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Milton S. Love

University of California, Santa Barbara, love@lifesci.ucsb.edu

William B. Bushing

William Power

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The Panamic Fanged Blenny, *Ophioblennius steindachneri* Jordan & Evermann, 1898, New to California Marine Waters with a Key to the California Species of Blenniidae

Milton S. Love,^{1*} William B. Bushing,² and William Power³

¹Marine Science Institute, University of California, Santa Barbara, California 93106

²StarThrower Educational Multimedia, PO Box 849, Avalon, Santa Catalina Island, CA 90704

³Los Angeles County Sanitation Districts, 24501 S. Figueroa Street, Carson, CA 90745

We report here on the first observations of the Panamic fanged blenny, *Ophioblennius steindachneri* Jordan & Evermann, 1898, in California marine waters. In addition, we provide information on the other blenniid species found off California and include a key to all of the California taxa.

On 3 June 2017, William Bushing was diving in the Casino Point Dive Park, Santa Catalina Island (about 33°20.98'N, 118°19.57'W) when he observed a chocolate-brown blenny in a high surge zone at a depth of about 3 m resting on a small ledge in a rocky outcropping (Fig. 1). Based on his experiences filming this species in the Gulf of California, Bushing was confident the individual was *O. steindachneri* but sent images to Milton Love for confirmation. Based on the following characters we determined that this fish was *O. steindachneri*: 1) In the eastern Pacific, the short and blunt head with the slanted profile is characteristic of only two species, both members of the genus *Ophioblennius*: *O. steindachneri* and *O. clippertonensis* Springer, 1962 (Springer 1962, Robertson and Allen 2015). *Ophioblennius clippertonensis* is a Clipperton Island endemic and 2) lacks a diagnostic character found in the Santa Catalina specimen, a dark ocellus posterior to the eye. 3) In addition, this individual had blue edging on its pectoral and anal fins, coloration found on many *O. steindachneri* (Humann and DeLoach 2004, Robertson and Allen 2015, Froese and Pauly 2017). Bushing continued to observe this individual in the same location for about one month after its first sighting.

On 18 June 2017, Bushing observed a second Panamic fanged blenny about 30 m from the first one (Fig. 2) also in about 3 m of water in a similar habitat similar. Along with a dark ocellus and the blue on the pectoral fin, this individual had faint banding on the sides a pattern often seen in this species (Humann and DeLoach 2004, Robertson and Allen 2015, Froese and Pauly 2017).

We note that these were not the first documented sightings of this species in California waters. To our knowledge, the first sighting was by Rob Anslow on 23 July 2015 at Sea Fan Grotto (about 33°26.6'N, 118°28.4'W), Santa Catalina Island. He observed this fish swimming among boulders in about 3 m of water. This fish (<https://www.youtube.com/watch?v=FPu8OHDdIoY>), identified from the video on 24 June 2016 by William Bushing, resembled the first individual Bushing encountered; brown and unmarked except for a dark ocellus behind the eye, with extensive blue edging on the pectoral and anal fins. Lastly, Ruth Harris observed a fish in June 2017, in the same general

* Corresponding author: love@lifesci.ucsb.edu



Fig. 1. An *Ophioblennius steindachneri* photographed by William Bushing 3 June 2017 in the Casino Point Dive Park, Santa Catalina Island. Note the chocolate brown coloration and the ocellus posterior to the eye.



Fig. 2. An *Ophioblennius steindachneri* photographed by William Bushing 18 June 2017 in the Casino Point Dive Park, Santa Catalina Island. Note the lighter vertical bars on head and posterior part of body.

vicinity as the two Casino Point Dive Park fish, and her description matches the Panamic fanged blenny.

Ophioblennius steindachneri is primarily a tropical species previously known as far north as Isla Guadalupe, northern Baja California (SIO 57-190) and extending southwards throughout almost all of the Gulf of California and to Peru, including all of the islands off of Baja California, Mexico, Central America and northern South America, with the exception of Clipperton Island (Love et al. 2005, Robertson and Allen 2015). At mainland sites, it appears to be most abundant from mid-Gulf of California to at least Ecuador (Robertson and Allen 2015, Academy of Natural Sciences, Philadelphia Collection Numbers ANSP 102686, ANSP 102690).

Based on the observations detailed above, it appears that this species has lived at Santa Catalina Island since at least the summer of 2016 and may be yet another immigrant from the 2015 El Niño (Love et al. 2016a, 2016b). We note that this species has a relatively long larval duration (about 50 days, Riginos and Victor 2001). This compares to shorter ones of such other tropical reef taxa such as *Axoclinus nigricaudus* Allen & Robertson, 1994 (18 days, Riginos and Victor 2001) and *Malacoctenus hubbsi* Springer, 1959 (about 24 days, Riginos and Victor 2001) which have not yet established themselves off California.

Miller and Lea (1972) provided descriptions of three blenniid species, all members of the genus *Hypsoblennius*, from California waters. These sightings of *O. steindachneri* bring to five [with the earlier addition of *Plagiotremus azaleus* (Pondella and Craig 2001)] the number of species of Blenniidae known to occur here (Table 1). We provide a key to all California species.

Key to the Blennies of California

- 1a No cirri over eyes, body slender with dark stripe along body from snout through eye to caudal fin; mouth subterminal; fewer than 10 dorsal spines, more than 30 dorsal rays..... *Plagiotremus azaleus*
- 1b Cirri over eyes (may be difficult to see on females of *Hypsoblennius gentilis*); no dark stripe as in 1a; mouth terminal; more than 10 dorsal spines, fewer than 24 dorsal rays..... 2
- 2a Lateral line divided, in two independent and overlapping segments; dark ocellus behind eye; (juveniles appearance different than adults with a black bar across base of caudal fin and red pectoral and caudal fins)..... *Ophioblennius steindachneri*
- 2b Single lateral line, not divided in two independent and overlapping segments; no ocellus behind eye..... 3
- 3a Cirri over eye serrated on posterior, not divided in long filaments (cirri very small on female, difficult to see without lens, about 1 mm); female with blue spot between 2nd and 3rd dorsal spines (may have orange on back of spot); pectoral-fin rays 11–13..... *Hypsoblennius gentilis*
- 3b Cirri over eye not serrated but divided into long filaments; pectoral-fin rays generally 13–15 (*Hypsoblennius jenkinsi* may have 12)..... 4
- 4a Cirri over eyes divided into 7 or more filaments; lateral line arched; lateral line extends to at least midpoint of anal fin..... *Hypsoblennius gilberti*
- 4b Cirri over eye fewer than 7 filaments; lateral line not arched; lateral line ends near start of anal fin..... *Hypsoblennius jenkinsi*

Table 1. Blennies (Family Blenniidae) collected or observed in California marine waters. SIO = Scripps Institution of Oceanography Marine Vertebrate Collection, CAS = California Academy of Science Fish Collection.

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- Hypsoblennius gentilis*** (Girard, 1854). **Bay Blenny**. To 14.7 cm TL (Miller and Lea 1972). Monterey Bay, central California to Gulf of California (Miller and Lea 1972). Intertidal and to 24 m (Miller and Lea 1972).
- Hypsoblennius gilberti*** (Jordan, 1882). **Rockpool Blenny**. To 17 cm TL (Miller and Lea 1972). San Francisco Bay, northern California (CAS 58489) to Puerto Los Cabos, just northeast of Cabo San Lucas, Baja California (J. Snow, pers. comm. to M. L.) to Cabo Pulmo, Baja California, just inside the Gulf of California (SIO 76–284). Usually intertidal and subtidal; to 18 m (Eschmeyer and Herald 1983).
- Hypsoblennius jenkinsi*** (Jordan & Evermann, 1896). **Mussel Blenny**. To 13 cm TL (Eschmeyer and Herald 1983). Morro Bay, central California (J. Stephens, pers. comm. to M. L.) to Punta Marquez, southern Baja California and Gulf of California (Miller and Lea 1972). Intertidal and to 21 m (min.: Wells 1986; max.: Miller and Lea 1972).
- Ophioblennius steindachneri*** Jordan & Evermann, 1898. Large-banded Fanged Blenny or **Panamic Fanged Blenny**. To 18 cm TL (Allen and Robertson 1994). Catalina Island, southern California (this paper), Isla Guadalupe, central Baja California (SIO 57-184), Isla Cedros (M. L., unpubl. data) and (mainland) Arrieffe Sacramento (29°40'N, 115°47'W; M. L., unpubl. data), central Baja California into northern Gulf of California to Isla Angel de la Guarda (Thomson et al. 1979) and to Islas Lobos de Afuera, Peru (Chirichigno and Vélez 1998), including Islas Galápagos (Grove and Lavenberg 1997). Tide pools to 12 m (min.: Weaver 1970; max.: Aburto-Oropeza and Balart 2001) and perhaps to 20 m (66 ft; Robertson and Allen 2002).
- Plagiotremus azaleus*** (Jordan & Bollman, 1890). **Sabertooth Blenny**. To 10.2 cm TL (Robertson and Allen 2002). King Harbor, southern California (Pondella and Craig 2001); Rocas Chester (27°53'N, 115°03'W), Isla Cedros, central Baja California (Pondella and Craig 2001) and Islas San Benito (Pondella and Craig 2001) to Puerto Pizarro, Peru (Chirichigno and Vélez 1998), including Gulf of California (Allen and Robertson 1994), Islas Galápagos (Grove and Lavenberg 1997), and many other offshore islands (Robertson and Allen 2002). At depths of 1.5–25 m (min.: Pondella and Craig 2001; max.: Robertson and Allen 2002).
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