

NOTES ON TASMANIAN HYDROZOA.

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With Plates X - XI.

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I. Introduction.

During a recent Easter encampment of the Tasmanian Field Naturalists' Club, several successful hauls of the dredge were made in the neighbourhood of Freycinet Peninsula, on the eastern coast of Tasmania. By permission of the Trustees of the Australian Museum I was enabled to accompany the party officially, and I obtained a large collection which includes numerous representatives of several invertebrate groups. In company with Professor T. T. Flynn, another day was spent collecting in the D'Entrecasteaux Channel where additional material was secured.

Owing to the generosity of the authorities of the Tasmanian Museum, I have also been enabled to examine the Hydroid collection under their charge which includes a considerable number of local species.

The Hydroids dealt with in the present paper were collected at four definite areas—within Thouin or Wineglass Bay, Freycinet Peninsula, 11 fathoms; off Thouin Bay, 80 fathoms; Storm Bay; and D'Entrecasteaux Channel, 2 to 11 fathoms. The following notes refer to the family *Plumularidæ*, which is represented by fourteen species,

eight of which are here recorded for the first time from the eastern coast of Tasmania. The occurrence among the specimens of *Aglaophenia armata*, and *Aglaophenia tenuissima* is of interest since these species have only within the last month been described by Mr. W. M. Bale from Queensland and the Great Australian Bight respectively. In addition, the collection includes *Nemertesia ciliata*, Bale, recently described from Oyster Bay, Tasmania.

List of Species.

Phylum COELENTERATA.

Class HYDROZOA.

Order CALYPTOBLASTEAE.

Family Plumularidæ.

- **Plumularia buskii*, Bale.
- * ,, *procumbens*, Spencer.
- * ,, *sulcata*, Lamarck.
- Nemertesia ciliata*, Bale.
- **Kirchenpaueria mirabilis* (Allman).
- Halicornopsis elegans* (Lamarck).
- Halicornaria furcata*, Bale, var. *intermedia*, Bale.
- * ,, *longirostris* (Kirchenpauer).
- * ,, *superba* (Bale).
- **Aglaophenia armata*, Bale.
- ,, *decumbens*, Bale.
- ,, *divaricata* (Busk).
- ,, *tasmanica*, Bale.
- * ,, *tenuissima*, Bale.

II. Description of the Species.

Order CALYPTOBLASTEAE.

Family Plumularidæ.

Genus PLUMULARIA, Lamarck.

* Indicates that the species is here recorded for the first time from the eastern coast of Tasmania.

PLUMULARIA BUSKII, Bale.

Plumularia buskii, Bale, Cat. Austr. Hydroid Zoophytes, 1884, p. 125, pl. x, fig. 3, pl. xix, figs. 34, 35; *id.*, Bale, Trans. Roy. Soc. Vict., xxiii, 1886, p. 94; *id.*, Hartlaub, Zool. Jahrb. Syst., xiv, 1901, p. 374, pl. xxii, figs. 22, 32, 36; *id.*, Thorneley, Rep. Ceylon Pearl Oyster Fisheries, pt. 2, Suppl. Rep., viii, Hydroidea, 1904, p. 120; *id.*, Ritchie, Proc. Zool. Soc., 1910, p. 832; *id.*, Bale, Biological Results "Endeavour," ii, i, 1914, p. 28.

Plumularia buski, Billard, Les Hydroides de l' Expedition du Siboga, i, Plumulariidae, 1913, p. 21, pl. i, fig. 15.

Plumularia nuttingi, Billard, Arch. Zool. Exp., (5), viii, 1911, p. lxvi, fig. 8.

I have included in the synonymy of this species the Hydroid, which Hartlaub has recorded from Laysan under the name of *P. buskii*, Bale, although the minute sarcotheca immediately behind the hydrotheca is undoubtedly absent. With regard to the identity of *Plumularia nuttingi*, a further examination of the type specimen in the Siboga collection has convinced Billard that this species is identical with *P. buskii*, Bale.

A few well-preserved colonies, the largest 50 mm. in height, do not differ from others in the Australian Museum from St. Francis Island, South Australia, and from King Island, Bass Strait.

Dimensions.—

Stem internode, length	...	...	0·70 — 0·73 mm.
Stem internode, diameter	...	...	0·29 — 0·33 „
Hydroclade, length	...	...	up to 9 „
Hydroclade, thecate internode, length...	...	...	0·57 — 0·61 „
Hydrotheca, depth	...	...	0·29 — 0·31 „
Hydrotheca, diameter at mouth	...	...	0·26 — 0·28 „

Locality.—D'Entrecasteaux Channel, Tasmania, 2–11 fathoms.

Distribution.—Previously recorded from Griffith Point, Victoria (Bale); Laysan Island, Hawaiian Archipelago (Hartlaub); Gulf of Manaar, Ceylon (Thornely); Flying-Fish Cove, Christmas Island, Indian Ocean (Ritchie); Great Australian Bight, 40–100 fathoms (Bale). Billard records the presence of *P. buskii* at nine stations in the eastern part of the Indian Archipelago (Siboga Expedition).

PLUMULARIA PROCUMBENS, Spencer.

(Plate X, fig. 1.)

Plumularia procumbens, Spencer, Trans. Roy. Soc. Vict., II, 1891, p. 130, pls. xxi–xxiii; *id.*, Bale, Proc. Roy. Soc. Vict., (n.s.), VI, 1893, p. 115, pl. v, figs. 11, 12; *id.*, Bale, Biological Results "Endeavour," II, I, 1914, p. 29.

The specimens of this species in the present collection agree with Spencer's description and with the type in the Australian Museum, except for the presence of a nematophore on some of the short intermediate internodes of the hydrocladia, an arrangement which Bale has described in the case of specimens of *P. procumbens* from Port Phillip and the Great Australian Bight.

Dimensions.—

Hydroclade-bearing internode, length	...	0.61–0.64	mm.
Hydroclade-bearing internode, diameter		0.12–0.14	„
Hydroclade internode, hydrothecate, length		0.29–0.31	„
Hydroclade internode, intermediate, length		0.10–0.12	„
Hydroclade internode, diameter	...	0.03–0.04	„
Hydrotheca, depth		0.05–0.06	„
Hydrotheca, diameter at mouth	...	0.08	„
Supracalycine sarcotheca, length	...	0.07–0.08	„

Locality.—Off Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 80 fathoms.

Distribution.—Previously recorded from Port Phillip, Victoria (Spencer); Great Australian Bight, 40–100 fathoms (Bale).

PLUMULARIA SULCATA, Lamarck.

(Plate XI, fig. 1.)

Plumularia sulcata, Lamarck, Hist. nat. Anim. sans Vertèbres, 1816, p. 128; *id.*, Bale, Cat. Austr. Hydroid Zoophytes, 1884, p. 145; *id.*, Billard, Ann. Sci. Nat., Zool., (9), v, 1907, p. 321; *id.*, Ritchie, Mem. Austr. Mus., iv, 16, 1911, p. 852, pl. lxxxiv, fig. 3, pl. lxxxix, fig. 5; *id.*, Ritchie, Proc. R. Phys. Soc. Edinburgh, xix, 1, 1913, p. 6; *id.*, Bale, Biological Results "Endeavour," II, 4, 1914, p. 172, pl. xxxv, figs. 6, 7.

Plumularia aglaophenoides, Bale, Cat. Austr. Hydroid Zoophytes, 1884, p. 126, pl. x, fig. 6.

Owing to the very imperfect nature of Lamarck's original description of *Plumularia sulcata*, the species was not again identified until his type was recently examined and described in full by Billard. Meanwhile the first detailed description of this species was published by Bale, who described it as new in 1884, under the name of *Plumularia aglaophenoides*, but the examination of the type of *P. sulcata* enabled Billard to recognise its identity with Bale's species. Further details of the specific characters of the species have been added by Ritchie and also by Bale, the latter author describing the gonosome. Previous to the publication of Bale's report on the "Endeavour" Hydroids, the gonosome had not been observed, and it is interesting to note the occurrence among the present specimens of a colony with gonangia. Bale's description reads as follows: "Gonothecæ large, urceolate, slightly narrowed upward and again expanding to the summit, margin circular, oblique, not contracted nor thickened; a stout transverse ridge inside the front a little below the margin; a large operculum the full width of the gonotheca, slightly convex in the middle, situated inside the margin and resting on the internal ridge in front; several large sarcothecæ (often five or six) surrounding the base."

Dimensions.—

Gonosome, length... .. up to 1·6 mm.
 Gonosome, maximum diameter... .. 0·70 – 0·71 „

Locality.—Off Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 80 fathoms.

Distribution.—Previously recorded from Mers australes (Lamarck); Broughton Island, New South Wales, 25 fathoms (Bale); Station 48, off Wollongong, New South Wales, 55 – 56 fathoms (Ritchie); Bass Strait, 40 fathoms; Fifty miles south of Cape Wiles, South Australia, 75 fathoms (Bale).

Genus NEMERTESIA, Lamouroux.

NEMERTESIA CILIATA, Bale.

(Plate X, fig. 3.)

Nemertesia ciliata, Bale, Biological Results "Endeavour," II, 4, 1914, p. 170, pl. xxxvi, fig. 1.

There is a considerable amount of variation in the details of the structure of this species recently described by Bale from Oyster Bay, Tasmania. A single robust colony 213 mm. in height, was dredged in the neighbourhood of the type locality. The stem and main branches are polysiphonic and give off numerous small monosiphonic branchlets. These, as in Bale's specimens, are divided into internodes which support from one up to six or eight whorls of hydrocladia. Each whorl usually consists of three hydrocladia: in a few instances four were observed. There was no trace of gonosome. The colour of the colony is very dark brown. A specimen (locality unknown) in the Tasmanian Museum is similar to the type, being light brown in colour.

Dimensions.—

Hydroclade internode, hydrothecate, length 0·26 – 0·29 mm.
 Hydroclade internode, intermediate, length 0·15 – 0·17 „
 Hydroclade internode, diameter 0·05 – 0·06 „
 Hydrotheca, depth 0·05 „
 Hydrotheca, diameter at mouth 0·05 – 0·06 „

Locality.—Off Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 80 fathoms.

Distribution.—Hitherto recorded only from Oyster Bay, Tasmania, 60 fathoms (Bale).

Genus KIRCHENPAUERIA, Jickeli.

KIRCHENPAUERIA MIRABILIS (Allman).

Diplocheilus mirabilis, Allman, Rep. Sci. Res. "Challenger" Exped., Zool., VII, Hydroida, pt. i, 1883, p. 49, pl. viii, figs. 4–7; *id.*, Stechow, Abh. K. Bayer. Akad. Wissensch., I, Suppl. Bd., 1909, p. 89; *id.*, Ritchie, Mem. Austr. Mus., IV, 16, 1911, p. 854.

Kirchenpaueria mirabilis, Bale, Proc. Roy. Soc. Vict., (n.s.), VI, 1894, p. 109, pl. vi, figs. 4–7; *id.*, Warren, Ann. Natal Govt. Mus., I, 1908, p. 321, fig. 15.

Plumularia mirabilis, Billard, Ann. Sci. Nat., Zool., (n.s.), XI, 1910, p. 37.

Many specimens of this species were obtained, which do not differ in any important particular from the type. The characteristic gonangia are present on several of the colonies.

Dimensions.—

Stem internode, length	...	...	...	0·87–1·13 mm.
Stem internode, diameter	...	...	...	0·17–0·19 „
Hydroclade internode, length	...	...	...	0·59–0·64 „
Hydrotheca, depth	...	...	...	0·28–0·31 „
Hydrotheca, diameter at mouth (side view)	...	...	...	0·28–0·33 „
Gonangium, length	...	...	...	up to 2·5 „
Gonangium, maximum diameter	...	...	...	0·87 „

Localities.—Storm Bay, Tasmania; D'Entrecasteaux Channel, Tasmania, 2–11 fathoms.

Distribution.—Previously recorded from Station 162, off Moncœur Island, Bass Strait, 38–40 fathoms (Allman);

Port Phillip and Griffith Point, Victoria (Bale); Scottburgh, Natal (Warren); Station 44, off Coogee, New South Wales, 49–50 fathoms (Ritchie).

Genus HALICORNOPSIS, Bale.

HALICORNOPSIS ELEGANS (Lamarck).

Plumularia elegans, Lamarck, Hist. Nat. Anim. sans Vertèbres, II, 1816, p. 129.

Aglaophenia elegans, Lamouroux, Hist. Polyp. Cor. Flex., 1816, p. 169; *id.*, Lamouroux, Encyclop. Méth. Zooph., 1824, p. 16.

Aglaophenia avicularis, Kirchenpauer, Abh. Nat. Ver. Hamburg, v, 1872, p. 33, pls. i and iii, fig. 3.

Halicornopsis avicularis, Bale, Journ. Micro. Soc. Vict., II, 1881, p. 26, pl. xiii, fig. 3; *id.*, Bale, Cat. Austr. Hydroid Zoophytes, 1884, p. 185, pl. x, figs. 1, 2, pl. xix, fig. 32; *id.*, Bale, Trans. and Proc. Roy. Soc. Vict., xxiii, 1887, pp. 90, 101; *id.*, Marktanner-Turneretscher, Ann. K. K. Hofmus. Wien, v, 1890, p. 279.

Azygoplone rostratum, Allman, Rep. Sci. Results "Challenger" Exped., Zool., VII, 1883, p. 54, pl. xix, figs. 1–3.

Halicornopsis elegans, Billard, Ann. Sci. Nat., Zool., (9), v, 1907, p. 323; *id.*, Billard, Comp. Rend., cXLVII, 1908, p. 940; *id.*, Billard, Ann. Sci. Nat., Zool., (9), ix, 1909, p. 329; *id.*, Billard, *Ibid.*, (9), xi, 1910, p. 44; *id.*, Ritchie, Mem. Austr. Mus., iv, 16, 1911, p. 855, pl. lxxxix, fig. 1; *id.*, Bale, Biological Results "Endeavour," II, 1, 1914, p. 56; *id.*, Briggs, Rec. Austr. Mus., x, 10, 1914, p. 296.

The colonies belonging to this species are mature, and bear well-developed gonangia, which spring from the bases of the hydrocladia at their junction with the stem. They are somewhat irregularly ovate bodies, thick-walled, without operculum or orifice, and are turned alternately to right and left, forming a row along the front of the stem. Here and there the gonangia have become detached leaving

only a shallow basin-shaped portion of the base, and Bale suggests that "it would seem probable therefore that the opening so formed may be the normal channel of exit of the contents."

Dimensions.—

mm.

Hydroclade-bearing internode (single one) length	0.61 – 0.73
Hydroclade-bearing internode (double one) length	0.97 – 1.38
Hydroclade-bearing internode, diameter	... 0.28 – 0.36
Hydroclade internode, length	... 0.42 – 0.45
Hydroclade internode, diameter	... 0.12 – 0.17
Hydrotheca, depth	... 0.29 – 0.31
Hydrotheca, diameter at mouth (lateral aspect)	0.26 – 0.28
Hydrotheca, diameter at mouth (frontal aspect)	0.36 – 0.40
Gonangium, length	... 1.31
Gonangium, greatest diameter	... 0.73 – 0.80

Localities.—D'Entrecasteaux Channel, Tasmania, 2 – 11 fathoms; Within Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 11 fathoms; Off Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 80 fathoms.

Distribution.—Previously recorded from Indian Ocean (Lamouroux); Hobart, Tasmania; Bass Strait (Kirchenpauer); Griffith Point, Portland, Queenscliff, Victoria (Bale); Station 161, off Port Phillip, Victoria, 38 fathoms (Allman); Victorian Coast (Marktanner-Turneretscher); Station 36, off Botany Bay, 23 – 20 fathoms; Station 48, off Wollongong, New South Wales, 55 – 56 fathoms (Ritchie); Great Australian Bight, 40 – 100 fathoms (Bale); Seven miles east of Cape Pillar, Tasmania, 100 fathoms (Briggs).

Genus HALICORNARIA, Busk.

HALICORNARIA FURCATA, Bale, var. INTERMEDIA, Bale.

Halicornaria intermedia, Bale, Biological Results "Endeavour," II, 1, 1914, p. 53, pl. v, fig. 2, pl. vii, figs. 3, 4. (Not *Halicornaria intermedia*, Billard, Les Hydroides de l'Expedition du Siboga, I, Plumulariidae, 1913, p. 65, pl. iv, fig. 37).

Halicornaria furcata, Bale, var. *intermedia*, Bale, Biological Results "Endeavour," II, 1, 1914, Addendum, p. 1; *id.*, Briggs, Rec. Austr. Mus., x, 10, 1914, p. 298, pl. xxv, fig. 3.

Several monosiphonic, dichotomously branched colonies, the largest 285 mm. in height, are associated with *Aglaophenia tasmanica*, on which this variety always occurs as an epizoon. Bale first recorded it from Oyster Bay, Tasmania, where "a large colony of it was found accompanying *Aglaophenia tasmanica*, but whether it had commenced as a parasite on that species, after the fashion of so many of its congeners, it was impossible to determine, the stems being matted together with other growths." This variety was also found in association with specimens of *A. tasmanica* from 100 fathoms, seven miles east of Cape Pillar, Tasmania. The present specimens are quite similar to the colony originally described.

Dimensions.—

Hydroclade internode, length	...	...	0.39—0.42 mm.
Hydroclade internode, diameter	...	...	0.29—0.31 ,,
Hydrotheca, depth ¹	...	...	0.28—0.29 ,,
Hydrotheca, breadth ²	...	...	0.20—0.21 ,,
Hydrotheca, length of free portion of mesial sarcotheca	...	...	0.07—0.09 ,,

Locality.—Off Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 80 fathoms.

Distribution.—Previously recorded from Oyster Bay, Tasmania, 20 fathoms (Bale); Seven miles east of Cape Pillar, Tasmania, 100 fathoms (Briggs).

HALICORNARIA LONGIROSTRIS (Kirchenpauer).

Aglaophenia longirostris, Kirchenpauer, Abh. Nat. Ver. Hamburg, v, 1872, p. 42, pl. i, fig. 19, pl. v, fig. 20.

¹ Measured from aperture to base along long axis of hydrotheca.

² At right angles to depth.

Aglaophenia Thompsoni, Bale, Journ. Micro. Soc. Vict., II, 1881, p. 33, pl. xiv, figs. 1, 1a.

Halicornaria longirostris, Bale, Cat. Austr. Hydroid Zoophytes, 1884, p. 181, pl. xiii, fig. 7, pl. xvi, fig. 3, pl. xix, fig. 30; *id.*, Marktanner-Turneretscher, Ann. K. K. Hofmus. Wien, v, 1890, p. 279.

Four monosiphonic, unbranched, simple pinnate colonies, the largest 86 mm. in height, were found associated with *Aglaophenia divaricata*. The measurements of the trophosome agree very closely with those of Victorian specimens and with calculations made from Bale's figures. In one case the terminal aperture of the mesial sarcotheca is wanting, the nematophore being closed at the end. Such an arrangement, however, appears to be temporary or abnormal.

Dimensions —

Hydroclade-bearing internode, length	...	0.40—0.45 mm.
Hydroclade-bearing internode, diameter	...	0.35—0.36 „
Hydroclade internode, length	...	0.24—0.26 „
Hydroclade internode, diameter	...	0.14—0.15 „
Hydrotheca, depth	...	0.19—0.21 „
Hydrotheca, breadth	...	0.17—0.19 „

Locality.—Storm Bay, Tasmania.

Distribution.—Previously recorded from Wilson's Promontory, Victoria (Kirchenpauer); Griffith Point; Portland; Queenscliff, Victoria; South Australia (Bale); Port Phillip Heads, Victoria; Bondi, New South Wales (Austr. Mus. Coll.).

HALICORNARIA SUPERBA (Bale).

Aglaophenia superba, Bale, Journ. Micro. Soc. Vict., II, 1881, pp. 31, 45, pl. xiii, figs. 4—4b.

Halicornaria superba, Bale, Cat. Austr. Hydroid Zoophytes, 1884, p. 175, pl. xiii, fig. 1, pl. xvi, fig. 4; *id.*, Bale, Proc. Roy.

Soc. Vict., (n.s.), vi, 1893, p. 107; *id.*, Marktanner-Turner-etscher, Ann. K. K. Hofmus. Wien., v, 1890, p. 279; *id.*, Bale, Proc. Roy. Soc. Vict., (n.s.), xxvi, 1913, p. 145.

A solitary colony, 87 mm. in height, alone represents this species originally described by Bale in 1881 under the name of *Aglaophenia superba*. Although the colonies are generally simple, specimens have been observed with one or two small branches very similar in structure to the proximal part of the stem. In the present specimen the lower portion of the stem is destitute of hydroclades. A branch originates at the side of the stem between two hydroclades, and occupies the whole of the space between the two. The branch, incomplete, is 11 mm. in length, and projects almost at right angles from the side of the stem; soon, however, it takes a characteristic upward curve, becoming erect, and finally incurved in the distal portion. The first four proximal internodes of the branch are devoid of hydroclades. The first branch-internode is very short and unarmed. The second is longer, cylindrical, and is furnished with a large sarcotheca in the middle. Then follow two internodes, each of which carries two large sarcothecæ abreast. The fifth supports a single hydroclade. The remainder are uniform, bearing two alternate hydroclades. As Bale's recent examination of the mode of branching in *H. superba* shows, there is a considerable amount of variation in the number of proximal internodes bearing sarcothecæ only.

Dimensions.—

Stem internode, length	...	...	...	0.56 – 0.77 mm.
Stem internode, diameter	...	...	...	up to 0.87 „
Hydroclade internode, length	...	...	...	0.28 – 0.31 „
Hydroclade internode, diameter	...	...	...	0.24 – 0.26 „
Hydrotheca, depth	...	...	...	0.24 – 0.26 „
Hydrotheca, breadth	...	...	...	0.17 – 0.19 „

Locality.—Storm Bay, Tasmania.

Distribution.—Previously recorded from Griffith Point; Queenscliff, Victoria; Dongarra Beach, Western Australia (Bale); Port Phillip Heads, Victoria (Austr. Mus. Coll.).

Genus *AGLAOPHENIA*, Lamouroux.

AGLAOPHENIA ARMATA, Bale.

(Plate X, fig. 2.)

Aglaophenia armata, Bale, Biological Results "Endeavour," II, 4, 1914, p. 175, pl. xxxviii, figs. 3, 4.

The occurrence of *Aglaophenia armata* in Tasmanian waters is of interest since this species has only within the last month been described by Bale from Queensland. Although my specimen is somewhat fragmentary and evidently the terminal portion of a branch, it is sufficient to confirm Bale's description of the long tubular hydrothecæ and the peculiar position of the intrathecal ridge, a character shared only by *Aglaophenia megalocarpa*, Bale. The specimen is extremely dark in colour, and in this respect presents a striking contrast to the type, which is light brown in colour. The gonosome was not observed.

Dimensions.—

Hydroclade-bearing internode, length	...	0.26—0.28 mm.
Hydroclade-bearing internode, diameter	...	0.22—0.24 „
Hydroclade internode, length	...	0.28—0.31 „
Hydroclade internode, diameter	...	0.24—0.26 „
Hydrotheca, depth	...	0.38—0.40 „
Hydrotheca, breadth at mouth	...	0.17—0.19 „

Locality.—Off Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 80 fathoms.

Distribution.—Hitherto recorded only from thirteen miles north-east of North Reef, 70—74 fathoms; Thirty-eight miles north-east of North Reef Lighthouse, Capricorn Group, off Port Curtis, Queensland, 74 fathoms (Bale).

AGLAOPHENIA DECUMBENS, Bale.

Aglaophenia decumbens, Bale, Biological Results "Endeavour," II, 1, 1914, p. 48, pl. iv, fig. 4, pl. vi, fig. 6; *id.*, Briggs, Rec. Austr. Mus., x, 10, 1914, p. 300.

Bale instituted this species for a single specimen from Bass Strait, at the same time pointing out that "there is some doubt as to whether this species is identical with the *A. brevicaulis*, Kirchenpauer."

The largest colony is 84 mm. in height, and the minute characters of the hydrothecæ agree closely with Bale's diagnosis, except that the median anterior teeth of the hydrothecæ are without the characteristic outward bend.

Dimensions.—

Hydroclade-bearing internode, length	...	0.42—0.45	mm.
Hydroclade-bearing internode, diameter	...	0.19—0.21	„
Hydroclade internode, length	...	0.43—0.45	„
Hydroclade internode, diameter	...	0.08—0.10	„
Hydrotheca, depth	...	0.35—0.38	„
Hydrotheca, breadth at mouth	...	0.15—0.17	„

Locality.—Off Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 80 fathoms.

Distribution.—Previously recorded from Bass Strait (Bale); Seven miles east of Cape Pillar, Tasmania, 100 fathoms (Briggs).

AGLAOPHENIA DIVARICATA (Busk).

Plumularia divaricata, Busk, Voy. "Rattlesnake," I, 1852, p. 398.

Plumularia ramosa, Busk, *op. cit.*, p. 398.

Aglaophenia ramosa, Kirchenpauer, Abh. Nat. Ver. Hamburg, v, 1872, p. 38, pls. i, ii, fig. 17.

Aglaophenia McCoyi, Bale, Journ. Micro. Soc. Vict., II, 1882, p. 36, pl. xiv, fig. 2.

Lytocarpus ramosus, Allman, Journ. Linn. Soc., Zool., XIX, 1886, p. 154, pl. xxv, figs. 1—3.

Aglaophenia divaricata, Kirchenpauer, *op. cit.*, p. 26; *id.*, Bale, Cat. Austr. Hydroid Zoophytes, 1884, p. 162, pl. xv, figs. 7, 8, pl. xvii, figs. 6, 7; *id.*, Marktanner-Turneretscher, Ann. K.K. Hofmus. Wien, v, 1890, p. 267; *id.*, Billard, Comptes Rendus Acad. Sci., cXLVIII, 1909, p. 368; *id.*, Ritchie, Mem. Austr. Mus., iv, 16, 1911, p. 866.

Several specimens of *Aglaophenia divaricata*, Busk, do not differ in any important particular from those already described by Bale.

Dimensions.—

Hydroclade-bearing internode, length	...	0.29 – 0.33 mm.
Hydroclade-bearing internode, diameter	...	0.28 – 0.29 „
Hydroclade internode, length	...	0.26 – 0.28 „
Hydroclade internode, diameter	...	0.17 – 0.19 „
Hydrotheca, depth	...	0.24 – 0.26 „
Hydrotheca breadth at mouth	...	0.17 – 0.19 „

Localities.—Storm Bay, Tasmania; Off Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 80 fathoms.

Distribution.—Previously recorded from Bass Strait (Busk, Allman); Swan Island, Banks Strait (Busk); Wilson's Promontory, Victoria; Georgetown, Tasmania (Kirchenpauer); Portland; Griffith Point; Queenscliff; Williamstown, Victoria; Brighton, South Australia; Port Jackson, New South Wales (Bale); Victoria (Marktanner-Turneretscher); Station 54, within Jervis Bay, New South Wales, 10 – 11 fathoms (Ritchie).

AGLAOPHENIA TASMANICA, Bale.

Aglaophenia tasmanica, Bale, Biological Results "Endeavour," II, 1, 1914, p. 37, pl. iii, fig. 2, pl. vi, fig. 2; *id.*, Briggs, Rec. Austr. Mus., x, 10, 1914, p. 300, pl. xxvi.

Several examples with female corbulæ agree with Bale's description and with the proportions deduced from his figures (pl. iii, fig. 2, pl. vi, fig. 2). The stems bear branches

in opposite pairs, both series in one plane and all facing the same direction. Each branch commences with several internodes carrying median sarcothecæ only.

Gonosome.—Corbulæ (female) are present on several of the colonies, and agree in structure with those described by Bale.

Dimensions.—

Hydroclade-bearing internode, length	...	0.42–0.43	mm.
Hydroclade-bearing internode, diameter	...	0.40–0.42	„
Hydroclade internode, length	...	0.38–0.43	„
Hydroclade internode, diameter	...	0.19–0.22	„
Hydrotheca, depth	...	0.36–0.38	„
Hydrotheca, breadth at mouth	...	0.21–0.22	„
Corbula, length	...	up to 12.5	„
Corbula, diameter	...	2	„

Locality.—Off Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 80 fathoms.

Distribution.—Previously recorded from Oyster Bay, Tasmania, 20 fathoms (Bale); Seven miles east of Cape Pillar, Tasmania, 100 fathoms (Briggs).

AGLAOPHENIA TENUISSIMA, Bale.

(Plate XI, fig. 2.)

Aglaophenia tenuissima, Bale, Biological Results "Endeavour," II, 4, 1914, p. 179, pl. xxxvii, figs. 1, 2.

Several colonies, the largest 335 mm. in height, represent this extremely slender and flexuous species recently described by Bale from the Great Australian Bight. The gonosome was not observed. The specimens, however, agree in detail with the type, for the colonies are very light brown in colour, exhibit a slender habit, and have polysiphonic stems, 2 mm. in diameter at the base. From the flexures of the stem arise small and delicate alternate monosiphonic branches, the proximal portions of which

bear sarcothecæ only. No details have to be added to Bale's description of the characters of the species, the fasciculation, nor the mode of branching.

Dimensions.—

Hydroclade-bearing internode, length	...	0·54 – 0·78	mm.
Hydroclade-bearing internode, diameter	...	0·14 – 0·17	„
Hydroclade internode, length	...	0·45 – 0·47	„
Hydroclade internode, diameter	...	0·07 – 0·08	„
Hydrotheca, depth	...	0·33 – 0·35	„
Hydrotheca, breadth at mouth	...	0·18 – 0·19	„

Locality.—Off Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 80 fathoms.

Distribution.—Hitherto recorded only from the Great Australian Bight, Long. $126^{\circ} 45\frac{1}{4}'$ E., 190 – 320 fathoms; Long. $130^{\circ} 40'$ E., 160 fathoms (Bale).

EXPLANATION OF PLATE X.

Fig. 1. *Plumularia procumbens*, Spencer. Photograph of a specimen, 231 mm. in height, from off Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 80 fathoms.

Fig. 2. *Aglaophenia armata*, Bale. Photograph of co-type (in the Australian Museum, Sydney) 235 mm. in height, from thirty-eight miles north-east of North Reef Lighthouse, Capricorn Group, off Port Curtis, Queensland, 74 fathoms.

Fig. 3. *Nemertesia ciliata*, Bale. Photograph of a specimen, 213 mm. in height, from off Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 80 fathoms.

EXPLANATION OF PLATE XI.

Fig. 1. *Plumularia sulcata*, Lamarck. Photograph of a specimen 203 mm. in height, from off Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 80 fathoms.

Fig. 2. *Aglaophenia tenuissima*, Bale. Photograph of a specimen, 227 mm. in height, from off Thouin or Wineglass Bay, Freycinet Peninsula, Tasmania, 80 fathoms.



Briggs, Edward Alfred. 1914. "Notes on Tasmanian hydrozoa." *Journal and proceedings of the Royal Society of New South Wales* 48, 302–318.

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