



GARY C. WILLIAMS

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Curriculum Vitae

Education: B.A., University of California, Berkeley (1972); M.A., San Francisco State University (1975); Ph.D., University of Cape Town (1987).

Positions Held: Curator of Coelenterates, South African Museum (1983-89). Chairman, Department of Marine Biology, South African Museum (1987-89). Scientific Editor, *Sagittarius*, Natural History Magazine of the South African Museum (1986-89). Research Associate, California Academy of Sciences (1987-90). Post-Doctoral Fellow (1990-91). Assistant Curator (1991-94). Associate Curator (1994-97). Curator (1997-present). Chairman, Department of Invertebrate Zoology and Geology (1995-98; 2004-2009). Associate Editor, CAS Scientific Publications (2002-present). Chair, California Academy of Sciences Diving Control Board (2004-present).

Scientific Societies: Fellow, Linnean Society of London; California Academy of Sciences. Member, American Association for the Advancement of Science.

Research Statement

A broad interest in natural history developed during childhood, in a relatively uncrowded San Francisco Bay Area - before the enormous influx of human population that extinguished much of the open space and altered the regional biodiversity forever. An early interest in marine life was influenced by two enthusiastic marine biologists - Dr. Gordon Chan (College of Marin Biology Instructor) and Dusty Chivers (Senior Curatorial Assistant in the Academy's Department of Invertebrate Zoology).

My research interests include the systematics and evolutionary biology of soft corals, gorgonians, and pennatulaceans, as well as the history of research and exploration.

Octocorallian coelenterates include some of the most beautiful and morphologically diverse animals in the world's oceans - these are the soft corals, sea fans, and sea pens. They are a group of corals characterized by having eight feathery tentacles surrounding the mouth of each polyp. Due to a paucity of good characters and the great phenotypic variability of species, octocoral systematics has traditionally been difficult and disputatious - partly explaining why there is a corresponding paucity of octocoral systematists! Other factors that make the field

challenging include the extreme difference in appearance between live and preserved material, and the poor attention to detail in much of the older descriptive literature.

My field research program is currently focused on two bathymetrically opposite regions of the world's oceans: coral reefs of the tropical western Pacific (the Philippines, Melanesia, and Micronesia), and the deep-sea benthos (particularly the west coast of North America). Other research interests have taken me to the Galapagos Islands, Patagonia, the Gulf of Guinea, Southern Africa, the Russian Far East, and subantarctic islands. Scuba diving is essential to my coral reef research since the highest diversity of octocorals is found between 5 and 35 meters in depth, while ROV's (Remote Operational Vehicles) are increasingly important in deep-sea research.

Links

[Website: Octocoral Research Center or Octocoral Home Page](#)

[Darwin Lecture Video:](#)

[http://fora.tv/2009/02/17/Gary Williams Darwin in Southern South America#%20](http://fora.tv/2009/02/17/Gary_Williams_Darwin_in_Southern_South_America#%20)

[San Francisco State University Research Professor: <http://biology.sfsu.edu/content/cas-research-professors>](#)

Selected Publications

Williams, G.C. 1993. *Coral Reef Octocorals - An Illustrated Guide to the Soft corals, Sea Fans and Sea Pens inhabiting the Coral Reefs of Northern Natal*. Durban: Durban Natural Science Museum, 64 pp.

Williams, G.C. 1995. Living genera of sea pens (Coelenterata: Octocorallia: Pennatulacea): illustrated key and synopses. *Zoological Journal of the Linnean Society* 113: 93-140.

Gosliner T. M., D.W. Behrens, and G. C. Williams. 1996. *Coral Reef Animals of the Indo-Pacific - Animal Life from Africa to Hawai'i Exclusive of the Invertebrates*. Monterey: Sea Challengers, 314 pp.

Williams, G.C. 1997. Preliminary assessment of the phylogenetics of pennatulacean octocorals, with a reevaluation of Ediacaran frond-like fossils, and a synthesis of the history of evolutionary thought regarding the sea pens. *Proceedings of the Sixth International Conference of Coelenterate Biology*: 497-509.

Williams, G.C. 1999. Index Pennatulacea: Annotated Bibliography and Indexes of the Sea Pens (Coelenterata: Octocorallia) of the World 1469 - 1999. *Proceedings of the California Academy of Sciences* 51 (2): 19-103.

Williams, G.C. 2001. First record of a bioluminescent soft coral: description of a disjunct population of *Eleutherobia grayi* (Thomson and Dean, 1921) from the Solomon Islands, with a review of bioluminescence in the Octocorallia. *Proceedings of the California Academy of Sciences* 52 (17): 209-255.

Williams, G.C. and O. Breedy. 2004. The Panamic Gorgonian Genus *Pacifigorgia* (Octocorallia: Gorgoniidae) in the Galapagos Archipelago, with Descriptions of Three New Species. *Proceedings of the California Academy of Sciences* 55 (3): 55-88.

Williams, G.C. 2007. History of Invertebrate Zoology at the California Academy of Sciences. *Proceedings of the California Academy of Sciences* 58(12): 197-239.

Williams, G.C. 2008. William Dampier - Science, Exploration, and Literary Influence Including his Hydrographic Treatise of 1699. *Proceedings of the California Academy of Sciences* 59(14): 533-663.

Williams, G.C. and P. Alderslade. 2011. Three new species of pennatulacean octocorals with the ability to attach to rocky substrata (Cnidaria: Anthozoa: Pennatulacea). *Zootaxa* 3001: 33-48.

Williams, G.C. 2011. Global diversity of sea pens (Cnidaria: Octocorallia: Pennatulacea). *PLoS ONE* 6(7): 1-11.

Williams, G.C. and J-Y Chen. 2012. Resurrection of the octocorallian genus *Antillogorgia* for Caribbean species previously assigned to *Pseudopterogorgia*, and a taxonomic assessment of the relationship of these genera with *Leptogorgia* (Cnidaria, Anthozoa, Gorgoniidae). *Zootaxa* 3505: 39-52.

Williams, G.C. 2013. New taxa and revisionary systematics of alcyonacean octocorals from the Pacific coast of North America (Cnidaria: Anthozoa). *ZooKeys* 283: 15-52.

Williams, G.C., B. Hoeksema, and L. van Ofwegen. 2013. A fifth morphological polyp in pennatulacean octocorals, with a review of polyp polymorphism in the genera *Pennatula* and *Pteroeides* (Anthozoa: Pennatulacea). *Zoological Studies* 51(7):1006-1017.

Williams, G.C. and J.-Y. Chen. 2014. Illustrated key to the shallow-water gorgonians and pennatulaceans of the Verde Island Passage, northern Philippines, including, including synopses of the taxa and a glossary of terms (Cnidaria: Anthozoa: Octocorallia), pp. 67-128. The Hearst Philippine Biodiversity Expedition 2011. Special Publication of the California Academy of Sciences, 592 pp.

Williams, G.C. and T.M. Gosliner (editors). 2014. The Coral Triangle – The Hearst Philippine Biodiversity Expedition 2011. Special Publication of the California Academy of Sciences, 592 pp.

Further Information

Octocoral Research Center:

http://researcharchive.calacademy.org/research/izg/orc_home.html