Art. XXIV.—*Catalogue of Non-Calcareous Sponges collected by J. Bracebridge Wilson, Esq., M.A., in the neighbourhood of Port Phillip Heads.*

Part I.

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[Read 13th December, 1894.]

Introductory Remarks.

In presenting the first part of this catalogue for publication it seems desirable to offer some prefatory remarks in explanation of the nature of the work. The circumstances under which the examination of Mr. Wilson's sponges was originally undertaken have already been explained in the introduction to the first part of my "Monograph of Victorian Sponges," and the reasons which led to the modification of the plan originally proposed, and to the at any rate temporary abandonment of the monograph as such, have been stated in the introductory remarks to my "Synopsis of the Australian Calcarea Heterocœla." I can hardly say that I regret having been obliged to modify my original plan. In the case of the Homocœla, dealt with in the first part of the monograph, the amount of material to be examined was comparatively small, and there was, consequently, a possibility of some approach to completeness in the first instance. In the other groups, however, the amount of material is so large that it certainly seems desirable to publish a systematic epitome without waiting for the possibility of publishing complete and final descriptions accompanied by the necessary illustrations. The Calcarea Heterocœla have thus already been dealt with, and I now enter upon the task of dealing similarly with the enormous mass of material comprised under the non-calcareous sponges.

The present catalogue makes no pretence to completeness. A very large number of small specimens as yet remain entirely

unexamined, and though the majority of these are doubtless duplicates, yet a certain proportion of new species will probably be found amongst them. The bulk of Mr. Wilson's collection of non-calcareous sponges is contained in upwards of nine hundred large Mason jars, each containing, as a rule, a single specimen, or at any rate so much of a specimen as could be got into the jar. All these have been microscopically examined, and will be included in the present catalogue. The specimens themselves are at present lodged in the Biological School of the Melbourne University.

The production of the catalogue has been unavoidably interfered with by my removal from Melbourne to Christchurch at the commencement of the present year. I wished, if possible, to complete the external examination of the specimens, and the preparation of rough microscopic sections of each before I left Melbourne, so as to avoid the necessity of removing the whole collection to New Zealand. This could not have been done had it not been for the great kindness of my friend, Mr. A. G. Fryett, who most generously offered his assistance, and devoted a month of continuous work to the cutting and mounting of the necessary sections. Meanwhile I drew up short descriptions of the external characters of each specimen and numbered each consecutively as it happened to come in the collection. I was thus able to bring to New Zealand sufficient data for the systematic working out of the collection. Before proceeding with this work, however, it was necessary to make a careful study of the numerous species described by Mr. H. J. Carter, F.R.S., from material sent to England some years ago by Mr. Wilson, and now lodged in the British Museum. Thanks to the kindness of Dr. Günther, F.R.S., keeper of the Zoological Department in the British Museum, I have in my possession fragments of a very large number of Mr. Carter's types, amounting to over 200 specimens of non-calcareous sponges, some dry and some in spirit. Of all these I prepared microscopical sections, and compared them with Mr. Carter's descriptions. I was thus able to gain an extensive personal knowledge of Mr. Carter's species, which will, I hope, add greatly to the value of the present work.

Amongst the collection in Melbourne I find that there are a very large number of duplicates, there being in some cases two or

three dozen jars of the same species. This is due to the fact that the species are very difficult to distinguish by external characters alone, owing to their variability in form and sometimes also in colour. Although the presence of so many duplicates has greatly increased the labour of examination, yet they are very valuable as showing the variation in form and colour. I have been very doubtful as to the advisability of enumerating every specimen in the present catalogue. As, however, they may be distributed amongst museums in various parts of the world and may thus be extremely useful as standards of reference, I have decided to do so.

Each specimen bears my own register number, prefixed by the letters *R.M.*, and quoted in this catalogue. After my own register number I have, except in cases where there are a large number of duplicates, quoted in brackets the particulars as to locality (station number or letter), and natural colour, supplied to me by Mr. Wilson. A number followed by the letter "f" indicates the approximate depth in fathoms.

I have also quoted under each species the specimens by which it is represented in the British Museum, so far as I have knowledge thereof. These specimens are numbered as sent out to me, the numbers being prefixed by the letters *B.M.* The letter "d" before any such number stands for "dry," and "sp." for "spirit." The name attached in the British Museum and the British Museum register number, where known, are quoted in brackets after the number. It is hoped that these precautions will facilitate any future discussion on questions of synonymy, and will indicate the exact nature of the authority on which I have relied.

As regards the exact locality in which the specimens were collected, I may mention that Mr. Wilson has arranged a series of dredging "stations" which he designates by means of letters or numbers. The letter "x" indicates a station outside but near Port Phillip Heads. A number prefixed simply by the letter "s" indicates a dredging station inside the Heads. I hope that Mr. Wilson may soon publish a list of these stations for convenience of reference.*

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* See Article XXV., in which Mr. Wilson has published the list of stations referred to.

As regards the notes on the colours of the living sponges supplied by Mr. Wilson, and forming a most valuable contribution to our knowledge of the group, I may remark that a large number of them are based upon a comparison of the specimens with the plates in Ridgway's "Nomenclature of Colors for Naturalists" (Boston, 1886), and that in these cases I have made use of the nomenclature of that author.

The present instalment, forming Part I. of the catalogue, includes only the Families Homorrhaphidæ and Heterorrhaphidæ of the Order Monaxonida. Although I am aware that considerable modification will doubtless have to be made in the classification of the Monaxonida as proposed by Mr. Ridley and myself in our "Challenger" Report, and that much valuable work in this direction has of late years been accomplished, especially by Mr. Topsent, yet I have decided to adhere for the present to our original scheme. I have done so because the "Challenger" Reports form an accessible and recognised standard of reference, and because the proposed modifications can hardly, in the present state of our knowledge, be considered as final. It may, however, be desirable to incorporate some minor and undoubted improvements at once, and in order to facilitate the work of the student I give diagnoses of the families, sub-families and genera as here employed. The spicular terminology is that of the "Challenger" Report on the Monaxonida.

The proportion of new species is, as might be expected from the extent of the collection, large. Thus, in the present contribution, out of a total of thirty-seven species seventeen are described as new.

The abbreviations made use of in the literature references will, I hope, explain themselves. The most frequent is "A.M.N.H.," which of course stands for "Annals and Magazine of Natural History."

Order MONAXONIDA.

Siliceous sponges with uniaxial megascleres.

Family HOMORRHAPHIDÆ.

Megascleres all diactinal, either oxea or strongyla; no microscleres.

Sub-family Renierinæ.

The spicules may be united together by a small proportion of horny matter, but are never completely enveloped in it.

Genus *Reniera* (Nardo).

Skeleton a close-meshed network of typically single spicules united together by their ends only. The spicules are short oxea or strongyla, whose length forms the width of the skeletal mesh, which may be rectangular, triangular or polygonal. Multispicular primary lines of spicules are often developed.

Reniera massalis, Carter, sp.

Thalysias massalis, Carter, A.M.N.H., January, 1886, p. 50.

This is a massive, compact, but rather friable sponge, with usually fair-sized and prominent vents. The skeleton is a moderately regular network of small oxea, arranged in slender multispiculary primary and unispicular secondary lines. The colour is pale yellow in spirit.

R.N. 349 (19 f; dirty white below, maroon-brown above); 429 (x, 19 f; coral red washed over raw sienna); 815; 1036 (x B).

B.M. d. 105 ("*Thalysias massalis*," Reg. 86-12-15-433).

Reniera brassicata, Carter, sp.

Phakellia brassicata, Carter, A.M.N.H., November, 1885, p. 363.

Reniera vasiformis, Carter, A.M.N.H., December, 1886, p. 445.

The sponge is stipitate, with vase-shaped head, which may be proliferous, the lamella being thin, or it may be simply flabellate. The rather stout and somewhat plumose primary lines of the skeleton are suggestive of an Axinellid affinity, the secondary lines are frequently unispicular and very irregular. I have only been able to examine Mr. Carter's "*Reniera vasiformis*," but his description leaves little doubt of the identity of this sponge with his "*Phakellia brassicata*." The oxea are of moderate size, rather stout, curved, fusiform and usually sharply pointed.

R.N. 187; 393; 533 (x, 19 f; "cadmium yellow"); ? 1099.

B.M. d. 101 ("*Reniera vasiformis*," Reg. 86-12-15-364).

Reniera clathrata, n. sp.

Sponge massive, spreading, irregular, somewhat clathrous and throwing off short, irregular, slender, anastomosing branches. Vents variable in size, mostly on monticular projections, either on the main body or on the branches. Texture soft, resilient, rather cavernous; very tender and friable. Light brownish-yellow in spirit.

Skeleton, a close network of small oxea, with small polygonal meshes commonly bounded by single spicules; loose multispicular primary lines may be distinguished in parts.

Spicules, short, fairly stout, fairly gradually sharp-pointed, slightly curved oxea, measuring about 0·083 by 0·005 mm.

This species may possibly be identical with some of the many British species described by Bowerbank under the name *Isodictya*, but I am not at present in a position to decide this question.

R.N. 920 (s.10); 1185.

Reniera longimanus, n. sp.

? *Chalina polychotoma*, pars., Coll. Brit. Mus.

Sponge compressed, thin, palmodigitate. Branches long, slender, compressed in the same plane. Vents minute, numerous, arranged in marginal rows. Surface smooth but minutely granular. Texture compact, firm, resilient, but easily breaking. Pale yellow in spirit.

Skeleton, a close, irregular network of small oxeote spicules, with multispicular primary and mostly unispicular secondary lines, but often very confused.

Spicules, short, slightly curved, fairly gradually sharp-pointed oxea, measuring about 0·083 by 0·005 mm. Except as regards the very characteristic external form this species closely resembles *R. clathrata*.

R.N. 576 (x, 19 f; "cream buff"); 609 (x, 20 f; "cream buff.")

? *B.M.* d. 68 ("*Chalina polychotoma*," Reg. 86-12-15-172).

Reniera proxima, n. sp.

Flabellate to palmo-digitate with short stout branches; may be stipitate with bushy palmodigitate head. Vents minute, numerous, scattered or marginal. Surface smooth. Texture

compact; but compressible and resilient, and not very tough. Pale yellow in spirit.

Skeleton, a close-meshed fairly regular network of small stout oxea; with well-marked, parallel, multispicular primary lines, three or four spicules thick, curving upwards and outwards and separated by the length of a spicule; secondary lines irregular, uni- or multispicular, usually joining the primaries at right angles.

Spicules, short, rather stout, slightly curved, rather bluntly pointed oxea, measuring about 0·16 by 0·012 mm. (R.N. 594, rather smaller in 1191).

This species is distinguished from *R. longimanus* chiefly by the size of the spicules.

R.N. 288 (18 f; "wax yellow"); 594 (x, 19 f; "cadmium yellow"); 1191.

Reniera fryetti, n. sp.

Erect; flabellate, but thick; slightly proliferous. Margin truncated, broad and flattened, covered with a finely porous membrane, beneath which the numerous long, ascending, main exhalant canals terminate. General surface subglabrous, minutely punctate, rather uneven. Texture compressible, resilient, rather soft and friable. Colour in spirit warm dark brown.

Skeleton, a close but irregular network of small oxea with meshes about one spicule's length wide; sometimes distinct multispicular primary lines may be distinguished.

Spicules, rather slender, slightly curved, fairly gradually sharp-pointed oxea, measuring about 0·12 by 0·005 mm.

This species is a very remarkable one, easily distinguished by the exhalant marginal pore-sieves and by the dark brown colour. I have very great pleasure in dedicating it to my friend, Mr. A. G. Fryett, as a slight recognition of his valuable aid in preparing microscopical preparations of the Victorian sponges.

R.N. 1141, 1183.

Genus *Halichondria*, Fleming.

Skeleton confused, may be fibrous, but never regularly reticulate. Spicules oxea or strongyla, usually long and slender. Spongin scarcely appreciable.

Halichondria cancellosa, Carter, sp.

Amorphina cancellosa, Carter, A.M.N.H., January, 1886, p. 50.

I have not met with any example of this species, nor have I been able to examine the original specimen. It seems to be a large, massive *Halichondria*. The dry sponge is light and fragile, with numerous vents scattered over the surface. The spicules are oxea, measuring about 0·3 by 0·0062 mm.

Halichondria arenacea, n. sp.

Massive, solid, with large collared vents on the convex upper surface and wide exhalant canals. Texture hard, friable and incompressible, owing to the immense quantity of coarse sand of which the interior is chiefly made up. The dermal membrane is free from sand in places, and then appears thin, delicate and minutely reticulate. Colour in spirit brown, owing to the sand.

Skeleton, consisting chiefly of the coarse sand grains irregularly and closely aggregated. Between the sand grains is a scanty, irregular spicular network, scarcely fibrous and almost Renierine in character.

Spicules, slender oxea, gently curved and fairly gradually sharp-pointed ; measuring about 0·2 by 0·0045 mm.

R.N. 629 (x, 19 f ; " lavender-grey ").

Halichondria (?) nigrocutis, Carter, sp.

Amorphina nigrocutis, Carter, A.M.N.H., January, 1886, p. 50.

This is a massive irregular sponge, of a dark grey colour in spirit, which is due to the deeply pigmented, minutely reticulate dermal membrane. The main skeleton is composed of long, slender oxeote spicules scattered about in the utmost confusion, though sometimes collected into irregular fibrous tracts. There is a well differentiated dermal skeleton, consisting of a dense feltwork of much smaller oxea lying horizontally ; it may become reticulate from the abundance of the inhalant pores. Numerous brown pigment cells are scattered throughout the sponge, especially towards the surface. It is difficult to believe that this sponge is not closely related to some of Mr. Carter's species of *Stellettinopsis*, but I can find no stellate microscleres. Sollas has already

suggested* that *Halichondria* may be derived from a *Stellettinopsis*-like ancestor by loss of the asters, and the characters of the present species certainly seem to strengthen this supposition.

R.V. 450 (s. 9, 17 f., "blackish slate"); 685 (s. 9); 727 (s. 5).

B.M. d. 102 ("*Amorphina nigrocutis*," unregistered).

Genus *Eumastia*, Schmidt.†

Sponge consisting of a massive body bearing elongated mammiform projections with vents at their apices. Skeleton consisting of long slender oxea, arranged irregularly or in loose fibres.

The genus resembles *Oceanapia* in external appearance, but differs in the large slender oxea, and probably also in the absence of the bast-like subdermal skeleton reticulation.

Eumastia schmidtii, n. sp.

The sponge consists of a hemispherical body, with long and short finger-like processes springing from its upper surface. Numerous minute vents occur at the summits of the larger fistulæ.

Skeleton, composed of thickly, but irregularly scattered oxea, sometimes collected into loose whisps and slightly projecting from the surface in loose tufts.

Spicules, long slender oxea, slightly curved and gradually sharp-pointed at each end; closely resembling those of a typical *Halichondria*; measuring about 0·4 by 0·008 mm.

R.V. 390.

Sub-family Chalininæ.

A considerable amount of spongin is present, typically forming a thick sheath completely enveloping the spicules and uniting them into strong fibres. (In many species the spicules become greatly reduced in size and numbers, while the horny matter increases, thus forming a gradual transition to the so-called Horny sponges).

Genus *Pachychalina*, Schmidt.

External form various, but not tubular. Fibres stout, with spicules numerous and arranged polyserially.

* Challenger Tetractinellida, p. 208.

† Grundzüge einer Spongien-Fauna des atlantischen Gebietes, p. 42.

Pachychalina aurantiaca, Lendenfeld, sp.?

? *Cladochalina aurantiaca*, Lendenfeld, Zoologischer Jahrbücher, vol ii., p. 768 (1887).

Sponge varying in form from compressed lamellar to digitate. Surface smooth, with minutely reticulate dermal membrane. Vents small, numerous; irregularly scattered, marginal or confined to one side. Texture soft, resilient. Colour in spirit pale yellow.

Skeleton, rather wide-meshed, with stout main fibres curving outwards from the centre to the surface, and densely packed with numerous small oxea; these are rather sparingly connected by slenderer secondary fibres which run approximately at right angles to them, and are also multispicular. Immense numbers of spicules are also scattered in the soft tissues between the fibres. There is a well-marked dermal skeleton composed chiefly of close-set tufts of spicules arranged perpendicular to the surface and forming a close-meshed polygonal network when viewed from the exterior.

Spicules, small, slender oxea; gently curved, and gradually sharp-pointed; measuring about 0·14 by 0·004 mm.

Von Lendenfeld's type is stated to come from Port Phillip, so that in spite of the meagreness of his description the identification seems fairly likely to be correct, although the spicular measurements differ slightly.

R.N. 410 (x, 19 f; "ochre yellow"); 753 (s. 5, "ochre buff"); 823 (x).

Pachychalina claviformis, Carter, sp.

Acervochalina claviformis, Carter, A.M.N.H., November, 1886, p. 376.

I have only seen a fragment of one of Mr. Carter's specimens from the British Museum; the species appears to be rare. It is characterised by its erect, cylindrical or pear-shaped form, with discoid, root-like attachment below. The surface is smooth; the vents numerous and large; the texture very loose and tender. The skeleton is a very sparse and irregular network of ill-defined, slender, partly multispicular and partly unispicular fibres. The spicules are slightly curved, gradually sharp-pointed oxea, measuring about 0·17 by 0·006 mm.

B.M. sp. 32 ("*Acervochalina claviformis*" Reg. 86-12-15-50).

Pachychalina tenella, Lendenfeld, sp.

Chalinopora tenella, Lendenfeld, Zoologischer Jahrbücher, vol. ii., p. 765 (1887).

The sponge is irregularly massive, sessile, with prominent vents and smooth but uneven surface. The texture in spirit is very soft, spongy and tender, and the colour pale yellow.

Skeleton, a lax and very irregular network of slender, usually multispicular fibres, with numerous spicules scattered between.

Spicules, very slender, slightly curved, gradually sharp-pointed oxea, measuring about 0·1 by 0·0027 mm.

Von Lendenfeld's type also comes from Port Phillip, where the species is common.

R.N. 660: 733 (x, B; "cream buff"); 755 (s. 5; "wax yellow"); 756 (s. 5; "wax yellow"); 767 (Sorrento Jetty; "wax yellow"); 774 (Sorrento Jetty; "sponge grey"*); 783 (Sorrento Jetty, "wax yellow").

Pachychalina bilamellata, (Lamarck ?) Carter, sp.

Cavochalina bilamellata, Carter, A.M.N.H., October, 1885, p. 287.

Placochalina pedunculata, Lendenfeld, Cat. Spong. Aust. Mus., p. 90.

This remarkable sponge usually has a very characteristic external appearance, being leathery and thinly flabellate, and often growing out into two wing-like expansions from a common peduncle. The skeleton network is close-meshed, with multispicular fibres and many spicules scattered between; the meshes vary from quite irregular in the interior to rectangular towards the surface. The spicules are short oxea, measuring about 0·54 by 0·004 mm.

R.N. 741 (x, B; "sponge grey"); 1008 (x B); 1143 (x).

B.M. d. 73 ("*Cavochalina bilamellata*," Reg. 86-12-15-186).

Genus *Chalina*, Grant.

Form various, not tubular. Skeleton reticulation rectangular, with much spongin and few spicules.

* The grey tint is due to the presence of foreign matter in the form of immense numbers of parasitic worms, crustacea, etc.

Chalina polychotoma, (Esper?) Carter.

Chalina polychotoma var. *trichotoma*, Carter, A.M.N.H., February, 1885, p. 115.

Chalina polychotoma (with varieties *trichotoma*, *compressa*, *oculata*, *robusta*, *angulata*, *moniliformis*), Carter, A.M.N.H., October, 1885, pp. 284, 285.

This common species appears to be extremely variable. It is usually a large sponge divided into long, slender or robust branches of very varying shape, and bearing small, scattered or serial vents. The texture is compressible and resilient, and the colour in spirit yellow or brown. In life the prevailing colour is also brown. The skeleton is a close, more or less rectangular-meshed network of horny fibre, more or less abundantly cored with small slender oxea, which may also be scattered between the fibres. The spicules vary somewhat in size, but are usually about 0·06 mm. long.

Mr. Carter has distinguished a number of form varieties, but it is very doubtful whether these can be maintained.

As the specimens collected by Mr. Wilson are so numerous I refrain from giving the locality and colour of each individually. Nearly all of which the locality is recorded come from outside the Heads; one, however, is recorded from Station 9, and one from Sorrento Jetty. The recorded colours range from some shade of brown to "cinnamon-rufous" and "heliotrope-purple."

R.N. 263; 270; 313; 325; 328; 330; 414; 469; 596; 724; 786; 873; 1016; 1022; 1032; 1040; 1081 (these are all more or less ordinary forms); 523 (compressed and flabellate, with finger-like processes); 639; 640; 669; 1007 (these have the numerous spicules in the primary fibres arranged in a markedly plumose fashion, as in *Axinellidæ*); 1018 (the arrangement of the spicules is very Renieroid, but they are completely imbedded in spongin).

B.M. d. 63 ("var. *nigra*" M.S. Reg. 86-12-15-165); d. 64 ("var. *robusta*" Reg. 86-12-15-163); d. 65 ("var. *oculata*" Reg. 86-12-15-154-155); d. 71 ("var. *angulata*" Reg. 86-12-15-168); d. 72 ("var. *compressa*" Reg. 86-12-15-159).

Chalina viridis, n. sp.

Sponge composed of slender, irregular, cylindrical or sub-cylindrical branches, with smooth surface and numerous small vents which may be scattered or serial. Texture (in spirit) compressible and resilient. Colour (in spirit) dark brown; when alive dark green.

Skeleton, a network of rather slender horny fibres cored with slender oxea, and sometimes with numerous spicules scattered between the fibres in the soft tissue. The entire skeleton is frequently interrupted by the large canals, which give a very characteristic mottled appearance to sections. Between these interruptions the skeleton net is close-meshed. Towards the surface the meshes are sub-rectangular and little more than one spicule's length in width; in the interior of the sponge they are very irregular. The primary fibres at first run longitudinally in the central portion of the sponge, and branching dendritically curve outwards to the surface; they are multispicular and about 0·02 mm. thick. The secondary, connecting fibres are nearly as thick but mostly unispicular.

The dermal skeleton is a close network with polygonal meshes, formed by fibres resembling the secondaries of the main skeleton.

Spicules, short, straight (or slightly curved), slender oxea, gradually sharp-pointed at each end; measuring when full sized about 0·058 by 0·0028 mm.

Spirit specimens of this sponge are very insignificant looking, but the dark green colour in life, changing to dark brown in spirit, appears to be characteristic. As regards skeletal characters I do not think that the species could be distinguished from *Chalina polychotoma*, of which perhaps it is only a variety.

R.N. 333 (18 f; "dark rifle green"); 572 (x, 19 f; "parrot green"); 744 (x, B; "rifle green").

Chalina pergamentacea, Ridley, sp.

Chalina pergamentacea, Ridley and Dendy, Challenger Monaxonida, p. 27 (previous references given here).

Ceraochalina papillata, Lendenfeld, Zoologischer Jahrbücher, vol. ii., p. 779 (1887).

The sponge is broadly digitate, often compressed, with scattered or serial vents and glabrous or subglabrous dermal membrane. It is very compressible and of a translucent yellow colour in spirit. The horny fibres are stout and well-developed, but the spicules are reduced to hair-like thinness, scattered more or less abundantly in and between the stout fibres. This great reduction of the spicules and the strong development of the spongin form the most characteristic features of the species.

R.N. 453 (s. 9, 20 f; "vinaceous cinnamon"); 461 (s. 14, 10 f; "smoke grey"); 657 (x, 20 f; "wood brown with wash of yellow"); 807 (s. 5); 855 (s. 9); 875 (s. 9); 906 (s. 8).

Genus *Siphonochalina* (Schmidt).

Sponge tubular; tubes smooth, both inside and out, usually narrow, each with a large round opening (pseudosculum or vent) at the summit.

Siphonochalina procumbens, Carter, sp.

Patuloscula procumbens, Carter, A.M.N.H., May, 1882, p. 365.

Patuloscula procumbens, Carter, A.M.N.H., October, 1885, p. 286.

Siphonochalina procumbens, Dendy, Trans. Zool. Soc., vol. xii. p. 355., pl. lviii., fig. 4; pl. lxii., fig. 1.

In my memoir on the "West Indian Chalininæ" (*loc. cit.*) I questioned Mr. Carter's indentification of the Victorian species with his own West Indian *Patuloscula procumbens*. Having carefully reconsidered the question I do not think it desirable to separate the two.

The sponge is composed of a number of short wide tubes fused together laterally, and each bearing a wide vent at the summit. The surface is uneven but smooth; the texture tough and resilient; the colour in spirit pale yellowish-brown. Perhaps the most characteristic feature is afforded by the remarkably short, nearly straight, hastately pointed oxea, measuring about 0·07 by 0·005 mm. Mr. Carter gives the colour in life as "purple-slate."

R.N. 1150 (x).

B.M. d. 76 ("*Patuloscula procumbens*." South coast of Australia. Reg. 86-12-15-208).

Siphonochalina procumbens, var. *flabelliformis*, Carter, var.

Patuloscula procumbens, var. *flabelliformis*, Carter, A.M.N.H., October, 1885, p. 286.

I have only seen a fragment of Mr. Carter's specimen of this variety. He describes the sponge as consisting of greatly elongated tubes united laterally into a fan-shaped form, rising from a single stem. The skeletal differences as compared with the typical form are very slight.

B.M. d. 78 ("*Patuloscula procumbens*, var. *flabelliformis*. Reg. 86-12-15-203).

Siphonochalina bispiculata, n. sp.

Sponge irregular, sublamellar, low-growing, proliferous; sometimes rising into short, tubular digitations, each with a wide vent at the summit, or the vents may be smaller and marginal. In spirit the texture is compressible and resilient, and the colour pale yellow.

Skeleton, an irregular or rectangularly meshed network of stout horny fibre containing few spicules. The primary fibres measure about 0·05 mm. in diameter, and the secondaries little less. The primary fibres contain a few rather long oxea, the secondaries usually contain no spicules at all, or a very few of the short oxea, which sometimes project from them at right angles. A few spicules occur scattered in the soft tissues, and there is a well-developed dermal skeleton composed of radiating tufts of long slender oxea.

Spicules, the oxea are of two distinct kinds:—*(a)* long and slender, straight, gradually sharp-pointed, measuring about 0·2 by 0·004 mm.; *(b)* extremely short, relatively stout, hastately spindle-shaped spicules, with sharp points; measuring about 0·035 by 0·004 mm.

The long oxea occur abundantly in the dermal tufts, and scattered through the soft tissues of the interior. The short ones occur sparsely scattered through the soft tissues, and irregularly in, and projecting from, the horny fibres. Intermediate forms occur in the primary fibres.

In external appearance this species resembles *Siphonochalina procumbens*, but its remarkable spiculation separates it from all

other Chalininæ with which I am acquainted. Both specimens contain numerous developing embryos and come from the same station, so that they may possibly be parts of one and the same sponge.

R.N. 1055 (x A); 1079 (x A).

Family HETERORRHAPHIDÆ.

Skeleton reticulate, never plumose. Megascleres of various forms. Microscleres usually present, but never chelæ.

Genus *Gellius*, Gray.

Sponge without rind or fistulæ. Megascleres all diactinal, oxea or strongyla. Microscleres present in the form of sigmata, toxa or trichodragmata. Very little spongin present, never forming distinct fibres.

Gellius phillipensis, n. sp.

Massive or encrusting, with smooth but uneven surface and prominent vents. In spirit the texture is spongy, resilient and friable, and the colour white or yellowish.

Skeleton, the main skeleton is a close-meshed network of spicules with little or no spongin, the arrangement being between Renieroid and Halichondrioid. The dermal skeleton is a close-meshed reticulation of spicular fibre echinated by abundant tufts of oxea projecting at right angles to the surface.

Megascleres, rather slender, slightly curved oxea; usually gradually sharp-pointed and measuring about 0·18 by 0·0055 mm.

Microscleres, *(a)* very numerous, very slender sigmata, varying greatly in length, simple and contort. *(b)* trichodragmata; bundles of hair-like spicules varying much in length in different bundles.

In the presence of trichodragmata this species resembles Carter's *Fibularia massa*,* which is a *Gellius* from Nassau.

R.N. 334 (7 f; "wax yellow"); 702 (s. 5; "brownish-yellow"); 723 (s. 5); 973 (s. 5); 794 (variety ?).

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* A.M.N.H., April, 1882, p. 282.

Genus *Gelliodes*, Ridley.

Megascleres diactinal, oxea or strongyla. Microscleres sigmata. With a distinct skeleton fibre containing more or less spongin.

Gelliodes poculum, Ridley and Dendy.

Gelliodes poculum, Ridley and Dendy, Challenger Monaxonida, p. 48, pl. x.

I refer one of Mr. Wilson's specimens to this species with a little hesitation. The specimen is erect and goblet-shaped, with broad base, and contains much foreign matter. The oxea are a good deal slenderer than in the type, and the whole skeleton is very irregular.

R.N. 448 (s. 14 ; 10 f ; "mouse grey").

Genus *Oceanapia*, Norman.

Sponge consisting of a central body with closed or open tubular processes (fistulæ) projecting from it. Megascleres oxea or strongyla. Microscleres in the form of sigmata, or altogether absent. Skeleton usually coarsely spiculo-fibrous : with a bast-like reticulation beneath the dermal membrane.

As suggested in our work on the Challenger Monaxonida, it seems desirable to unite the genera *Oceanapia* and *Rhizochalina* in one, and as Norman's name has precedence it must of course be employed.

Oceanapia mollis, n. sp.

Massive, irregular ; with numerous large, prominent, collared vents, rising up from the general surface and leading out of great exhalant canals. Surface uneven, sometimes ridged, sub-glabrous, minutely reticulate, with a few extremely small and insignificant-looking, closed fistulæ, not at all comparing with the oscular projections in size. Texture soft, compressible, resilient, fragile. Colour in spirit pale brownish-yellow.

Skeleton, the main skeleton is a loose and almost unispicular reticulation of fairly stout oxea, connected chiefly at their ends by a fair amount of spongin. The dermal skeleton consists of a superficial network of single spicules, more or less crossing one another, and beneath this a thin bast-like layer composed of a wide-meshed network of multispicular but rather slender fibres.

Megascleres, fairly stout, slightly curved, gradually sharp-pointed oxea, measuring about 0·2 by 0·0083 mm. In the deeper parts numerous very slender oxea occur between the others, of which they are probably young forms.

Microscleres, very numerous, short and very slender, C-shaped sigmata, measuring about 0·016 mm. from bend to bend.

This sponge is especially characterised by the very feeble development of the closed fistulæ, so that it makes a near approach to the genus *Gellius*, in which they are entirely absent. Both specimens were received at the same time, and though in separate jars, they are probably parts of the same individual.

R.N. 1167 ; 1193.

Oceanapia imperfecta, n. sp.

This species is represented in the collection by a squarish chunk evidently cut from the upper part of a large massive specimen The upper surface is flattened, subglabrous, and very minutely reticulate. It bears numerous very small, thimble-shaped, blind fistulæ, with reticulate walls and only about one-fifth of an inch high. Numerous long canals run up and terminate in these fistulæ. The texture of the whole sponge is very soft, spongy and tender. The colour in spirit is very pale yellow.

Skeleton, the main skeleton is a loose network of very distinct spicular fibres, each about 0·055 mm. in diameter, and composed of densely packed spicules with little or no spongin. The dermal skeleton is an irregular, close-meshed, bast-like network of spicule bundles, abundantly echinated by close-set tufts of projecting oxea.

Megascleres, long, slender and almost straight oxea, cylindrical and hastately pointed at each end ; measuring about 0·25 by 0·006 mm.

I have not been able to find any microscleres.

R.N. 1181.

Oceanapia phillipensis, n. sp.

The sponge consists of a massive, sessile, depressed body, coated and charged with foreign matter, and sending up a number of elongated, hollow fistulæ, ranging up to about three inches in

length and one-third of an inch in diameter. These processes may either end blindly and bluntly, or bear small vents at the summit. The body is fairly compact but compressible and rather spongy, and nearly white in spirit.

Skeleton, in the interior of the body no fibres appear to be developed, and the skeleton consists of loosely but very thickly scattered spicules. The dermal skeleton of the body is obscured by the foreign matter. In the fistulæ we have the usual bast-like, reticulate dermal skeleton, strongly echinated by projecting tufts of oxea. Beneath this the cavity of the fistula is partly blocked up by an irregular, close-meshed network of very stout spicular fibre. Towards the surface the meshes became very small and sub-rectangular in shape.

Megascleres, rather short, slightly curved, hastately sharp-pointed oxea, measuring about 0·12 by 0·005 mm.

I have seen no microscleres.

R.N. 321 (18 f; "body pale buff-brown. Projections white"); 1184.

Oceanapia cohærens, Carter, sp.

Phlœodictyon cohærens, Carter, A.M.N.H., December, 1886, p. 446.

My personal acquaintance with this species is limited to a piece of the original specimen sent to Mr. Carter. This specimen was a cylindrical fragment made up of some twenty united tubes terminating in as many vents, all lying close together at the truncated end of the sponge. The skeleton is arranged as usual in the genus, with bast-like dermal network, and coarse, stout spicular fibres in the interior. The spicules are curved oxea, abruptly and bluntly pointed, measuring about 0·15 by 0·008 mm.

B.M. sp. 34 ("*Phlœodictyon cohærens*," Reg. 87-7-11-13).

Genus *Chondropsis* (Carter), n. gen.

Skeleton composed largely of sand and other foreign bodies, usually (?always) arranged in distinct fibres or columns. Spicular skeleton greatly reduced. Megascleres diactinal, strongyla or tylota. Microscleres nearly always present in the form of sigmata.

I had intended using von Lendenfeld's name *Sigmatella* for this genus, but found from Scudder's "Nomenclator Zoologicus" that it was already occupied.

The genus is here employed in a somewhat more restricted sense, however, than was intended by von Lendenfeld for *Sigmatella*. That author's diagnoses* make no sharp distinction between Marshall's *Phoriospongia* and his own *Sigmatella*. If, however, we restrict *Phoriospongia* to species with monactinal megascleres, as was done by Marshall, and reserve *Chondropsis* for those with diactinal megascleres, we shall have a very natural distinction. The occasional styli observed by von Lendenfeld in species of his *Sigmatella*, and by Carter in *Chondropsis*, were probably abnormal or accidental; in all cases the diactinal spicules predominate.

Unfortunately, Carter's type species of *Chondropsis* (*C. arenifera*) is not a good example of the genus, being devoid of the characteristic sigmata. He gives† no diagnosis, however, and terms his group "Chondropsina," which is co-extensive with his one species, "provisional." The genus *Chondropsis* may, therefore, be really considered as a new one, now for the first time defined.

I have very good evidence of an Ectyonine origin for this genus, but have not space to enter into the question here.

Chondropsis kirkii, Carter, sp.

Dysidea kirkii, Carter, A.M.N.H., March, 1885, p. 216.

(?) *Sigmatella australis*, Lendenfeld, Monograph of Horny Sponges, p. 611.

Sigmatella corticata, Lendenfeld, Monograph of Horny Sponges, p. 618.

The sponge is massive, often compressed but thick, sometimes digitate. The vents are usually large and conspicuous. The surface is smooth or minutely conulose and usually finely reticulate. The texture is compressible, and the colour in spirit pale grey.

The main skeleton is a very beautiful, irregular, tracery-like network of very fine-grained sand-fibre. There is a close-meshed dermal network of similar sandy fibre. The spicular elements are greatly reduced, though the megascleres may still be observed in radiating tufts towards the surface.

* Monograph of Horny Sponges, pp. 598, 611.

† A.M.N.H., February, 1886, p. 122.

The megascleres are very slender strongyla, and the microscleres very minute, much curved, simple and contort sigmata, usually extremely abundant.

This is an exceedingly common sponge, there being no less than thirty-nine specimens in Mr. Wilson's collection; the stations recorded being 5, 6, 7, 8, 9, 10, 11, 14, x A, x B, and Sorrento Jetty. The natural colours of eighteen specimens are recorded; most are shades of yellow or orange; three are pink or salmon; a few are grey with violet or purple tints, and one is bright red.

In two of the British Museum specimens I have found abundant rods and sigmata, as described by von Lendenfeld; in the other (d. 2) I have found rods only. In one of Mr. Wilson's later specimens I have also failed to find sigmata (R.N. 1031).

B.M. d. 2 (*"Dysidea kirkii,"* Reg. 86-12-15-333); d. 5 (*"Dysidea kirkii*, var. *flabelliformis,"* Reg. 86-12-15-344); d. 6 (*"Dysidea kirkii,"* Reg. 86-12-15-323).

R.N. 309; 318; 336; 456; 457; 458; 515; 688; 703; 704; 714; 765; 766; 771; 775; 777; 785; 788; 795; 816; 831; 832; 854; 859; 864; 883; 894; 908; 943; 954; 985; 993; 1030; 1031; 1053; 1059; 1060; 1094; 1198.

Chondropsis wilsoni, n. sp.

Massive, lobose, or irregular; sometimes compressed, but thick. Vents of moderate size, scattered on prominent parts. Surface rugose or warty, but glabrous and with minutely reticulate dermal membrane between the projections. On the prominent parts of the surface small scar-like sandy areas are scattered, but there is no sandy dermal reticulation. Texture tough, very sandy internally but rather soft and compressible. Colour in spirit nearly white.

Skeleton, stout columns of comparatively coarse sand, more or less widely separated from one another, run vertically to the surface, where they terminate in the scar-like sandy areas already mentioned. The sand grains are cemented together by spongin, and stout clear horny fibres occasionally run across from one sandy column to another. Between the sandy columns loose whisps of megascleres, often more or less enveloped in spongin, run towards the surface. The only dermal skeleton is formed by the loose tufts in which these whisps terminate.

Megascleres, almost straight, very slender strongyla or tylota with irregular heads, measuring about 0·18 by 0·0025 mm.

Microscleres, slender C-shaped sigmata of very regular form and bluntly pointed or even slightly swollen at the extremities, measuring about 0·016 mm. from bend to bend. The surface of the spicule may be very finely roughened.

R.N. 540 (x, 19 f; "buff"); 613 (s. 5, 7 f; "ochre-yellow"); 658; 735 (x B; "yellowish buff with reddish tips"); 817; 1054 (x A); (? *R.N.* 663; 711).

Chondropsis lamella, Lendenfeld, sp.

Phoriospongia lamella, Lendenfeld, Monograph of Horny Sponges, p. 602. Plate 37; figs. 2, 5, 6, 9, 11.

These are compressed, flabellate sponges, with sub-glabrous, sometimes slightly conulose surface, and small, scattered or marginal vents. They are intensely sandy throughout, incompressible and friable. The megascleres are very few slender strongyla; the microscleres are sigmata, characteristically long, slender and much contorted.

R.N. 520 (x, 20 f; "ferruginous"); 1019 (x B).

Chondropsis chaliniformis, Lendenfeld, sp.

Phoriospongia chaliniformis, Lendenfeld, Monograph of Horny Sponges, p. 600.

The specimens are compressed, flabellate or palmo-digitate, with vents scattered on one side or marginal. The surface is subglabrous with sandy reticulation showing through the thin dermal membrane. Texture slightly compressible, very sandy, friable. Colour in spirit very characteristic, chocolate-brown throughout, the colouring matter pervading all the soft tissues.

The main skeleton is an irregular network of coarse sandy fibre, the sand particles being comparatively large, and the spongin cement very scanty. There is no special dermal skeleton. The spicular elements are very insignificant, and loosely scattered in the soft tissues.

Megascleres, very slender, straight or curved strongyla, or tylota with feebly developed heads, measuring about 0·14 by 0·0014 mm.

Microscleres, numerous slender, contort sigmata, measuring about 0·03 mm. from bend to bend.

The sandy skeleton appears to be somewhat coarser, and the sigmata decidedly smaller than described by von Lendenfeld, but not sufficiently so to invalidate an identification. The sponge, however, appears to be quite distinct from Carter's "*Dysidea chaliniformis*," with which von Lendenfeld identifies it. My preparation of Carter's specimen from the British Museum shows it to belong to the *Esperellinæ*.

R.N. 945 (x A); 1027 (x B); 1044 (x); 1083 (x A).

Chondropsis columnifer, n. sp.

Massive, irregular, solid, heavy, compact. Surface very uneven, beset with short, flattened, rounded or ridge-like prominences, where the sandy columns come to the surface: smooth, glabrous and grey (in spirit) between these projections. Interior densely charged with sand, arranged in very stout radiating columns: soft and gelatinous between.

Skeleton, the main skeleton is composed of the very stout columns of sand above-mentioned, in which the sand-grains, though closely aggregated, appear to be scarcely if at all connected by spongin. The few and feebly developed spicules are irregularly scattered or collected into loose whisp-like bundles, especially towards the surface. There is no dermal skeleton.

Megascleres, very slender, straight strongyla or tylota, measuring about 0·2 by 0·002 mm.

Microscleres, fairly stout, contort, sharp-pointed sigmata, measuring about 0·035 mm. from bend to bend.

R.N. 445 (s. 9, 17 f; "gallstone yellow over wood-brown").

Chondropsis topsentii, n. sp.

Massive, irregular, with nearly smooth but slightly conulose or maeandriniform surface. Vents of fair size, scattered. Texture compact, gritty, friable, densely charged with coarse sand. Colour in spirit brown throughout.

Skeleton, the main skeleton is composed of flattened columns of rather coarse sand running vertically to the surface. These columns may unite by their edges in a honeycomb fashion, so

that their ends form a polygonal-meshed reticulation beneath the dermal membrane. The meshes of this reticulation are about 1·3 mm. in diameter and the plate-like sandy columns about 0·2 mm. in thickness. Little if any spongin cement is developed. Between the sandy plates in the body of the sponge the foreign bodies are few and small, but in the minutely reticulate, porous dermal membrane numerous small foreign bodies occur scattered irregularly.

Megascleres, few, slender strongyla, perhaps sometimes tylota: sparsely scattered through the ground substance and sometimes more abundant in loose tufts at the surface; measuring about 0·14 by 0·002 mm.

I can find no proper microscleres in any of the three specimens.

R.N. 487 (s. 10, 8 f; "drab-grey"); 499 (s. 6, 6 f; "clove-brown with a faint wash of green"); 1071 (x A).

Chondropsis arenifera, Carter.

Chondropsis arenifera, Carter, A.M.N.H., February, 1886, p. 122.

The single entire specimen which I have examined is massive, rounded, and irregular; with smooth, very minutely reticulate and faintly conulose surface, and large, scattered vents. The texture (in spirit) is rather soft and resilient, sandy, and the colour grey throughout.

The main skeleton consists of very loose and irregular sandy fibres (with little or no spongin), running vertically to the surface. The beautifully reticulate, highly porous dermal membrane contains numerous small, scattered foreign bodies, but there is no distinct dermal skeleton.

The proper spicules are slender strongyla or tylota, scattered through the ground substance, and more numerous in loose tufts at the surface. They measure about 0·16 by 0·002 mm. Numerous other spicules occur as foreign bodies. There appear to be no proper microscleres.

Although Carter mentions proper styli as occurring in this species, I cannot find them in the fragment of his specimen sent to me from the British Museum. My own specimen (R.N. 454), agrees exactly with the type in microscopical features, even down to the presence of the Algæ mentioned by Carter.

R.N. 454 (s. 9, 20 f; "olive grey.")

B.M. sp. 26 ("*Chondropsis arenifera* C. one of types." Reg. 86-12-15-149).

Chondropsis carteri, n. sp.

The single specimen is small, massive, rounded, constricted below and somewhat flattened above. The vents are minute and grouped on the upper part. The surface is smooth but rather uneven, minutely reticulate in patches. The texture in spirit is compact, but rather compressible, resilient, and the colour pale yellowish-grey.

The main skeleton consists of numerous stout sandy tracts or fibres running more or less parallel with one another towards the surface, and varying greatly in thickness and definition. These sandy fibres are accompanied by numerous strongyla, and occasionally connected transversely by loose bands of the same distinctly enveloped in spongin. The strongyla also occur abundantly scattered through the ground substance, and in loose whisp-like tracts running towards the surface. There is a soft dermal cortex, a little more than a millimetre thick, beneath which the sandy fibres cease. This cortex contains numerous, rather regularly disposed, slender, radiating tufts of strongyla, and numerous loosely scattered sand grains.

Megascleres, very numerous, straight, slender strongyla, measuring about 0·23 by 0·003 mm.

Microscleres, abundant, rather long, hair-like rhaphides; scattered and in loose whisp-like bundles (trichodragmata).

R.N. 978 (s. 5.)

Genus *Rhaphisia*, Topsent.*

Heterorrhaphidæ with oxea for megascleres and only trichodragmata or scattered rhaphides for microscleres.

I accept the genus as proposed by Topsent, but I cannot agree with that author in placing it amongst the *Renierinæ*.

Rhaphisia anonyma, Carter, sp.

Amorphina anonyma, Carter, A.M.N.H., January, 1886, p. 49.

Massive, lobose or irregular, often compressed; with usually large vents abundant on prominent parts. The surface is smooth

* Arch. de Zool. Exp. et Gen. T. x. 1892, p. 20.

but uneven, with minutely reticulate dermal membrane. The texture is soft, compressible, resilient and loose. The colour in spirit is almost white, in life, usually orange.

The skeleton is loosely fibrous, forming a very irregular network, the primary fibres being stouter and better defined than the secondaries. There appears to be little, if any, spongin. At the surface the primary fibres break up into radiating tufts of oxea which support the dermal membrane and give rise to the characteristic dermal reticulation. Numerous spicules are scattered between the ill-defined fibres.

Megascleres, slightly curved oxea, rather long and slender and gradually sharp-pointed at each end, measuring about 0·29 by 0·0042 mm.

Microscleres, numerous slender, hair-like rhaphides, about 0·18 mm. long; usually scattered separately but occasionally associated in loose whisps or bundles (trichodragmata).

Mr. Carter seems to have rather over-stated the size of the oxea and he has omitted to mention the rhaphides, which are plentiful in his specimens in the British Museum.

The species is very common, there being no less than twenty-four distinct specimens in the collection entrusted to me. The life-colours of thirteen of these are recorded. Orange is the prevailing tint and there are no great deviations from this. The stations from which the species is recorded are 1, 5, 6, 14, x A, x B, x C.

R.N. 268; 369; 395; 447; 482; 544; 553; 577; 631; 651; 699; 706; 751; 804; 818; 909; 914; 936; 957; 1066; 1067; 1085; 1110; 348 (var. ?).

B.M. sp. 30 (“*Amorphina anonyma*,” Reg. 86-12-15-119); d. 104 (“*Amorphina anonyma*,” Reg. 86-12-15-390).

Genus *Tedania*, Gray.

Megascleres of two kinds: (1) Monactinal; smooth styli, forming the main skeleton; (2) Diactinal; tylota, strongyla or tornota, typically dermal. Microscleres always present in the form of hair-like rhaphides.

Tedania digitata, Schmidt, sp.

Reniera digitata, Schmidt, Spong. Adriat. Meer., p. 75.

Tedania digitata, Carter, A.M.N.H., January, 1886, p. 52.

Tedania digitata, var. *verrucosa*, Carter, A.M.N.H., January, 1886, p. 53.

Tedania digitata, Ridley and Dendy, Challenger Monaxonida, p. 51 (where other references are given).

This widely distibuted species is very common in the neighbourhood of Port Phillip Heads, there being no less than thirty-four separate specimens in the collection. The external form is massive, lobose or digitate; the vents usually conspicuous, small or large; the surface smooth but generally uneven; the texture soft and spongy; the colour in spirit nearly white, and in life orange. In all of the thirty-four specimens the ends of the diactinal megascleres are microspined, a character by which the species is readily distinguished from the following one.

The life-colours of fifteen specimens are recorded, ten of these are stated to be some shade of orange, four are some shade of yellow, and one is "buff-brown with a tinge of flesh-colour," so that the variation is seen to be but slight.

The stations recorded are 1, 3, 5, 6, 8, 9, 10, x A, x C, Sorrento Jetty, Sorrento Reef, Queenscliff Jetty. Nine specimens came from Sorrento Jetty.

R.N. 320; 455; 526; 563; 568; 569; 692; 715; 720; 764; 770; 776; 780; 782; 784; 786A; 789; 796; 802; 814; 834; 850; 866; 871; 892; 962; 971; 975; 991; 992; 1069; 1093; 1105; 1106.

B.M. d. 109 ("*Tedania digitata*," Reg. 86-12-15-439); d. 110 ("*Tedania digitata*, var. *verrucosa*, Reg. 86-12-15-432).

Tedania commixta, Ridley and Dendy.

Tedania commixta, Ridley and Dendy, Challenger Monaxonida, p. 52, pl. xxiii., fig. 9.

This species was represented by a single specimen in the Challenger collection, from Bass Straits. Mr. Wilson's collection contains seventeen examples of it. The sponge is massive and usually contains much sand. The colour in life is orange, pink or brown, as shown by Mr. Wilson's records of twelve specimens.

The species is distinguished from *Tedania digitata* by the smooth-ended tylote diactinal megascleres. As *T. digitata* may also contain a good deal of sand I do not think the two species could be distinguished with certainty without microscopical examination. The amount and disposition of the sand in *T. commixta* varies much.

The stations recorded for the species are 6, 9, x A, x B, Sorrento Jetty.

R.N. 417; 441; 444; 498; 505; 552; 606; 747; 768; 769; 772; 781; 863; 960; 996; 1062; 1148.

Genus *Stylotrichophora*, n. gen.

The main skeleton is a network of horny fibre cored with foreign bodies. In addition to this there are smooth monactinal megascleres (styli) and hair-like microscleres (rhaphides).

The genus is perhaps related to Marshall's *Phoriospongia*, but differs in the distinct reticulate horny fibre, and in the presence of rhaphides instead of sigmata for microscleres.

Stylotrichophora rubra, n. sp.

The single specimen is compressed, lobose and little more than half an inch thick. The surface is smooth and even. The vents are very small and chiefly marginal. The texture is fairly compact, resilient. The colour in life was coral red, disappearing in spirit.

Skeleton, the main skeleton is an irregular, wide-meshed reticulation of stout horny fibre, everywhere abundantly cored with foreign bodies (broken spicules), but with a layer of more or less clear, transparent spongin outside the core. The primary fibres are about 0·25 mm. thick, sometimes more, and the secondary, connecting fibres a good deal more slender. Between these fibres is a loose but abundant spicular skeleton of slender megascleres, for the most part irregularly scattered, but collected into loose whisp-like fibres towards the surface. These spicular fibres seem to spring from the horny fibres of the main skeleton and break up at the surface into loose tufts of projecting styli whose ends penetrate the dermal reticulation.

The dermal skeleton is a very beautiful, close-meshed reticulation of foreign bodies (broken spicules) held together by spongin. The meshes of this dermal network are nearly circular and about 0·18 mm. in diameter. In some places the foreign bodies form an uninterrupted layer.

Megascleres, long, smooth, slender styli, usually slightly curved and finely pointed, measuring about 0·27 by 0·004 mm., but variable and sometimes a good deal longer.

Microscleres, very long and slender, hair-like rhaphides, usually collected into long fibrous whisps.

R.N. 478 (x, 20 f; "coral red").