portion of eye; edges of scale pockets darkly pigmented; large round black spots on spines of first dorsal fin, about 1/3 pupil diameter, in larger males; large round spots usually on second dorsal and anal fins.

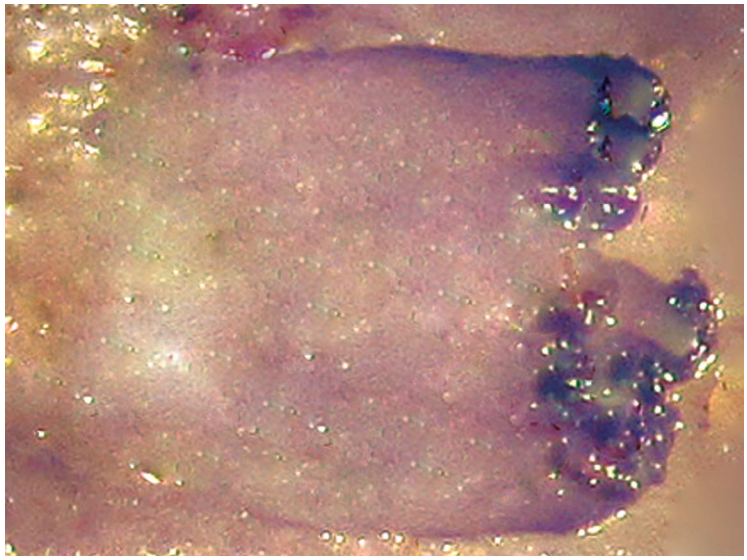

Figure 3. *Eviota maculosa*, male urogenital papilla, holotype, MZB 24615, 16.3 mm SL, Indonesia (D.W. Greenfield).

Description. Dorsal-fin elements VI+I,9; first dorsal fin triangular, first spine longest, reaching to first soft ray of second dorsal fin when adpressed, slightly filamentous at end; all second dorsal-fin soft rays branched except first, last ray branched to base; anal-fin elements I,8, all soft rays branched, last ray branched to base; pectoral-fin rays 17 (14–17, mode 16), branched, pointed, reaching to below third soft ray of second dorsal fin; fifth pelvic-fin ray length 14.4% (6.7–17.5%, 12.9%) of fourth ray, 13 (9–17) branches on fourth ray, 2 segments between consecutive branches of fourth pelvic-fin ray, pelvic-fin membrane reduced, no basal membrane; caudal fin with 12 branched and 17 segmented rays; lateral-line scales 25 (24–26, mode 25); transverse scale rows 7; urogenital papilla of male wide with straight smooth sides and many small papillae on end (Fig. 3), female urogenital papilla smooth, bulbous, with short finger-like projections on end.

Front of head rounded, profile an angle of about 70° from horizontal axis; mouth slanted obliquely upwards, forming an angle of about 45° to horizontal axis of body, lower jaw not projecting; maxilla extending posteriorly to back of pupil in males, and to center of pupil in females (Fig. 4); anterior narial tube short, extending forward just past posterior margin of upper lip; gill opening extending forward to below center of preoperculum; cephalic sensory-canal pore system lacking only IT pore (pattern 2),

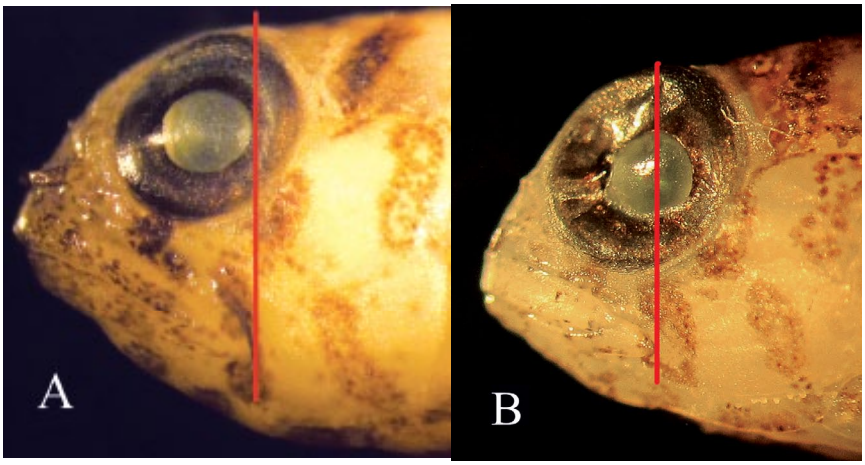

Figure 4. *Eviota maculosa*, jaw length, 14.9 mm SL male (A) and 13.4 mm SL female (B), paratypes, CAS 244634, Indonesia (D.W. Greenfield).

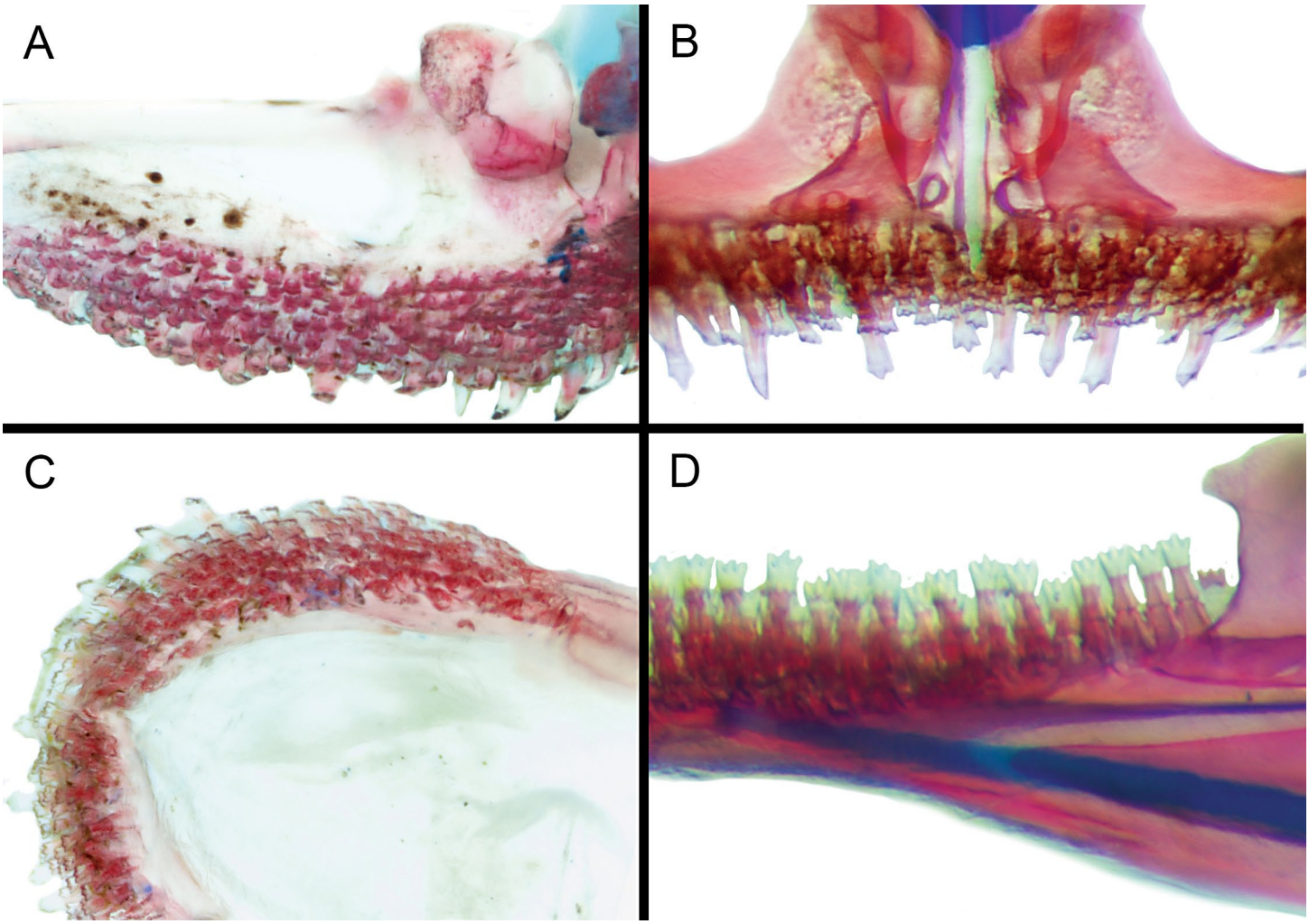

Figure 5. *Eviota maculosa*, tricuspid teeth in A) upper jaw, ventromedial view, CAS 244635; B) upper jaw, posterior view, UW 15173; C) lower jaw, dorsal view, CAS 244635; D) lower jaw, lateral view, UW 15173 (L. Tornabene).

cutaneous sensory papillae obscure. Teeth in both jaws arranged in multiple rows of slightly recurved, tricuspid teeth, rows numbering as many as 6 anteriorly, as few as 2 or 3 posterolaterally, outer row of teeth enlarged anteriorly with lateral cusps reduced, appearing slightly spade-shaped (Fig 5).

Measurements (% SL; based on holotype and 9 paratypes, 12.3–17.9 mm SL) head length 29.0 (25.5–30.9, 28.7); origin of first dorsal fin 33.0 (30.1–35.4, 32.6); origin of second dorsal fin 57.2 (52.5–58.0, 54.7); origin of anal fin 58.1 (55.8–60.7, 58.5); caudal-peduncle length 26.6 (23.5–27.4, 25.6); caudal-peduncle depth 13.4 (12.4–14.5, 13.2); body depth 20.2 (18.5–21.9, 20.3); eye diameter 8.6 (8.2–10.7, 9.1); snout length 3.4 (3.0–5.8, 3.9); upper-jaw length 11.6 (6.7–12.7, males 10.9, females 8.8); pectoral-fin length 37.9 (31.2–42.0, 36.8); pelvic-fin length 34.9 (27.1–37.4, 31.7)

Color in life. (Figs. 1 & 2) Background color of head and body translucent bluish-green. Surface markings on head and body reddish brown, spots on fins black. Internal markings on body black. Head with reddish brown markings around orbital rim: one oval at 4 o'clock; a short bar at 7 o'clock to upper jaw; another smaller bar at 8 o'clock to upper jaw; head behind upper eye with two oblique patches, a long bar on upper preorpercle behind mid-eye, below that an oblique bar across preoperculum and operculum, with another below it on ventral margin of operculum, and a long bar below eye behind corner of jaw. Pupil of eye black surrounded by narrow white ring with narrow white spokes radiating out onto red iris. Nape with 4 blotches from behind eyes to dorsal-fin origin, with 2 larger blotches below these above operculum and pectoral-fin base. Pectoral-fin base with dorsal and ventral large oval brownish patches, separated by a silver-white line that extends anteriorly above operculum. Body with row of 8 dark blotches above vertebral column, first above pectoral-fin base, last at caudal peduncle. Two rectangular blotches on abdomen below vertebral column, separated by a narrow silver-white line, followed by a row of 7 blotches, each separated by a light area. Scales on sides of body with distinct black margins. Dorsal

Figure 6. *Eviota maculosa*, preserved holotype (A), MZB 24615, 16.3 mm SL male; preserved paratype (B), CAS 244633, 17.9 mm SL male, both Teluk Saleh, Sumbawa, Indonesia (D.W. Greenfield).

surface of body with row of orange-brown spots: 4 under first dorsal fin and 4 under second dorsal fin. Caudal-fin base with black spots at top and bottom and vertical black line along back edge of hypural plate. Caudal fin crossed by 5 or 6 bands of distinct black spots, membranes finely peppered with small melanophores. First dorsal fin with large black spots along spines, 5 on first spine, fewer on subsequent spines. Spines and rays of second dorsal fin with similar spot pattern, usually smaller. Membranes of both dorsal fins finely peppered with small melanophores. Anal fin densely speckled black.

Figure 7. *Eviota maculosa*, ventral head of preserved paratype, CAS 244634, 14.9 mm SL male (D.W. Greenfield).

Color in preservative. (Fig. 6) Background color of head and body light yellow. Scales on body with prominent dark brown margins. Six dark ventral postanal spots from subcutaneous bars, three over anal fin, others on caudal peduncle, followed by small spot at caudal-fin base. Three faint subcutaneous bars visible on caudal peduncle. Abdomen dusky. Head with prominent clusters of melanophores corresponding to pattern of reddish brown markings described in life colors. Tubular naris dark. Pectoral-fin base with oblique line of melanophores across center, separating two patches of sparse melanophores. Nape with two melanophore clusters before first dorsal fin. Ventral surface of head with anterior end covered with melanophores, followed by a row of three clusters on each side of isthmus ending in an elongate cluster on branchiostegal membranes on each side (Fig. 7). First dorsal fin with large round black spots on spines, about 1/3 pupil diameter, 4 or 5 on first two spines, fewer subsequently, membranes with heavy peppering of melanophores. Second dorsal fin with similar spots and peppering. Anal fin darker than other fins, densely peppered with fine melanophores and without large black spots.

Figure 8. *Eviota maculosa*, CAS 244642, 17.1 mm SL male, fresh anaesthetized (A) and preserved (B), Ayau Lagoon, Abidon, Raja Ampat, Indonesia (M.V. Erdmann & D.W. Greenfield, respectively).

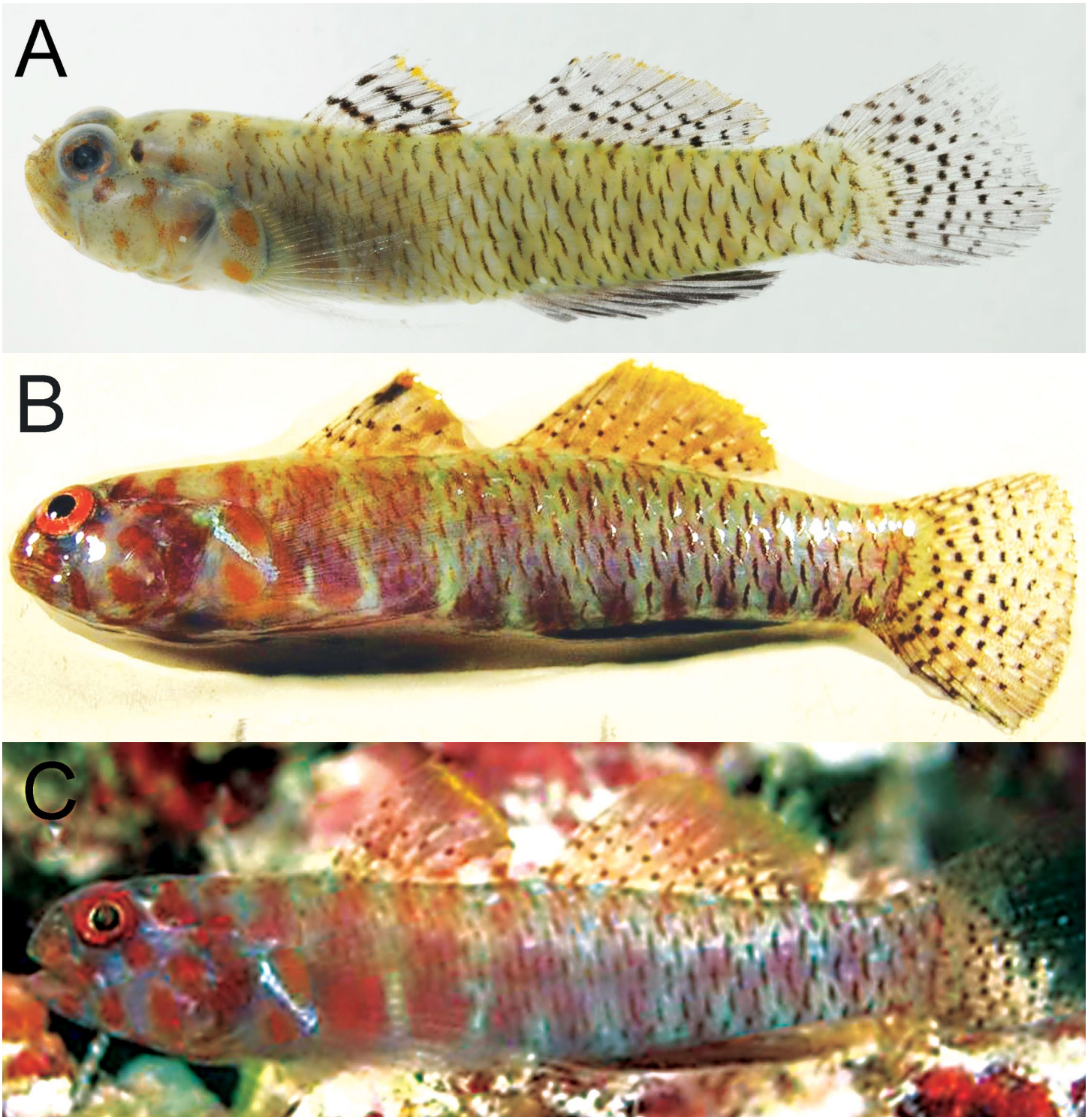

Figure 9. *Eviota maculosa*, from Australia, fresh, hours after collection (A), freshly captured (B), and underwater (C) (S. Brandl (A); González-Cabello (B & C).

Caudal fin crossed by 8 bands of large round black spots. Broken line of dark pigment at caudal-fin base along edge of hypural plate. Pectoral and pelvic fins clear.

Etymology. The specific epithet is from the Latin adjective *maculosa* (spotted), referring to the distinctive large black spots on the male first dorsal fin. The name is treated as a feminine nominative singular adjective.

Distribution. While we have purposefully restricted the type series to those specimens from Teluk Saleh, Sumbawa, Indonesia, individuals with a similar appearance are known from throughout eastern Indonesia (e.g., Fig. 8 from Raja Ampat) and eastwards to Pohnpei and Australia (Fig. 9). DNA sequences from specimens from West Papua (Fakfak), Sulawesi, and Pohnpei confirm their match to type-location *E. maculosa* (see discussion below); the latter two of those specimens were listed as *E. punctulata* in Tornabene *et al*. (2013, 2015).

Comparisons. *Eviota maculosa* belongs to the Pattern 2 group of Lachner & Karnella (1980), with the cephalic sensory-canal pore system lacking only an IT pore. The group contains 42 described species, including *E. maculosa*. The new species differs from other species in this group as follows: unbranched pectoral-fin rays (vs. branched in *E. maculosa*) in *E. ancora*, *E. atriventris*, *E. bilunula*, *E. flebilis*, *E. imitata*, *E. nigrispina*, *E. prasites*, *E. rubriceps*, *E. springeri*, *E. storthynx*, *E. spilota*, *E. cometa*, *E. sigillata*, and *E. zebrina*; a dorsal/anal formula of 8/8 in some species sharing branched pectoral-fin rays (vs. 9/8) i.e. *E. asymbasia*, *E. bipunctata*, *E. dorsimaculata*, *E. indica*, *E. lacrimosa*, *E. latifasciata*, *E. piperata*, and *E. rubra*; and a dorsal/anal formula of 10/9 in some species sharing branched pectoral-fin rays (vs. 9/8) i.e. *E. tigrina* and *E. variola*.

The 15 remaining species with branched pectoral-fin rays share the dorsal/anal formula of 9/8 with *E. maculosa*; however, the male urogenital papilla is fimbriate in *E. prasina* and *E. zonura*, and cup-shaped in *E. erdmanni*, *E. hinanoae*, and *E. saipanensis* (vs. elongate and smooth). Additionally, *E. hoesei*, *E. japonica*, and *E. queenslandica* have distinct dark spots on the pectoral-fin base (vs. none); *E. shibukawai* has a distinct dark spot over the preural centrum (vs. none); *E. afelei* never has the dark spots on the dorsal fin (vs. present); *E. bimaculata* has two distinct postocular spots (vs. only an oblong-to-teardrop-shaped mark dorsolaterally on the head behind the upper portion of the eye); *E. melanosphena* has a wedge-shaped mark at the caudal-fin base (vs. absent); and *E. flavipinnata* and *E. rubrimaculata* lack distinct dark spots on the caudal fin (vs. present).

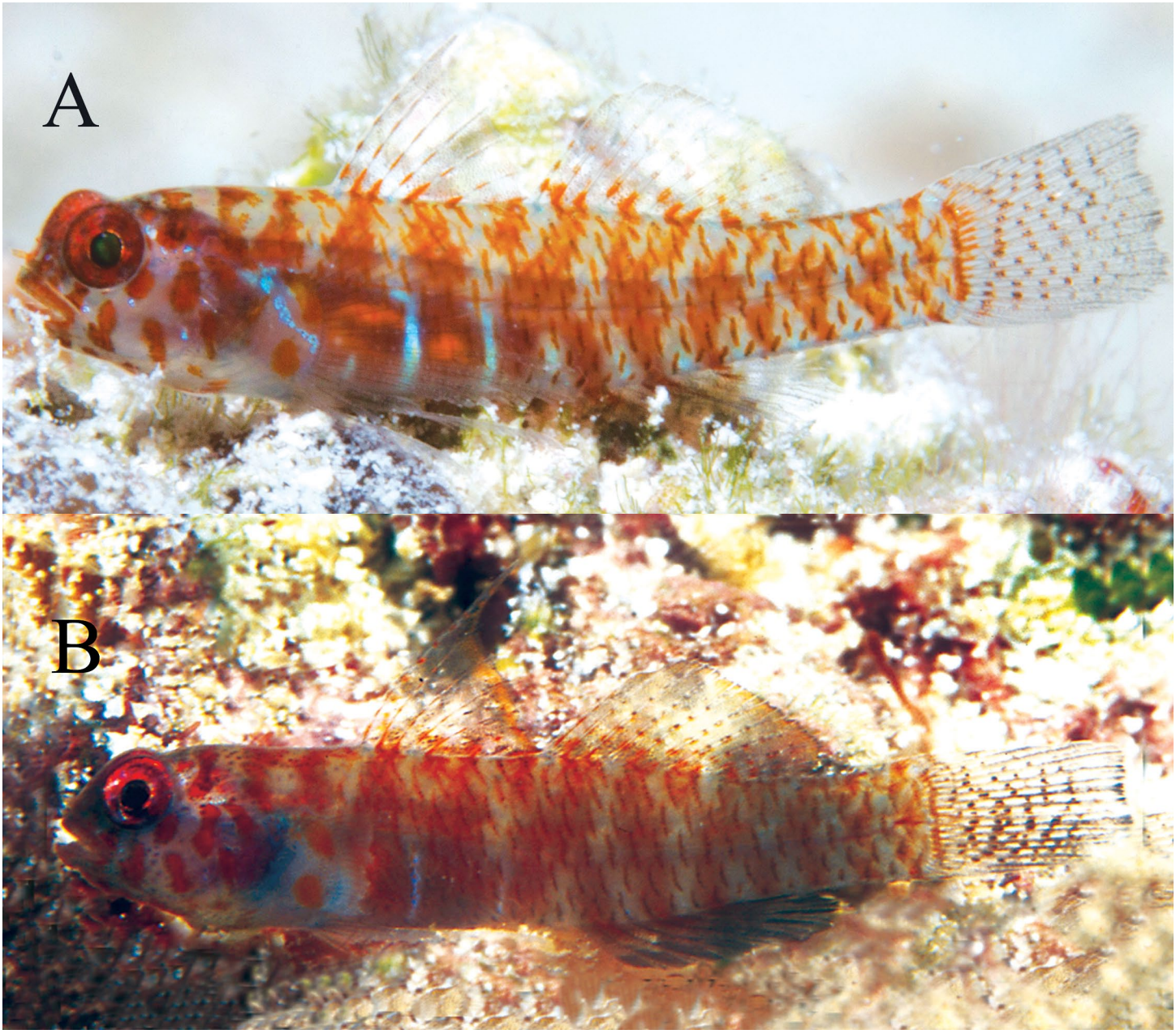

Figure 10. *Eviota punctulata*, Fiji, underwater photographs (M.V. Erdmann and J.E. Randall, respectively).

Figure 11. *Eviota punctulata*, preserved, CAS 244637, 15.7 mm SL male, Totoya Eastern Lagoon, Lau Group, Fiji (D.W. Greenfield).

Eviota maculosa is most similar to *E. punctulata*, with which it has been confused for many years. The first dorsal fin of *E. punctulata* is crossed by rows of fine dark spots (Figs. 10 & 11), whereas the first dorsal fin of larger males of *E. maculosa* has distinctive large, round, black spots on the spines, and similar spotting, although usually smaller, is typically present on the second dorsal and caudal fins (the distinctive large spots are found only on males larger than 14.9 mm SL, and reliably visible only in freshly dead and preserved specimens). In *E. punctulata*, the dorsal fins of females and small males are heavily peppered with melanophores, but lack discrete large black spots. Over 300 specimens of *E. punctulata* have been collected in Fiji, the type locality, and the

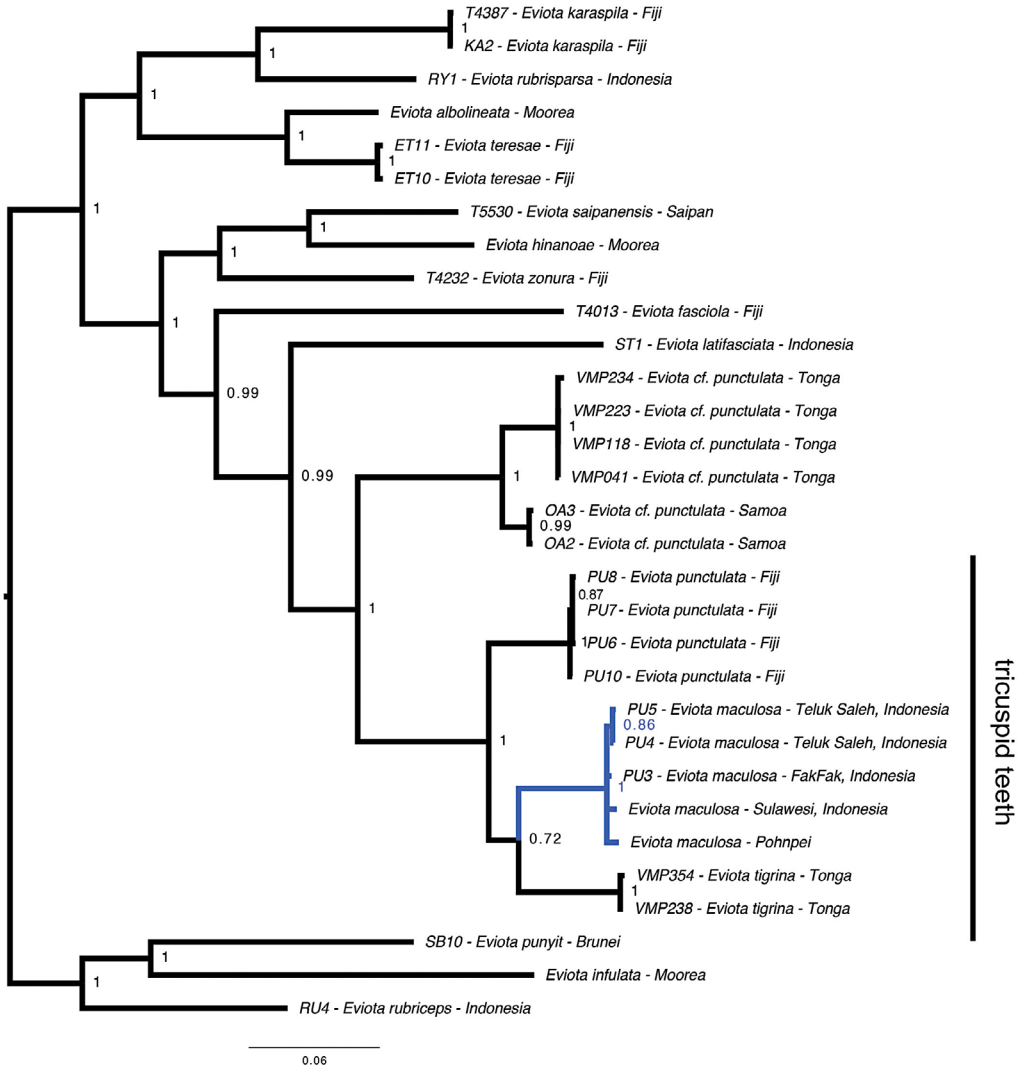

Figure 12. Molecular phylogeny of the *Eviota punctulata* complex based on COI and Ptr sequence data. Support values are Bayesian posterior probabilities (L. Tornabene).

large dark spots on the first dorsal fin typical of *E. maculosa* have never been observed. Smaller individuals of *E. maculosa*, which lack the prominent black spots on the spines, can thus be indistinguishable from *E. punctulata* without DNA sequencing.

Phylogenetic relationships and Discussion. The molecular phylogeny shows strong support (1.0 posterior probability) for the monophyly of the *Eviota punctulata* complex, and for the reciprocal monophyly of specimens of *E. punctulata* from Fiji (type locality), *E. maculosa*, *E. tigrina*, and two clades of *E.* cf. *punctulata*, each from Samoa and Tonga (Fig. 12). The average pairwise genetic distance (p-distance) between species in this group ranges from 5%–17% in COI (Table 1). Specifically, *E. maculosa* is 11–16% divergent from all other species in this group in COI. *Eviota tigrina* was described from Tonga by Greenfield & Randall (2008) based on

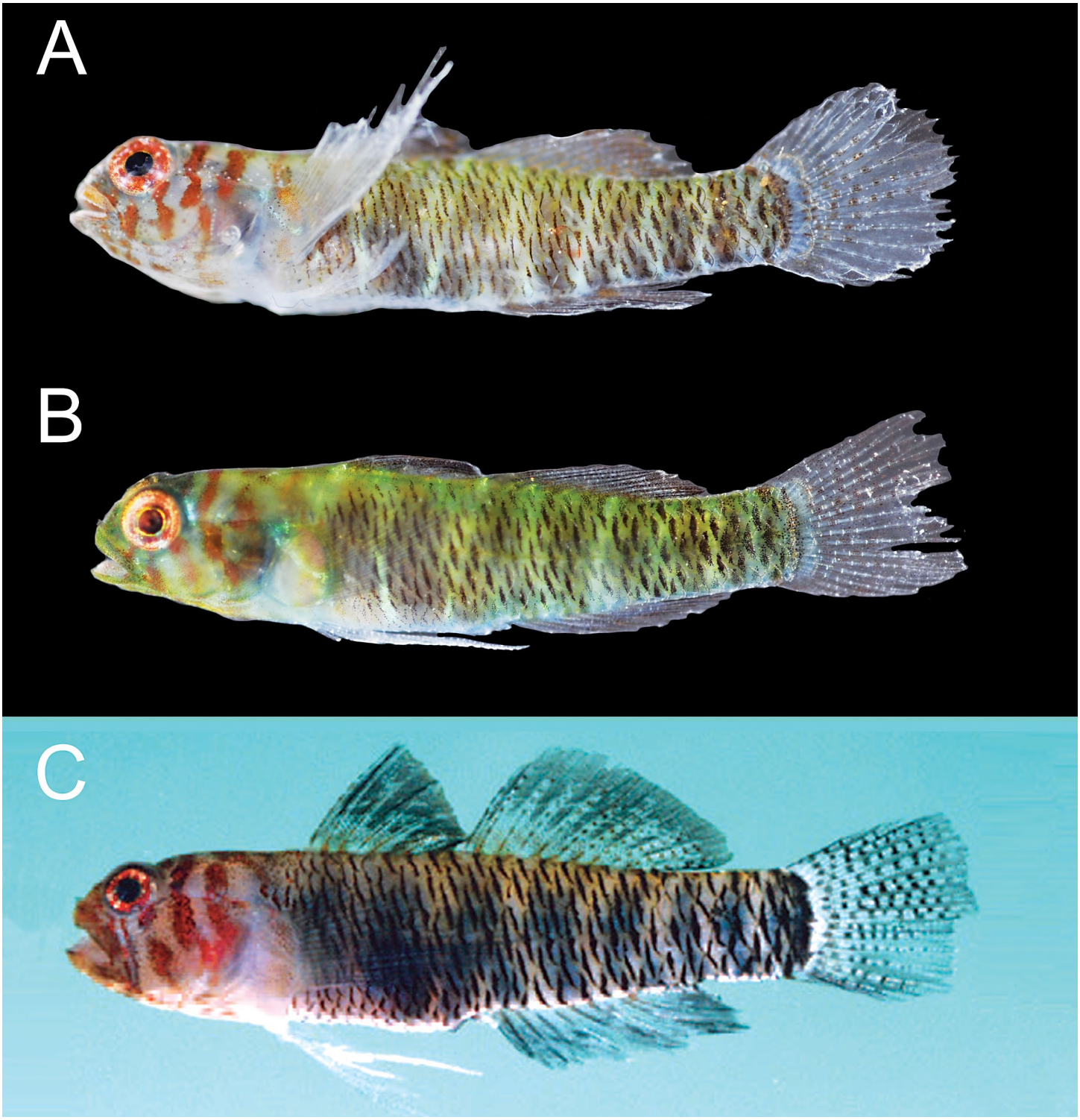

Figure 13. *Eviota tigrina*, fresh, UW 158234 (A); UW 158230 (B) BPBM 38095; holotype, BPBM 38095, 21.7 mm SL, male, all Vava'u, Tonga (A & B, M. Gomez-Buckley; C, J.E. Randall).

TABLE 1

Average between-group and within-group p-distances for mtDNA COI sequences of the 5 species in the *Eviota punctulata* species complex

	E. tigrina	*E.* cf. *punctulata* Tonga	*E. punctulata*	*E. maculosa*	*E.* cf. *punctulata* Samoa
Eviota tigrina	0.001				
E. cf. *punctulata* Tonga	0.169	0.003			
Eviota punctulata	0.112	0.171	0.002		
Eviota maculosa	0.110	0.159	0.101	0.008	
E. cf. *punctulata* Samoa	0.155	0.053	0.159	0.155	0.002

a single specimen collected by J.E. Randall in 1983. In that paper, they suggested that *E. tigrina* appeared to be most similar to *E. punctulata*, comparing the two in their Figure 2. In 2017, the third author (MGB) collected and photographed a new series of 10 specimens of *E. tigrina* from Vava'u, Tonga (Fig. 13), also obtaining several tissues for DNA analysis, allowing us to include it in our phylogeny, which confirmed a close relationship with *E. punctulata*.

Tornabene *et al*. (2018; figs.7 & 8) noted that *Eviota maculosa* (called *Eviota* sp. in that study) possessed multiple rows of tricuspid teeth in both jaws. This tooth pattern was previously unreported in *Eviota*, and rare in gobies as whole; the only other genus within the Gobiidae that has species with tricuspid teeth is *Kelloggella*. Upon subsequent examination of other species of *Eviota*, we observed nearly identical dentition patterns in specimens of *E. punctulata* and *E. tigrina*, but not in *E.* cf. *punctulata* from Tonga and Samoa, which have multiple irregular rows of canine teeth (Fig. 14), indicating that this rare tricuspid pattern is a synapomorphy for the clade thus far containing only *E. maculosa*, *E. punctulata*, and *E. tigrina*.

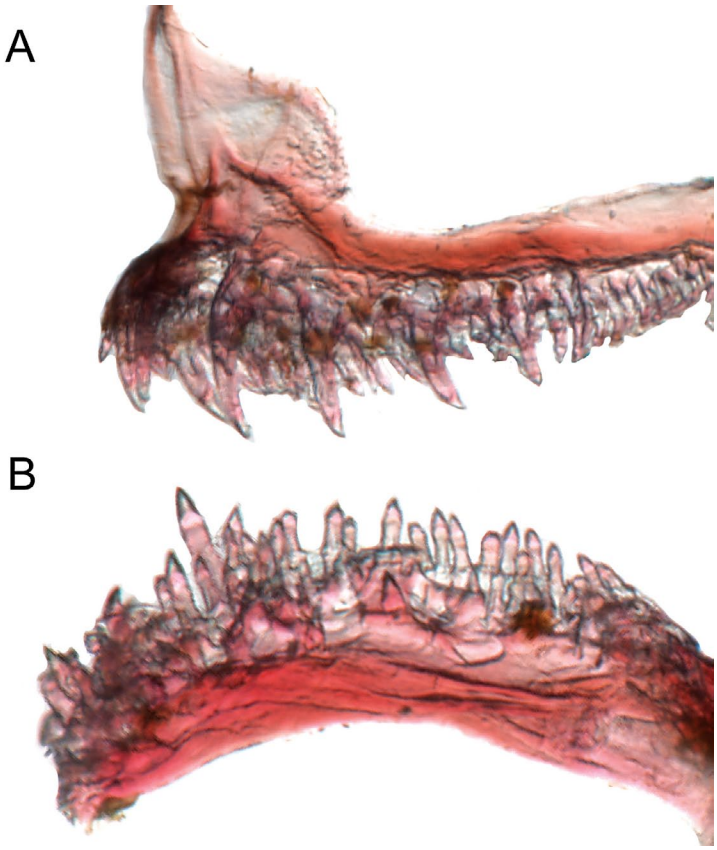

Figure 14. *Eviota* cf. *punctulata*, UW 158228 VMP041, dentition: upper jaw, lateral view (A) and lower jaw, dorsomedial view (B) (L. Tornabene).

Comparative material. *Eviota punctulata*: CAS 228760 (22), Viti Levu, Fiji; CAS 229117 (43), Vanua Levu, Fiji; CAS 244637, Totoya Eastern Lagoon, Lau Group, Fiji; CAS 244638 (2 plus 1 C&S), DNA samples PU6, PU7 & PU8, Lau Group, Fiji; CAS 244639, DNA sample PU10, Lau Group, Fiji.
Eviota tigrina: BPBM 38095, holotype, Tonga; UW 158231, DNA sample VMP354, Tonga; UW 158230, DNA sample VMP238, Tonga.
Eviota cf. *punctulata*: CAS 244641, DNA samples OA2 and OA3, Samoa; UW 158229, DNA sample VMP234, Tonga; UW 158232, DNA sample VMP223, Tonga; UW 158233, DNA sample VMP118, Tonga; UW 158228, DNA sample VMP041, Tonga.

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Appendix 1. GenBank accession numbers for new sequences generated from this study.

Species	Catalog Number	DNA label	GenBank COI	GenBank ptr
Eviota maculosa	CAS 244635	PU5	MH940308	MH940323
Eviota maculosa	CAS 244635	PU4	MH940309	MH940324
Eviota maculosa	CAS 244636	PU3	MH940310	MH940325
Eviota cf. *punctulata*	UW 158229	VMP234	MH940299	MH940314
Eviota cf. *punctulata*	UW 158232	VMP223	MH940300	MH940315
Eviota cf. *punctulata*	UW 158233	VMP118	MH940301	MH940316
Eviota cf. *punctulata*	UW 158228	VMP041	MH940302	MH940317
Eviota cf. *punctulata*	CAS 244641	OA2	MH940304	MH940319
Eviota cf. *punctulata*	CAS 244641	OA3	MH940303	MH940318
Eviota tigrina	UW 158231	VMP354	MH940297	MH940312
Eviota tigrina	UW 158230	VMP238	MH940298	MH940313
Eviota punctulata	CAS 244638	PU7	MH940306	MH940321
Eviota punctulata	CAS 244638	PU8	MH940305	MH940320
Eviota punctulata	CAS 244638	PU6	MH940307	MH940322
Eviota punctulata	CAS 244639	PU10	MH940311	NA