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REVISION of the GENERIC NOMENCLATURE
and CLASSIFICATION in Bowerbank's
"BRITISH SPONGIADÆ."

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No Spongologist is likely to expect an apology for the present paper. Whilst the faithfulness of the illustrations and the correctness—in general—of the descriptive part in Bowerbank's "British Spongiadæ" is such that this Monograph will remain indispensable to students for time to come, yet his generic nomenclature and classification are incomprehensible and have never been accepted. What Bowerbank understood by a genus will remain a mystery. One out of numerous instances is sufficient: his genus *Hymeniacidon* has had to be broken up into no less than fifteen different genera, including amongst them the following: *Halichondria*, *Esperella*, *Clathria*, *Suberites*, *Dercitus* and perhaps even *Halisarca*.

Therefore I have made an attempt in this paper to assign all species described in Bowerbank's Monograph to their proper genera, as the latter are accepted at present, thus continuing and supplementing what Oscar Schmidt (15, p. 76) began in 1870. Whilst thus I shall be responsible for the correctness of the generic names, I do not wish to be equally so for the specific names. Many of Bowerbank's species will, in time to come, be found synonymous with others described by himself or by other authors. This, I think, applies chiefly to the still numerous species of *Halichondria*, *Reniera* and *Hymeniacidon*,

But only he who is fortunate enough to have access to the type specimens can attempt to revise the specific nomenclature, and, even then, his success may be doubtful, as so many of the type specimens are preserved in the dried condition.

This paper consists of two parts, the first containing the revision of the generic nomenclature. It is meant to be used with the plates in the third and fourth volumes of the Monograph. The left of the two columns gives Bowerbank's nomenclature, the right the revised nomenclature, beginning with the first plate in the third volume and ending with the last plate in the fourth volume. The numbers of the plates in the third volume are simply indicated by Roman numbers, but those in the fourth volume by Roman numbers preceded by "4."

The second part of the paper contains the classified list of all species described by Bowerbank, with their revised generic names only. References to the plates in the two volumes are given in each case, so that, by referring back to the first part of the present paper, the old name is easily ascertained. In many cases references are added to other works in which Bowerbank's species have been redescribed, or which otherwise bear upon the subject.

I have thought it useful to give the generic definitions of all Monaxonida, because they have been compiled from various authors. I have to acknowledge my indebtedness to Ridley and Dendy's "Challenger" Report (14) and perhaps still more to Topsent's recent writings (18, 19, 20). Many of the generic definitions are literally, or almost so, copied from those sources. Thus also the classification of Halichondrina is taken from Topsent's latest paper (20). Valuable aid was also obtained from von Lendenfeld (11, 13) and Vosmaer's works (22).

But I have not deemed it necessary to give the generic definitions in the other groups of Sponges, as for the Calcarea I have exclusively followed Dendy (2, 3, 4), for the Tetractinellida, Sollas (17), and for the Hexaceratina and Monoceratina, von Lendenfeld (12). The definitions of the genera of these groups will be found in the works of these respective authors.

PART I.

	BOWERBANK'S NOMENCLATURE.	REVISED NOMENCLATURE.
Pl. I.	<i>Grantia compressa</i>	<i>Sycon compressum</i> , auctt.
II.	<i>Grantia ciliata</i>	<i>Sycon coronatum</i> , E. & S.
	<i>Grantia ensata</i>	<i>Ute glabra</i> , O.S.
	<i>Grantia tessellata</i>	<i>Sycon elegans</i> , B.
III.	<i>Leucosolenia botryoides</i>	<i>Leucosolenia botryoides</i> , E. & S.
	<i>Leucosolenia contorta</i>	<i>Leucosolenia contorta</i> , B.
	<i>Leucosolenia coriacea</i>	<i>Leucosolenia coriacea</i> , Fl.
IV.	<i>Leucosolenia lacunosa</i>	<i>Leucosolenia lacunosa</i> , Johnst.
V.	<i>Leuconia nivea</i>	<i>Leucandra nivea</i> , Grant.
	<i>Leuconia fistulosa</i>	<i>Leucandra fistulosa</i> , Johnst.
VI.	<i>Leuconia pumila</i>	<i>Leucandra pumila</i> , B.
	<i>Leucogypgia Gossei</i>	<i>Leucandra gossei</i> , B.
VII.	<i>Geodia Zetlandica</i>	<i>Cydonium mülleri</i> , Fleming.
VIII.	<i>Pachymatisma Johnstonia</i>	<i>Pachymatisma johnstonia</i> , B.
	<i>Ecionemia ponderosa</i>	<i>Stryphnus ponderosus</i> , B.
IX.	<i>Ecionemia compressa</i>	<i>Pæcillastra compressa</i> , B.
	<i>Polymastia ornata</i>	<i>Polymastia ornata</i> , B.
X.	<i>Polymastia bulbosa</i>	<i>Polymastia bulbosa</i> , B.
	<i>Polymastia robusta</i>	<i>Polymastia robusta</i> , B.
XI.	<i>Polymastia brevis</i>	<i>Quasillina brevis</i> , B.
	<i>Polymastia spinula</i>	<i>Polymastia spinula</i> , B.
	<i>Polymastia radiosa</i>	<i>Polymastia radiosa</i> , B.
XII.	<i>Polymastia mammillaris</i>	<i>Polymastia mammillaris</i> , B.
XIII.	<i>Halyphysema ramulosa</i>	(no sponge).
	<i>Ciocalypta penicillus</i>	<i>Ciocalypta penicillus</i> , B.
XIV.	<i>Tethea cranium</i>	<i>Craniella cranium</i> , auctt.
	<i>Isodictya infundibuliformis</i>	<i>Tragosia infundibuliformis</i> , J.
XV.	<i>Tethea Collingsii</i>	<i>Stelletta collingsi</i> , B.
	<i>Tethea Schmidtii</i>	<i>Stelletta collingsi</i> , B.

	<i>Tethea Lyncurium</i>	<i>Tethya lyncurium</i> , Lin.
	<i>Tethea spinularia</i>	? <i>Polymastia spinularia</i> , B.
	<i>Halicnemis patera</i>	<i>Halicnemis patera</i> , B.
XVI.	<i>Dietyocylindrus ventilabrum</i>	<i>Raspailia ventilabrum</i> , B.
	<i>Dietyocylindrus ramosus</i>	<i>Raspailia ramosa</i> , Mont.
XVII.	<i>Dietyocylindrus hispidus</i>	<i>Raspailia hispida</i> , Mont.
XVIII.	<i>Dietyocylindrus fascicularis</i>	<i>Axinella fascicularis</i> , B.
XIX.	<i>Dietyocylindrus stuposus</i>	<i>Axinella stuposa</i> , Mont.
	<i>Dietyocylindrus Howsei</i>	<i>Raspailia howsei</i> , B.
	<i>Dietyocylindrus virgultosa</i>	<i>Raspailia virgultosa</i> , B.
	<i>Dietyocylindrus pumilus</i>	<i>Raspailia pumila</i> , B.
XX.	<i>Dietyocylindrus rugosus</i>	<i>Axinella rugosa</i> , B.
	<i>Dietyocylindrus radiosus</i>	<i>Raspailia radiosa</i> , B.
XXI.	<i>Dietyocylindrus pumilus</i>	<i>Raspailia pumila</i> , B.
	<i>Dietyocylindrus aculeatus</i>	<i>Raspailia aculeata</i> , B.
	<i>Phakellia robusta</i>	<i>Phakellia robusta</i> , B.
XXII.	<i>Phakellia ventilabrum</i>	<i>Phakellia ventilabrum</i> , Johnst.
XXIII.	<i>Microcionia fictitia</i>	<i>Plumohalichondria fictitia</i> , B.
	<i>Microcionia laevis</i>	<i>Microcionia laevis</i> , B.
	<i>Microcionia fallax</i>	<i>Microcionia fallax</i> , B.
	<i>Microcionia armata</i>	<i>Microcionia armata</i> , B.
XXIV.	<i>Microcionia spinulenta</i>	<i>Pocillon spinulentum</i> , B.
	<i>Microcionia plumosa</i>	<i>Stylostichon plumosum</i> , Mont.
	<i>Microcionia atrasanguinea</i>	<i>Microcionia atrasanguinea</i> , B.
XXV.	<i>Microcionia ambigua</i>	<i>Stylostichon ambiguum</i> , B.
XXVI.	<i>Hymeraphia vermiculata</i>	<i>Axinella vermiculata</i> , B.
	<i>Hymeraphia clavata</i>	<i>Hymeraphia clavata</i> , B.
XXVII.	<i>Hymeraphia verticillata</i>	<i>Hymeraphia verticillata</i> , B.
	<i>Hymeraphia stellifera</i>	<i>Aearnus stelliferus</i> , B.
XXVIII.	<i>Hymedesmia radiata</i>	<i>Hymeraphia radiata</i> , B.
	<i>Hymedesmia stellata</i>	<i>Hymedesmia stellata</i> , B.
XXIX.	<i>Hymedesmia Zetlandica</i>	<i>Clathrissa zetlandica</i> , B.
	<i>Hymedesmia radiata</i>	<i>Hymeraphia radiata</i> , B.
XXX.	<i>Hymeniacion Thomasii</i>	<i>Halichondria thomasi</i> , B.
	<i>Hymeniacion coccinea</i>	<i>Halichondria coccinea</i> , B.
	<i>Hymeniacion Brettii</i>	<i>Halichondria brettii</i> , B.
	<i>Hymeniacion fragilis</i>	<i>Halichondria fragilis</i> , B.
XXXI.	<i>Hymeniacion reticulatus</i>	<i>Halichondria reticulata</i> , B.
	<i>Hymeniacion fallaciosus</i>	<i>Halichondria fallaciosa</i> , B.
	<i>Hymeniacion albescens</i>	<i>Halichondria albescens</i> , J.
	<i>Hymeniacion perarmatus</i>	<i>Clathrissa perarmata</i> , B.
XXXII.	<i>Hymeniacion caruncula</i>	<i>Hymeniacion carunculum</i> , B.

	<i>Hymeniacion sanguinea</i>	<i>Hymeniacion sanguineum</i> , G.
	<i>Hymeniacion lactea</i>	<i>Halichondria lactea</i> , B.
	<i>Hymeniacion membrana</i>	<i>Halichondria membrana</i> , B.
XXXIII.	<i>Hymeniacion mammeata</i>	<i>Hymeniacion mammeatum</i> , B.
	<i>Hymeniacion consimilis</i>	<i>Hymeniacion consimile</i> , B.
	<i>Hymeniacion macilenta</i>	<i>Esperella macilenta</i> , B.
	<i>Hymeniacion variantia</i>	<i>Desmacella variantia</i> , B.
	<i>Hymeniacion fallax</i>	<i>Hymeniacion fallax</i> , B.
	<i>Hymeniacion viridans</i>	<i>Hymeniacion viridans</i> , B.
XXXIV.	<i>Hymeniacion perlevis</i>	<i>Hymeniacion perleve</i> , M.
	<i>Hymeniacion crustula</i>	<i>Suberites crustula</i> , B.
	<i>Hymeniacion aurea</i>	<i>Hymeniacion aureum</i> , M.
	<i>Hymeniacion pachyderma</i>	<i>Hymeniacion pachydermum</i> , B.
	<i>Hymeniacion armatura</i>	<i>Spanioplion armaturum</i> , B.
XXXV.	<i>Hymeniacion virgultosa</i>	<i>Suberites virgulosus</i> , J.
XXXVI.	<i>Hymeniacion suberea</i>	<i>Suberites domuncula</i> , Olivi.
	<i>Hymeniacion carnososa</i>	<i>Suberites carnosus</i> , J.
	<i>Hymeniacion ficus</i>	<i>Suberites ficus</i> , J.
XXXVII.	<i>Hymeniacion sulphurea</i>	<i>Suberites sulphureus</i> , Bean.
	<i>Hymeniacion paupertas</i>	<i>Hymeraphia paupertas</i> , B.
	<i>Hymeniacion subclavata</i>	<i>Esperella subclavata</i> , B.
	<i>Raphiodesma florem</i>	<i>Esperella florea</i> , B.
	<i>Hymeniacion clavigera</i>	<i>Clathria clavigera</i> , B.
XXXVIII.	<i>Hymeniacion Dujardinii</i>	<i>Dendoryx dujardini</i> , B.
	<i>Hymeniacion celata</i>	<i>Cliona celata</i> , Grant.
	<i>Hymeniacion gelatinosa</i>	? <i>Hymeniacion gelatinosum</i> , B.
	<i>Hymeniacion Bucklandi</i>	<i>Dercitus bucklandi</i> , B.
XXXIX.	<i>Halichondria panicea</i>	<i>Halichondria panicea</i> , Pallas.
XL.	<i>Halichondria panicea</i>	<i>Halichondria panicea</i> , Pallas.
XXI.	<i>Halichondria glabra</i>	<i>Halichondria glabra</i> , B.
	<i>Halichondria augulata</i>	<i>Gellius angulatus</i> , B.
	<i>Halichondria caduca</i>	<i>Halichondria caduca</i> , B.
	<i>Halichondria inconspicua</i>	<i>Halichondria inconspicua</i> , B.
	<i>Halichondria incerta</i>	<i>Halichondria incerta</i> , B.
	<i>Halichondria coalita</i>	<i>Halichondria coalita</i> , Gr.
XLII.	<i>Halichondria distorta</i>	<i>Halichondria distorta</i> , B.
XLIII.	<i>Halichondria corrugata</i>	<i>Biemma corrugata</i> , B.
	<i>Halichondria forcipis</i>	<i>Forcepia forcipis</i> , B.
	<i>Halichondria subdola</i>	<i>Axinella subdola</i> , B.
XLIV.	<i>Halichondria Thompsoni</i>	<i>Esperiopsis thompsoni</i> , B.
	<i>Isodictya simplex</i>	<i>Reniera simplex</i> , B.
	<i>Halichondria incrustans</i>	<i>Dendoryx incrustans</i> , Esper.

	<i>Halichondria candida</i>	<i>Dendoryx candida</i> , B
	<i>Halichondria irregularis</i>	<i>Myxilla irregularis</i> , B.
XLV.	<i>Halichondria Dickiei</i>	<i>Dendoryx dickiei</i> , B.
	<i>Halichondria granulata</i>	<i>Myxilla granulata</i> , B.
	<i>Halichondria scandens</i>	<i>Pocillon scandens</i> , B.
	<i>Halichondria albula</i>	<i>Yvesia albula</i> , B.
	<i>Halichondria nigricans</i>	<i>Iophon nigricans</i> , B.
	<i>Hymeniacion variantia</i>	<i>Desmacella variantia</i> , B.
XLVI.	<i>Halichondria Pattersoni</i>	<i>Dendoryx pattersoni</i> , B.
	<i>Halichondria Hyndmani</i>	<i>Pocillon hyndmani</i> , B.
	<i>Halichondria pulchella</i>	<i>Dendoryx pulchella</i> , B.
	<i>Halichondria Ingalli</i>	<i>Dendoryx ingalli</i> , B.
	<i>Halichondria Batei</i>	<i>Dendoryx batei</i> , B.
XLVII.	<i>Halichondria inornatus</i>	<i>Biemma inornata</i> , B.
	<i>Halichondria simplex</i>	<i>Hymeniacion simplex</i> , B.
	<i>Raphidodesma lingua</i>	<i>Esperella lingua</i> , B.
XLVIII.	<i>Isodictya cinerea</i>	<i>Reniera cinerea</i> , Grant.
	<i>Isodictya Peachii</i>	<i>Reniera peachii</i> , B.
	<i>Isodictya permollis</i>	<i>Reniera permollis</i> , B.
	<i>Isodictya simulo</i>	<i>Reniera bowerbanki</i> , Norman.
	<i>Isodictya varians</i>	<i>Reniera varians</i> , B.
XLIX.	<i>Isodictya elegans</i>	<i>Reniera elegans</i> , B.
	<i>Isodictya parasitica</i>	<i>Reniera parasitica</i> , B.
	<i>Isodictya Mcandrewii</i>	<i>Reniera macandrewi</i> , B.
	<i>Isodictya rosea</i>	<i>Reniera rosea</i> , B.
	<i>Isodictya indefinita</i>	<i>Reniera indefinita</i> , B.
L.	<i>Isodictya anomala</i>	<i>Reniera anomala</i> , B.
	<i>Isodictya densa</i>	<i>Reniera densa</i> , B.
	<i>Isodictya pallida</i>	<i>Reniera pallida</i> , B.
	<i>Isodictya jugosa</i>	<i>Gellius jugosus</i> , B.
	<i>Isodictya Gregorii</i>	<i>Reniera gregori</i> , B.
	<i>Isodictya simplex</i>	<i>Reniera simplex</i> , B.
LI.	<i>Isodictya indistincta</i>	<i>Reniera indistincta</i> , B.
	<i>Isodictya simulans</i>	<i>Reniera simulans</i> , Johnst.
	<i>Isodictya mammeata</i>	<i>Reniera mammeata</i> , B.
	<i>Isodictya fallax</i>	<i>Gellius fallax</i> , B.
LII.	<i>Isodictya palmata</i>	<i>Homœodictya palmata</i> , Johnst.
LIII.	<i>Isodictya ramusculus</i>	<i>Reniera ramuscula</i> , B.
	<i>Isodictya pocillum</i>	<i>Reniera pocillum</i> , B.
	<i>Isodictya clava</i>	<i>Reniera clava</i> , B.
	<i>Isodictya dichotoma</i>	<i>Reniera dichotoma</i> , B.
	<i>Isodictya fistulosa</i>	<i>Reniera fistulosa</i> , B.

LIV.	<i>Isodictya infundibuliformis</i>	<i>Tragosia infundibuliformis</i> , J.
LV.	<i>Isodictya dissimilis</i>	<i>Tragosia polypoides</i> , O. S.
	<i>Isodictya paupera</i>	<i>Esperiopsis paupera</i> , B.
	<i>Isodictya uniformis</i>	<i>Stylotella uniformis</i> , B.
LVI.	<i>Isodictya Normani</i>	<i>Esperiopsis normani</i> , B.
	<i>Isodictya pygmaea</i>	<i>Reniera pygmaea</i> , B.
	<i>Isodictya Clarkei</i>	<i>Esperiopsis clarkei</i> , B.
	<i>Isodictya fucorum</i>	<i>Esperiopsis fucorum</i> , Johnst.
	<i>Isodictya Alderi</i>	<i>Esperiopsis alderi</i> , B.
LVII.	<i>Isodictya Barleei</i>	<i>Tragosia barleei</i> , B.
	<i>Isodictya Beanii</i>	<i>Clathria beanii</i> , B.
	<i>Isodictya fimbriata</i>	<i>Dendoryx fimbriata</i> , B.
	<i>Isodictya Edwardii</i>	<i>Esperiopsis edwardi</i> , B.
	<i>Isodictya lobata</i>	<i>Esperella lobata</i> , Mont.
	<i>Isodictya gracilis</i>	<i>Esperiopsis gracilis</i> , B.
	<i>Isodictya lurida</i>	<i>Dendoryx lurida</i> , B.
LIX.	<i>Spongilla fluviatilis</i>	<i>Ephydatia fluviatilis</i> , Pallas.
LX.	<i>Spongilla lacustris</i>	<i>Euspongilla lacustris</i> , auctt.
LXI.	<i>Desmacidon fruticosa</i>	<i>Desmacidon fruticosum</i> , Mont.
LXII.	<i>Desmacidon Jeffreysii</i>	<i>Oceanapia robusta</i> , B.
LXIII.	<i>Desmacidon Peachii</i>	<i>Desmacella peachii</i> , B.
	<i>Desmacidon ægagropila</i>	<i>Esperella ægagropila</i> , Johnst.
LXIV.	<i>Raphyrus Griffithsii</i>	<i>Cliona celata</i> , Grant.
LXV.	<i>Ophlitaspongia seriata</i>	<i>Ophlitaspongia seriata</i> , Grant.
	<i>Spongionella pulchella</i>	<i>Leiosella pulchella</i> , Sowerby.
LXVI.	<i>Chalina oculata</i>	<i>Chalina oculata</i> , Pallas.
LXVII.	<i>Chalina cervicornis</i>	<i>Chalina cervicornis</i> , Pallas.
	<i>Chalina gracilentata</i>	<i>Pachychalina gracilentata</i> , B.
	<i>Chalina limbata</i>	<i>Pachychalina limbata</i> , Mont.
LXVIII.	<i>Chalina Flemingii</i>	<i>Chalina flemingi</i> , B.
	<i>Chalina Montaguui</i>	<i>Pachychalina montagnui</i> , Fl.
	<i>Chalina Grantii</i>	<i>Pachychalina grantii</i> , B.
LXIX.	<i>Dysidea fragilis</i>	<i>Spongelia fragilis</i> , M. var. <i>irregularis</i> .
LXX.	<i>Ophlitaspongia papilla</i>	<i>Ophlitaspongia papilla</i> , B.
	<i>Halichondria farinaria</i>	<i>Suberites farinarius</i> , B.
	<i>Verongia Zetlandica</i>	<i>Aplysina zetlandica</i> , B.
	<i>Diplodemia vesicula</i>	<i>Diplodemia vesicula</i> , B.
LXXI.	<i>Hymeniacion foliatus</i>	<i>Suberites foliatus</i> , B.
	<i>Desmacidon constrictus</i>	<i>Esperella constricta</i> , B.
LXXII.	<i>Hymeniacion firmus</i>	<i>Halichondria firma</i> , B.
	<i>Hymeniacion radiosa</i>	<i>Hymeniacion radiosum</i> , B.

	Hymeniacion placentula	Pœcillastra compressa, B.
	Hymeniacion plumiger	Hymeniacion plumigerum, B.
	Polymastia conigera	Polymastia conigera, B.
LXXXIII.	Halichondria foliata	Esperiopsis foliata, B.
	Halichondria edusa	Halichondria edusa, B.
	Halichondria regularis	Halichondria regularis, B.
	Halichondria Couchii	Gellius couchi, B.
	Microciona simplicima	Tedania simplicissima, B.
LXXXIV.	Halichondria falcula	Hamacantha falcula, B.
	Halichondria mutula	Esperiopsis mutula, B.
	Halichondria expansa	Dendoryx expansa, B.
	Halichondria ambigua	Halichondria ambigua, B.
	Hymeniacion tegeticula	Halichondria tegeticula, B.
LXXXV.	Isodictya laciniosa	Clathria laciniosa, B.
LXXXVI.	Isodictya obscura	Reniera obscura, B.
	Isodictya imitata	Esperiopsis imitata, B.
	Isodictya coriacea	Plocamia coriacea, B.
	Raphiodesma sordida	Esperella sordida, B.
LXXXVII.	Raphiodesma lingua	Esperella lingua, B.
LXXXVIII.	Isodictya Ingalli	Reniera ingalli, B.
	Desmacidon columella	Stylotella columella, B.
LXXXIX.	Hymenaphia coronula	Hymenaphia coronula, B.
	Hymedesmia inflata	Pytheas inflatus, B.
	Hymedesmia occulta	Desmacidon occultum, B.
LXXX.	Hymedesmia simplicima	Suberites simplicissimus, B.
	Hymenaphia simplex	Hymenaphia simplex, B.
LXXXI.	Normania crassa	Pœcillastra compressa, B.
LXXXII.	Isodictya lurida	Dendoryx lurida, B.
	Desmacidon copiosa	Esperella copiosa, B.
	Desmacidon cavernula	Desmacella cavernula, B.
	Ecionemia coactura	Stelletta coactura, B.
	Microciona fictitia	Plumohalichondria fictitia, B.
LXXXIII.	Microciona jecusculum	Myxilla jecusculum, B.
	Microciona fraudator	Plumohalichondria fraudator, B.
	Chalina inornata	Stylotella inornata, B.
	Tethea spinosa	Lissomyxilla spinosa, B.
	Desmacidon ægagropila	Esperella ægagropila, Johnst.
LXXXIV.	Dictyoeylindrus rectangulus	Raspailia rectangula, B.
LXXXV.	Isodictya filamenta	Reniera filamenta, B.
	Isodictya luteosa	Reniera luteosa, B.
	Isodictya invalida	Hymeniacion invalidum, B.
	Hymeniacion medius	Hymeniacion medium, B.

	Desmacidon incognitus	Stylotella incognita, B.
LXXXVI.	Ciocalyptra Leci	Ciocalyptra penicillus, B.
	Spongilla Parfitti	Ephydatia parfitti, C.
	Spongilla sceptrifera	Ephydatia sceptrifera, B.
LXXXVII.	Hymedesmia indistincta	Hymenaphia indistincta, B.
	Isodictya obscura	Reniera obscura, B.
LXXXVIII.	Isodictya varians	Reniera varians, B.
LXXXIX.	Desmacidon pannosus	Stylotella pannosa, B.
	Isodictya incerta	Reniera incerta, B.
	Tethea cranium	Craniella cranium, auctt.
	Microciona Kentii	Plumohalichondria kenti, B.
	Desmacidon similaris	Esperella similaris, B.
XC.	Raphiodesma simplissima	Stylotella simplicissima, B.
	Isodictya dubia	Esperiopsis dubia, B.
	Desmacidon rotalis	Esperella rotalis, B.
XCI.	Isodictya rugosa	Dendoryx rugosa, B.
	Leuconia Somesii	Leucandra somesi, B.
	Halichondria McIntoshii	Halichondria macintoshii, B.
	Dysidea coriacea	Spongelia fragilis, M. var. irregularis.
XCII.	Isodictya tumulosa	Dendoryx tumulosa, B.
	Battersbyia Bucklandi	Dercitus bucklandi, B.
	Hymeniacion Aldousii	Hymeniacion aldousi, B.
4, I.	Hymedesmia pansa	Myxilla pansa, B.
	Hymedesmia tenuicula	Suberites tenuiculus, B.
4, II.	Hymedesmia pilata	Myxilla pilata, B.
	Hymedesmia pulchella	Myxilla pulchella, B.
4, III.	Hymeniacion Hillieri	Hymeniacion hillieri, B.
	Hymeniacion solidus	Halichondria solida, B.
4, IV.	Isodictya scitula	Esperiopsis scitula, B.
	Hymeniacion virgulatus	Hymeniacion virgulatum, B.
	Hymeniacion callosus	Hymeniacion callosum, B.
	Hymeniacion armiger	Yvesia armigera, B.
4, V.	Halichondria virgea	Dendoryx virgea, B.
	Halichondria Robertsoni	Dendoryx robertsoni, B.
4, VI.	Halichondria condensa	Halichondria condensa, B.
	Halichondria cylindracea	Desmacidon cylindraceum, B.
4, VII.	Halichondria coralloides	Halichondria coralloides, B.
	Halichondria flabellifera	Lissodendoryx flabellifera, B.
4, VIII.	Isodictya ferula	Reniera ferula, B.
	Isodictya crassa	Reniera crassa, B.
4, IX.	Isodictya scitula	Esperiopsis scitula, B.

	<i>Isodictya perplexa</i>	<i>Reniera perplexa</i> , B.
4, X.	<i>Isodictya involuta</i>	? <i>Hymeniacion</i> involutum, B.
	<i>Isodictya paupercula</i>	? <i>Desmacion</i> pauperculum, B.
4, XI.	<i>Microciona tumulosa</i>	<i>Halichondria tumulosa</i> , B.
	<i>Isodictya trunca</i>	<i>Clathrissa trunca</i> , B.
4, XII.	<i>Isodictya hispida</i>	<i>Esperiopsis hispida</i> , B.
	<i>Isodictya nodosa</i>	<i>Hymeniacion nodosum</i> , B.
4, XIII.	<i>Isodictya pertenuis</i>	<i>Hymeniacion pertenuis</i> , B.
	<i>Hymedesmia Peachii</i>	<i>Myxilla peachi</i> , B.
4, XIV.	<i>Isodictya deformis</i>	<i>Esperiopsis deformis</i> , B.
	<i>Isodictya collina</i>	<i>Esperiopsis collina</i> , B.
4, XV.	<i>Hymeniacion tenebrosus</i>	<i>Suberites tenebrosus</i> , B.
	<i>Isodictya funalis</i>	<i>Esperiopsis funalis</i> , B.
4, XVI.	<i>Isodictya inaequalis</i>	<i>Dendoryx inaequalis</i> , B.
	<i>Isodictya implicita</i>	<i>Jophon implicitum</i> , B.
4, XVII.	<i>Raphiodesma intermedium</i>	<i>Esperella intermedia</i> , B.
	<i>Raphiodesma fallaciosum</i>	<i>Esperella fallaciosa</i> , B.

PART II.

*Classified List of the British Sponges described by
Bowerbank.*

Phylum PORIFERA.

Class I. CALCAREA, Gray.

1. Order. HOMOCÆLA, Poléjaeff.

Leucosolenia botryoides, Ellis & Sol., III, (*Hæckel*, 6, p. 65).

„ *contorta*, B., III, (*Hæckel*, 6, p. 91).

„ *coriacea*, Fleming, III, (*Hæckel*, 6, p. 24).

„ *lacunosa*, Johnst., IV, (*Hæckel*, 6, p. 70).

2. Order. HETEROCÆLA, Poléjaeff.

Sycon compressum, auctt., I, (*Hæckel*, 6, p. 360).

„ *coronatum*, Ellis & Sol., II, (*Hæckel*, 6, p. 304).

„ *elegans*, B., II, (*Hæckel*, 6, p. 338).

Ute glabra, O. Schmidt, II, (*Hæckel*, 6, p. 349).

Leucandra fistulosa, Johnst., V, (*Hæckel*, 6, p. 197).

„ *gossei*, B., VI, (*Hæckel*, 6, p. 177).

Leucandra nivea, Grant, V, (*Hæckel*, 6, p. 211).

„ *pumila*, B., VI, (*Hæckel*, 6, p. 148).

„ *somesi*, B., XCI.

Class II. SILICEA, Gray.

Sub-class I. TRIAXONIA, Schulze.

1. Order HEXACTINELLIDA, Schmidt.

None.

2. Order HEXACERATINA, Lendenfeld.

Halisarca dujardini, Johnston. (*Schulze*, 16.)

NOTE. Bowerbank (see Vol. II, p. 225) never seemed to believe in the existence of *Halisarca dujardini*, as described by Johnston. It is difficult to imagine that B. never met with that sponge. For some time I thought that his *Hymeniacion dujardini*, XXXVIII and *H. gelatinosa*, XXXVIII might have been certain spiculiferous sponge remains overgrown by *Halisarca*. But since Topsent (18, p. 99) describes the former of the two sponges under the name *Dendoryx dujardini*, B., my supposition could be true only with regard to *Hymeniacion gelatinosa*. Norman enumerates *H. dujardini* in the Appendix to Vol. IV, p. 238.

Sub-class II. TETRAXONIA, Schulze.

a. Order TETRACTINELLIDA, Marshall.

1. Sub-order: CHORISTIDA, Sollas.

Craniella cranium, auctt., XIV and LXXXIX. (*Sollas*, 17, p. 51.)

Pæcillastra compressa, B., IX, LXXII and LXXXI. (*Sollas*, 17, p. 98.)

Dercitus bucklandi, B., XXXVIII and XCII. (*Sollas*, 17, p. 108.)

Stelletta coactura, B., LXXXII. (*Sollas*, 17, p. 184.)

„ *collingsi*, B., XV. (*Sollas*, 17, p. 185.)

Stryphnus ponderosus, B., VIII. (Sollas, 17, p. 193).

Pachymatisma johnstonia, B., VIII. (Sollas, 17, p. 242.)

Cydonium mülleri, Fleming, VII. (Sollas, 17, p. 254.)

2. Sub-order: LITHISTIDA, O. Schmidt.

None.

b. Order MONAXONIDA, Ridley and Dendy.

With uniaxial megascleres.

1. Sub-order HALICHONDRINA, Vosmaer.

Typically non-corticate; skeleton usually reticulate; megascleres usually either oxea or styli.

Family I. HAPLOSCLERIDÆ, Topsent (20).

Skeleton simple; megascleres typically diactinal; microscleres rarely present, never chelæ.

a. Sub-family CHALININÆ, Ridley and Dendy.

Skeleton fibrous. Megascleres oxea or strongyla, completely enveloped by a sheath of spongin. Microscleres, if present, toxa.

Genus *Chalina*, Grant.

Fibres typically with a single axial series of spicules. No microscleres.

Chalina cervicornis, Pallas, LXVII.

„ *flemingi*, B., LXVII.

„ *oculata*, Pallas, LXVI.

Genus *Pachychalina*, O. Schmidt.

Fibres typically with numerous spicules, arranged polyserially. No microscleres.

Pachychalina gracilentata, B., LXVII.

„ *granti*, B., LXVIII.

„ *limbata*, Mont., LXVII. (Grentzenberg, 5, p. 30.)

„ *montagui*, Fleming, LXVIII. (Hantsch, 8, p. 201.)

b. Sub-family RENIERINÆ, Ridley and Dendy.

Skeleton confused or regular. Spongin may be present, but never completely enveloping the spicules. Microscleres rarely present.

Genus *Halichondria*, Fleming.

Skeleton confused, never regularly reticulate. Megascleres oxea or strongyla. Spongin scarcely appreciable. No microscleres.

Halichondria albescens, Johnst., XXXI.

„ *ambigua*, B., LXXIV.

„ *bretti*, B., XXX.

„ *caduca*, B., XLI. (Ridley & Dendy, 14, p. 3.)

„ *coalita*, Grant, XLI.

„ *coccinea*, B., XXX.

„ *condensa*, B., 4, VI.

„ *coralloides*, B., 4, VII.

„ *distorta*, B., XLII.

„ *edusa*, B., LXXIII.

„ *fallaciosa*, B., XXXI.

„ *firma*, B., LXXII.

„ *fragilis*, B., XXX.

„ *glabra*, B., XLI.

„ *incerta*, B., XLI.

„ *inconspicua*, B., XLI.

„ *lactea*, B., XXXII.

„ *macintoshi*, B., XCI.

„ *membrana*, B., XXXII.

„ *panicea*, Pallas, XXXIX. (Grentzenberg, 5, p. 11.)

„ *regularis*, B., LXXIII.

„ *reticulata*, B., XXXI.

„ *solida*, B., 4, III.

„ *tegeticula*, B., LXXIV.

Halichondria thomasi, B., XXX.

„ *tumulosa*, B., 4, XI.

Genus *Reniera*, Nardo.

Skeleton composed of definite, rectangular (sometimes triangular or polygonal), typically unispicular meshes. Spicules short oxea or strongyla, usually united together at the ends only by spongin. No microscleres.

NOTE. Some of the spicules of one species, viz., *R. anomala*, are inflated in the centre.

Reniera anomala, B., L.

„ *bowerbanki*, Norman, XLVIII.

„ *cinerea*, Grant, XLVIII.

„ *clava*, B., LIII.

„ *crassa*, B., 4, VIII.

„ *densa*, B., L.

„ *dichotoma*, B., LIII.

„ *elegans*, B., XLIX. (Topsent, 18, p. 70.)

„ *ferula*, B., 4, VIII.

„ *filamenta*, B., LXXXV.

„ *fistulosa*, B., LIII.

„ *gregori*, B., L.

„ *incerta*, B., LXXXIX.

„ *indefinita*, B., XLIX.

„ *indistincta*, B., LI. (Topsent, 18, p. 69.)

„ *ingalli*, B., LXXXVIII.

„ *luteosa*, B., LXXXV.

„ *mammeata*, B., LI.

„ *macandrewi*, B., XLIX.

„ *obscura*, B., LXXVI and LXXXVII.

„ *pallida*, B., L.

„ *parasitica*, B., XLIX.

„ *peachi*, B., XLVIII.

„ *permollis*, B., XLVIII.

„ *perplexa*, B., 4, IX.

Reniera pocillum, B., LIII.

„ *pygmea*, B., LVI.

„ *ramuscula*, B., LIII.

„ *rosea*, B., XLIX.

„ *simplex*, B., XLIV and L.

„ *simulans*, Johnston, LI.

„ *varians*, B., XLVIII and LXXXVIII.

Genus *Gellius*, Gray.

Skeleton formed of a more or less regular network, never of fibres. Megascleres diactinal. Microscleres sigmata and (or) toxa.

NOTE. Bowerbank omitted to describe and figure the sigmata amongst the microscleres of *Gellius angulatus*. Ridley and Dendy (14, p. 44) who examined the type specimens in the British Museum, discovered that spicule, and referred the sponge to the genus *Gellius*. *Gellius angulatus*, B., XLI. (Topsent, 18, p. 76.)

„ *couchi*, B., LXXIII.

„ *fallax*, B., LI.

„ *jugosus*, B., L.

c. Sub-family SPONGILLINÆ.

Fresh water Sponges.

Genus *Euspongilla*, Vejdowsky.

Megascleres smooth or spined. Gemmules covered with small spined spicules.

Euspongilla lacustris, autt., LX. (Weltner, 23, p. 12; 24, p. 260.)

Genus *Ephydatia*, Lamouroux.

Megascleres smooth or spined. Gemmules covered with amphidiscs the edges of which are indented.

Ephydatia fluviatilis, Pallas, LIX. (Weltner, 24, p. 245.)

„ *parfitti*, Carter, LXXXVI,

„ *sceptrifera*, B., LXXXVI.

d. Sub-family GELLIODINÆ.

None.

e. Sub-family PHLÆODICTYINÆ, Ridley and Dendy.

Massive Sponges with a thick rind and fistulous appendages. Skeleton of the choanosome consisting of spiculous fibres. Megascleres oxea. Microscleres (if present) sigmata.

Genus *Oceanapia*, Norman.

With microscleres.

Oceanapia robusta, B., LXII. (Ridley and Dendy, 14, p. 36.)

Family II. PÆCILOSCLERIDÆ, Topsent.

Skeleton more complicated. Megascleres typically monactinal. Usually with microscleres, typically chelæ.

a. Sub-family ESPERELLINÆ, Ridley and Dendy.

Skeleton fibres not echinated. Megascleres of the ectosome not differing essentially from those of the choanosome.

Genus *Stylotella*, Lendenfeld.

Skeleton reticulate. Primary fibres multispiculous. Megascleres chiefly styli. No microscleres.

NOTE. Topsent, (18, p. 135) established the genus *Stylinos* for the undermentioned forms (except *S. inornata*), but dropped it again (20, p. 6) on finding that *Stylotella*, Lendenfeld, was identical with and prior to it.

Stylotella columella, B., LXXVIII. (Topsent, 18, p. 136.)

„ *incognita*, B., LXXXV.

„ *inornata*, B., LXXXIII.

„ *pannosa*, B., LXXXIX.

„ *simplicissima*, B., XC.

„ *uniformis*, B., LV.

Genus *Desmacella*, Schmidt.

Skeleton fibrous. Megascleres tylostyli or styli, or both. Microscleres sigmata and (or) toxa, occasionally trichodragmata.

Desmacella cavernula, B., LXXXII. (Topsent, 18, p. 84).

„ *peachi*, B., LXIII. (Topsent, 18, p. 84.)

„ *variantia*, B., XXXIII and XLV.

Genus *Biemma*, Gray.

Sponges allied to *Desmacella*, but with the aspect and structure of *Halichondria*. Megascleres: tylostyles. Microscleres: sigmata.

Biemma corrugata, B., XLIII. (Topsent, 18, p. 81.)

„ *inornata*, B., XLVII. (Topsent, 18, p. 80.)

Genus *Esperiopsis*, Carter.

External form amorphous or symmetrical. Megascleres monactinal. Microscleres isochelæ, with or without sigmata.

Esperiopsis alderi, B., LVI.

„ *clarkei*, B., LVI.

„ *collina*, B., 4, XIV.

„ *deformis*, B., 4, XIV.

„ *dubia*, B., XC.

„ *edwardi*, B., LVIII. (Ridley and Dendy, 14, p. 78.)

„ *foliata*, B., LXXIII. (Carter, 1, p. 310.)

„ *fucorum*, Johnst., LVI.

„ *funalis*, B., 4, XV.

„ *gracilis*, B., LVIII.

„ *hispida*, B., 4, XII.

„ *imitata*, B., LXXVI.

„ *mutula*, B., LXXIV.

„ *normani*, B., LVI.

„ *paupera*, B., LV.

Esperiopsis scitula, B., 4, IV and 4, IX.

„ *thompsoni*, B., XLIV.

Genus *Esperella*, Vosmaer.

External form amorphous or symmetrical. Megascleres monactinal. Microscleres palmate anisochelæ, to which others may be added.

Esperella agagropila, Johnst., LXIII and LXXXIII.

„ *constricta*, B., LXXI.

„ *copiosa*, B., LXXXII.

„ *fallaciosa*, B., 4, XVII.

„ *florea*, B., XXXVII. (Hanitsch, 8, p. 202.)

„ *intermedia*, B., 4, XVII.

„ *lingua*, B., XLVII and LXXVII. (Topsent, 18, p. 88.)

„ *lobata*, Mont., LVIII.

„ *macilenta*, B., XXXIII.

„ *rotalis*, B., XC.

„ *similaris*, B., LXXXIX.

„ *sordida*, B., LXXVI. (Hanitsch, 9, p. 214.)

„ *subclavata*, B., XXXVII.

Genus *Hamacantha*, Gray.

Megascleres usually styli. Microscleres typically diancistra, with or without sigmata, toxa and trichodragmata.

Hamacantha falcula, B., LXXIV.

Genus *Desmacidon*, Bowerbank.

Megascleres diactinal. Microscleres isochelæ and, usually, sigmata.

Desmacidon cylindraceum, B., 4, VI.

„ *fruticosum*, Mont., LXI. (Ridley and Dendy, 14, p. 104.)

„ *occultum*, B., LXXIX.

? „ *pauperculum*, B., 4, X.

Genus *Homæodictya*, Ehlers.

Usually lobate or palmate. Fibres rich in spongin.

Megascleres diactinal. Microscleres characteristic fimbriated isochelæ.

Homæodictya palmata, Johnston, LII. (Ridley and Dendy, 14, p. 108.)

b. Sub-family DENDORICINÆ, Topsent.

Skeleton fibres not echinated. The megascleres of the ectosome are usually of a different type of those of the choanosome, generally diactinal.

Genus *Dendoryx*, Gray.

Skeleton reticulate. Megascleres of the ectosome usually diactinal, mostly smooth, in a few cases spined on the ends. Megascleres of the choanosome monactinal, always spined. Microscleres: usually isochelæ, rarely anisochelæ or no chelæ at all. Sigmata may be present.

NOTE. As the genus *Dendoryx*, defined as above, includes a great variety of forms, I think it useful to arrange the species according to the character of the ectosomal megascleres, and of the microscleres. According to Vosmaer (22, p. 359), *D. dickiei* and *D. lurida* are identical. But he apparently overlooked what Bowerbank says in regard to the former species (Vol. II, p. 254): "The vast quantity and great size of many of the anchorate spicula is a very remarkable feature in this sponge." The corresponding spicule in *D. lurida* is considerably smaller. Still these two species, as possessing hastate diactinals (and thus forming Vosmaer's genus *Hastatus*), stand much nearer to each other than they do to *D. rugosa*.

1. Ectosomal megascleres diactinal, smooth:

a. with isochelæ and sigmata:

Dendoryx inaequalis, B., 4, XVI.

„ *incrustans*, Esper, XLIV. (Hanitsch, 8, p. 204.)

- „ *robertsoni*, B., 4, V.
 b. with isochelæ only:
Dendoryx dickiei, B. XLV.
 „ *lurida*, B., LVIII and LXXXII.
 „ *rugosa*, B., XCI.
 c. with anisochelæ and sigmata:
Dendoryx ingalli, B., XLVI.
 d. without microscleres:
Dendoryx dujardini, B., XXXVIII. (Topsent, 18, p. 99).
2. Ectosomal megascleres monactinal, smooth:
 a. with isochelæ only:
Dendoryx batei, B., XLVI.
 „ *imbriata*, B., LVIII.
virgea, B., 4, V.
3. Ectosomal megascleres diactinal, terminally spined:
 a. with anisochelæ only:
Dendoryx expansa, B., LXXIV.
 „ *pattersoni*, B., XLVI. (Ridley and Dendy, 14, p. 117.)
 b. with sigmata only:
Dendoryx pulchella, B., XLVI.
4. Ectosomal megascleres monactinal, terminally or entirely spined:
 a. with isochelæ and sigmata:
Dendoryx tumulosa, B., XCII.
 b. with sigmata only:
Dendoryx candida, B., XLIV.
 Genus *Iophon*, Gray.
 Soft, crumbling sponges, of dark colour. Megascleres of the ectosome diactinal, those of the choanosome spined styli. Microscleres anisochelæ and bipocilli.
Iophon nigricans, B., XLV. (Topsent, 18, p. 98.)
 „ *implicatum*, B., 4, XVI.

NOTE. Ridley and Dendy (14, p. 117) include *Hali-chondria pattersoni*, B., under the present genus. This must be an oversight, as that species possesses no bipocilli. Its right place seems to be under *Dendoryx*. Topsent (18, 34) places *J. implicata* in his new genus *Pocillon*. I do not follow him, as Bowerbank leaves it uncertain whether there are really "defensive spicules" in that sponge.

Genus *Lissodendoryx*, Topsent (18, p. 97.)

Sponges having the main skeleton composed of smooth styli, but else with the characters of *Dendoryx*.

Lissodendoryx flabellifera, B., 4, VII.

Genus *Tedania*, Gray.

Megascleres of the ectosome diactinal, those of the choanosome monactinal, both smooth. Microscleres raphides.

Tedania simplicissima, B., LXXIII.

Genus *Forcepia*, Carter.

Megascleres of the ectosome diactinal, those of the choanosome monactinal, both smooth. Characteristic microsclere a labis, with or without isochelæ or anisochelæ.

Forcepia forcipis, B., XLIII.

Genus *Yvesia*, Topsent (18, p. 102).

Megascleres of the ectosome generally monactinal, but often also diactinal, always spined. Megascleres of the choanosome smooth, normally diactinal. Microscleres isochelæ and (or) sigmata, or absent altogether.

Yvesia armigera, B., 4, IV.

„ *albula*, B., XLV.

c. Sub-family ECTYONINÆ, Ridley and Dendy.

Skeleton fibres echinated, generally by spined spicules.

Genus *Myxilla*, Schmidt.

Megascleres of the choanosome monactinal, spined,

forming a reticulate skeleton echinated by spined styli. Megascleres of the ectosome smooth diactinals. Microscleres isochelæ, with or without sigmata and toxa.

Myxilla granulata, B., XLV.

„ *irregularis*, B., XLIV.

„ *jecusculum*, B., LXXXIII. (Carter, 1, p. 237.)

„ *pansa*, B., 4, I.

„ *peachi*, B., 4, XIII. (Topsent, 18, p. 109.)

„ *pilata*, B., 4, II.

„ *pulchella*, B., 4, II.

Genus *Pocillon*, Topsent (19, p. xxxiv).

Agreeing with *Myxilla* in structure, but having bipocilli in addition. Differing from *Iophon* only by the possession of echinating spined styli.

Pocillon hyndmani, B., XLVI. (Hanitsch, 9, p. 217.)

„ *scandens*, B., XLV.

„ *spinulentum*, B., XXIV.

Genus *Lissomyxilla*, n.g.

Skeleton fibres of the choanosome formed of smooth monactinals, echinated by spined styli. Megascleres of the ectosome smooth diactinals or monactinals. Microscleres (isochelæ, etc.) may be present.

NOTE. I have ventured to make this new genus for a form which I could bring under no existing genus. It differs from *Myxilla* only by the smooth styli of the choanosome, and stands to *Myxilla* in the same relationship as *Lissodendoryx*, Topsent, to *Dendoryx*, Gray. Topsent (18, p. 108) speaks of the possibility of a genus of the above character having to be created sometime. I have left the definition of the new genus wider than was really necessitated by the only known species of it, so that allied forms may be more easily included under it. The present species has

monactinals in the ectosome, and possesses no microscleres.

Lissomyxilla spinosa, B., LXXXIII.

Genus *Plumohalichondria*, Carter.

Main skeleton formed of plume-like columns, containing smooth diactinal spicules, echinated by spined styli. Dermal skeleton with smooth diactinal spicules and spined styli. Microscleres isochelæ.

Plumohalichondria fictitia, B., XXIII and LXXXII.

„ *fraudator*, B., LXXXIII.

„ *kenti*, B., LXXXIX.

Genus *Stylostichon*, Topsent (18, p. 111).

Main skeleton formed of plume-like columns, containing spined styli, echinated by spined styli. Dermal skeleton with smooth diactinal spicules. Microscleres isochelæ.

Stylostichon ambiguum, B., XXV.

„ *plumosum*, Mont., XXIV. (Ridley and Dendy, 14, p. 145.)

Genus *Microciciona*, Bowerbank.

Main skeleton formed of short plume-like columns, containing basally spined styli, echinated by entirely spined styli. Dermal skeleton with smooth styli. Microscleres may be present: isochelæ, with or without toxa and sigmata.

NOTE. *M. lævis* differs from the three other species by having smooth styli in the skeleton columns.

Microciciona armata, B., XXIII.

„ *atrasanguinea*, B., XXIV. (Hanitsch, 8, p. 207.)

„ *fallax*, B., XXIII.

„ *lævis*, B., XXIII.

Genus *Hymeraphia*, Bowerbank.

Sponges thin, encrusting. Main skeleton formed of isolated monactinals, spined at least at their bases, arising

vertically from the basal membrane, with accessory shorter, generally entirely spined monactinals. Megascleres of the ectosome of varying character. No microscleres (?)

NOTE. Topsent (18, p. 109) places *H. radiata* under the genus *Myrilla*.

Hymeraphia clavata, B., XXVI.

„ *coronula*, B., LXXIX.

„ *indistincta*, B., LXXXVII.

„ *paupertas*, B., XXXVII.

„ *radiata*, B., XXVIII and XXIX. (Topsent, 18, p. 109).

„ *simplex*, B., LXXX.

„ *verticillata*, B., XXVII. (Carter, 1, p. 321.)

Genus *Raspailia*, Nardo.

Sponges typically whip-like, with a dense central axis of spiculo-fibre containing much spongin, from which loose tufts of spicules radiate to the surface. Megascleres usually monactinal. Echinating spined styli always present. No microscleres.

NOTE. Topsent (20, p. 13) states that some species of *Raspailia* possess asters, referring apparently to *Dictyocylindrus stuposus*, B., *D. fascicularis*, B., and similar forms. I prefer to include the same under *Axinella*, as they do not possess echinating spined styli. *Spongia rigida*, Montagu, described by me (8, p. 213) under the name *Raspailia rigida*, M., would now also come under *Axinella*.

Raspailia aculeata, B., XXI.

„ *hispida*, Mont., XVII.

„ *howsei*, B., XIX.

„ *pumila*, B., XIX and XXI.

„ *radiosa*, B., XX.

Raspailia ramosa, Mont., XVI.

„ *rectangula*, B., LXXXIV.

„ *ventilabrum*, B., XVI. (Hanitsch, 8, p. 212.)

„ *virgultosa*, B.; XIX.

Genus *Acarus*, Gray.

Megascleres of the ectosome diactinal (tylota); those of the choanosome monactinal (smooth styli). Accessory megascleres of the choanosome cladotyles, characteristic of the genus. Microscleres isochelæ and toxa.

Acarus stelliferus, B., XXVII.

Genus *Pytheas*, Topsent (18, p. 110).

Megascleres of the ectosome usually spined styli, lying tangentially. Skeleton of the choanosome formed of bundles of smooth diactinals, echinated by spined styli. Isochelæ usually present.

Pytheas inflatus, B., LXXIX.

Genus *Spanioplou*, Topsent (18, p. 116).

Chief megascleres of the choanosome smooth monactinals, few in number as compared with the megascleres of the ectosome, smooth diactinals. With accessory small spined spicules (microxea, microstyles, or tylostyles). Microscleres (isochelæ and sigmata) rarely present.

Spanioplou armaturum, B., XXXIV.

Genus *Clathria*, O. Schmidt.

Main skeleton formed of well-developed horny fibres cored with smooth styli, echinated by spined styli. No special dermal skeleton. Microscleres isochelæ and (or) toxa, sometimes absent.

Clathria beani, LVIII.

„ *clavigera*, B., XXXVII.

„ *laciniosa*, B., LXXXV.

Genus *Clathrissa*, Lendenfeld, emend. (11, p. 217).

Main skeleton formed of dense bundles of diactinals, with very little spongin, echinated by spined styli. With

or without dermal crust of oxea. Chelæ may be present.

NOTE. The original diagnosis runs: "Desmacionidæ with a skeleton composed of dense bundles of slender oxea, with very little spongin; echinated by spined styli." I have altered the diagnosis slightly in order to include the undermentioned species. Topsent created a new genus (*Leptosia*) for Bowerbank's *Hymedesmia zetlandica*, but I think we can include that species under the present genus.

Clathrissa perarmata, B., XXXI.

„ *trunca*, B., 4, XI.

„ *zetlandica*, B., XXIX.

Genus *Ophlitaspongia*, Bowerbank.

Skeleton formed of horny fibres, not cored by spicules, but echinated by smooth styli. Microscleres toxa.

Ophlitaspongia papilla, B., LXX.

„ *seriata*, Grant, LXV.

Genus *Diplodemia*, Bowerbank.

Skeleton formed of horny fibres containing smooth oxea and echinated by smooth oxea. No microscleres.

Diplodemia vesicula, B., LXX.

Genus *Plocamia*, O. Schmidt.

Characteristic megascleres dumb-bell shaped spicules, spined. Chief megascleres styli or subtylostyli, often spined at their bases, sometimes accompanied by shorter and more completely spined spicules. Ectosome sometimes with diactinals. Microscleres: isochelæ and, usually, toxa.

NOTE. Topsent (20, p. 17) includes this genus under his new sub-family *Bubarinæ*. But as that sub-family is at present not yet quite satisfactorily defined, we may be allowed to leave *Plocamia* amongst the *Ectyoninæ*. The type of Topsent's new sub-family is *Bubaris*, Gray. But as the same is supposed to

include such greatly differing forms as *Hymenaphia vermiculata*, B. and *H. verticillata*, B. (which I refer to *Axinella* and *Hymenaphia* respectively), I have not thought it advisable, to make use of that genus.

Plocamia coriacea, B., LXXVI. (Ridley and Dendy, 14, p. 158; Topsent, 18, p. 117.)

Family III. AXINELLIDÆ, Ridley and Dendy.

Skeleton typically consisting of ascending axes of fibres from which arise subsidiary fibres radiating to the surface, but may be reticulate. Megascleres chiefly monactinals to which diactinals may be added. Microscleres rarely present; if present, raphides, microxea, cladostrongyla or asters.

Genus *Hymeniacidon*, Bowerbank.

Sponge massive. Skeleton reticulate. Megascleres monactinal. No microscleres.

NOTE. In regard to ? *H. gelatinosum* see *Halisarca*.

Hymeniacidon aldousii, B., XCII.

„ *aureum*, Mont., XXXIV.

„ *callosum*, B., 4, IV.

„ *carunculum*, B., XXXII. (Ridley and Dendy, 14, p. 167.)

„ *consimile*, B., XXXIII.

„ *fallax*, B., XXXIII.

? „ *gelatinosum*, B., XXXVIII.

„ *hillieri*, B., 4, III.

„ *invalidum*, B., LXXXV.

? „ *involutum*, B., 4, X.

„ *mammeatum*, B., XXXIII.

„ *medium*, B., LXXXV.

„ *nodosum*, B., 4, XII.

„ *pachydermum*, B., XXXIV.

„ *perleve*, Mont., XXXIV.

- Hymeniacidon pertenuis*, B., 4, XIII.
 „ *plumigerum*, B., LXXII.
 „ *radiosum*, B., LXXII.
 „ *sanguineum*, Grant, XXXII.
 „ *simplex*, B., XLVII.
 „ *virgulatum*, B., 4, IV.
 „ *viridans*, B., XXXIII.

Genus *Phakellia*, Bowerbank.

Sponge fan—or funnel—shaped. Skeleton somewhat reticulate. Megascleres styli and often oxea, generally slender and twisted. No microscleres.

NOTE. O. Schmidt, and Ridley and Dendy regard *Ph. robusta* as identical with, or, at the most, only as a variety of *Ph. ventilabrum*. I prefer to keep the two forms separate.

- Phakellia robusta*, B., XXI.
 „ *ventilabrum*, Johnston, XXII. (Ridley and Dendy, 14, p. 170.)

Genus *Tragosia*, Gray.

Sponge fan—or funnel—shaped, or branching and anastomosing. Skeleton pretty regularly reticulate. Megascleres styli and often oxea, not twisted and stouter than in *Phakellia*. No microscleres.

- Tragosia barleei*, B., LVII.
 „ *infundibuliformis*, Johnst., XIV and LIV. (Carter, 1, p. 240.)
 „ *polypoides*, O. Schmidt, LV.

Genus *Ciocalypta*, Bowerbank.

Sponge massive or ramose. Megascleres stylote and sometimes oxeote. From a central skeleton are given off pillars of spiculo-fibre at about right angles, spreading out and supporting the dermal membrane, leaving large subdermal spaces. No microscleres.

Ciocalypta penicillus, B., XIII and LXXXVI. (Ridley and Dendy, 14, p. 173.)

Genus *Axinella*, Schmidt.

Sponge generally ramose. Skeleton fibre plumose. Megascleres stylote, sometimes oxeote. Sometimes stellate microscleres.

- NOTE. *A. vermiculata*, B., is possibly identical with *A. erecta*, Carter. See Ridley and Dendy, 14, p. 182.
Axinella fascicularis, B., XVIII.
 „ *rugosa*, B., XX and XXI.
 „ *stuposa*, Mont., XIX. (Topsent, 18, p. 123.)
 „ *subdola*, B., XLIII.
 „ *vermiculata*, B., XXVI.

2. Sub-order CLAVULINA, Vosmaer.

Sponges typically with cortex, radiating skeleton, tylostylote megascleres and no spongin. Microscleres rarely present, never chelæ or sigmata.

Family I. SUBERITIDÆ, Vosmaer.

No microscleres, except occasionally centrotylote microstrongyles.

Genus *Suberites*, Nardo.

Massive or stipitate, without mammiform projections. Usually with special dermal crust of radiating spicules. Megascleres typically tylostyles. Microscleres: occasionally centrotylote microstrongyles.

- Suberites carnosus*, Johnst., XXXVI. (Ridley and Dendy, 14, p. 197.)

- „ *crustula*, B., XXXIV.
 „ *domuncula*, Olivi, XXXVI.
 „ *farinarius*, B., LXX.
 „ *ficus*, Johnst., XXXVI.
 „ *foliatus*, B., LXXI.
 „ *simplicissimus*, B., LXXX.

Suberites sulphureus, Bean, XXXVII.

„ *tenebrosus*, B., 4, XV.

„ *tenuiculus*, B., 4, I.

„ *virgultosus*, Johnst., XXXV.

Genus *Polymastia*, Bowerbank.

With mammiform projections. Megascleres tylostyli or styli. No microscleres.

NOTE. I include here *P. (Tethea) spinularia*, B. Oscar Schmidt referred this species to his *Radiella*. However the figure given by Bowerbank shows no special resemblance to the symmetrical structure of *Radiella* (nor of *Trichostemma* and *Halicnemis*). Still I have some doubt in regard to the systematic position of this species, as it contains oxea in addition to the tylostyles, and as its mammiform projections are very short.

Polymastia bulbosa, B., X.

„ *conigera*, B. LXXII.

„ *mammillaris*, B., XII. (Vosmaer, 21, p. 14; Hanitsch, 7, p. 166.)

„ *ornata*, B., IX.

„ *radiosa*, B., XI.

„ *robusta*, B., X. (Ridley and Dendy, 14, p. 210.)

„ *spinula*, B., XI.

? „ *spinularia*, B., XV.

Genus *Quasillina*, Norman.

“Sponge corticate, stipitate, with oval body, bearing a single osculum at the summit, and short stalk. In the cortex primary skeleton fibres ascend in parallel lines from the base, crossed at right angles by secondary ones. Spicules, large and small styli.” Ridley and Dendy, 14, p. 225.

Quasillina brevis, B., XI. (Ridley and Dendy, 14, p. 226; Vosmaer, 21, p. 20.)

Genus *Halicnemis*, Bowerbank.

Sponge symmetrical, flat discoid, with marginal fringe of long spicules. Megascleres tylostyli. Microscleres (?); spined centrotylotes.

NOTE. I am not sure whether the small spined centrotylote spicules which Bowerbank describes in *H. patera* (but no figures) are to be regarded as microscleres. Vosmaer fused this genus with *Polymastia*, but, as I think, without sufficient reason. Nor can, according to Hansen (10, p. 8), *Halicnemis* be fused with *Radiella*, as Marenzeller had done.

Halicnemis patera, B., XV.

Genus *Cliona*, Grant.

Boring Suberitidæ. Megascleres tylostyles. No microcleres.

Cliona celata, Grant, XXXVIII and LXIV. (Hanitsch, 8, p. 216.)

Family II. TETHYIDÆ, Vosmaer.

The ectosome is usually a well developed cortex with distinct fibrous layer. Megascleres styli or tylostyli, radially arranged. Microscleres, when present, spherasters or microrrhabs.

NOTE. I include under this family also the genus *Hymedesmia*, B., as represented by *H. stellata*, B., although this is a thin encrusting sponge without cortex. An encrusting sponge very similar to *H. stellata*, but possessing oxyasters instead of chiasters was dredged last year in Liverpool Bay, for which I propose the provisional name *H. acuto-stellata*. Its spiculation, but not its mode of growth, reminds one strongly of *Axinella stuposa*. Thus *Hymedesmia* ought perhaps be included under the Axinellidæ.

Genus *Tethya*, Lamarck.

Sponge of a more or less spherical form. Megascleres styli. Microscleres spherasters.

Tethya lyncurium, Lin., XV.

Genus *Hymedesmia*, Bowerbank.

Thin, encrusting. Megascleres tylostyles. Microscleres asters.

Hymedesmia stellata, B., XXVIII.

c. Order. MONOCERATINA, Lendenfeld.

Family I. SPONGIDÆ, Schulze.

Leiosella pulchella, Sowerby, LXV. (Lendenfeld, 12, p. 211).

Aplysina zetlandica, B., LXX. (Lendenfeld, 12, p. 403.)

Family II. SPONGELIDÆ, Vosmaer.

Spongelia fragilis, Mont., var. *irregularis*, LXIX and XCI. (Lendenfeld, 12, p. 662.)

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