



Edwardsiid sea anemones of California (Cnidaria: Actiniaria: Edwardsiidae), with descriptions of eight new species

MARYMEGAN DALY¹ & JOHN C. LJUBENKOV²

¹Dept. Evolution, Ecology & Organismal Biology, The Ohio State University, Columbus OH 43210. E-mail: daly.66@osu.edu

²Dancing Coyote Ranch Environmental, P.O. Box 781, Pauma Valley, CA 92061. Email: ljubenko@pacbell.net.

Abstract

Edwardsiid anemones are common elements of the benthic marine infauna. The group is best known and most species-rich in the North Atlantic. The Pacific fauna is poorly known, with only one species, *Edwardsia californica* McMurrich, 1913, described from the eastern Pacific Ocean. We describe eight new species collected from sediment in California: *Edwardsia handi* sp. nov., *Edwardsia juliae* sp. nov., *Edwardsia mcmurrichi* sp. nov., *Edwardsia olguini* sp. nov., *Edwardsia profunda* sp. nov., *Paraedwardsia heia* sp. nov., *Scolanthus scamiti* sp. nov., and *Scolanthus triangulus* sp. nov. To differentiate the species and address some taxonomic confusion, we redescribe *E. californica* and provide a key to the species.

Key Words: *Edwardsia*, *Scolanthus*, *Paraedwardsia*, coelenterates, burrowing, taxonomy

Introduction

Edwardsia de Quatrefages, 1842 is currently the most species-rich actiniarian genus (Fautin 2007). Its members are found in all soft-bottomed marine habitats, from intertidal mud flats and coral reefs to polar oceans and the deep sea (e.g., Moseley 1877; Carlgren 1921, 1931; Manuel 1977; Williams 1981; England 1987). The majority of the 56 currently valid species are from the Atlantic Ocean, with only 15 previously described or reported from the Pacific. Because most experts on sea anemones and many of the dredging expeditions that collected edwardsiid anemones concentrated on the Atlantic and Arctic Oceans (e.g., Danielssen 1890; Carlgren 1921, 1942), this geographic bias likely reflects collection effort rather than biogeography. In fact, intensive collecting efforts in regions that had been species-poor have revealed multiple species of *Edwardsia* and its allied genera (e.g., Stimpson 1856; Annandale 1915; England 1987).

Long-term environmental monitoring studies of the coast of California provide a recent example of such a regionally-focused exploration of the benthos. We examined sea anemones from benthic surveys spanning 1975–2005, and found six species of *Edwardsia* (five of which are new), and three new species belonging to other genera in Edwardsiidae, one of *Paraedwardsia* Carlgren in Nordgaard, 1905, and two of *Scolanthus* Gosse, 1853 (Fig. 1).

These nine species of Edwardsiidae are diverse in bathymetric range, size, and morphology. We found *Edwardsia californica*, the only species of Edwardsiidae previously recorded from California, in sympatry with *Scolanthus scamiti* in shallow bays in southern California. All specimens of *E. handi* were collected intertidally in Morro Bay. Three of the eight new species, *E. juliae*, *E. olguini*, and *S. triangulus*, were found in samples taken from the shelf at depths between 10 and 200 m. In contrast, *E. mcmurrichi*, *E. profunda*, and *P. heia* were found only at depths greater than 300 m, with most samples coming from depths in excess of 1000 m.