



<http://dx.doi.org/10.11646/zootaxa.3700.4.5>

<http://zoobank.org/urn:lsid:zoobank.org:pub:B6C466E2-C47B-437C-90E5-AB2091BD7BD8>

Four new species of Haplosclerida (Porifera, Demospongiae) from the Aleutian Islands, Alaska

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Abstract

Four new species of Haplosclerida are described from the Aleutian Islands, Alaska: *Callyspongia mucosa* n.sp., *Cladocroce infundibulum* n. sp., *Cladocroce attu* n. sp. and *Cladocroce kiska* n. sp. The new species are described and compared to congeners of the region. This is the northernmost record of the genus *Callyspongia* and the first record of the subgenus *Callyspongia* from the North Pacific Ocean. To accommodate *Cladocroce kiska* in its genus the definition has to be broadened to allow sigmas.

Key words: Callyspongiidae, Chalinidae, *Callyspongia*, *Cladocroce*, Aleutian Islands, North Pacific, Alaska

Introduction

Many species in the order Haplosclerida only have oxete spicules and the size range of these oxeads is important in identifying species but, skeletal architecture serves in discriminating families and genera. The present paper describes four new species of Haplosclerida from the Aleutian Islands. A list of species currently known from the region is given by Stone *et al.* (2011).

Here we describe one species of *Callyspongia*, the genus characterized according to Desqueyroux-Faundez & Valentine (2002) by a peculiar ectosomal skeleton that is double- or triple-meshed, and by spongin-rich choanosomal fibres that form a rectangular reticulation. The definition of the subgenus *Callyspongia* is given by Desqueyroux-Faundez & Valentine (2002, p.838): “*Callyspongia* with one size of ectosomal mesh. Single ectosomal non-hispid layer. Choanosomal fibres multispicular, non fasciculated, spongin sheath present. Well defined connecting fibres, rectangular mesh without free spicules.” Their figures 1C & D (p.838) and 2A (p.839) correspond nicely to the new species described here.

The remaining three species to be described here were assigned to the genus *Cladocroce* which shows some similarities to *Haliclona* but differs in spicule tracts running independently through the choanosomal reticulation of single spicules and paucispicular tracts. Based on our experience these spicule tracts are visible to the unaided eye, may often be drawn out of the sponge with a forceps, and may attain a length of several centimetres.

These four new species are of sufficient size and form to provide structural habitat to the seafloor that could be used as refuge by juvenile fish and crustaceans. Formal description of these new taxa should facilitate field identification so that their spatial distributions can be more accurately mapped. Areas of high abundance may constitute vulnerable marine ecosystems that deserve special conservation measures.

Methods

Specimens were collected in summer 2012 with a research otter trawl during biennial fish stock assessment surveys conducted by the FV Ocean Explorer in the Aleutian Islands (Fig. 1). Sponges were kept frozen at –10°C until a