



Sp #: 667

DEMOSPONGIAE: HALICHONDRIDA: AXINELLIDAE

Pipestela candelabra Alvarez, Hooper & Van Soest, 2008

[JH Sp 667, 960, 1638, 1659, 2136 & 2613 [figured: Readers Digest GBR handbook (Talbot ed) p. 159, top figure; Colin & Arneson (1995) figs 90 & 92]

DESCRIPTION. *Morphology.* Erect, 15–40 cm tall on solid stalk of variable length and diameter. Growth form is arborescent, with cylindrical branches, lobes, hollow digits or tubes, 0.5–3 cm in diameter, with walls of 3–5 mm thick, with or without bulbous swellings along longitudinal length; sometimes fused together into a lamellar mass (Fig. 1A–D).

Colour. Orange, yellow or tan alive, yellow-beige in ethanol.

Oscula. Apical, single, large, conspicuous, on ends of tubes and on side or tips of branches, 3–5 mm diameter, sometimes covered with thin membrane

Texture. Flexible, moderately soft, velvety, rubbery, tough, not easily torn, can be sticky

Surface ornamentation. Optically smooth, fleshy. Slightly translucent, membranous with subdermal drainage channels

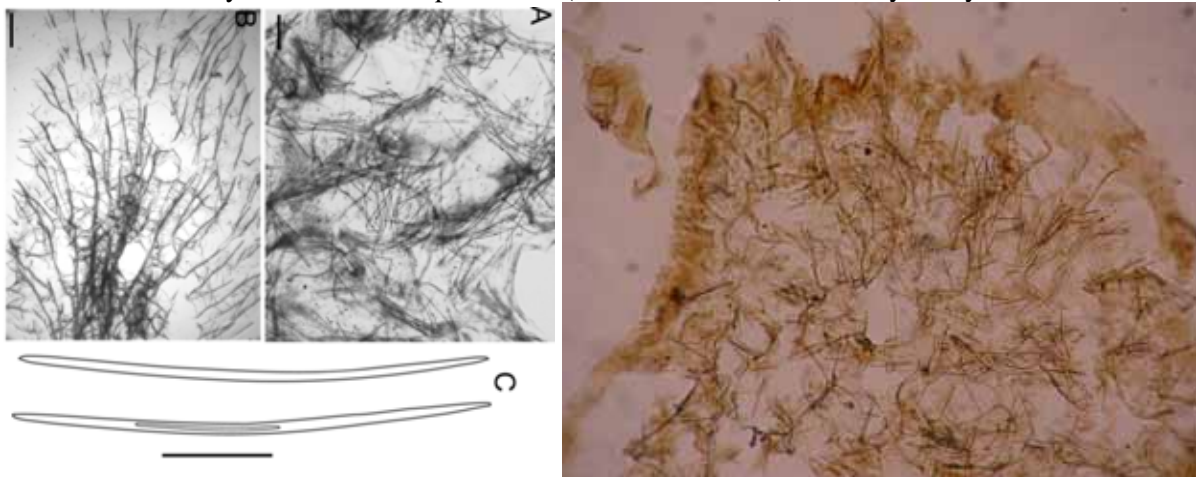
Ectosomal skeleton. Not specialised, membranous, pierced by choanosomal skeletal fibres.

Choanosomal skeleton. Slightly compressed near the axis of tubes; compressed at the stalk; with ascending and sinuous, plumose- pauci-multispicular ill-defined fibres, cored by oxeas (not occupying all of fibre diameter). Fibres either anastomosing or connected by single spicules or paucispicular short fibres at more or less regular intervals. Near-surface fibres become wispy. Interstitial free spicules abundant. Moderately heavy collagen present in mesohyl (Fig. 2A–B).

Spicules. Oxeas or strongyloxeas, thin (164–352 μm x 2–6 μm); some almost vestigial, curved, slightly bent, or sinuous, in a single size category (Table 1); with axial channel occupying 10–90% of the total length frequently visible. Tips of oxeas are hastate, fusiform, or evenly rounded (Fig. 2C). Less frequent styles present in some specimens in the same size range. No microscleres

HABITAT. The species is generally found growing on slopes, walls, overhangs or caves of coral reefs in clear water (10–30 m visibility), between 4.5–50 m deep.

DISTRIBUTION. Papua New Guinea, Solomon Islands, Vanuatu, Coral Sea Territories and Great Barrier Reef, Australia (Fig. 3). This species is one of the most widely distributed sponges along the length and breadth of the GBR, from the coast to the outer barrier reefs, from near Torres Strait to the southern most reefs of the GBR. It is relatively common in some areas but mostly restricted to deeper waters (15–20 m on reefs), and only rarely above about 10 m depth.



Accession number	Locality	Longitude	Latitude	Elevation lower	Macrohabitat
G300293	Nomad Reef, W side of, near Mason I., Cockburn Is,	143.3166667	-12.08333333	-11	coral reef, bommies, sand at 17m, video record, 12m visible
G300636	NE Ko Phraya Nak, S island of Phi Phi Gp, E Phuket	98.7666667	7.683333333	-27	5m from sheer limestone cliff face, rising above sea level
G303078	NE Cape Grenville, Shelburne Bay CSIRO stn.26	143.0672222	-11.50166667	-26	coral reef
G303845	S Triangle Reef, Hook Reef, Whitsunday region, GBR	149.1169444	-19.81722222	-21	coral reef 6-9m depth, gulleys, sharp drop-off to 22m depth
G303891	E Triangle Reef, Hook Reef, Whitsunday region, GBR	149.1013889	-19.81694444	-31	sheer cliff to 35m depth, large caves near base, sand at base
G304178	Granite Bluff, Lizard I, S headland of Mermaid Cove	145.45	-14.65	-18	fringing coral reef, extensive platform, sand base
G304310	N. tip of Day Reef, Cormorant Pass Section, GBR	145.5172222	-14.46777778	-25	barrier coral reef, drop off near outer barrier, sheer coral slope
G304413	Blue Lagoon, Lizard I., Pinnacle, bommie on E. side	145.4522222	-14.7	-15	patch coral reef, sand/rubble at base
G304797	N side of Coral Sea atoll 90mls SW of Port Moresby	145.6525	-10.00194444	-20	coral reef wall, rock
G305136	S side South Direction I., GBR	145.5191667	-14.81916667	-15	fringing coral reef, sand silt at base
G305503	Price Cay, SE side, outer reef slope, Swain Reefs	152.4502778	-21.78472222	-30	outer reef slope, coral terraces, sand base
G305547	Price Cay, SE back reef, Swain Reefs	152.4511111	-21.78472222	-30	outer reef slope, sand and bommies at 30m, coral slope
G305600	Frigate Cay NE. point, Swain Reefs	152.4172222	-21.73472222	-32	bommies, gorgonians, sand base to 60m, coral slope to surface
G306611	West Islet, Wreck Reef	155.1911111	-22.17972222	-30	gulleys, bommies, sand bottom
G306899	Malekula Maskelyne	167.8168335	-16.50083351	-50	coral reefs
G307184	Wistari Channel, bouy no.2-3, Heron I	151.9019444	-23.45138889	-25	E. edge Wistari Rf, coral reef slope, sand base
G307221	Sykes Reef, Capricorn-Bunker Gp, GBR	152.0505556	-23.41888889	-25	patch reef to 30m, gentle slope, sand gullies
G307222	Sykes Reef, Capricorn-Bunker Gp, GBR	152.0505556	-23.41888889	-25	patch reef to 30m, gentle slope, sand gullies
G307281	Snow's Point, S. side Heron I., Capricorn-Bunker	151.9341667	-23.46694444	-25	fringing reef in channel, small bommies, sand
G307498	N. side Polmaise Reef, Capricorn-Bunker Gp, GBR	151.6525	-23.55083333	-12	fringing coral reef, back reef slope, good coral
G307600	Patches, Heron I-Wistari Channel, Capricorn-Bunker	151.885	-23.43472222	-20	coral rubble slope to 35m, sand base, plate coral reef and bommies
G307657	W of Boulder Tract, W side Low Isles Sand Cay	145.5505556	-16.38416667	-9	back reef slope, broken coral reef, bommies, very silty
G307714	SE of Wooded Islet, Low Isles, fore reef	145.5669444	-16.38555556	-15	fore reef slope, good coral cover, gullies, small bommies
G312883	Round Hill Barrier Reef, SE. of Motupore I.	147.4691667	-9.950277778	-39	E. outer sunken barrier reef, 40nmls. SE. of Port Moresby,
G312928	12 mile sandbank, Kupiano, SE. Papuan Lagoon	148.1688889	-10.18416667	-20	fringing coral reef, dirty water, silty mud, abundant raspails
G312951	Keppel Point, Hood Bay, SE. Papuan Lagoon	147.9025	-10.13555556	-35	back reef lagoon, fringing coral reef, heavily silted, large coral
G314073	Lady Musgrave Island, N.E. edge of reef, outer reef	152.4266667	-23.88861111	-21	sand and bommies
G314345	Curacao Island on west side, Palm Islands Group	146.5436707	-18.68041611	-30	sloping bottom, silty into sponges to hard corals then soft coral
G314448	Davies Reef	147.6260223	-18.82591629	-24	gulleys, spur and groove
G314550	Stanley Reef on SW corner	148.0426636	-19.31383324	-30	coral slope to 30 then wall to about 40m
G314664	South Percy Island	150.3194885	-21.73626709	-4.5	fringing coral reef, much Sargassum sp
G314807	Alcyonarian Point, Hook Island, Whitsunday Grp	149.9234619	-20.06553268	-15	many coral bommies caves and overhangs, silty numerous
G314912	Cateran Bay, Border Island, Whitsunday Grp	149.0423279	-20.15258408	-30	fringing coral reef
G314939	Martin Islet off Haslewood Island, Whitsunday Grp	149.074173	-20.2889328	-25.8	steeply sloping fringing reef to sandy bottom
G314985	Channel between Hook and Hardy Reefs	149.1792145	-19.7538166	-26.7	steeply sloping coral reef
G315282	Round Reef	149.6212616	-19.96073341	-20	back reef
G315320	Edgell Reef	149.9192047	-20.14798355	-18	back reef
G315366	Stevens Reef, GBR	150.1072235	-20.5427494	-30	back reef
G315439	Chauvel Reef, GBR	150.335495	-20.82564926	-19	back reef, many sponges, sand, bommies and coral patches
G315481	Unnamed reef on inner side of "Pompey Reefs "	151.1632538	-21.49563408	-26.2	back reef
G315604	Coral Gardens, Heron I., Capricorn-Bunker Gp, GBR	151.9	-23.45	-10	coral reef
G317433	Suprise Reef, Swain Reefs	152.3451843	-21.98578262	-30	coral reef with small bommies
G317626	Reef 21-490, Swain Reefs	152.3698883	-21.60511589	-17	back reef
G317734	Star Reef, Swain Reefs	152.4356232	-21.5	-30	outer reef slope
G317782	Reef 21-484, Swain Reefs	152.3802795	-21.57678413	-30	vertical drop-off
G317822	Capricorn Reef, Swains Reef	152.1806335	-21.76221657	-14	back reef
G318035	Prong No.2 Reef, northern Swain Reefs	151.7422222	-21.70583333	-10.4	small bommies and patches of Acropora
G318081	Rene's Nook, T Line Reefs	151.524826	-21.29933357	-28	coral reef
G318224	Reef 21-097, inside Hard Line Reefs	151.480835	-21.04016685	-24	steep back reef sloping to sand, very strong surface currents
G318250	inside Hard Line Reefs	151.3013306	-20.96249962	-30	back reef slope with outcrops
G318313	inside Hard Line Reefs	151.1623383	-20.83550072	-23.6	sloping reef with outcrops
G318376	Pompey Reefs -	151.1952778	-21.2125	-21.8	flat, sandy with many small outcrops
G319054	NW corner of Harrier Reef	145.6882324	-15.13661671	-22	wall plateauing off at > 25m, overhangs and caves, much
G319070	Northern side Ribbon Reef No7	145.729126	-15.13606644	-29	channel wall sheer to > 30m, overhangs and caves deeper
G319151	SW side of Undine Reef, SE of Cape Tribulation	145.6436768	-16.10923386	-16	bommies, gorgonians and soft coral gardens

G319560	SE corner of Arlington Reef NE of Cape Grafton	146.1140442	-16.73184967	-22	coral reef
G319811	Bellona	158.9553833	-21.44188309	-33	
G320004	Between Barren and Child Islands, Keppel Islands	151.0705556	-23.15916667	-17.6	walls and large rocks
G320029	Between Barren and Child Islands, Keppel Islands	151.0705556	-23.15916667	-17.6	walls and large rocks
G320057	SE side, Outer Rock, Keppel Islands	150.9527778	-23.06638889	-15.8	shallow fringing reef, bommies deeper
G320114	Man and Wife Island, Keppel Islands	150.9908333	-23.11805556	-17.4	fringing reef with rubble and small bommies at base
G320362	Jewell Reef, Coral Sea, N of Cape Flattery	145.3569489	-14.4331665	-15	back reef wall inside passage, rubble at base
G320491	"The Gut" Rodder Reef, Coral Sea	144.3535767	-13.91311646	-25	front reef, wall to 25m, channel between reefs
G320579	Wilson Reef, Coral Sea	144.2265015	-13.67263031	-36	north side of reef, drift dive, steep wall from >50m, broken
G320597	Wilson Reef, Coral Sea	144.2265015	-13.67263031	-36	north side of reef, steep wall from >50m, broken bommies
G320790	Houghton Reef, Howick Grp	144.9815216	-14.51983356	-20	channel between 2 islands, muddy sand, bommies, fringing
Z2739	Myrmidon Reef, Great Barrier Reef	147.3833333	-18.16666667	-15	Coral reef
Z3366	50m from shore, west side of Barrow Island, Cape Poivre	115.325	-20.80166667	-25	#####
Z3648	NE side of Ko Phraya Nak, southern island of Phi Phi Group, E of Phuket I, Andaman Sea	98.77305556	7.68666667	-27	5m from sheer limestone cliff face, rising above sea level
Z4033	W side of Nomad Reef, near Mason I., Cockburn Is, Cape York region, Great Barrier Reef	143.3133333	-12.07666667	-17	coral reef, bommies, sand at 17m, video record, 12m visib
Z4042	S side of Blanchard Reef, Cairns region, Great Barrier Reef	143.7397222	-13.38972222	-14	coral reef, silt, poor visibility, video record, RV "Akadem
Z4046	N side of Howick I., Howick Group, Cairns region, Great Barrier Reef	144.9755556	-14.4925	-20	shallow coral platform, sand to 15m, seagrass beds to 20m
Z4062	Blue Lagoon, Lizard I., Cairns region, Great Barrier Reef	145.45	-14.66666667	-15	coral reef, sand at base, large bommies, 8m visibility, vide

