

Addition of the Calico Lizardfish, *Synodus lacertinus* Gilbert, 1890 (Pisces: Synodontidae) to the Ichthyofauna of the Southern California Bight

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Lizardfishes (Synodontidae) are small to moderate-sized fishes with elongate, cylindrical bodies and large, spiny toothed, lizard-like mouths. They are common benthic fishes found in the Atlantic, Indian and Pacific Oceans (Nelson 1994). *Synodus* is the only genus known from the Eastern Pacific, and is represented by five species (*S. evermanni*, *S. lacertinus*, *S. lucioiceps*, *S. sechurae*, and *S. scituliceps*; Allen and Robertson 1994; Grove and Lavenberg 1997). Only one of the five species, the California lizardfish, *S. lucioiceps*, has previously been reported from the Southern California Bight (SCB).

On October 9, 1998, a single specimen of the calico lizardfish, *Synodus lacertinus*, was collected by small (7.6 m wide headrope) semiballoon otter trawl during a routine survey performed by the City of San Diego's Marine Biology Laboratory (Metropolitan Wastewater Department, Environmental Monitoring and Technical Services Division). The specimen was captured off Playas de Tijuana (approx. 6 km south of the United States-Mexico boundary) (latitude 32°28.35' N and longitude 117°10.50' W) at a depth of 27 m over sandy substrate. The fish was measured and photographed, then deposited in the Marine Vertebrates Collection, Scripps Institution of Oceanography (SIO 99-28). It measured 129 mm standard length (SL) and 145 mm total length (TL) and had the following counts: dorsal fin elements (11), anal fin rays (8), pectoral fin rays (11), pelvic fin elements (8) and lateral line scales (61). The specimen was identified by R. H. Rosenblatt as *Synodus lacertinus* Gilbert, 1890 (Figure 1). The calico lizardfish has also been referred to as the sauro lizardfish (Cruz-Aguero et al. 1994, Bussing and Lavenberg 1995), the banded lizardfish (Grove and Lavenberg 1997), and the reef lizardfish (Allen and Robertson 1994).

The previous published geographic range of this species was from Bahía Magdalena, Baja California Sur, Mexico (Cruz-Aguero et al. 1994; Love et al. 1996¹) and the Gulf of California to Peru, including the Cocos and the Galapagos Islands (Bussing and Lavenberg 1995; Grove and Lavenberg 1997). Unpublished occurrences of this species farther north than Bahía Magdalena include a specimen collected in February 1964 at San Pablo Point (latitude 27°13.0' N; SIO 64-68) and a photo of *S. lacertinus* from Islas San Benito (approx latitude 28° N; R. N. Lea, pers comm.). The capture of *S. lacertinus* near the United States-Mexico

¹ Love, M. S., L. Thorsteinson, C. W. Mecklenburg, and T. A. Mecklenburg. 1996. A checklist of marine and estuarine fishes of the North East Pacific, from Alaska to Baja California. National Biological Service. Located at website <http://id-www.ucsd.edu/lovelab/home.html>



Fig. 1. Calico lizardfish (*Synodus lacertinus*), dorsal aspect. Specimen from off Playas de Tijuana 129 mm SL; SIO 99-28. Photo taken by Ron Velarde.

boundary represents a range extension of greater than 500 km from these locations off central Baja California, Mexico.

Characteristics of *Synodus lacertinus* that distinguish it from other eastern Pacific synodontids include most notably five broad dark bars across the dorsum (Grove and Lavenberg 1997). These dark bars make *S. lacertinus* quite distinct from *S. lucioceps*, which is the only lizardfish commonly found in the SCB. Other diagnostic characters include an upper jaw larger than lower jaw, short snout (especially compared to *S. lucioceps*), dorsal and caudal fins with a series of oblique stripes, and a wide head (as broad as long) (Allen and Robertson 1994; Bussing and Lavenberg 1995; Grove and Lavenberg 1997). *Synodus lucioceps* is also quite distinct from *S. lacertinus* in that it has a diagnostic yellow coloration on its gill membranes and pelvic fins. The other Eastern Pacific *Synodus*, *S. evermanni*, *S. scituliceps*, and *S. sechurae* (as well as *S. lucioceps*) all have fairly dull coloration in comparison to *S. lacertinus*. In addition to differences in coloration, these species have different meristics (see Allen and Robertson 1994; Bussing and Lavenberg 1995; Grove and Lavenberg 1997).

The appearance of *Synodus lacertinus* in the Southern California Bight may be related to the physical oceanographic conditions associated with the 1997–1998 El Niño. This was just one of many tropical species collected for the first time in the Bight after the warm water intrusion that was first detected in July and August 1997 (Lea and Rosenblatt 2000). Our fish may have come into the area with the warm water mass that moved up from the south. Although the size of this specimen, at 145 mm TL, was very close to its known maximum length of 160 mm TL (Allen and Robertson 1994), it is possible that the fish either moved into the area with this El Niño event as an adult, or with a previous event as a larvae or juvenile.

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