



Pinnule-less polyps: a new genus and new species of Indo-Pacific Clavulariidae and validation of the soft coral genus *Acrossota* and the family Acrossotidae (Coelenterata: Octocorallia)

PHILIP ALDERSLADE¹ & CATHERINE S. McFADDEN²

¹Museum and Art Gallery of the Northern Territory, GPO Box 4646, Darwin, Northern Territory, 0801, Australia.

²Department of Biology, Harvey Mudd College, Claremont, CA 91711-5990, USA.

Abstract

Clavularia amboinensis Burchardt, a species described as possessing simple, pinnule-less tentacles (a fact refuted by later authors) is confirmed to be as described and is transferred as a new combination to *Acrossota* Bourne — a genus dismissed until now by a number of authors. The species is compared to recently collected material with live photographs. A second new genus and species, *Knopia octocontacanal*, is also described. This taxon resembles *Acrossota* in general form, but has tentacles where the pinnules appear as though they are fused side to side along the tentacles' lateral margins. Preliminary phylogenetic analyses of two mitochondrial genes support placement of *Knopia* in Clavulariidae and retention of genus *Acrossota* in Bourne's unrecognised family Acrossotidae.

Key words: Cnidaria, Octocorallia, Clavulariidae, Acrossotidae, *Clavularia amboinensis*, *Knopia*, new genus, new species, Indonesia

Introduction

There are three instances in the literature where authors have claimed that the new octocoral taxa they were describing had polyps with tentacles that lacked pinnules. The first, proposed by Burchardt (1902: 657), was the stoloniferous *Clavularia amboinensis*. Not long after, Kuekenenthal (1906: 11), and later Molander (1921: 3–5) and Thomson and Dean (1931: 20) listed the taxon as a species of the genus *Anthelia*. All three authors were clearly not interpreting *Anthelia* as it is known today, especially considering *C. amboinensis* was reported to have retractile polyps (although Molander seemed to have missed this character), (*Anthelia* has non-retractile polyps arising from a basal membrane and has rod-like sclerites with a crystalline surface structure [Alderslade, 2001: 60–61]). Surprisingly, Utinomi (1951: 195) also agreed with these latter authors' classification, even though he clearly knew more about the true characters of *Anthelia*, having described *A. formosana* the previous year.

The second species, described by Bourne (1914), was *Acrossota liposclera*. Apparently unaware of Burchardt's paper, Bourne stated that this was the first taxon to be discovered in which the tentacles lacked pinnules, and proposed the new family Acrossotidae to incorporate the new genus and species. Thomson and Dean (1931: 11) stated that they thought Bourne's species was identical to that of Burchardt, and Gohar (1940: 5) commented that the establishment of *Acrossota* and the Acrossotidae involved “much risk”. Gohar based this on his opinion that Bourne's single specimen was contracted and badly preserved, and that pinnules were “an unstable character”. He cited several xeniid species that he had shown were “capable of contraction