

Supplementary material

***Astrocoryne cabela*, gen. nov. et sp. nov. (Hydrozoa : Sphaerocorynidae), a new sponge-associated hydrozoan**

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Table S1. Main diagnostic characters, ecological traits and references for all sphaerocorynid species

Species	<i>Sphaerocoryne agassizii</i>	<i>Sphaerocoryne bedoti</i>	<i>Sphaerocoryne coccometra</i>
Hydranth			
Tentacles	capitate; 15-30+, scattered in the proximal third of hydranths	capitate; 15-70, in 2-6 whorls in the middle of hydranths , sometime grouped in longitudinal rows	unknown
Medusa buds	in small clusters of 2-4; among or below tentacles	in 5-12 clusters of 10+; above (sometime among) tentacles	unknown
Medusa			
Tentacles	2 at release; then 4	absent at release, then 4 equally developed	4
Nematocysts on tentacles	terminal capitation; clusters dispersed on tentacles	terminal capitation; aggregated in bands around tentacles	terminal capitation; clusters forming rings around tentacles
Nematocysts on exumbrella	eight exumbrellar tracks	scattered	unknown
Ocelli	present before or shortly after release; 4	not present at release; 4 in adult medusae	4
Ecology			
Level of integration with hosts	hydrorhiza and part of hydrocaulus immersed in sponge tissues	hydrorhiza and part of hydrocaulus immersed in sponge tissues	unknown
Hosts	<i>Cliona</i> sp., <i>Haliclona cinerea</i> , <i>Clathria prolifera</i> , <i>Lissodendoryx isodictyalis</i> , <i>Halichondria bowerbanki</i> ; <i>Crassostrea virginica</i> (Bivalvia)	<i>Halichondria</i> or <i>Halichlona</i> , <i>Tedania</i> sp., <i>Aplysina cauliformis</i> , <i>Callyspongia vaginalis</i> ; serpulid tubes; <i>Lytocarpia flexuosa</i> (Hydrozoa); <i>Pavona</i> sp. (Scleractinia); coral rubble	unknown
Distribution	- Atlantic Ocean: Florida, Massachussets, New York, North Carolina, South Carolina, Virginia. - Pacific Ocean: Ecuador, Panama	- Atlantic Ocean: Belize, Bermuda, Brazil, Colombia, Cuba, Guadeloupe, Panama, Puerto Rico. - Pacific Ocean: Australia, California, Colombia, Ecuador, Galapagos, Hawaii, Indonesia, Japan, Mexico, Panama. - Indian Ocean: India, Madagascar, Maldives, Mozambique, South Africa, Yemen. - Mediterranean Sea: Lebanon	- Pacific Ocean: Chile, Colombia, Costa Rica, Ecuador, Mexico
References	1-7	4, 6-34	35-43

<i>Sphaerocoryne peterseni</i>	<i>Sphaerocoryne arcuata</i> *	<i>Heterocoryne caribbensis</i>	<i>Astrocorone cabela</i>
unknown	unknown	capitate; 4-7 in a distal whorl; 8-12 in a proximal whorl, each one partially fused with other 2 tentacles	dicapitate; 8-10 in 1-2 whorls
unknown	unknown	among distal tentacles	among tentacles, single or in couple on blastostyles
4 terminal capitation; about 16 adaxial clusters	?4 terminal capitation; clusters alternate in two rows, smaller and more numerous than in <i>S. agassizii</i>	not present (medusoid) /	absent at release; 2 shortly after liberation terminal capitation
irregularly distributed small clusters not present at release; 4 in adult medusae	scattered unknown	absent absent	scattered not present at release
unknown	unknown	hydrorhiza and basal part of polyps immersed in sponge tissues; the sponge envelops the stalk of the polyp forming a cone-shaped cover	hydrorhiza immersed in sponge tissues
unknown	unknown	<i>Mycale</i> sp.	<i>Clathria</i> sp., <i>Haliclona</i> sp., unidentified barrel sponge
Pacific Ocean: Papua New Guinea	- Atlantic Ocean: Brazil	- Atlantic Ocean: Guadeloupe, Martinique, Puerto Rico, US Virgin Island,	- Indian Ocean: Maldives. - Red Sea: Saudi Arabia
44	45	20, 46	this study

* = doubtful status

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