REPORT

ON

THE FAUNA OF IRELAND,

Div. INVERTEBRATA.

DRAWN UP AT THE REQUEST OF

THE BRITISH ASSOCIATION.

BY

WILLIAM THOMPSON, ESQ.,

PRESIDENT OF THE NATURAL HISTORY AND PHILOSOPHICAL SOCIETY OF BELFAST.

[*From the* REPORT OF THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE *for* 1843.]

LONDON:

PRINTED BY RICHARD AND JOHN E. TAYLOR,

RED LION COURT, FLEET STREET.

1844.

Report on the Fauna of Ireland: Div. Invertebrata. *Drawn up, at the request of the British Association, by* WILLIAM THOMPSON, *Esq., President of the Natural History and Philosophical Society of Belfast.*

Introduction.

IN the former portion of my Report on the Fauna of Ireland, laid before the meeting of the British Association at Glasgow in 1840, the Vertebrata only were included*. In the continuation now presented, are all the native species of Invertebrata—Mollusca, Crustacea, Cirrhipeda, Annelida, Foraminifera, Entozoa, Echinodermata, Acalepha, Zoophyta, Amorphozoa—excepting Insecta and Infusoria, using the former term in its widest sense.

For the whole of the information in some departments I am indebted to others: of a portion undertaken by myself, I have only yet obtained a superficial knowledge. A want of unity will be observable throughout in the treatment of the various subjects, the most obvious point of which to some naturalists will be in the nomenclature:—the first names bestowed on the species, which according to the just rule of priority (see British Association Rules of Nomenclature) should be those used, could only be partially ascertained within the allotted time.

This Report does not embrace so comprehensive a view as I originally contemplated with respect to widely-extended comparisons, and the causes which seem to operate on the distribution of the various classes, &c. of Invertebrata, but as now given, it may afford data to others better qualified to do justice to that subject. It will in its present state only have a value in recording the species indigenous to Ireland, and offering a comparison between them and those of Great Britain, but this is not unimportant with regard even to the general geographical distribution of species. The European Fauna, it need scarcely be observed, could not be perfected without that of Ireland being known, which latter is again especially interesting, in consequence of our island being within its latitude the extreme western limit to which all the species included in it range that are peculiar to the eastern, or in other words, are not found in the western hemisphere.

The Fauna of Ireland, compared with that of Great Britain, exhibits the falling off of species westerly compared with that island, which again on its part (though not treated of here) presents a similar falling off westerly compared with the opposite shore of the continent. An example may be necessary in explanation, and the most striking will be selected, though the subject-matter belong to the former part of this Report. Thus, of the class *Reptilia* there are in

	Belgium†.	Great Britain.	Ireland.
Order *Sauria*.			
Lacerta	3 species...	2 species (same as Belg.)...	1 species (same as Brit.).
Anguis.....	1 „ ...	1 „ „ ...	0 „

* The species of Vertebrata since added to our catalogue are—
Turdus Whitei, Eyton, Ann. Nat. Hist. vol. xi. p. 78.
Pycnonotus chrysorrhæus, Swains. See present volume.
Cuculus glandarius, Lin., Ann. Nat. Hist. vol. xii. p. 149, and present volume.
Glareola pratincola, Lin. (sp.) See present volume.
Naucrates ductor, Cuv. and Val. See present volume.
The *Lepus Hibernicus* and *L. variabilis* are now proved to be of the same species (see present volume): respecting the animal provisionally called *Mus Hibernicus* no further information has been obtained.

† According to the excellent 'Faune Belge' of De Selys-Longchamps.

	Belgium.	Great Britain.	Ireland.
Order *Ophidia.*			
Coluber	2 „	0 „	0
Natrix	1 „	1 „	(same as Belg.) 0
Vipera	2 „	1 „	„ 0
Order *Batrachia.*			
Rana	2 „	1* „	„ 1 species (same as Brit.).
Bombinator	3 „	0 „	0
Hyla	1 „	0 „	0
Bufo	2 „	2 „	(same as Belg.) 1 „ „
Salamandra	1 „	0 „	0
Triton	4 „	3* „	(same as Belg.) 2 „ „
	22	11	5

It appears therefore that the deficiency of Ireland compared with Great Britain in the *Reptilia*, is much upon the same scale as that of the latter island compared with Belgium.

There is not any island of similar extent to Ireland, and in like manner situated with respect to other lands, with which to compare it. The islands of New Zealand within temperate latitudes in the southern hemisphere may however be mentioned as possessing of indigenous *Mammalia*†, Bats alone, of which one species has been described‡; and no Ophidian reptiles. "Throughout the present Report (to quote from the former portion) it must be borne in mind, that all species found from the Channel Islands in the south, to the Shetland Islands in the north, are included in the fauna of Great Britain, and that within the degrees of latitude over which it extends, Ireland occupies but one-third. Ireland is comprised within four degrees, while the Shetland Islands range nearly six degrees further to the north, and more than two degrees to the south the Channel Islands are situated. The Fauna of Great Britain also extends over ten degrees of longitude, while that of Ireland is limited to half the number."

The *physical geography* and *climate* need not be dwelt on here, as in the case of the Mammalia Terrestria, Aves, and Reptilia, as the *land* Mollusca and Annelides only will be *directly* affected by such influences. The *fresh-water* Mollusca, Crustacea, Annelida and Amorphozoa will be affected, but less directly, by the physical geography, taken in connection with the mineralogical structure of the country; as will the *marine* species in some degree, by the nature and quantity of the residuum brought by rivers to the sea. The physical geography of the *bottom* of the sea will have a powerful effect on the marine Invertebrata of all kinds, even greater than that of the dry land on its animals. According to the configuration and depth, to the mineralogical character of the rocks, the vegetation, &c., shall we find particular families, genera, and species. Even where the configuration and depth are similar, the oozy, sandy, gravelly, or rocky bottom, will have each its peculiar animals.

It has not been thought desirable, as in the Report on the Vertebrata, to treat distinctly of every species, as to its being common or rare, &c.; but in-

* *Rana Scotica* and *Triton Bibronii*, of which so little is known, either as to distribution or otherwise, are not enumerated.

† In Mammalia, Belgium has two genera—*Crocidura* and *Cricetus*—not found in Great Britain, in which are four—*Rhinolophus*, *Talpa*, *Myoxus*, *Arvicola*—unknown to Ireland. De Selys-Longchamps believes Belgium to be the most northern limit of the genus *Crocidura*, and states that it is not met with in Holland or Denmark.

‡ The species is *Vespertilio tuberculatus*, Forster. J. E. Gray in Deiffenbach's New Zealand, vol. ii. p. 181. According to the Report of the United States' Exploring Expedition, published in the Edinburgh Philosophical Journal for January 1844;—"none of the Pacific Islands, including New Zealand, contain any native Mammalia except Bats," p. 32.

stead, to leave this to be indicated by the tabular mark of distribution, although it may often prove unsatisfactory. Thus, species which have been found but once on each side of the island are marked as conspicuously under north, east, west and south, as those which are abundant round the coast. But naturalists will not be deceived by this; none will imagine that because *Eulima subulata* exhibits the same number of asterisks as *Rissoa ulvæ*, that the species are equally plentiful; but all will know that the former, though widely distributed, is found in extremely limited numbers, and the latter in abundance where they respectively occur. Nor, was it deemed necessary in so brief a summary, to give the authorities for the occurrence of the various species; but reference is made throughout to the works in which all the details published respecting them will be found.

MOLLUSCA.

Catalogues of the testaceous Mollusca of Ireland, elaborated during the residence of their respective authors in this country, were drawn up about the same time by Capt. Brown and Dr. Turton*, in which they were aided by the collections of Mr. O'Kelly of Dublin, Dr. Thomas Taylor (species contributed by Miss Hutchins of Bantry), Mr. Samuel Wright of Cork, Mrs. Clewlow, Dr. McGee, Dr. McDonnell, and Mr. Templeton of Belfast†. Mr. Templeton, before and after the period of their researches, was silently noting down for future publication all that he could learn upon the subject, but, stationary at his country residence, he was less favourably circumstanced than either of those gentlemen, by whom various parts of the country and coast were visited. Their inquiries, directed to a single branch of natural history, were naturally more productive in that one department than his, whose survey embraced the whole Flora and Fauna of Ireland, for the illustration of which he was diligently collecting materials. To Bryce's 'Tables of Simple Minerals, Rocks and Shells,' found in three of the northern counties, Mr. Hyndman contributed a few hitherto unnoticed species. The native Mollusca, more especially of Youghal and Dublin, have been effectively collected and studied by Mr. Robert Ball, aided by his sister Miss M. Ball; as have those of Limerick and Miltown Malbay, on the western coast, by Mr. Wm. Henry Harvey; those of Cork by Mr. John Humphreys, and those of the northern shores by Mr. Geo. C. Hyndman. A few species of the highest interest from the northern province have been obtained by Dr. J. L. Drummond, as have some from the southern by Dr. Geo. J. Allman. The extensive and beautiful collections of Mr. T. W. Warren and Dr. Farran of Dublin, more particularly of species from the neighbouring coast—the richest in Ireland—have rendered most important aid towards an elucidation of the subject. The Ordnance collection has contributed in so far as the comparatively poor coast investigated could afford. Mrs. Hancock has rendered essential service by assiduously collecting the species of the western shores, at Ballysodare in the county of Sligo, and Bundoran in the county of Donegal, and transmitting them to Belfast, where they came under the inspection of Mr. Hyndman and myself.

* Capt. Brown's memoir was dated from Naas Barracks, Ireland, Aug. 20, 1815, and read before the Wernerian Society of Edinburgh on the 16th of December in that year (see Wern. Mem. vol. ii.). Dr. Turton's appeared in the 'Dublin Examiner, or Monthly Miscellany of Literature, Science and Art,' in July 1816. In the subsequent works of these authors additional Irish species were described: all in the following catalogue that are noticed by them only (i. e. unknown to my correspondents and myself) are marked as on their authority.

† At a subsequent period, the collection of James Rose Clealand, Esq. of Bangor in the county of Down, contributed some interesting species to Sowerby, &c.

Those who have given attention to the Testaceous Mollusca *generally* have hitherto been alluded to. The native land and freshwater species exclusively have been well studied by the Rev. Benj. J. Clarke, Mr. Edward Waller, and the Rev. Thomas Hincks (late of Cork). Several other naturalists and collections might be named, but those enumerated are among the principal.

The species added to our Fauna from the preceding sources and from personal investigation, have been noticed in 'Additions to the Fauna of Ireland,' published in the 'Annals of Natural History' (vol. v. vii. xiii.); in vol. v. a description of *Limneus involutus*, and a contribution on the *Mollusca Nudibranchia* and *Moll. Tunicata* will be found: in vol. vi. is a catalogue of the land and freshwater Mollusca.

Although I had some time since with considerable labour brought together in manuscript all that has been published on the Irish Mollusca, and looked over all the collections possible, I have critically studied a small portion only of the subject. Without the aid therefore of my scientific friends, Mr. Alder of Newcastle-upon-Tyne and Professor Edward Forbes, the Mollusca as a whole could not have been undertaken. In the *Gasteropoda Nudibranchia* and the marine Testaceous tribes their assistance has been most valuable.

Some naturalists will consider the number of British species alluded to in the remarks on the different Orders much under what it should be. This arises from my adoption of the British list, as expurgated by the two distinguished malacologists whose aid has been alluded to. A number of species which have from time to time been introduced without sufficient evidence are omitted; a number more are reduced to mere varieties; and species figured or described in such a manner as not to be understood by the best informed on the subject, are unnoticed.

In the Classes and Orders, Rang's 'Manuel des Mollusques' is chiefly followed.

Class CEPHALOPODA.	Distribution. North.	East.	West.	South.
Sepia officinalis, *Lin., Lam.**	*	*	...	*
,, rupellaria, *Fer.* & *D'Orb.*? (I.)†	*			
Loligo vulgaris, *Lam.*; Sepia loligo, *Lin.*	*	*		
,, sagittata, *Lam.* var.?	...	...	...	*
,, subulata, *Fer.* & *D'Orb.* var. 1. (I.)	*			
,, ,, ,, var. 2.	...	...	...	*
,, media, *Lin.* (sp.)	*	*	...	*
,, Eblanæ, *Ball* (I.)	*	*		
Octopus vulgaris, *Lam.*	*			
Eledone octopodia, *Penn.* (sp.); Sepia octopodia, *Penn.*; Octopus octopodia, *Flem.*	*	*	...	*
,, ——— ?	*			
Sepiola Rondeletii, *Risso*; Sepia sepiola, *Lin.*	*	*	...	*
Rossia Oweni, *Ball* (I.)	...	*		
,, Jacobi, *Ball* (I.)	...	*		
Spirula australis; Naut. spirula, *Lin.*	*	...	*	*

* It has been considered sufficient throughout this Report simply to indicate the north, east, west and south. The Mollusca of the following localities have been more or less investigated:—*North*, Coasts of Londonderry and Antrim.—*East*, Counties of Antrim, Down, Louth, Dublin, Wicklow.—*West*, Bundoran, co. Donegal; Ballysodare, co. Sligo; Birterbury and Roundstone bays (Dr. Farran); Clifden, Killery and Clew bays, &c., (R. Ball, E. Forbes, G. C. Hyndman, W. T.) in the counties of Mayo and Galway; Miltown Malbay, co. Clare.—*South*, Bantry Bay, Youghal, Cork harbour.

† (I.) throughout the Report denotes species known as Irish, and not as British.

The larger native *Cephalopoda* were noticed in the old county histories, and a few additional species have been briefly indicated by myself in the 'Proceedings of the Zoological Society' (1834), p. 31, and in the 'Annals of Nat. Hist.' vol. v. p. 10. Mr. R. Ball, in bringing before the Royal Irish Academy a notice of a new species of *Loligo* (*L. Eblanæ*) on Nov. 30, 1839, announced the other indigenous species of that genus*, and on the 10th of January, 1842, described before the same Society two new species of *Rossia*, and noticed all the Irish species of *Cephalopoda* of which he was cognisant. These are published in the Proceedings of the Royal Irish Academy of that date. An *Eledone* in my possession, from Belfast bay, though closely allied to *E. octopodia*, seems to be distinct. *Octopus vulgaris* is given on the authority of Templeton only, who remarks that it is "not uncommon," an expression which, taken in connection with the omission of *Eled. octopodia* from his catalogue, leads me to believe that this latter was probably the species meant. If the *Octopus vulgaris* be included, the Irish list contains all the British species excepting *Eledone Aldrovandi*, described by Mr. Macgillivray within the present year in his 'Mollusca of Aberdeenshire.' Five of the Irish *Cephalopoda*—*Sepia rupellaria*, *Loligo subulata*, *L. Eblanæ*, *Rossia Oweni*, *R. Jacobi*—are not known as British species.

	Distribution.			
	North.	East.	West.	South.
Class Pteropoda.				
Hyalæa trispinosa, *Cuv.* (Anim. King. by Griff. vol. xii. Mollusca, pl. 3. f. 7.) (I.)	...	...	...	*
? Peracle Flemingi, *Forbes*†; Fusus retroversus, *Flem.*	...	...	*	

No species of this class can be noted with certainty as taken on the coast of Great Britain, it being doubtful whether the *Peracle Flemingi* belong to the *Pteropoda*. This species is only known as Irish from some specimens being found by Mr. Hyndman in shell-sand collected by Mrs. Hancock at Bundoran, on the coast of Donegal, in the summer of 1840. Of *Hyalæa trispinosa* a single example with the contained animal was found by Mr. R. Ball on the beach near Youghal, county of Cork, some years ago, and at the same time with three species of the pedunculated *Cirrhipeda*, (*A. lævis*, *A. sulcata*, *A. fascicularis*) a *Spirula australis*, and an *Ianthina communis*. The *Anatifæ* were attached to the mast of a vessel, and in their "tangled mass" the *Hyalæa* and *Spirula* occurred.

Class Gasteropoda.				
Order *Nucleobranchiata*.				
Sagitta Britannica, *Forbes*? Report in present volume	...	...	...	*

This order was first introduced to the British Fauna at the present meeting by Professor E. Forbes, who a few years since obtained examples of it in the Frith of Forth and British Channel in a species which he has named *Sagitta Britannica*. About the same time, Dr. G. J. Allman obtained similar Mollusca (of which he made drawings) on the coast of Cork, but whether they be of the same species is uncertain.

* Proceedings of the Royal Irish Academy, vol. i. p. 362, where *L. Eblanæ* is well figured.

† See his Report in present volume.

Class GASTEROPODA. Order *Nudibranchiata.*	Distribution. North.	East.	West.	South.
Doris tuberculata, *Cuv.*; D. argo, *Penn.*	*	*	*	*
,, repanda, *Alder & Hancock*, Ann. Nat. Hist. vol. ix. p. 32	...	...	*	
,, bilamellata, *Lin.*; D. verrucosa, *Penn.*	*	*	...	*
,, affinis, *Thomp.* Ann. N. H. vol. v. p. 85 (I.)	*	...	...	*?
,, Ulidiæ, *Thomp.* MSS. (I.)	*			
,, muricata, *Mull.* Thomp. Ann. N. H. vol. v. p. 86	*			
,, aspera, *Ald. & Hanc.* Ann. N. H. vol. ix. p. 32	...	*	...	*?
,, pilosa, *Cuv.*; D. nigricans, *Flem.*	*	*	*?	*
,, sublævis, *Thomp.* Ann. N. H. vol. v. p. 87 (I.)	*			
Goniodoris nodosa, *Mont.* (sp.)*	*	*	*	
var. G. Barvicensis, *Johnst.* (sp.)	...	*	...	*
,, elongata, *Thomp.* Ann. N. H. vol. v. p. 88 (I.)	...	*		
Polycera quadrilineata, *Mull.* (sp.)	*	*	*	*
,, typica, *Thomp.* Ann. N. H. vol. v. p. 92 (I.)	*			
,, ocellata, *Ald. & Hanc.* Ann. N. H. vol. ix. p. 33	...	*		
,, citrina, *Ald.* Ann. N. H. vol. vi. p. 340	...	*		
,, cristata, *Ald.* ,, ,, ,,	...	*		
Euplocamus claviger, *Mull.* (sp.) syn. E. plumosus, Ann. N. H. vol. v. p. 90 E. pulcher, Mag. N. H. vii. p. 490. & Ann. N. H. vii. p. 480.	*			
Tritonia Hombergii, *Cuv.*	...	*		
,, plebeia, *Johns.* Ann. N. H. vol. i. p. 115	...	...	...	*
,, arborescens, *Cuv.* var. T. lactea, Ann. N. H. vol. v. 88	*	*		
Melibœa fragilis, *Forbes*; Malacol. Monensis	...	...	*	*
,, coronata, *Johnst.*; var. M. ornata, *Ald. & Hanc.* Ann. N. H. vol. ix. 34	...	*	...	*
Calliopæa? bifida; Doris bif., *Mont.* Linn. Trans. xi. p. 198. t. 14. f. 3; *Thomp.* Ann. N. H. vol. vii. 480	*			
Eolis papillosa, *Lin.* (sp.)	*	*	*	
,, Zetlandica, *Forbes*, Athenæum, 1839, p. 647	...	...	*	
,, Cuvieri, *Lam., Johnst.* Ann. N. H. vol. i. 120. pl. 3. f. 9–11	...	...	...	*
,, coronata, *Forb.* Athen. *id.*	...	*	...	*
,, pallida, *Ald. & Hanc.* Ann. N. H. vol. ix. p. 35	...	*		
,, alba, ,, ,, ,, vol. xiii. (I.)	...	*		
,, Farrani, ,, ,, ,, ,, (I.)	...	*		
,, Drummondi, *Thomp.*; E. rufibranchialis†, Ann. N. H. vol. v. p. 89 (I.)	*			
,, —— ? (I.)‡	*			
Proctonotus mucroniferus, *Ald. & Hanc.* Ann. N. H. vol. xiii. (I.)	...	*		
Alderia amphibia§, *Allman*, MSS. (I.)	...	...	...	*

Twenty species of *Nudibranchia* were recorded as Irish in 1840 ||, a number equal to that known to be British in 1828, when Dr. Fleming's 'British Animals'

* "(sp.)" throughout the Report denotes the *specific* name, and it only, to be that of the author quoted.

† Mr. Alder, after an examination of the specimens so designated, considers that they are not the true *E. rufibranchialis*: I have therefore proposed the above name, as from the sketches and minute description of the species in Dr. J. L. Drummond's journal, it has become properly understood.

‡ The species of *Eolis* not named was dredged at Donaghadee in May 1843, by Dr. Drummond, but unfortunately a description was not made out at the time of its capture. The specimen on being submitted to Mr. Alder was stated to be certainly distinct from any of the preceding and to come nearest in form to his *E. concinna* and *E. vittata*, though probably distinct from either of them.

§ *Alderia* is a new genus of Dr. Allman's, as *Proctonotus* is of Messrs. Alder and Hancock.

|| Annals Nat. Hist. vol. v. p. 84 *et seq.*, and vii. p. 480.

appeared. Since the latter period the British catalogue of species belonging to this beautiful order of Mollusca has been greatly augmented by the labours of Dr. Johnston*, Mr. Edward Forbes†, Mr. Alder‡, and Mr. Hancock, and above all by the two latter gentlemen, who, studying the subject conjointly, have by the very complete and philosophical manner in which their investigations were conducted, thrown the greatest light upon the order *Nudibranchia*.

The number of British species now known is sixty-five§, of which twenty-three have been met with in Ireland; to these latter are to be added eleven species unknown as British, making the number of Irish altogether thirty-four —of these eleven, two constitute new genera, and the remaining nine are, with the exception of the *Doris muricata* of the 'Zoologia Danica,' believed to be new species and are indicated in the preceding catalogue by the initial "(I.)" All of the British genera but two—*Eubranchus* and *Calliopæa*‖—have been procured on the Irish coast; the former is known only from its occurrence in one instance to Mr. Forbes in the Isle of Man; the latter was as a British genus announced for the first time at the present meeting: upon the Irish coast only the new genera *Proctonotus* and *Alderia* have been obtained. The genus *Proctonotus*, together with two new species of *Eolis* and seven species known as British, but not hitherto as Irish¶, were added to our catalogue by Mr. Alder last autumn during little more than three days' examination of the Dublin coast: within a similar time about equally good results have been obtained by Mr. Hyndman and myself in another locality, Strangford lough; instances which show how much may be done in the *Nudibranchia* within a very limited period. Mr. Alder (who in conjunction with Mr. Hancock is engaged in a monograph of the whole of the British species belonging to this order) having expressed a desire to examine my specimens noticed in the fifth and seventh volumes of the 'Annals of Natural History,' they were at once placed in his hands. This has unexpectedly proved serviceable to myself on the present occasion, as I have had the benefit of his revision of what had been written on the Irish species. Mr. Alder's information on the subject so far surpasses my own, that his opinion has been implicitly followed throughout the preceding catalogue with respect to what are good species, what only varieties, &c.

	Distribution.			
	North.	East.	West.	South.
Class GASTEROPODA.				
Order *Inferobranchiata.*				
Pleurobranchus plumula; Bulla plum. *Mont.*	...	...	*	
,, ? membranaceus; Lamellaria memb. *Mont.*	...	...	...	*
Are the British species of the order *Inferobranchia.*				
Class GASTEROPODA.				
Order *Tectibranchiata.*				
Aplysia depilans, *Lin.*	*	*	*	*
,, punctata, *Cuv.*	*	*	*	*

* Annals Nat. Hist. vol. i.

† Annals Nat. Hist. vol. v. p. 102 *et seq.*; *Malacologia Monensis*, Report, British Association, 1839, p. 80.

‡ Annals Nat. Hist. vol. vi. ix. xiii.

§ Messrs. Alder and Hancock have contributed about twenty-five species to this number within the last two or three years.

‖ Mr. Alder marks *Doris bifida*, Mont. (which has been obtained in Belfast bay) with doubt, as belonging to this genus. *Montagua* he considers not to be generically distinct from *Eolis*. *Calliopæa dendritica*—the British species—is described in Annals Nat. Hist. for Oct. 1843.

¶ Two of these species, obtained by Dr. Geo. J. Allman on the coast of Cork in August 1842, have been forwarded to me since the preceding was written.

	Distribution.			
	North.	East.	West.	South.
Class Gasteropoda.				
Order *Tectibranchiata.*				
Bulla lignaria, *Lin.*	*	*	*	*
„ akera, *Mont.*	*	*	*	
„ hydatis, *Lin., Don.*	...	*	...	*
„ Cranchii, *Leach*; B. striata, *Brown.*	*			
„ umbilicata, *Mont.*	...	*	*	*
„ diaphana, *Turt.*; Diaphana pellucida, *Brown*, Illus.	*	*		
„ cylindracea, *Pen., Mont.*	*	*	*	
„ truncata, *Adams., Mont*	*	*	*	
„ obtusa, *Mont.*	*	*	*	
„ hyalina, *Turt.*	...	*	*	
„ pectinata, *Dillw.*; B. scabra, *Mull.* Zool. Dan.	...	*	*	
Bullæa aperta; Bulla aperta, *Lin., Mont*	*	*	*	*
„ punctata, *Adams*, (sp.)	...	...	*	
„ catena, *Mont.*, (sp.)	...	...	*	
„ ——— ?* (I.)	...	...	*	

In this order are six British species of *Bulla* (the rarest, four of them being late additions), which have not a place in the Irish catalogue:—one species included only in the latter is believed to be new. *Elysia viridis* (*Aplysia viridis*, Flem., Brit. Anim.), a singular species discovered by Montagu in Devonshire, is the remaining desideratum.

Class Gasteropoda.				
Order *Pulmonifera Inoperculata.*				
Fam. *Limacidæ.*				
Arion ater, *Lin.*, (sp.)	*	*	*	*
„ hortensis, *Fer.*	*	*	*	
Geomalacus maculosus†, *Allman* (I.)	...	...	...	*
Limax maximus, *Lin.*; L. cinereus, *Drap.*	*	*	*	*
„ arboreus, *Bouchard* ‡	*	*	*	
„ flavus, *Lin., Drap.*; L. variegatus, *Fer.*	*	*	*	*
„ agrestis, *Lin.*	*	*	*	*
„ carinatus, *Leach*; L. Sowerbii, *Fer.*	...	*		
„ gagates, *Drap.*‡ (I.)	...	*	*	
Testacellus haliotideus, *Fer.*	...	...	...	*
Fam. *Helicidæ.*				
Vitrina pellucida, *Mull.* (sp.)	*	*	*	*
Helix aspersa, *Mull.*	*	*	*	*
„ hortensis, *Lister*	*	*	...	*
„ nemoralis, *Lin.*	*	*	*	*
„ arbustorum, *Lin.*	*	*	...	*
„ pulchella, *Mull.*	*	*	*	*
„ fusca, *Mont.*	*	*	*	*
„ fulva, *Mull.*	*	*	*	*

* The species to which specific names are not applied are unknown as British, and cannot be identified in the many works referred to; all of them have been seen by Mr. Alder, and are unknown to him, as are the few which have been seen by Professor Edw. Forbes to him also. They, together with the species to which manuscript names have been applied, will be described in the Annals of Natural History.

† See Proceedings of Section Zoology and Botany at Cork Meeting, present volume.

‡ See Annals Nat. Hist. vol. vi. p. 204 and 205, and same work, vol. xii. (November 1843) article by Rev. B. J. Clarke, "On the species of *Limax* found in Ireland."

Class GASTEROPODA.

Order *Pulmonifera Inoperculata.*

Fam. *Helicidæ.*

	Distribution.			
	North.	East.	West.	South.
Helix aculeata, *Mull.*	*	*	*	*
,, lamellata, *Jeff.*; H. Scarburgensis, *Bean.*	*	*	*	*
,, granulata, *Alder.*; H. hispida, *Mont.*	...	...	*	*
,, hispida, *Mull.*	*	*	*	*
var. sericea, *Mull.*	*			
var. concinna, *Jeff.*	*	*	*	*
,, rufescens, *Penn., Mont.*	*	*	*	*
,, pisana, *Mull.*; H. cingenda, *Mont.*	...	*		
,, virgata, *Mont.*; H. variabilis, *Drap.*	*	*	*	*
,, caperata, *Mont.*; H. striata, *Drap.*	...	*	...	*
,, ericetorum, *Mull.*	*	*	*	*
,, rotundata, *Mull.*; H. radiata, *Mont.*	*	*	*	*
,, umbilicata, *Mont.*; H. rupestris, *Drap.*	*	*	*	*
,, pygmæa, *Drap.*	*	*	*	*
,, alliaria, *Miller*	*	*	*	*
,, cellaria, *Mull.*; H. nitida, *Drap.*	*	*	*	*
,, pura, *Alder.*	*	*	*	*
,, nitidula, *Drap.*	*	*	*	*
,, radiatula, *Alder.*	*	*	*	*
,, lucida, *Drap.*	*	*	...	*
,, excavata, *Bean*	...	...	...	*
,, crystallina, *Drap.*	*	*	*	*
Succinea putris, *Lin.* (sp.); S. amphibia, *Drap.*	*	*	*	*
,, Pfeifferi, *Rossm.*; S. gracilis, *Alder*	*	*	*	*
Bulimus obscurus, *Mull.* (sp.)	*	*		
,, acutus, *Brug.*; B. fasciatus, *Penn.* (sp.)	*	*	*	*
,, lubricus, *Mull.* (sp.)	*	*	*	*
Achatina acicula, *Lam.*	...	*	*	*
Pupa umbilicata, *Drap.*	*	*	*	*
,, Anglica, *Fer.* (sp.)	*	*	*	*
,, marginata, *Drap.*	*	*	*	*
Vertigo edentula, *Drap.* (sp.)	*	*	...	*
,, pygmæa, *Fer.*	*	*	*	*
,, substriata, *Jeff.* Gray's ed. Turt. Man.; V. sexdentata, Turt. Man.	*	*	*	
,, palustris, *Leach*; V. septemdentata, *Fer.*	*	*	...	*
,, pusilla, *Mull.*; Pupa vertigo, *Drap.*	*	*	*	
,, angustior, *Jeff.*; Pupa vertigo, *Mont.*	...	...	*	
Balæa perversa, *Mont.* (sp.)	*	*	*	*
Clausilia bidens, *Mull.* (sp.)	*			
,, nigricans, *Pult., Dillw.* (sp.) C. rugosa, *Drap.*	*	*	*	*

Fam. *Auriculadæ.*

Carychium minimum, *Mull.*	*	*	*	*
Acme fusca, *Boys & Walker* (sp.); Auricula lineata, *Drap.*	*	*	*	*
Auricula denticulata, *Mont.* (sp.); A. personata, *Desh., Lam.*	*	*	...	*
,, bidentata, *Mont.* (sp.); *Fer.*	*	*	*	*
,, alba, *Mont.* (sp.)	*	*	...	*
? ,, fusiformis, *Turt.* (sp.); Vol. fusiformis, *Turt.* Conch. Dict. p. 251	...	*	*	

Fam. *Limneadæ.*

Limneus auricularius, *Mont.* (sp.) } one species, W. T.	...	*	*	*
,, pereger, *Mont.* (sp.) }	*	*	*	*
,, involutus, *Harvey*, Ann. N. H. vol. v. p. 22. pl. 1 (I.)	...	...	...	*
,, stagnalis, *Mont.* (sp.)	*	*	*	*

	Distribution.			
	North.	East.	West.	South.
Class Gasteropoda.				
Order *Pulmonifera Inoperculata.*				
Fam. *Limneadæ.*				
Limneus palustris, *Mont.* (sp.)	*	*	*	*
„ truncatulus, *Mull.* (sp.); L. fossarius, *Mont.* (sp.); L. minutus, *Drap.*	*	*	*	*
„ glaber, *Mull.* (sp.); L. elongatus, *Drap.*				*
Amphipeplea glutinosa, *Mull.* (sp.)*		*		
Ancylus fluviatilis, *Mull., Drap.*	*	*	*	*
„ lacustris, *Mull., Drap.*	*	*	*	*
Physa fontinalis, *Mont.* (sp.)	*	*	*	*
„ hypnorum, *Mont.* (sp.)	*	*	*	*
Planorbis corneus, *Mont.* (sp.)		*		
„ albus, *Mull.*; P. hispidus, *Drap.*	*	*	*	*
„ lævis, *Alder*	*			
„ imbricatus, *Mull.*; P. cristatus, *Drap.*	*	*	*	*
„ carinatus, *Mull.*	*	*	*	*
„ umbilicatus, *Mull.*; P. marginatus, *Drap.*	*	*	*	*
„ vortex, *Mull.*	*	*	*	*
„ spirorbis, *Mull.*; P. vortex, β *Drap.*	*	*	*	*
„ nitidus, *Mull.*; P. fontanus, *Mont.* (sp.); P. complanatus, *Drap.*	*	*	*	*
„ contortus, *Mull.*	*	*	*	*

The *Pulmonifera* of Ireland being treated of very fully in the sixth volume of the Annals of Natural History, it need only be stated here, that the British catalogue contains nineteen species†, which are not in the Irish, and the latter three, which are not in the former. These are *Geomalacus maculosus*, *Limax gagates*, and *Limneus involutus*; the *Limax arboreus*, though unpublished as a British species, is not included, as I have found it to be as common in Ayrshire and the Isle of Wight, as in Ireland. The generic forms which have not a place in the Irish catalogue are *Azeca* and *Segmentina*.

Class Gasteropoda.				
Order *Pulmonifera Operculata.*				
Cyclostoma elegans, *Mull.* (sp.)		*	*	*

This is the only British species of the Order. A single specimen of the *Cyclostoma productum* is stated by Dr. Turton to have been found by himself in the west of Ireland. Manual Brit. Land, &c. Shells, p. 94.

Class Gasteropoda.				
Order *Pectinibranchiata.*				
Fam. *Turbinidæ.*				
Eulima polita, *Pult., Mont.* (sp.)	*	*	*	*
„ subulata, *Don.* (sp.); E. bilineata, *Jeff.*	*	*	*	*
„ distorta, *Phil.* (sp.); Melania distorta, *Phil.* (I?) ‡		*	*	

* I have been enabled to include the *Amph. glutinosa* since this Report was sent to press, through the kind attention of Mr. Wm. Andrews of Dublin, who favoured me with specimens collected by him last summer in the canal near that city.

† In this number, two species are included which have not been found northward of the Channel Islands; the others are partially distributed in England, and two or three only reach so far north as Scotland.

‡ Mr. Alder thinks *E. polita* of Macgillivray's Aberdeenshire Mollusca may be this species.

Class GASTEROPODA. Order *Pectinibranchiata.* Fam. *Turbinidæ.*	Distribution. North.	East.	West.	South.
Eulima? Jeffreysii. (Gen. Parthenia?)	...	*		
Parthenia (*Lowe*) decussata, *Mont.* (sp.); Turbo, *Mont.*	...	*		
„ elegantissima, *Mont.* (sp.) „ „	...	*	*	*
„ indistincta, *Mont.* (sp.) „ „	...	*	*	
„ fulvocincta, *Thomp.* (sp.); Turritella indistincta, *Flem.*	...	*		
„ unica, *Mont.* (sp.); Turbo, *Mont.*	...	*	*	
„ nitidissima, *Mont.* (sp.); Turbo, *Mont.*	...	*	*	
„ ascaris, *Turt.* (sp.)	...	*	*	
„ glabra, *Leach*, (sp.); Alvania glabra, *Leach*, Brit. Mus.*	...	*	*	
Turritella terebra, *Lin.* (sp.)	*	*	*	*
Truncatella Montagui, *Lowe*; Turbo subtruncata, *Mont.*	...	...	*	
Paludina vivipara, *Mull.* (sp.)	*?	*	...	*?
„ tentaculata, *Lin.* (sp.); P. impura, *Lam.*	*	*	*	*
Littorina communis; Turbo littoreus, *Lin.*	*	*	*	*
„ cærulescens, *Lin.* (sp.); Turbo petræa, *Mont.*	...	*	*	*
„ rudis, *Mont.* (sp.)	*	*	*	*
„ tenebrosa, *Mont.* (sp.)	...	*	*	*
var? saxatilis. *Bean*	*	*	*	
„ neritoides, *Lam.*; Nerita littoralis, *Linn.*	*	*	*	*
Lacuna puteola, *Turt.*	*	*	*	
„ pallidula, *Don.*, *Mont.* (sp.)	*	*	*	*
„ crassior, *Mont.* (sp.)	*	*		
„ quadrifasciata, *Mont.* (sp.) / Turbo vinctus, *Mont.*; T. canalis, *Mont.*... } one	*	*	*	*
Rissoa cimex, *Lin.*, *Don.* (sp.); R. crenulata, *Mich.*?	...	*	*	
„ calathisca, *Laskey* (sp.)	...	...	...	*
„ striatula, *Mont.* (sp.)	...	*	*	
„ punctura, *Mont.* (sp.)†	...	*	...	*
„ Harveyi, *Thomp.* (I.)	...	...	*	
„ costata, *Adams.*, *Mont.* (sp.)	*	*	*	*
„ parva, *Mont.* (sp.)	*	*	*	*
„ rufilabrum, *Leach*; R. violacea, *Desm.*?	...	*	*	
„ reticulata, *Mont.* (sp.)	...	*	*	*
„ semicostata, *Mont.* (sp.)	...	*	*	
„ Bryerea, *Mont.* (sp.)‡ (on Brown's authority)	...	*		
„ striata, *Adams.*, *Mont.* (sp.)	*	*	*	*
„ labiosa, *Mont.* (sp.)	*	*	*	*
„ ventricosa, *Mont.* (sp.)	...	*		
„ auricularis, *Mont.* (sp.) (on Turton's authority)	...	*		
„ ? ulvæ, *Penn.*, *Mont.* (sp.)	*	*	*	*
„ ? subumbilicata, *Mont.* (sp.)	*	*	*	
„ interrupta, *Adams.*, *Mont.* (sp.)	*	*	*	
„ rubra, *Adams.*, *Mont.* (sp.)	...	*	*	
„ vitrea, *Mont.* (sp.)	...	*	*	
„ nivosa, *Mont.* (sp.) (on Turton's authority)	...	*		
„ unifasciata, *Mont.* (sp.) (on authority of Turton's Catalogue of Irish Shells)	...	*		
„ rupestris, *Forbes*	*	*	*?	
„ cingilla, *Mont.* (sp.)	*	*	*	*
„ alba, *Adams.*, (sp.)	...	...	...	*
„ Balliæ, *Thomp.* (I.)	...	...	...	*

* "Possibly a worn *T. ascaris*," Alder.

† Obtained in a subfossil state by the Rev. D. Landsborough in Ayrshire.

‡ Brown, referring to *Turbo Bryereus* as described and figured by Montagu and Donovan, mentions one specimen having been found at Portmarnock.

	Distribution.			
	North.	East.	West.	South.
Class GASTEROPODA.				
Order *Pectinibranchiata.*				
Fam. *Turbinidæ.*				
Rissoa semistriata, *Mont.* (sp.); R. tristriata, *Thomp.* Ann. Nat. Hist. vol. v. p. 98. pl. 2. f. 10	*	...	*	*
„ dispar, *Mont.* (sp.); Turbo ziczac, *Mat. & Rack.* (on authority of Turton and Brown)*	*	*	...	*
„ glabra, *Brown*, Illus.; R.? albella, *Alder*	...	*	*	
„ decussata, *Mont.* (sp.) (on Turton's authority)	...	*		
Odostomia pallida, *Mont.* (sp.)	*	*	*	
„ unidentata, *Mont.* (sp.)	...	*	*	*
„ plicata, *Mont.* (sp.)	*	*	*	
„ spiralis, *Mont.* (sp.)	*	*		
„ interstincta, *Mont.* (sp.)	...	*		
„ cylindrica, *Alder*	...	...	*	
„ obliqua, *Alder*	...	...	*	
——? (I.)	...	...	*	
Skenea depressa, *Mont.* (sp.)	*	*	*	*
„ serpuloides, *Mont.* (sp.) (on Turton's authority)	...	*		
Valvata piscinalis, *Mull.* (sp.) *Lam.*; V. obtusa, *Brard*	*	*	*	*
„ cristata, *Mull.*; V. spirorbis, *Drap.*	*	*	*	*
Fam. *Trochidæ.*				
Neritina fluviatilis, *List., Lin.* (sp.) †	...	*	*	
Phasianella pulla, *Lin.* (sp.)	*	*	*	*
Trochus magus, *Lin.*	*	*	*	*
„ umbilicatus, *Mont.*	*	*	*	*
„ cinerarius, *Penn.*	*	*	*	*
„ littoralis, *Brown* (on Brown's authority)	*	...	*	
„ tumidus, *Mont.*	*	*	*	*
„ papillosus, *Don.*	...	*		
„ ziziphinus, *Lin.*	*	*	*	*
„ exasperatus, *Penn.*	*	*	*?	
„ millegranus, *Phil.*; T. Martini, *Smith.*	*	*	*	*
„ striatus, *Mont.*; T. Montagui	*	*	...	*
Monodonta crassa, *Mont.* (sp.); Trochus crassus ‡	*	*	*	*
Margarita communis; Turbo margarita, *Mont.*	*	*		
Adeorbis § subcarinatus; Helix subc., *Mont.*	*	*	*	
Ianthina communis, *Lam.*; „ Ianthina, *Lin.*	*	...	*	*
„ exigua, *Sow.*	...	...	*	*
„ nitens, *Menke* (I.)	...	...	*	
Scalaria clathrus, *Penn.* (sp.)	*	*	*	*
„ clathratulus, *Walk.* (sp.)	*	*	*	*
„ Turtoni, *Turt.* (sp.)	*	*	...	*
„ Trevelyana, *Leach*	*	...	...	*
Planaxis lineata, *Da Costa*, (sp.); Bucc. lineatum ‖	...	*	*	

* Noticed by Mr. John Humphreys likewise as found in Cork harbour.

† Turton mentions his finding "several specimens of *Nerita virginea* (Lister, pl. 606. f. 35-37) among the sand at Seafield, in the west of Ireland, on the Atlantic." Conch. Dict. p. 127.

‡ 54½° lat. most northern locality.

§ *Adeorbis*, Wood (S. V.), Annals Nat. Hist. vol. ix. p. 530.

‖ A specimen of this shell was found by Mr. Warren at Bray near Dublin, and several specimens were obtained by Mr. Hyndman from shell-sand collected at Bundoran, county of Donegal, by Mrs. Hancock. Professor E. Forbes remarks,—"although this shell is called '*Planaxis*' I think it is much more probably a *Nassa*; especially if the Irish specimens be truly native."

	Distribution.			
	North.	East.	West.	South.
Class GASTEROPODA.				
Order *Pectinibranchiata.*				
Fam. *Cerithiadæ.*				
Cerithium Pennantii, *Thomp.*; Ann. N. H. vol. v. p. 12; Turbo tuberculatis, *Penn.*; Murex fuscatus, *Mont.*	...	...	...	*
„ tuberculatis, *Mont.* (sp.)	*	...	*	*
„ reticulatum, *Mont.* (sp.); C. lima, *Lam.*	*	*	*	
„ costatum, *Don., Mont.* (sp.)*	...	...	...	*
Triphoris adversus, *Mont.* (sp.); Murex adv., *Mont.*; Terebra versa, *Flem.*	...	...	*	
Fam. *Buccinidæ*†.				
Nassa reticulata, *Lin.* (sp.)	*	*	*	*
„ macula, *Mont.* (sp.); N. incrassata	*	*	*	*
„ ambigua, *Pult., Mont.* (sp.)‡	...	*	...	*
Purpura lapillus, *Lin.* (sp.)	*	*	*	*
Monoceros hepaticus, *Mont.* (sp.) (on the authority of Brown & Turton)	*	*		
Buccinum undatum, *Lin.*	*	*	*	*
„ var. B. carinatum, *Turt.*	...	*	...	*
„ Humphreysianum, *Bennet* (I.)§	...	*	...	*
„ fusiforme, *Brod.* Zool. Journ. v. p. 44. t. 3. f. 3. (I.)	...	...	...	*
„ ovum, *Turt.*	...	...	...	*
„ ——? (I.)	...	...	*	
Fusus antiquus, *Lin.* (sp.); F. despectus, *Lin.*	*	*	...	*
„ corneus, *Lin.* (sp.); Bucc. angustior, *Lister* var. ? F. fenestratus, *Turt.* Mag. N. H. vol. viii. (*E. Forbes*)	*	*	...	*
„ muricatus, *Mont.* (sp.)	*	*	...	*
„ Barvicensis, *Johnst.*	*?			
„ Banffius, *Don., Mont.* (sp.)	*	*	*	*
Pleurotoma Boothii, *Smith*, (sp.) Wern. Mem. vol. viii.	...	*		
„ turricula, *Mont.* (sp.)	*	*	*	*
„ costata, *Penn., Mont.* (sp.)	...	*	*	*
„ septangularis, *Mont.* (sp.)	*	*	*	*
„ attenuata, *Mont.* (sp.)	*	*	*	*
„ nebula, *Mont.* (sp.)	*	*	...	*
„ rufa, *Mont.* (sp.); Murex chordula, *Turt.* Conch. Dict. p. 94. young?	...	*	...	*
„ linearis, *Mont.* (sp.)	*	*	*	
„ purpurea, *Mont.* (sp.)	*	*	*	
„ gracilis, *Mont.* (sp.)	...	*		
„ sinuosa, *Mont.* (sp.) (on Turton's authority)	...	*		
„ Trevellyanum, *Turt.*, Mag. N. H. vol. viii.	...	*		
„ —— ? —— (I.)	*			
„ —— ? —— (I.)	...	...	*	
„ —— ? —— (I.)	...	*		
Triton erinaceus, *Penn.* (sp.)	*	*	*	*
Aporrhais pes-pelecani, *Lin.* (sp.)	*	*	*	*

* This is considered by some naturalists as a doubtful Irish species. Dillwyn was the first to notice it, and the locality he gave was Bantry bay. I have seen specimens which were said to be from this locality, and others stated to be from the Waterford coast, but by whom collected I could not learn with certainty.

† *Pyrula carica.* Turton was imposed on with respect to this shell having been found in the county of Down coast.

‡ Noticed by Turton as found at Portmarnock (Conch. Dict. p. 16), and by Mr. John Humphreys (in a MS. catalogue) as obtained in Cork harbour.

§ *B. Anglicanum*, made synonymous with this in Flem. Brit. Anim., is considered a distinct species by Mr. Alder, to whom *B. Humphreysianum* is unknown as British.

	Distribution.			
	North.	East.	West.	South.
Class GASTEROPODA.				
Order *Pectinibranchiata.*				
Fam. *Involutæ.*				
Cypræa Europæa, *Mont.*	*	*	*	*
Erato lævis, *Don.* (sp.); Marginella voluta	*	...	*	*
Tornatella fasciata, *Lam.*; T. tornatilis	*	*	*	*
Fam. *Sigaretidæ.*				
Sigaretus perspicuus, *Lin.* (sp.); Bulla haliotidea, *Mont.*	*	*	*	*
,, tentaculatus ; Lamellaria tent. *Mont.*, Linn. Trans. xi.	*			
Velutina lævigata, *Lin.* (sp.)	*	*	*	*
,, otis, *Turt.*	...	...	*	
Fam. *Naticidæ.*				
Natica monilifera, *Lam.*; N. glaucina, *British authors*	*	*	*	*
,, Alderi, *Forbes*; N. canrena, *Mont.*	*	*	*	*
,, ——? Ann. N. H. vol. v. p. 99. "var. N. Alderi?" Mr. Alder in litt.	...	...	...	*
,, sulcata, *Turt.* (sp.)				
,, glabrissima, *Brown* (sp.) Irish Test. Wern. Mem. vol. ii. p. 532. pl. 24. f. 12.—doubtful species	...	*		
,, nitida, *Don.* (sp.); Ner. mammilla, *Turt.* (on Turton's authority)	...	*		

Of about 160 species of British *Pectinibranchia*, 35 are unknown as Irish; they are the rarest species, and the greater number of them have been met with only in a single locality—not one is of common occurrence. About 12 species obtained in Ireland have not a place in the British catalogue. The British genera unknown as Irish, are *Turbo**, *Delphinula*, *Stylina*, Flem., *Volva* (*Ovula*?), *Volvaria*, *Dolium*, *Terebra*†, and *Assiminea*.

Class GASTEROPODA.				
Order *Scutibranchiata.*				
Haliotis tuberculata, *Lin.*‡	*	*		
Calyptræa Sinensis; Patella, *Lin.*	...	*		
Capulus Ungaricus; ,, ,,	*	*	...	*
,, ? antiquatus; ,, ,,	*	*		
,, militaris; ,, *Mont.*	...	*	...	*
Fissurella græca; ,, *Lin.*; F. apertura, young	*	*	*	*
Emarginula fissura; ,, ,,	*	*	*	*
Lottia virginea, *Mull.* (sp.); Patella parva, *Mont.* syn. L. pulchella, *Forb.*	*	*	*	*
,, testudinalis, *Mull.* (sp.); Patella Clealandi, *Sow.*	*	*		
,, fulva, *Mull.* (sp.) Zool. Dan.; Patella Forbesii, *Smith*	...	...	...	*

The above *Scutibranchia* include all but three British species, and which are very rare, viz. *Scissurella crispata*, found at Zetland by Dr. Fleming; *Emarginula rosea* at Poole in Dorsetshire by Professor Bell; and *Puncturella noachina* at Oban, in Argyleshire, by the Rev. R. T. Lowe.

* *T. mammillatus* and *T. tuberosissimus*, the Brit. species.—*Cyclostrema Zetlandica* comes under the genus *Rissoa*.

† *T. subulata*, the Brit. species.

‡ In Mr. Templeton's journal, the following note appears—"Oct. 24, 1811. Received a *Haliotis tuberculatus* dredged up on the county Down shore, near Groomsport." Capt. Brown in his 'Irish Testacea' mentions on the authority of Templeton, that specimens had been obtained at another locality in the same county. Mr. O'Kelly states—in Walsh and Whitelaw's Dublin—that "one specimen was found at Bullock [Dublin coast] and is in the possession of James Tardy, Esq."

	Distribution.			
	North.	East.	West.	South.
GASTEROPODA.				
Order *Cirrhobranchiata.*				
Dentalium dentalis, *Lin.*; D. eburneum	...	*	*	
,, entalis, *Lin.*; D. labiatum, *Brown*	*	*	...	*
,, striatulum, *Turt.* C. D.	...	...	*	*
,, semistriatum, *Turt.* C. D. (on Turton's authority)*	...	*		

The *Dentalium glabrum*, Mont., and *Dent. trachea*, Mont., which come under the genus *Cæcum* of Fleming and *Brochus* of Brown, have been found at Miltown Malbay, on the coast of Clare, by Mr. W. H. Harvey, and at Bundoran, co. Donegal. Capt. Brown figures (pl. 1. Illustrations) three species of *Brochus*, which he calls new, from the coast of Ireland, viz. *B. reticulatus* and *B. annulatus*, from the county of Down; *B. arcuatus* from Bantry bay—at this last locality *B. striatus*, Brown, occurred to myself. Naturalists seem not yet to have agreed about the position of this genus; some make it Annelidan. Mr. Clark of Bath (as I learn from Mr. Alder) proved it to belong to the *Gasteropodous Mollusca*. Philippi brings it—his genus *Odontidium*—under *Pteropoda*.

GASTEROPODA.				
Order CYCLOBRANCHIATA.				
Patella vulgata, *Lin.* (var. P. depressa, *Penn.*, Dublin coast)	*	*	*	*
,, ? intorta, *Penn.* (on Turton's authority.)	...	*?		
,, pellucida, *Lin.*	*	*	*	*
,, lævis, *List.*; P. cœrulea, *Mont.*	*	*	*	*
,, ? exigua, *Forbes*; P. ancyloides, *Forbes*	*			
Chiton fascicularis, *Lin.*	*	*	*	*
,, marginatus, *Penn.* Flem. Br. Anim.	*	*	*	*
,, ruber, *Lin.* Flem. B. A.	*	*	...	*
,, cinereus, *Lin.* Flem. B. A.	*	*	*	
,, fuscatus, *Brown*	*			
,, lævis, *Mont.* Flem. B. A.	*	*	*	*
,, albus, *Lin.* Flem. B. A.	*			
,, lævigatus, Flem. B. A.	*	*	*	

The above species of *Cyclobranchia* perhaps include all those published that can be given with certainty as British.

Class ACEPHALA.				
Order BRACHIOPODA.				
Terebratula psittacea, *Turt.*	...	*		
,, aurita, *Flem.*	*			
Crania personata, *Sow.*; Criopus anomalus, *Flem.*	...	...	...	*

Turton mentions a single specimen of "*Anomia terebratula*" dredged alive in Dublin bay and placed in the museum of the Dublin Society. In August last, when visiting this collection in company with Mr. Alder, a *Terebratula psittacea* (sp.) labelled "Dublin bay," was observed, but whether it was the shell alluded to by Turton we could not ascertain. On looking over the Ordnance Museum we saw a specimen of *T. aurita*, which was dredged at the entrance of Belfast bay. *Crania personata* has been brought up from very deep water off Youghal by Mr. R. Ball, and has been obtained by Mr. John Humphreys on *Pinna ingens*, &c., dredged in Cork harbour and off Kinsale. The British

* Turton's *Dentalium clausum* is advisedly omitted as a species.

list contains but one species in addition to those named as Irish—the *Ter. cranium*, which is occasionally taken at Zetland.

Class ACEPHALA.

Order LAMELLIBRANCHIATA.

Div. MONOMYARIA.

Fam. *Ostreadæ*.

	Distribution.			
	North.	East.	West.	South.
Anomia electrica, *Lin.* } one species	*	*	*	*
„ ephippium, *Lin.*; A. cepa, *Lin.*. }				
„ squamula, *Lin.*	*	*	*	*
„ undulata, *Gm., Mont.*	*	*	...	*
„ punctata, *Turt.*	...	...	...	*
„ cylindrica, *Turt.*; A. cymbiformis	*	*	...	*
„ aculeata, *Mont.*	*	*	...	*
Ostrea edulis, *Lin.*; O. parasitica, *Turt.* (young)	*	*	*	*

Fam. *Pectenidæ*.

Pecten maximus, *Lin.* (sp.)*	*	*	*	*
„ opercularis, *Lin.*	*	*	*	*
var. P. lineatus	*	*	...	*
„ sinuosus, *Turt.*	*	*	*	*
„ glaber, *Penn., Mont.*	...	...	...	*
syn.? P. nebulosus, *Brown*	*?			
„ lævis, *Penn., Mont.*; P. tumidus, *Turt.*; P. similis, *Laskey*, one species? (*E. Forbes*) }	...	*	...	*
„ obsoletus, *Penn., Don.*	*	*	...	*
„ varius, *Lin.* (sp.)	*	*	*	*
Lima fragilis, *Mont.*	*	*	...	*
„ tenera, *Turt.* Zool. Journ. vol. ii.	*			
„ subauriculata, *Mont.* (sp.)	*			

Div. DIMYARIA.

Fam. *Aviculadæ*.

Avicula atlantica, *Lam.*†	...	*	...	*

Fam. *Arcadæ*.

Arca Noæ, *Lin.*	...	...	...	*
„ fusca, *Mont.* (not *Lam.*); A. tetragona of authors.	*	*	*	*
„ lactea, *Lin.?*, *Mont.* (the species marked with doubt by Turton)	...	...	*	
„ barbata, *Brown*, Wern. Mem. vol. ii. p. 512. pl. 24. f. 3. (I.)	*			
Pectunculus pilosus, *Lin.* (sp.); P. decussatus, *Turt.*; P. nummarius, *Turt.*	*	*	...	*
Nucula margaritacea, *Lam.*; Arca nucleus, *Lin.*	*	*	*	*
„ minuta, *Mont.* (sp.)	*	*	*	
„ tenuis, *Mont.* (sp.)	...	*		
„ nitida, *Sow.* Conch. Illus. f. 20	...	*		

Fam. *Mytilidæ*.

Mytilus edulis, *Lin.*; M. incurvatus, M. subsaxatilis, &c.	*	*	*	*
Crenella decussata, *Laskey* (sp.); Myt. decussata, *Mont.*; Cren. elliptica, *Brown*, Illus. }	*			
Modiola vulgaris; Myt. modiola, *Penn.*; Mod. papuana, *Lam.*	*	*	...	*
„ tulipa, *Lam.*	*	*		

* *P. jacobæus* is noticed by Turton, &c. as an Irish shell, but I believe erroneously.

† The specimens of *Avicula hirundo* obtained by Miss Hutchins at Bantry bay and Mr. Warren at Portmarnock, are most probably this species. *Vide* Lam. tom. vii. p. 99. 2nd edit.

	Distribution.			
	North.	East.	West.	South.
Fam. *Mytilidæ*.				
Modiola Gibsii, *Leach*	...	...	*	*
„ ——— ? (I.)	...	...	...	*
„ discrepans, *Mont.* (sp.), not *Lam.*	*	*	*	*
„ marmoratus, *Forb.* Malacol. Monensis, p. 44; Myt. discors, *Mont.* (see Lam. vii. p. 23. 2nd ed.)	*	*	*	*
Pinna fragilis, *Turt.* Brit. Biv....	*	*	...	*
„ pectinata, „ „ ... } one species	...	...	...	*
„ muricata, „ „ ... } one species	...	...	...	*
„ papyracea, „ „ ... } one species	...	...	...	*
Fam. *Unionidæ*.				
Anodon cygneus; Mytilus cyg., *Mont.*; A. cyg. and A. anatina, *Drap.*; A. intermedia and A. cellensis, *Pfeiff.* (one species)	*	*	*	
Alasmodon margaritiferum; Mya marg., *Mont.*; Unio marg., *Drap.*	*	...	*	*
Fam. *Camacadæ*.				
Isocardia cor; Chama cor, *Lin.*; I. Hibernica, *Bulwer*	*	*	...	*
Fam. *Conchaceæ*.				
Cardium echinatum, *Lin.*	*	*	...	*
„ elongatum, *Mont.*	...	*	...	*
„ nodosum, *Mont.*	*	*	*	
„ exiguum, *Mont.*	*	*	*	*
„ edule, *Lin.*	*	*	*	*
„ var. fasciatum, *Mont.*	...	*	...	*
„ medium, *Lin.*	*	*		
„ lævigatum, *Lin.*; C. serratum	*	*	*	*
„ ——— ? (I.)	*			
Donax trunculus, *Lin.*; D. rubra, *Turt.* Br. Biv. (young)	*	*	*	*
„ denticulata, *Lin.* (noticed by Brown and Turton only)	...	*	*	
„ complanata, *Mont.*	...	...	...	*
Tellina punicea, *Turt.*	* ?			
„ fabula, *Don.*	*	*	*	*
„ similis, *Sow.*	...	*		
„ donacina, *Lin.*	*	*	...	*
„ bimaculata, *Lin.*, *Don.**	...	...	*	*
„ squalida, *Mont.*; T. depressa, *Don.*	*	*	...	*
„ tenuis, *Don.*	*	*	*	*
„ crassa, *Penn.*; T. maculata, *Turt.* Br. Biv.	...	*	*	*
„ solidula, *Mont.*	*	*	...	*
„ carnaria, *Lin.*, *Don.* (on Turton's authority)	...	...	*	
Lucina radula; Tell. rad., *Mont.*	*	*	*	*
„ rotundata; Tell. rot., *Mont.*	...	...	...	*
„ spinifera; Venus spin., *Mont.*; Myrtea spin., *Turt.*	*	*	*	*
„ flexuosa; Tell. flex., *Mont.*	*	*	*	*
Amphidesma† prismaticum, *Laskey* (sp.)	*	*	...	*
„ Boysii, *Turt.* Br. Biv.	*	*	*	*
„ tenue; Ligula tenuis, *Mont.*	*			
„ ——? (I.)	*	...	*	
Cyprina Islandica; Venus Isl., *Lin.*	*	*	*	*

* As this species is considered by some naturalists to have been erroneously introduced into our catalogues, it may be stated that Mr. R. Ball has specimens of it collected on the coasts of Clare and Cork, and that Mr. Warren of Dublin obtained one in a living state at Ardmore, county Waterford.

† Montagu's generic name *Ligula* should perhaps be adopted instead of *Amphidesma*.

Fam. *Conchaceæ.*	Distribution. North.	East.	West.	South.
Cyprina minima; Venus min., *Mont.*	...	...	*	*
„ triangularis; Venus tri., *Mont.* (on Turton's authority)	...	*		
Mactra solida, *Penn., Mont.*; M. crassa	*	*	*	*
„ elliptica, *Brown*, Illust.	*	*		
„ truncata, *Mont.*	*	*	*	*
„ subtruncata, *Mont.*	*	*	*	*
„ stultorum, *Lin.*	*	*	*	*
var. M. cinerea, *Mont.*	*	*		
Goodallia triangularis; Mactra tri., *Mont.*	*			
„ minutissima; Mactra min., *Mont.* (on Turton's authority)	...	*		
Lepton squamosum; Solen squam., *Mont.*	...	...	...	*
Kellia suborbicularis; Mya sub., *Mont.*	*	...	*	*
„ rubra; Cardium rubrum, *Mont.*	*	*	*	*
Montacuta substriata; Ligula sub., *Mont.*	*			
„ bidentata; Mya bid., *Mont.*	*	*	*	*
„ ferruginosa; Mya fer., *Mont.*	...	*		
„ ovata; Tellimya ovata, *Brown*, Illust.	...	*	*	*
„ purpurea; Mya purp., *Mont.*	*	*	*	
Ervilia nitens; Mya nitens, *Laskey, Mont.* (on Turton's authority)	...	*		
Cyclas cornea; Tellina cornea, *Lin.*	*	*	*	*
„ lacustris; Tellina lac., *Mull.*; C. calyculata, *Drap.*				
Pisidium obtusale, *Pfeif.*? *Jenyns*	*	...	...	*
„ nitidum, *Jen.*	*	*	*	*
„ pusillum, *Jen.*	*	*	*	*
„ pulchellum, *Jen.*	*	*	*	*
„ Henslowianum, *Jen.*; Cyc. appendiculata, *Turt.* Man.	...	...	...	*
„ amnicum; Cardium amni, *Mont.*; Cyclas palustris, *Drap.*	*	*	*	
„ cinereum, *Alder*	*	*	*	*
Astarte Damnoniæ; Venus Damn., *Mont.*	*	*	...	*
„ Scotica; Venus Scot., *Mont.*	*	*	...	*
„ „ ? (I.)	*			
Artemis exoleta; Venus ex., *Lin.*	*	*	*	*
„ lincta; Venus lincta, *Pult.*	*	*	*	*
„ ? undata; Venus undata, *Penn., Mont.*	*	*		*
Cytherea tigerina; Venus tig., *Lin.* (on Brown's authority)	...	*		
„ ovata; Venus ovata, *Penn., Mont.*	*	*	*	*
Venus verrucosa, *Lin.*; V. cancellata, *Lin., Turt.* (young)	*	*	*	*
„ cassina, *Lin.*; syn. V. reflexa, *Lask., Mont.*	*	*	*	*
„ fasciata, *Don**	*	*	*	*
„ Pennantii, *Forb.*, Malac. Monensis, 52; V. rugosa, *Penn.*; V. laminosa, *Laskey*	*	*	*	*
„ gallina, *Lin.*	*	*	*	*
„ sinuosa, *Penn.* (on the authority of Brown and Turton)	...	*	...	*
„ ——? ——— (I.)	...	...	...	*
„ ——? ——— (I.)	...	*		
Pullastra aurea; Venus aurea, *Mont.*; syn. V. nitens, *Turt.*; V. ænea, *Turt., E. Forbes*	*	*	*	*
„ perforans; Venus perf., *Mont.*	*	*	*	*
„ vulgaris, *Sow.*; Venus pullastra, *Wood, Mont.*	*	*	*	*
„ decussata; V. dec., *Lin.*	*	*	*	*
„ virginea; V. virg., *Lin.*	*	*	*	*
var. V. Sarniensis	*	*		
Venerupis irus; Donax irus, *Lin.*	...	*	*	*
Petricola ochroleuca, *Lam.*; Psam. fragilis, *Turt.* Br. Biv. (I.)	...	...	...	*

* *Venus dysera* of Bryce's Tables, &c. is a variety of *V. fasciata.*

	Distribution.			
	North.	East.	West.	South.
Fam. *Pyloridæ*.				
Corbula striata; Mya inæquivalvis, *Mont.*		*	...	*
Sphenia Binghami, *Turt.* Br. Biv.	...	*?		
Pandora obtusa, *Leach, Lam.**	*			
Thracia convexa; Anatina conv., *Turt.* Br. Biv.	*	*	...	
„ pubescens; „ pub., „ „	*	*	*	*
„ declivis; „ dec., „ „	*	*	...	*
„ distorta; „ dist., „ „	...	*	...	*
Anatina prætenue, „ „	*	*	...	*
Mya truncata, *Lin.*; Sphenia Swainsoni, *Turt.*, young, *E. Forbes*	*	*	*	*
„ arenaria, *Lin.*	*	*	*	*
Lyonsia Norvegica; "Mya Norv., *Turt., Lin.*"	*	*	*	*
Lutraria vulgaris; Mactra lutraria, *Lin.*	...	*	*	*
„ hians; Mactra hians, *Pult., Don.*	*	...	...	*
„ compressa; Listera comp., *Turt.* Br. Biv.	*	*	*	*
Psammobia tellinella, *Lam.*; P. florida, *Turt.* Br. Biv.	*	*	...	*
P. costulata, *Turt.*, syn. with last	...	...	...	*
„ Ferroensis; Tellina Fer., *Mont.*	*	*	*	*
„ vespertina, *Turt.*; P. florida, *Lam.* (but not of British authors) is the form found in Scotland (*E. Forbes*)	*	...	*	*
Solen vagina, *Lin.*	*	*	...	*
„ siliqua, *Lin.*	*	*	*	*
syn.? S. novacula, *Mont.*	*	*		
„ ensis, *Lin.*	*	*	*	*
„ pellucidus, *Penn., Don.*	*	*	...	*
„ legumen, *Lin.*	...	*	...	*
„ antiquatus, *Pult., Don.*	*	*	...	*
„ fragilis, *Pult., Mont.*				
„ strigillatus; Psammobia strig., *Turt.*	...	*	...	*
Saxicava rugosa; Mytilus rug., *Lin.*; syn. Hiatella arctica, *Flem.*	*	*	*	*
Fam. *Tubicolæ*.				
Gastrochæna pholadia, *Mont.* (sp.); Mya phol., *Mont.*; Gast. hians, *Flem.*; Mya dubia, *Penn.*	...	...	*	*
Pholas crispata, *Lin.*	*	*	...	*
„ lamellata, *Turt.*	*	*?		
„ striatus, *Lin., Don.*; "conoides, Parsons," *Flem.* Br. Anim.	...	...	*	
„ dactylus, *Lin.*	*	*	...	*
„ parvus, *Mont.*	*			
„ candidus, *Lin.*	*	*	...	*
Teredo bipinnata, *Turt.*	...	...	*	*
„ navalis, *Lin.*	*	*	*	*
Xylophaga dorsalis, *Turt.*	...	*		

About 220 species of *Lamellibranchia* are included in the British Fauna, of which 155 are Irish: to these, eight only—indicated in the usual manner in the preceding table—can be added, which have not a place in the catalogue of Great Britain, making the total number of Irish species 163. The *marine* species of that island unknown to us are the rarest there, not one of the many being common, and nearly all being local and confined to one district. It is not so with the *freshwater* species, *Unio pictorum*, *U. tumidus*, and *Cyclas rivicola*, which are more widely diffused, but at the same time become rare

* *Pandora inæquivalvis* (*P. rostrata*, Lam.). In Turton's catalogue of Irish Shells it is stated that specimens said to be from Bantry were shown him, but in his subsequent works (Conch. Dict. and Brit. Biv.) no Irish station is given for the species.

towards the north of England, and are not found at all in Scotland. The generic forms wanting in Ireland are *Lithodomus, Capsa, Panopæa, Galeoma, Unio, Crenatula, Neæra**, all of which, with the exception of *Unio*, are very rare:—they have each but one representative British species.

Mollusca Tunicata.	Distribution. North.	East.	West.	South.
Ascidia mentula, *Mull.* Zool. Dan. vol. i. p. 6. t. 8. f. 1–4. (Phallusia, *Sav.*)	*	...	*	
„ rustica, „ „ „ p. 14. t. 15. f. 1–5. (Phallusia)...	*	*	*	
„ venosa, „ „ „ p. 25. t. 25. (I.)	*			
„ prunum, „ „ „ p. 42. t. 34. f. 1–3	*	...	* ?	
„ conchilega, „ „ „ p. 42. t. 34. f. 4–6	*			
„ parallelogramma, „ vol. ii. p. 11. t. 49. (I.)	*			
„ canina, „ „ „ p. 19. t. 55. f. 1–6. (Phallusia) (I.)	...	...	*	
„ aspersa, „ „ „ p. 32. t. 65. f. 2. (I.)	*			
„ scabra, „ „ „ p. 33. t. 65. f. 3. (I.)	*	...	*	
„ orbicularis, „ „ „ p. 53. t. 79. f. 1 & 2. (I.)	*			
„ echinata, „ „ vol. iv. p. 10. t. 130. f. 1	*			
„ mammillaris, Delle Chiaje, vol. iii. p. 187. 197. t. 45. f. 14. (I.) ...	*			
„ gemina, *Templeton* (R.) Mag. Nat. Hist. vol. vii. p. 129. f. 24. (I.)	*			
„ anceps, „ „ „ „ p. 130. f. 25. A. prunum? (I.?).....	*			
„ communis, *Forbes* MSS.	...	...	*	
Phallusia intestinalis, *Sav.* Mem. p. 169. t. 11. f. 1	*	...	*	
Cynthia microcosmus, „ „ p. 144. t. 2. f. 1. (I.).....	*	*	*	
„ claudicans, „ „ p. 150. t. 2. f. 1. (I.).....	*			
Clavellina lepadiformis, *Sav.*; Ascidia lepad., *Mull. Z.* D. vol. ii. p. 54. t. 79. f. 5.	*	*	*	
Distoma rubrum, *Sav.* Mem. p. 177. t. 3. f. 1. and t. 13. (I.)	*			
„ variolosum, *Gaert.* Sav. Mem. p. 38. & 178?	*			
Aplidium ——? (more than one species)	*	...	*	
Sydneum turbinatum, *Sav.* Mem. p. 239?	*			
Amaroucium proliferum, *Edw.* Ascid. Compos., p. 67. pl. 1. f. 3. (I.) ...	*			
Leptoclinum gelatinosum, „ „ „ p. 83. pl. 8. f. 1. (I.) ...	*			
„ maculosum, „ „ „ p. 81. pl. 8. f. 2. (I.) ...	*			
„ asperum, „ „ „ p. 82. pl. 8. f. 3. (I.) ...	*			
„ durum, „ „ „ p. 82. pl. 8. f. 4. (I.) ...	*			
Botryllus Schlosseri, *Lin.* (sp.) Phil. Trans. vol. xlix. p. 449. pl. 14	*	*		
„ Leachii, *Sav.* Mem. p. 199. pl. 4. f. 6. & pl. 20. f. 4	*			
„ polycyclus, *Sav.* Mem. p. 47. pl. 4. f. 5 (I.)	*	...	*	
„ gemmeus, *Sav.*, Edw. Ascid. Comp. p. 89. pl. 6. f. 5. (I.)	*			
„ bivittatus, *Edw.* „ „ „ p. 92. pl. 6. f. 7. (I.)	*			

In Loudon's Magazine of Natural History, vol. vii. p. 129, Mr. R. Templeton described and figured two species of the *Moll. Tunicata*, and eighteen more were recorded by myself in the Annals of Nat. Hist., vol. v. p. 93:—in the 13th volume of the latter work the additional species introduced here will be more particularly noticed. My knowledge of the *Tunicata* not being advanced beyond the identification of the species with those of the authors cited, the names are given in the consecutive order in which they appear in their works, without any attempt being made to bring the species ("simple" Ascidiæ) under their modern genera. Such of Muller's species as Savigny brought under certain of his genera have these added within brackets in the accompanying table.

* The introduced *Dreissena* is not included.

So little attention has been bestowed on the *Mollusca Tunicata* of Great Britain and Ireland, that it is perhaps unnecessary to draw the usual comparison. More Irish than British species can however be announced. Of the thirteen British simple Ascidians recorded, seven are Irish, in addition to which are eleven unrecorded as indigenous to the coasts of the larger island. Of the ten "compound" species published as British five are Irish, to which latter nine, unnoticed as indigenous to the seas of Great Britain, are to be added: all the species of the preceding catalogue marked (I.) are probably to be found on the British coast. So little of the history or geographical distribution of the *Moll. Tunicata* is known that the mere record of the species obtained in any locality possesses interest. The greater number of those here noticed are identical with the species found by Muller on the coast of Denmark; several, both of the "simple" and "compound," are the same as those of France described by Savigny and Milne Edwards, and a few of each division to those procured by Delle Chiaje on the coast of Naples.

Nearly all the species enumerated here were taken by dredging, as were a number of others (simple and compound) which are still undetermined. Professor Edward Forbes and Mr. John Goodsir, in the course of their dredging, have collected many species from various parts of the British coast, a very few of which are yet published.

To take a general view of the Mollusca of Ireland, as exhibited in the preceding catalogue, it would seem, regarding the subject positively, that a respectable knowledge of all the classes and orders has been acquired, and regarding it comparatively, that on the whole the species have been perhaps as well ascertained as those of Great Britain. The relative difference in the number of species (except perhaps in Nudibranchia) will probably hold good after the closest investigation of the subject in both islands: in the Bivalves only among the Testacea is the difference very striking. Considering the geographical position of the two islands, the smaller one being the farther removed from the great continental coast, the shores of Ireland being only about one-third the extent of those of the larger island, and what is of more consequence, limited to one-third of the degrees of latitude over which Great Britain with its neighbouring islands (whose fauna it includes) extend, the relative number of species known as Irish is as great as would *à priori* be anticipated.

CIRRHIPEDA.

The species of Irish Cirrhipeda known to Brown and Turton were included in their catalogues of "Testacea." Capt. Portlock, in bringing before the Royal Irish Academy (Jan. 23, 1837) a notice of *Anatifa vitrea*, read a list of the native Pedunculated Cirrhipeda, communicated to him by Mr. R. Ball*; and additional species have been contributed by myself to the Annals of Nat. Hist. vol. xiii.

CIRRHIPEDA.	Distribution. North.	East.	West.	South.
Cirr. Pedunculata.				
Anatifa lævis, *Lam.*; Lepas anatifera, *Lin.*	*	*	*	*
„ dentata, *Lam.*; var. A. lævis, *W. T.*	*			
„ striata, *Lam.*; Lep. anserifera, *Lin.*	*	*	*	*

* Proceedings of the Royal Irish Academy, vol. i. p. 30.

CIRRHIPEDA.	Distribution. North.	East.	West.	South.
Cirr. Pedunculata.				
Anatifa vitrea, *Lam.*; L. fascicularis, *Mont.*	*	...	*	*
,, sulcata, *Lam.*; L. sul., *Mont.*	...	...	*	*
Scalpellum vulgare, *Leach*; L. scalp., *Lin.*	*	*		
Pollicipes cornucopiæ, *Leach*; L. pollicipes, *Gmel.*	...	*		
Cineras vittata, *Leach*; L. membranacea, *Mont.*	*	*		
Otion Cuvieri, *Leach*; L. aurita, *Lin.*	*	*	...	*?
Cirrhipeda Sessilia.				
Balanus costatus, *Mont.*; B. angulosus, *Lam.*	*	*	...	*
,, communis*, *Mont.*; Lepas balanus, *Lin.*? Bal. sulcatus, *Brug. Lam.*	*	*	...	*
,, tintinnabulum, *Lin.* (sp.)	*?	*	...	*
,, ovularis, *Lam.*; Bal. balanoides, *Mont.*	*	*	...	*
,, rugosus*, *Mont.*	*	*		
,, Scoticus, *Wood* (sp.), Brown's Illust. pl. 7. f. 22†	*	*		
,, candidus, *Leach*, ,, ,, pl. 6. f. 8–10	...	*		
,, punctatus*, *Mont.*	...	*	...	*
,, fistulosus, *Brug. Lam.*; B. clavatus; Lepas elongata, *Chem.*	*	*	...	*
Creusia verruca, *Leach, Lam.*; Lepas striata, *Penn.*	*	*	...	*

The preceding catalogue exhibits nearly all the species of Cirrhipeda which have a place in the British Fauna; but as these have not been satisfactorily determined, the usual comparison is omitted. Several of the species can hardly be called natives of our seas, although found living on the bottoms of ships in our harbours, and attached to timber cast ashore; but by including them here I only follow British and French authors. Some species, if not native, have become naturalized to a limited extent, and take up their abode on the "wooden walls" of our docks, flood-gates, &c. The *Coronula diadema*, which has been obtained on the skin of whales killed on the British coast, and the *Acasta Montagui*, Leach, found imbedded in sponge, cannot be announced with certainty in the Irish catalogue.

CRUSTACEA.

Some species of Irish Crustacea have been recorded in the celebrated 'Zoological Researches' of Mr. John Vaughan Thompson, and his other writings‡; by Templeton's catalogue of all the species known to him, published in the ninth volume of Loudon's Magazine of Natural History; by contributions of Mr. Robert Templeton, to the second volume of the Entomological Transactions; and by communications of my own to the Annals of Natural History, vols. v. (pp. 221 & 255), vii. (p. 482), x. xi. & xiii.

The collections of Dr. Drummond, Mr. Hyndman and the Ordnance Survey, from the north-east coast; of Mr. R. Ball from Youghal and Dublin; of Dr. Bellingham (in *Syphonostomata*) from the last-named locality; and of

* The names of *Balanus communis*, *B. rugosus*, and *B. punctatus* have been applied to other species on the continent. See Lamarck, vol. v. 2nd edit.

† See correction of *B. Scoticus* and *B. candidus* in description of plate 32.

‡ Papers in the Philosophical Transactions, 1835, and Entomological Magazine (vol. iii.), and Museum Catalogue of the Royal College of Surgeons, Dublin:—his whole collection of *Crustacea* now belongs to this College, and is exhibited in its museum; the Irish species are indicated by the initial "I."

Dr. Geo. J. Allman (*Syphonostomata*) from the coast of Cork, have, in addition to my own, aided in this department.

I have throughout followed the arrangement adopted in the excellent 'Histoire des Crustaces' of Milne Edwards.

CRUSTACEA.

1st Legion PODOPHTHALMATA.

Order DECAPODA.

1st Section *Brachyura.*

	Distribution.			
	North.	East.	West.	South.
Macropodia phalangium, *Leach**	*	*	*	*
Achæus Cranchii, *Leach*	...	...	...	*
Inachus Dorsettensis, *Leach*	*	*	*	*
,, leptochirus, *Leach*	*	...	*	
,, dorhynchus, *Leach*	*			
Pisa tetraodon, *Leach*	...	...	*	
Hyas aranea, *Leach*	*	*	*	*
,, coarctata, *Leach*	*	*	...	*
Maia squinado, *Latr.*, *Leach*	...	...	*	*
Eurynome aspera, *Leach*	*	*	*	*
Xantho floridus, *Leach*	*	*	*	*
,, rivulosus, *Risso*, *Edw.*	*			
Cancer pagurus, *Leach*	*	*	*	*
Pilumnus hirtellus, *Leach*	*	*	*	*
Pirimela denticulata, *Leach*	*	...	*	
Carcinus mænas, *Leach*	*	*	*	*
Portumnus variegatus, *Leach*	*	*		
Portunus puber, *Leach*; Cancer velutinus	*	*	*	*
,, depurator, *Leach*	*	*	*	*
,, lividus, *Leach*	*	*		
,, corrugatus, *Penn.* (sp.)	*			
,, pusillus, *Leach*	*	*	*	*
,, arcuatus, *Leach*	*	*	*	*
Pinnotheres pisum, *Leach*; P. varians, *Leach*; P. Latreilli, *Leach*	*	*	*	*
,, pinnæ; P. veterum, *Leach*	...	...	...	*
Gonoplax angulata, *Edw.*; G. bispinosa, *Leach*	*	*	...	*
Eballa Bryerii, *Leach*	*			
,, Cranchii, *Leach*	*	*	*	
,, Pennantii, *Leach*	*	*	...	*
Atelecyclus heterodon, *Leach*	*	*	*	*
Corystes cassivelaunus, *Leach*	*	*	...	*

Order DECAPODA.

2nd Section *Anomoura.*

Lithodes maia, *Leach*	...	...	...	*
Pagurus Bernhardus, *Edw.*; P. streblonyx, *Leach*	*	*	*	*
,, Prideauxii, *Leach*	*			
,, erinaceus, *Thomp.* (*J. V.*) (I.)	...	...	...	*
,, Hyndmani, *Thomp.* (*W.*) MSS. (I.)	*			
,, Cuanensis, *Thomp.* (*W.*) MSS. (I.)	*			
,, Ulidiæ, *Thomp.* (*W.*) MSS. (I.)	*			
,, lævis, *Thomp.* (*W.*) MSS. (I.)	*			
Porcellana platycheles, *Edw.*	*	*	*	
,, longicornis, *Edw.*	*	*	*	*

* For the sake of brevity the names applied by Leach are generally given without reference to those first applied to the species.

	Distribution.			
	North.	East.	West.	South.
Order Decapoda.				
3rd Section *Macroura.*				
Galathea strigosa, *Edw.*; G. spinigera, *Leach*	*	*	...	*
,, rugosa, *Leach*	*	...	...	*
,, squamifera, *Leach*	*	*	*	*
,, nexa, *Embleton*, Proceedings Berwickshire Club, vol. i. p. 71. pl. 1	*			
Palinurus vulgaris, *Leach*	*	*	*	*
Callianassa subterranea, *Leach*	*			
Astacus fluviatilis, *Edw.* (Introduced to some places.)	*	*	*	*
Homarus vulgaris, *Edw.*	*	*	*	*
Nephrops Norvegicus, *Leach*	*	*		
Crangon vulgaris, *Leach*	*	*	*	*
Pontophilus spinosus, *Leach*	...	...	...	*
Processa canaliculata, *Leach*	...	...	...	*
Athanas nitescens, *Leach*	...	...	*	
Hippolyte varians, *Leach*	*	*	*	*
,, Cranchii, *Leach*	...	...	...	*
Pandalus annulicornis, *Leach*	*	*	*	*
Palæmon serratus, *Leach*	*	*	*	*
,, squilla, *Leach*	*			
,, varians, *Leach*	*			
,, Leachii, *Thomps.* (*J. V.*) (I.)	...	...	..	*
Pasiphæa sivado, *Risso* (I.)	...	*		
?Alauna rostrata, *Goodsir*, Edin. Phil. Journ. vol. xxxiv. p. 130. pl. 4. ?	*			
?Cuma trispinosa, ,, ,, ,, 129. ,, 3. f. 1	*			
Order Stomapoda*.				
Mysis spinulosus, *Leach*; M. Leachii, *Thomp.* Zool. Research.	...	...	...	*
,, chamæleon, *Thomp.* (*J. V.*)	...	...	...	*
,, vulgaris, *Thomp.* (*J. V.*)	...	...	...	*
Scorpionura vulgaris, *Thomp.* (*J. V.*) Museum Catalogue Royal College of Surgeons in Ireland, p. 229	...	...	...	*
,, longicornis, ,, ,, ,, ,, ,,	...	...	...	*
,, maxima, ,, ,, ,, ,, ,,	...	...	...	*
2nd Legion Edriophthalmata.				
Order Amphipoda.				
Talitrus locusta, *Latr.*; T. saltator, *Edw.*	*			
Orchestia littorea, *Leach*	*	...	...	*
Dexamine spinosa, *Leach*	*			
Gammarus locusta, *Fabr.*	*	...	...	*
,, fluviatilis, *Edw.*†	*	*	*	*
Corophium longicorne, *Latr.*	*	...	...	*
Hyperia ——— ?	*	*	...	*
Order Lœmodipoda.				
Caprella phasma, *Latr.*; Cancer phasma, *Mont.*	...	...	...	*

* From this to the end of the Crustacea little attention has been given to noting the distribution of the species on our coasts.

† All my specimens from many localities are of this species as distinguished from *G. pulex*, Edw. Crust. vól. iii. p. 45 & 48.

	Distribution.			
	North.	East.	West.	South.
Order Lœmodipoda.				
Caprella linearis, *Latr.*	*			
Proto pedatum, *Leach*; Leptomera pedata	*			
Order Isopoda.				
Arcturus longicornis, *Westwood*	*	*		
Idotea pelagica, *Leach*; I. tricuspidata, fig. only*; Desmarest, Cons., Crust. pl. 46. f. 11	...	*	...	*
„ tricuspidata, *Edw.*; I. entomon, *Leach*	*	...	*	*
„ emarginata, *Edw.*; I. œstrum, *Leach*	*			
„ linearis, *Edw.*; Stenosoma lin., *Leach*	*	...	...	*
Limnoria terebrans, *Leach*	*	*	*	*
Asellus aquaticus, *Oliv.*; A. vulgaris, *Latr., Edw.*	*			
Lygia oceanica, *Fabr.*	*	*	...	*
Oniscus asellus, *Lin.*	*	...	...	*
Philoscia muscorum, *Latr.*	...	...	...	*
Porcellio scaber, *Latr.*	*			
„ lævis, *Latr.*	*			
Armadillidium† vulgaris, *Edw.*; Armadillo vulg., *Latr.*	*	*	...	*
Anceus maxillaris, *Lam.*; A. rapax, *Edw.*, vol. iii. p. 196. pl. 33. f. 12‡	*	...	...	*
Sphæroma serratum, *Leach*	*			
„ Hookeri, *Leach*	...	...	...	*
„ rugicauda, *Leach*	*			
Nesæa bidentata, *Desm.*	*			
Dynamena rubra, *Leach*	*			
Cirolana Cranchii, *Leach*	*	*		
Æga bicarinata, *Leach*	*			
„ tridens, *Leach*	*			
Bopyrus squillarum, *Latr.*	...	...	*	
„ ———— ? §	...	...	*	
„ galatea, *Thomp.* (*J. V.*) MSS.‖	...	...	...	*
3rd Legion Branchiopoda.				
Order Phyllopoda.				
Apus cancriformis, *Latr.*	*			
Branchipus stagnalis, *Latr.*	*			
Order Cladocera.				
Daphnia pulex, *Mull.*	*			
„ longispina, *Mull.*	*			
Polyphemus oculus, *Mull.*	*			

* See Edw. Crust. vol. iii. p. 129, note.

† Genus established by Brandt. See Edw. Crust. vol. iii. p. 180.

‡ I have no doubt of the identity of Montagu's *Cancer maxillaris*, Linn. Trans. vol. vii. p. 65. pl. 6. f. 2, and Edw. *A. rapax*, above cited. See remarks on this subject in Edw. Crust. vol. iii. p. 197.

§ I find a *Bopyrus* commonly in *Hippolyte varians*, Leach, but have not yet critically examined it. Two species of *Bopyrus*—*B. hippolyte* and *B. abdominalis*—are described by Kroyer as found in the genus *Hippolyte*. See Edw. Crust. vol. iii. p. 283, and Ann. Sci. Nat. vol. xvii. p. 142. pl. 6. 1842.

‖ In *Galathea squamifera* in Mr. R. Ball's collection there is a species of *Bopyrus*.

	Distribution. North.	East.	West.	South.
4th Legion ENTOMOSTRACA.				
Order OSTRAPODA.				
Cypris conchacea, *Desm.*	*			
„ candida, *Desm., Baird*	*			
„ ——— ?	*			
Cytherea viridis, *Latr.*	*			
„ lutea, *Latr.*	*			
Order COPEPODA.				
Cyclops quadricornis, *Latr.*; C. vulgaris, *Edw.* Crust.	*			
„ longicornis, *Mull.*	*			
„ ——— ?	*			
Cyclopsina staphylinus, *Edw.* Crust.; Cyclops minutus, *Mull.*	*			
Anomalocera Pattersonii, *Templ.* (*R.*), Entom. Trans. vol. ii. p. 34. pl. 5.*	*			
Order SIPHONOSTOMATA.				
Argulus foliaceus, *Jurine*	*			
Caligus Mulleri, *Leach*†	*			
" „ salaris," *J. V. Thompson's* Catal. Mus. Coll. of Surg. Ireland	...	...	...	*
" „ scombri," „ „ „ „	...	...	...	*
productus, *Mull.*‡	*			
Cecrops Latreillii, *Leach*	...	...	...	*
Dichelestion sturionis, " *Hermann*," *Edw.*	...	...	...	*
Order LERNEADA.				
Lernea uncinata, *Mull.*§	*	*		
Chondracanthus cornutus, *Cuv., Edw.*	...	*		
„ lophii, *Johnst.* Mag. Nat. Hist. vol. ix. p. 81. f. 16	...	*		
Entomoda canicula, *Thomp.* (*J. V.*) Catal. Coll. Surg.	...	...	...	*
„ puella‖, „ „ „ „	...	...	...	*
Brachiella salmonea, *Templ.* Mag. Nat. Hist. vol. ix. p. 239‖	*			
Lerneonema monillaris, *Edw.*¶	...	...	...	*
Lernea branchialis, *Lin.*	*	*	...	*
Order PYCHNOGONIDA.				
Nymphum gracile, *Leach*	*			
„ grossipes, *Lin.* (sp.)**	*			
Orythia coccinea, *Johnst.* Mag. Zool. & Bot. vol. i. p. 378. pl. 13. f. 4–6	*			
Pychnogonum littorale, " *Strom.*" (sp.); *Edw.* P. balænarum	*	*		

Of the thirty-six British species of ***Brachyura***, all but six are known as Irish, and of these, one—*Portunus marmoreus*—is recorded as such, but the specimens so named which have come under my observation are *P. pusillus* (see Annals Nat. Hist. vol. x.); another—*Portunus emarginatus*—is believed to be only a variety of *P. arcuatus*, which is found around our coast. The other four species are *Macropodia tenuirostris*, *Pisa Gibbsii*, *Polybius Henslowii*, and *Pinnotheres Montagui*, all of which were known to Leach as in-

* Probably a species in its immature state.

† See Edw. Crust. vol. iii. p. 450. ‡ *Ibid.*, p. 465. § *Ibid.*, p. 495.

‖ Merely indicated here; no author's name appended to the species.

¶ *Foroculum Spratti* is the name applied to a species in J. V. Thompson's Catal. Mus. Coll. Surg.

** A species of *Ammothea* is named *A. æruginosa*, and marked as Irish in J. V. Thompson's collection. Mus. Catal. Royal Coll. Surg. Ireland. See Edw. Crust. vol. iii. p. 534, for genus *Ammothea*.

habiting only the extreme southern coast of England. One species—*Xantho rivulosus*—has a place in the Irish and not in the British catalogue, but Professor Bell informs me that he has seen English specimens.

Of the *Anomoura* there are five British species, all of which are likewise Irish, and to the latter are to be added four or five species of *Pagurus* above indicated: what the *P. erinaceus* of Mr. J. V. Thompson is I do not know, but the four species named by myself are very distinct from each other, and unknown as British: whether they be all undescribed is yet to be determined. They were taken by Mr. Hyndman and myself when dredging in deep water in the loughs of Strangford and Belfast.

Of the twenty-six British *Macroura* * all but seven are recorded as Irish. Five of these—*Axia stirhynchus*, *Gebia stellata*, *G. deltura*, *Hippolyte Prideauxiana*, and *H. Moorii*—were known to Leach as from the south of Devonshire only: *Hippolyte Sowerbœi* was obtained at Newhaven, near Edinburgh; *Penœus trisulcatus* on the coast of Wales. Two species—*Pasiphœa sivado* and *Palœmon Leachii*—have a place in the Irish and not in the British list.

The Decapodous Crustacea alone, I have critically studied throughout; consequently, so far only can a particular comparison of the species of the two islands be instituted: indeed of the British species belonging to the following orders, from *Stomapoda* to *Pychnogonida* inclusive, no proper catalogue is extant, and were those now known brought together and compared with the Irish species, the result would, as in the instance of the *Annelida*, simply denote how many belonging to each island had been determined, without giving any idea, as in the better studied portions of the Invertebrata, of the number positively, of each locality, or relatively, of the one island to the other. The undetermined Irish species in my own collection are perhaps thirty in number.

ANNELIDA.

About one-half of the *Annelides* in this catalogue were known to Templeton (Mag. Nat. Hist. ix.); the remainder, with the exception of a very few indicated by myself (Annals Nat. Hist. v. 247, vii. 482, and xiii.), have been investigated by my friend Dr. Johnston of Berwick-upon-Tweed, who kindly undertook to describe the species collected on the Irish shores (Annals Nat. Hist. v. p. 168 and 305, and vol. xiii.). He has likewise favoured me with a very elaborate manuscript catalogue of all the British *Annelides* on record with their numerous synonyma, and which it is but proper to mention, was drawn up with especial reference to a comparison of the British and Irish species in this Report. But, it is to be hoped that this catalogue will serve as the foundation of a work on the subject by Dr. Johnston.

ANNELIDA.	Distribution.			
	North.	East.	West.	South.
Order 1. APODA.				
Tribe *Nemertina.*				
Gordius aquaticus, *Lin.*†	*			
Borlasia? alba, *Thomp.*, MSS. (I.)	*			
Lineus longissimus, *Sow.*; Nemertes Borlasii, *Cuv.*	*	*	*	

* In this number the species published by Mr. Harry Goodsir in the Edinburgh Philosophical Journal, vol. xxxiv., are not included, as he does not feel certain that they should be brought under *Macroura*.

† That little trouble has yet been taken to ascertain the distribution of the Irish *Annelides* is indicated in connection with the first species named, which doubtless is not confined to the north.

	Distribution.			
	North.	East.	West.	South.
Order 1. Apoda.				
Tribe *Nemertina.*				
Meckelia trilineata; Carinella trilineata, *Johnst.* Mag. Nat. Hist. vol. vi. p. 232. f. 24	*			
Prostoma gracilis, *Johnst.* (sp.); Nemertes grac., *Johnst.* Mag. Zool. and Bot. vol. i. p. 534. t. 17. f. 1.	*			
,, lactiflorea, *Johnst.* (sp.); Nem. lac., *Johnst.*, Mag. Zool. and Bot. vol. i. p. 535. t. 17. f. 2.	*			
,, armatum, *Templeton*, Mag. Nat. Hist. vol. ix. p. 236. f. 29. (I.)	*			
Planaria vittata, *Mont.*, Linn. Trans. vol. xi. p. 25. t. 5. f. 3.	*	...	*	
,, tremellaris, *Mull.*, Zool. Dan. (I.)	*	...	*	
,, stagnalis, *Mull.*, *Temp.* (I.)	*			
,, fusca, *Pall. Id.*	*			
Tribe *Hirudina.*				
Phylline hippoglossi, *Mull.* (sp.)	*			
Erpobdella tessulata, *Mull.* (sp.)	...	...	*	
Glossipora complanata, *Lin.* (sp.) ... ,, crenata ... ,, tuberculata. } one species	*			
,, hyalina, *Mull.* (sp.); Clepsina hyal., Ann. Nat. Hist. vol. ix. p. 15. pl. 1. f. 20	*			
,, bioculata, *Mull.* (sp.); Hirudo stagnalis, *Linn.*	*			
Piscicola geometra, *Lin.* (sp.)	*			
,, percæ, *Temp.* (sp.); Ichthyobdella percæ, *Temp.*, Loud. Mag. Nat. Hist. vol. ix. p. 236. f. 28. (I.)	*			
,, marina, *Thomp.* MSS. (I.)	*			
Pontobdella muricata, *Lin.* (sp.)	*			
,, spinulosa, *Leach*, "probably not distinct from last," *Dr. J.* ...	*			
Hæmopsis sanguisuga, *Merr.* (sp.) *Lin.* (sp.)	*			
Tribe *Lumbricina.*				
Nais vermicularis, *Mull.* (I.)	*			
,, serpentina, *Mull.*	*			
Stylaria lacustris, *Lin.* (sp.)	*			
Tubifex rivulorum, *Lam.*; Lumbricus tubifex, *Mull.*	*			
Lumbricus lineatus, *Mull.*	...	...	...	* ?
,, pellucidus, *Temp.*, Loud. Mag. Nat. Hist. vol. vii. p. 131. f. 27. (I.) ,, Clitellio minutus, *Temp.*, Loud. Mag. Nat. Hist. vol. ix. p. 235. } one species	*			
,, omilurus, *Temp.*, Loud. Mag. Nat. Hist. vol. ix. p. 235. (I.)	*			
,, lividus, (I.). ,, ,, ,, ,, ,, ...	*			
,, gordianus, (I.) ,, ,, ,, ,, ,, ...	*			
,, zanthurus, (I.) ,, ,, ,, ,, ,, ...	*			
,, annularis, (I.) ,, ,, ,, ,, ,, ...	*			
,, terrestris, *Lin.*	*	*	*	*
Cirratulus medusa, *Johnst.*, Mag. Zool. and Bot. vol. ii. p. 71. t. 3. f. 7-12.	...	*	*	
,, tentaculatus, *Mont.* (sp.)	*			
Trophonia Godsiri, *Johnst.*, Ann. Nat. Hist. vol. iv. p. 371. t. 11. f. 1-10.	*			
Order 2. Polypoda.				
Tribe *Serpulina.*				
Pectinaria belgica, *Pall.* (sp.); Amphitrite auricoma, *Mull.*	*			
Sabellaria alveolata, *Lin.* (sp.)	*			
,, crassissima, *Penn.* (sp.)	*			
Terebella conchilega, *Pall.* (sp.)	*	...	*	

	Distribution. North.	East.	West.	South.
Order 2. POLYPODA.				
Tribe *Serpulina.*				
Terebella cirrhata, *Mont.*, Linn. Trans. vol. xii.	* ?			
,, cristata, *Mull.* (sp.)	*			
Sabella reniformis, *Turt.* (sp.); Tubularia penicillus, *Mull.*, Zool. Dan. t. 89. f. 1, 2.	*			
,, penicillus, *Lin.* } Amphitrite ventilabrum, *Penn.* } one species	*			
,, carnea, *Johnst.*, Ann. Nat. Hist. vol. xiii.	*			
,, tubularia, *Mont.* (sp.); Serpula tubularia, *Mont.*	*	*	* ?	*
Spirorbis communis, *Flem.*; Serpula spirorbis, *Linn.*	*	*	*	*
,, spirillum, *Lin.* (sp.)	*	*	...	*
,, granulatus, *Lin.* (sp.)	*	*		
,, minutus, *Mont.* (sp.)	...	*		
,, conicus, *Flem.* Edin. Ency. vol. vii. p. 68. pl. 205. f. 3.	*	...	*	
,, lucidus, *Mont.* (sp.)	*			
Serpula vermicularis, *Lin.*; S. intricata, *Lin.*; S. vermicularis, *Mull.*, *Mont.*	*	*		
,, triquetra, *Lin.* } ,, contortuplicata, *Lin.* } ,, contortus, spiralis, perversa of Brown, Illus. } one species	*	*	...	*
,, serrulata, *Flem.*, Edin. Ency. vol. vii. p. 67. t. 204. f. 8.; tricuspidata, *Sow.*	...	...	...	*
,, vitrea, *Fab.*?	*			
Filograna implexa, *Berk.*; Serpula minima, *Lam.* (*Temp.*)? *	*			
Ditrupa subulata, *Desh.* (sp.) (I.)	*			
Arenicola piscatorum, *Lam.*; Lumbricus marinus, *Lin.*	*			
Tribe *Nereidina.*				
Nereis viridis, *Johnst.*, Ann. Nat. Hist. vol. v. p. 171. f. 2.	*	...	...	*
,, pelagica ,, ,, ,, 172. f. 3 and 4	*	...	...	*
,, Dumerilii ,, ,, ,, 174. f. 5 and 6. (I.)	*			
,, fucata ,, ,, ,, 175. f. 7. (I.)	*			
,, renalis ,, ,, ,, 176. f. 8. (I.)	*			
,, longissima ,, ,, ,, 178. f. 9. (I.)	*			
Syllis armillaris, *Mull.* (sp.)	* ?			
Phyllodoce lamelligera, *Johnst.*, Ann. Nat. Hist. vol. iv. p. 225. t. 7. f. 1–3.	*			
,, viridis ,, ,, ,, iv. p. 228. t. 6. f. 11–15.	...	...	...	* ?
Bebryce peripatus, *Johnst.* MSS.				
Nephtys margaritacea, *Johnst.*, Loud. Mag. Nat. Hist. vol. viii. p. 341. f. 33.	*			
Spio calcarea, *Temp.*, Loud. Mag. Nat. Hist. vol. ix. p. 234. f. 27. (I?) ,, seticornis, *Penn.* } one species	*			
Sigalion boa, *Johnst.*, Ann. Nat. Hist. vol. ii. p. 439.	*			
Polynoe squamata, *Johnst.*, Ann. Nat. Hist. vol. ii. p. 432. and v. p. 307.	*	...	*	
,, cirrhata ,, ,, ,, p. 434. ,,				
,, Halithæa clava, *Temp.*, Mag. Nat. Hist. *Ibid.*	*	...	*	
,, scolopendrina ,, ,, ,, vol. v. p. 307.	*			
Aphrodita aculeata, *Lin.*	*	*	*	
,, hystrix, *Sav.*	...	...	...	*
Annelida?				
Campontia eruciformis, *Johnst.*, Loud. Mag. Nat. Hist. vol. viii. p. 179. f. 18.	*			

According to Dr. Johnston's catalogue, there is in the tribe *Nemertina*, one genus—*Dalyellia*, Flem.—known as British and not as Irish. Of twenty-nine British species seven are Irish; in addition to which are four—*Borlasia? alba*, *Prostoma armatum*, *Planaria stagnalis* and *P. tremellaris*—unnoticed as British.

* Templeton gives "*Serpula filiformis*, figured in Rees's Cyclop." without further remark. It is noted as a fossil species in Morris's Catal. Brit. Foss.

In the tribe *Hirudina* are four British genera unknown as Irish—*Udonella*, Johnst., *Malacobdella*, Blain., *Tristoma*, Cuv., *Hirudo**. Of the eighteen British species nine are Irish, and in addition to the latter are *Piscicola percæ* and a new species of *Piscicola* † which is marine.

In *Lumbricina*, there is but one genus, *Travisia*, Johnst., unknown as Irish. Of the seventeen British species, eight are Irish, to which seven unrecorded as British are to be added‡.

The tribe *Serpulina*§ contains one British genus—*Othonia*, Johnst.—unknown as Irish, but as such only, the genus *Ditrupa*, Berk.‖, is recorded. Of the fifty-three British species, twenty-two are described as Irish, in addition to which is the *Ditrupa subulata*.

Under *Nereidina* are nine British genera, *Eunice*, Schweig., *Onuphis*, Aud. and Edw., *Myriana*, Aud. and Edw., *Psamathe*, Johnst., *Ioida*, Johnst., *Glycera*, Lam., *Leucodore*, Johnst., *Nerine*, Johnst., *Pholoe*, Johnst., not included in the Irish catalogue. Of forty-five British species, fourteen are recorded as Irish, in addition to which are five undescribed as British, viz. *Nereis Dumerilii*, *N. fucata*, *N. renalis*, *N. longissima*, *Spio calcarea* (*S. seticornis*, Penn?).

Of doubtful *Annelides* Dr. Johnston enumerates four species, belonging to as many genera; these are *Campontia*, *Branchiarius*, Mont., *Diplotis*, Mont., *Derris*, Adams: the first only is known as Irish.

The whole of the recorded *Annelides* of Great Britain according to Dr. Johnston's catalogue are 167 species: the number known as Irish is 80¶. These numbers are useful only in denoting the species already known as indigenous to the respective islands, and give no idea of the number of species inhabiting our coasts and inland waters. In a forenoon's search several species might be added to either catalogue. About one-third of the British species were made known by Dr. Johnston, nearly all of which were previously undescribed.

FORAMINIFERA.

The native *Foraminifera* were included in the catalogues of Irish "Testacea" published by Capt. Brown and Dr. Turton, whose species have nearly all come under my own observation. The additional species, obtained and determined by Templeton and Mr. W. H. Harvey, were published in the Annals of Natural History, vol. v. p. 10, and those by Mr. Hyndman and myself will appear in vol. xiii. of the same work.

	Distribution.			
	North.	East.	West.	South.
Spirolina carinatula; Naut. carin., *Mont.*	...	...	*	
Renoidea rotundata, *Brown*, Illus. pl. 1. f. 14 and 15.	...	*	*	
,, glabra, *Brown*, Illus. pl. 1. f. 20, 21	...	*		
,, oblonga, *Brown*, ,, f. 16, 17**	...	...	*	

* As now limited, *Hir. medicinalis* is the only British species.

† Dr. Johnston has since informed me that he likewise has an undescribed marine *Piscicola*.

‡ These six are earthworms of the genus *Lumbricus* (see preceding catalogue) described by Templeton, with whom I agree in constituting them distinct species, but whether they be described as such by other authors I am not aware.

§ The genus *Lobatula* included in this tribe by Dr. Johnston is omitted here, but brought in under *Foraminifera*.

‖ *D. subulata* only is brought under this genus in Dr. Johnston's catalogue.

¶ Many undetermined species are in my collection.

** In the second edition of Brown's Illustrations (of which a few parts are published) the term *Renoidea* is restricted to *oblonga*: the *Ren. glabra* and *Ren. rotundata* are placed in D. Orbigny's genus *Triloculina*.

FORAMINIFERA.

	Distribution. North.	East.	West.	South.
Polystomella crispa; Nautilus crispus, *Lin.*	...	*	*	
Lenticulina calcar	...	...	*	
,, lævigatula.....	...	...	*	
,, depressula.	...	*		
Nonionina umbilicatula	...	*		
Rotalia beccarii.....	...	*		
,, beccarii-perversus.....	...	*		
,, inflata	...	*		
Lobatula vulgaris; Serpula lobata, *Mont.*	...	*	*	
Vermiculum intortum; Nautilus, *Mont.*	*	*	*	*
,, oblongum, *Mont.*	*	*		
,, subrotundum, *Mont.*	...	*		
Lagenula striatula; Vermiculum str., *Mont.*	*			
,, globosa, *Flem.*	*			
,, lævis, *Flem.*	...	...	*	
Nodosaria legumen; Naut. leg., *Lin., Mont.*	...	*	*	
,, recta; Naut. rec., *Mont.*	...	...	*	
Nautilus pulchella, *Temp.* Ann. Nat. Hist. vol. v. p. 99. (I.)	*			
,, dentatus, ,, ,, ,, ,, (I.)	*			

(Lenticulina calcar ... ,, lævigatula ... ,, depressula ... Nonionina umbilicatula ... Rotalia beccarii ... ,, beccarii-perversus ... ,, inflata) — *Nautilus*, Mont. with specific names here used .....

All the *Foraminifera* of the preceding list, except the two species described by Mr. R. Templeton, are known as British, and include about the one half of those brought together in Fleming's 'British Animals,' in 1828*. In Brown's 'Illustrations' seven species designated as new are figured:—three of these have now a place in the Irish catalogue. Mr. Macgillivray has in the present year added eight British species†.

ENTOZOA.

A catalogue of the species of Irish *Entozoa* known to Templeton appeared in the ninth volume (p. 238–240) of Loudon's Magazine of Natural History. In the second and third volumes of the new series of the same work conducted by Charlesworth, Dr. J. L. Drummond published a series of articles on the subject, and in the fourth volume (p. 240 and p. 343) will be found a paper from Dr. Bellingham‡, in which the species of *Filaria*, *Trichosoma*, *Trichocephalus*, *Oxyurus* and *Cucullanus*, which had come under his observation in Dublin, are recorded: also a notice of four species which occurred to him in the dissection of a sun-fish (*Orthagoriscus mola*). A remarkably copious manuscript catalogue of the *Entozoa* observed by Dr. Bellingham, has by his kindness been placed in my hands, and I shall give it just in the order (though much abbreviated)§ in which it has been com-

* The "*Nautilidæ*" of that work are all now considered *Foraminifera*, except *Spirula australis* (a cephalopodous mollusk), *Orthocera imperforata*, *O. trachea*, and *O. glabra*. The last three come under the genus *Cæcum*, Fleming, *Brocus*, Brown, *Odontidium*, Philippi.

† In Morris's 'Catalogue of British Fossils' just published, a great addition is made to the number heretofore known of the extinct species of *Foraminifera*.

‡ Dr. B. has likewise published some papers in the Dublin Medical Journal and Dublin Medical Press on this subject.

§ The notes necessarily omitted here, are the most valuable portion of the catalogue, recording as they do the whole of the various animals in which upwards of 220 species of *Entozoa* were found by the author. These notes will be published in the thirteenth vol. of the Annals of Natural History.

municated, adding within brackets in their proper places the species noticed by other naturalists, so as to present at one view the whole of the *Entozoa* known as Irish. Dr. Drummond has also contributed several species which were not treated of in his published papers. Dr. Bellingham remarks, "In furnishing this list of the indigenous *Entozoa*, I wish it to be understood that I have only inserted the species discovered and examined by myself, with the exception of two or three forwarded to me by my friends. The classification is that of Rudolphi, whose names for the species are adopted throughout unless otherwise expressed."

ENTOZOA.

Order Cystica.

Cysticercus fasciolaris.
„ tenuicollis.
„ cellulosa.
[„ „ *Temp.* Mag. Nat. Hist. vol. ix. p. 240.]
„ pisiformis.
[„ hydatigena, *Pall.* (sp.), Temp. M. N. H. vol. ix. p. 240.]
[Coenurus cerebralis, *Gm.* (sp.), Temp. M. N. H. vol. ix. p. 240.]
[Echinococcus humanus, *Ed.*, Temp. M. N. H. vol. ix. p. 240.]
Anthocephalus elongatus.
„ granulum.
[„ paradoxus, *Drum.* Charlesworth, M. N. H. vol. ii. p. 655.]
[„ rudicornis, *Drum.* id. vol. iii. p. 227.]

In this Order are a *Cysticercus* and five species of *Anthocephalus* undetermined by Dr. Bellingham.

Order Cestoidea.

Tænia expansa.
„ pectinata [Dr. D.]*.
„ lanceolata [Dr. D.].
„ cucumerina.
„ filicollis.
„ nasuta.
„ sphærophora [Dr. D.].
„ lævigata.
„ cyathiformis.
„ infundibuliformis.
„ setigera.
„ platicephala.
„ angulata.
„ lævis.
„ æquabilis.
„ tenuirostris.
„ filum.
„ elliptica.
„ gracilis.
„ pusilla?
„ farciminalis.
„ stylosa.
„ solium.
[„ „ *Temp.* M. N. H. ix. 239.]
„ serrata.
„ crassicollis.
„ sinuosa [Dr. D.].
„ inflata.
„ porosa?
[„ vulgaris, *Lin.*, Temp. M. N. H. ix. 239.]
Botriocephalus claviceps.
„ latus, *Brems.*
„ proboscideus.
„ infundibuliformis?
„ microcephalus.
„ solidus.
„ punctatus.
[„ „ *Drum.* M. N. H. new series, ii. p. 574.]
„ nodosus.
„ macrocephalus.
„ tumidulus.
„ coronatus.
„ corollatus [Dr. D.].
„ paleaceus.
[„ auriculatus, *Rud.* Drum. MS.]
[„ crassiceps, *Rud.* Drum. MS.]
Ligula sparsa.
Scolex polymorphus.
[„ „ *Drum.* M. N. H. new series, vol. iii. p. 229.]
[Tetrarhynchus grossus, *Rud.*, Drum. M. N. H. new series, ii. 571.]
[„ solidus, *Drum.* M. N. H. new series, vol. ii. p. 573.]
[Tetrantarus (*Temp.*) truttæ, *Temp.* M. N. H. vol. ix. p. 239. fig. 32.]

* Species so marked noted in Dr. Drummond's MSS. in addition to Dr. Bellingham's.

In this Order are twenty-three species of *Tænia* and five of *Botriocephalus* undetermined by Dr. Bellingham.

Order Trematoda.

Pentastoma tænioides.
Distoma hepaticum.
[Distoma hepaticum, *Temp.* M. N. H. vol. ix. p. 239.]
„ tumidulum.
„ oxycephalum.
„ fulvum.
„ clavigerum.
„ cylindraceum.
„ gibbosum?
„ appendiculatum.
„ rufoviride.
„ globulus.
„ reflexum? *Creplin.*
„ excisum.
„ trigonocephalum.
Distoma echinatum.
„ militare.
„ spinulosum.
„ scabrum.
„ contortum.
„ nigro-flavum*.
[„ anguillæ, Zool. Dan. t. 91? Drum.]
Amphistoma longicolle.
„ macrocephalum.
„ isostomum.
„ gracile.
„ cornu.
„ sphærula.
Monostoma attenuatum.
„ verrucosum†.

In this Order are ninety-nine species of *Distoma* and three of *Amphistoma* undetermined by Dr. Bellingham.

Order Acanthocephala.

Echinorhynchus angustatus [Dr. D.].
„ transversus.
„ acus.
[„ „ *Drum.* M. N. H. new series, ii. 515. E. candidus and E. lineolatus, *Mull.* Zool. Dan. same as E. acus, *Drum.* id.]
„ filicollis.
[„ „ *Drum.* M. N. H. new series, iii. 66. E. sphærocephalus same as E. filicollis? *Drum.* id. p. 67.]
Echynorhynchus tereticollis.
„ nodulosus.
„ strumosus.
„ striatus?
„ versicolor.
[„ „ *Drum.* M. N. H. new series, iii. 65.]
„ hystrix.
[„ „ *Drum.* M. N. H. new series, iii. 63.]

In this Order are five species of *Echinorhynchus* undetermined by Dr. Bellingham.

Order Nematoidea.

Ascaris lumbricoides.
[„ „ *Temp.* M. N. H. ix. 239.]
„ megalocephala, *Cloquet.*
„ vesicularis.
„ inflexa.
„ constricta.
„ rotundata.
„ osculata.
„ acuminata.
„ marginata.
„ triquetra.
„ mystax.
Ascaris depressa.
„ ensicaudata.
„ nigrovenosa.
„ sacus.
„ angulata.
„ vermicularis.
[„ „ *Temp.* M. N. H. ix. 239.]
„ obvelata.
„ maculosa.
„ dentata.
„ brevicaudata.
„ spiculigera [Dr. D.].

* "Two more species of *Distoma* may be here mentioned; *D. flexuosum* from the small intestines of a Mole, *Talpa Europea*, and another (species undetermined) from the œsophagus of the common Snake, *Natrix torquata*—both Mole and Snake were brought from England."—Dr. Bellingham.

† "*Monostoma octonatum*, found in the small intestines of a Mole (*Talpa Europea*) from England, may here be noticed."—Dr. Bellingham.

Order Nematoidea.

Ascaris variegata.
„ obtusocaudata.
„ labiata.
„ capsularia [Dr. D.].
„ heteroüra, *Creplin.*
„ cuneiformis.
„ clavata [Dr. D.].
„ collaris.
„ tenuissima.
„ succisa.
„ alata, *Bellingham*, Dublin Medical Press, vol. i. (head figured.)
[„ simplex, *Rud.*, Drum. MS.]
[„ rigida, „ „ „]
[„ crenata, „ „ „]
Strongylus tubifex.
„ contortus.
„ retortæformis [Dr. D.].
„ trigonocephalus.
„ tetragonocephalus.
„ suis.
„ trachealis; Syngamus trach., *Siebold.*
Spiroptera strumosa.
„ anthuris.
Spiroptera cystidicola [Dr. D.].
„ leptoptera.
Cucullanus elegans.
„ faveolatus.
[„ platessæ, *Reinh.*, Drum. M. N. H. new series, ii. 519.]
[„ marinus, *Rud.*, Drum. MS.]
Oxyurus curvula.
[„ „ *Temp.* M. N. H. ix. 238.]
„ ambigua.
[„ gadi, *Temp.* ibid. fig. 31.]
Trichocephalus dispar.
[„ „ *Temp.* M. N. H. ib.]
„ crenatus.
„ nodosus.
Trichosoma obtusum?
„ inflexum?
„ longicolle.
„ plica.
Filaria attenuata.
[„ capsularia, *Rud.*, Drum. M. N. H. new series, iii. 230.]
[Trichina spiralis, *Owen*, Allman, Microscopic Journal, vol. ii. p. 94.]

In this Order are nine species of *Ascaris*, two of *Strongylus*, six of *Spiroptera*, nine of *Trichosoma*, and three of *Filaria* undetermined by Dr. Bellingham.

The Irish species given in the preceding catalogue so far outnumber the British species known, that the usual comparison is uncalled for. Dr. Bellingham remarks, "The little attention which these animals have attracted in these countries will be apparent from the fact, that in the only works which contain lists of the British species of *Entozoa*, viz. Pennant's British Zoology, and Turton's British Fauna, but twenty-eight are described as indigenous, and four of these are noticed twice under different names, leaving but twenty-four distinct species; while in the limited opportunity which I have had, I have discovered and preserved upwards of 220 species, and several of these occurred in six, others in ten, and one species in as many as fifteen different animals." The number of Irish species determined by Dr. Bellingham is 143*; of species undetermined, but brought under their respective genera†, eighty:—from the many works consulted, but in vain, for these latter, there is little doubt that the greater portion must be undescribed. Dr. Drummond too informs me that he has obtained many *Entozoa* which he believes to be new. The species recorded by Dr. Bellingham‡ were procured in Dublin; those by Templeton and Dr. Drummond in Belfast.

* Three species as indicated in a foot note are from British animals.

† Dr. Bellingham has some *Entozoa* which he cannot refer to any genus, and knows of several species having been obtained in Dublin, which are not included in his catalogue.

‡ *Botriocephalus solidus* is an exception, having been found by Dr. G. J. Allman in a *Gasterosteus aculeatus* taken in the co. of Cork—in specimens of this fish captured in the neighbourhood of Dublin Dr. Bellingham could never find this Entozoon.

ECHINODERMATA.

The Irish species of *Echinodermata* known to Templeton were published in the ninth volume of Loudon's Magazine of Natural History, and subsequent additions were contributed by myself to the Annals of Nat. Hist. vol. v. (p. 99 and 245) and vol. xiii.

ECHINODERMATA.	Distribution. North.	East.	West.	South.
Order Pinnigrada.—*Crinoideæ*.				
Comatula rosacea, *Link.* (sp.)	*	*	...	*
Order Spinigrada.—*Ophiuridæ*.				
Ophiura texturata, *Lam.*	*	*	...	*
,, albida, *Forbes*	*	*	*	
Ophiocoma neglecta, *Johnst.* (sp.)	*	*	*	
,, Ballii, *Thomp.*	...	*		
,, filiformis, *Mull.*	...	...	*	*
,, brachiata, *Mont.* (sp.)	*			
,, granulata, *Link* (sp.).	*	*		
,, bellis, *Link* (sp.)	*	*	*	*
,, rosula, *Link* (sp.)	*	*	*	*
,, minuta, *Forbes*	*	...	...	*
Order Cirrhigrada.—*Asteriadæ*.				
Uraster glacialis, *Lin.* (sp.)	*	*	*	*
,, rubens, *Lin.* (sp.)	*	*	*	*
Uraster violacea, *Mull.* (sp.)	*	...	*	*
,, hispida, *Penn.* (sp.)	*			
Cribella oculata, *Penn.* (sp.)	*	*	*	*
,, rosea, *Mull.* (sp.)	...	...	...	*
Solaster endeca, *Lin.* (sp.)	*	*	...	*
,, papposa, *Lin.* (sp.)	*	*	...	*
Palmipes membranaceus, *Retz.*	*	...	...	*
Asterina gibbosa, *Penn.*	*	*	*	*
Goniaster Templetoni, *Thomp.*	*	...	...	*
Asterias aurantiaca, *Lin.*	*	*	*	*
Luidia fragilissima, *Forbes*	...	...	...	*
Order Cirrhi-Spinigrada.—*Echinidæ*.				
Echinus sphæra, *Mull.*	*	*	*	*
,, miliaris, *Leske*; var. E. pustulatus, *Agass.*	*	*	*	*
,, Flemingii, *Ball*	...	...	...	*
,, lividus, *Lam.* (I.)	...	...	*	*
Echinocyamus pusillus, *Mull.* (sp.)	*	*	...	*
Spatangus purpureus, *Mull.*	*	*		
Amphidotus cordatus, *Penn.* (sp.)	*	*	*	*
,, roseus, *Forbes*	*	*	*	*
Order Cirrhi-Vermigrada.—*Holothuriadæ*.				
Psolus phantapus, *Lin.* (sp.)	*			
Cucumaria pentactes, *Mull.* (sp.)	*			
,, communis, *Forbes & Goodsir*	*	...	...	*
,, fusiformis, *Forbes & Goodsir*	*			
,, Drummondii, *Thomp.* (I.)	*			
,, Hyndmani, *Thomp.* (I.)	*	...	*	
Ocnus brunneus, *Forbes*	*			
,, lacteus, *Forbes & Goodsir*	*	...	*	*?

	Distribution.			
	North.	East.	West.	South.
Order CIRRHI-VERMIGRADA.—*Holothuriadæ.*				
Thyone papillosa, *Mull.* (sp.)	*	...	*	
,, Portlockii, *Forbes* (I.)	*	*?		
Chirodota digitata, *Mont.* (sp.)?	*			
Order VERMIGRADA.—*Sipunculidæ.*				
Syrinx papillosus, *Thomp.* (sp.)	*	...	*	
Sipunculus Bernhardus, *Forbes*	*	*	*	
,, Pallasii, *Thomp.* MSS. (I.)	*			
Priapulus caudatus, *Lam.*	*			
Thalassema Neptuni, *Gærtn.* (sp.)	*			

In the arrangement and nomenclature of the preceding catalogue, the excellent work of Professor E. Forbes on the British *Echinodermata* is implicitly followed. The fullness with which the subject is treated in that work—to which all the information on the Irish species was contributed*,—renders a few words only desirable here on the distribution of the species as yet unknown to our Fauna.

Of the twenty-nine† species of British "Starfishes"—*Crinoideæ*, *Ophiuridæ* and *Asteriadæ*—all but five are recorded as Irish. These are *Oph. punctata* and *Oph. Goodsiri*, both of which were first described in Forbes's Brit. Echin.; the former has been taken only at Anstruther in Fifeshire; the latter there and at Shetland. *Astrophyton scutatum* and *Goniaster equestris* are both very rare, but have occurred at a few localities from north to south of Great Britain. Of *Goniaster Abbensis* (Forbes, Annals Nat. Hist. vol. xi. April 1843,) but a single individual has yet been met with, and as its name indicates, at St. Abb's Head.

Of the eleven species of British *Echinidæ*, four are unknown to Ireland, but, one species—*E. lividus*—found on the western and southern coasts of the latter island, and unknown as British, makes our number eight. Of the desiderata, two—*Cidaris papillata* and *Echinarachnius placenta*—are extremely rare, and have been taken only in Shetland; *Echinus neglectus* there and in Orkney. *Brissus lyrifer* (first described in Forbes's Hist. Brit. Echin.) has been obtained only in the estuary of the Clyde.

Of the twelve British species of *Holothuriadæ*, eight are known as Irish, and three—*Cuc. Drummondii*, *Cuc. Hyndmani* and *Thyone Portlockii*—discovered on the coast of the latter country and unknown as British, make the Irish species eleven in number. Of our desiderata, two species—*Cucumaria hyalina* and *Cuc. fucicola*—are known only to Shetland; *Psolinus brevis* to the same locality and the Kyles of Bute; *Cucumaria frondosa* to the same and the coast of Fife.

Of the eight species of British *Sipunculidæ* four are known as Irish, in addition to which is the *Sipun. Pallasii*, that cannot be announced with certainty as British. Our desiderata are so rare that they have each been obtained in a single locality only on the British coast, namely, *Syrinx nudus* (with certainty) and *Syr. Harveii* at Teignmouth in Devonshire; *Sipunculus Johnstoni* at Berwick-upon-Tweed; *Echiurus vulgaris* at St. Andrews.

* Four species have since been added.

† The original descriptions of two species—*Oph. Ballii* and *Goniaster Templetoni*—were drawn up from Irish specimens, and the first *Cribella rosea* noticed in the British seas was obtained off the south of Ireland.

ACALEPHA.

A catalogue of the *Acalepha* of Ireland known to Templeton was published in the ninth volume of Loudon's Magazine of Natural History; subsequently papers on the subject have been published by Mr. Patterson* and Mr. Hyndman†, and some additional species to our Fauna recorded by myself in the Zoological Proceedings for 1835, (p. 78)‡ and Annals of Natural History, vol. v. p. 248. Mr. R. Ball has, from observations made at Youghal and Dublin, contributed to our knowledge in this department.

ACALEPHA.

	Distribution.			
	North.	East.	West.	South.
Velella mutica, *Lam.*? §	*	...	*	*
„ emarginata, *Thomp.* MSS. (I.)	...	...	...	*
Physalia pelagica, *Eschscholtz* (not *Lam.*) ‡	...	...	...	*
Beroe cucumis, *Fabr.* (*Otho*)	*			
„ fulgens, *Macartney*	...	*?		
Cydippe pileus, *Lin.*	*			
„ lagena, *Forbes*	*			
„ pomiformis, *Patterson*	*	*	...	*
Alcinoë Smithii, *Forbes*	*			
„ Hibernica; Bolina Hib., *Patterson* (I.)	*	*	...	*
Melicertum campanulatum, *Ehrenb.*	*			
Hippocrene Britannica, *Forbes*	*			
Sarsia tubulosa, *Lesson*; Oceania? tubul. *Sars*	*			
Oceania papillata, *Mull.* (sp.); Medusa papil. Zool. Dan. (I.)	*			
Thaumantias hemisphærica, *Mull.* (sp.)	*			
„ pileata, *Forbes*	*			
„ Thompsoni, *Forbes* (I.)	...	...	*	*
Ephysa simplex, *Penn.* (sp.) ‖	*			
„ hemisphærica, *Templeton* ¶ (I.)	*			
Obelia vitrea, *Penn.* (sp.); Piliscelotus vitreus, *Templeton*	*			
? Ocyroe ? cruciata, *Temp.* (I.)	*			
Chrysæora tuberculata, *Penn.* (sp.) **	*			
Aurelia aurita, *Lin.* (sp.)	*	*	*	*
„ bilobata, *Forbes*, MS. (I.)	*			
Rhizostoma Cuvieri, *Peron*; Med. undulata, *Penn.*	*	...	*?	
Cyanæa Lamarckii, *Peron*	...	...	*	
„ capillata, *Lin.* (sp.); " C. inscripta, *Temp.* young" (*Forbes*)	*	...	*	
? Æquorea ? radiata, *Temp.*	*			
? Callirhoe ? dubia, *Temp.*†† (I.)	*			
" Medusa scintillans," *Macartney* ‡‡	*			
Diphya elongata, *Hyndman*, Ann. Nat. Hist. vol. vii. (I.) §§	*	...	*	
Apolemia ? Gettiana, *Hyndman*, (I.) ‖‖	*			

* Edin. Phil. Journ., Jan. 1836. Trans. Roy. Irish Acad. vol. xix. part 1.

† Ann. Nat. Hist. vol. vii. p. 164. and vol. xiii.

‡ *Physalia pelugica* only is here noticed; two fine examples of this species have at different times been obtained at Youghal by Miss Ball.

§ A species of *Velella* is not uncommonly found thrown ashore on the north and west coasts, but being generally in an injured state, its species is uncertain. The *V. emarginata* is in all respects different from, and twice the size of the ordinary species. It was obtained on the coast of Cork some years ago by Dr. Geo. J. Allman.

‖ " Probably as Cuvier suggests, some species in a mutilated state." *Forbes.*

¶ " Perhaps a young state of *Aurelia*." *Forbes.*

** " This and the preceding are badly observed species." *Forbes.*

†† " Of doubtful position, but apparently a good species." *Forbes.*

‡‡ " Probably the fry of some species." *Forbes.* Lesson names it *Thaumantias lucida*, p. 335.

§§ Among shell-sand collected at Bundoran on the western coast by Mrs. Hancock, and sent to Mr. Hyndman, several *Diphyæ* (apparently *D. elongata*) were met with.

‖‖ This species will be described in the Annals of Natural History.

Professor Edw. Forbes, who has bestowed more attention on the *Acalepha* than any British author, and successfully studied the species in a living state, has kindly contributed for my use on the present occasion a catalogue of the native species, in which those observed by him when dredging in various parts of the Irish coast are noted: some of these have already been published in the Reports of the British Association for 1839 (p. 85, Transactions of Sections), and Annals of Nat. Hist. vol. vii. p. 81. The recorded species of British and of Irish *Acalepha* are about the same in number; the latter exclusively (as yet observed) are above indicated in the usual manner: those known as British and not as Irish, according to Professor Forbes's catalogue, are the following:—

Cydippe Flemingii, *Forb.*
Rataria (*Esch.*) pocillum, *Mont.* (sp.)
Alcinoe rotunda, *Forbes & Goodsir.*
Dianæa? Bairdii, *Johnst.* Mag. Nat. Hist. vol. vi.
Thaumantias punctata, *Forbes*, Ann. Nat. Hist. vol. vii.
„ Sarnica, „ „ „
"Cyanæa" coccinea, *Davis*, Ann. Nat. Hist. vol. vii. p. 234. pl. 2. (Gen. Oceania.)
"Geryonia" octona, *Flem.* Brit. Anim. (Gen. Oceania.)
Aurelia granulata, *Esch.*
„ purpurea, *Penn.*
Cassiopea lunulata, *Penn.*
"Eulimena" quadrangularis, *Flem.* Brit. Anim. (probably a Beroe.)

ZOOPHYTA.

The Zoophytes of Ireland are well known. In Ellis's British 'Corallines' some species from the coast of Ireland are described; in the ninth volume of Loudon's Magazine of Natural History a complete catalogue of the native Zoophytes known to Templeton appeared; in the 'Zoological Researches' of Mr. John Vaughan Thompson is a "memoir" (5th) partly upon the subject; in the Annals of Natural History, vol. v. p. 249, and vol. vii. p. 481, additional species to the Irish Fauna are given by myself; in vols. vi. vii. and ix. of this work Mr. Hassall has very fully entered into the subject; in the Proceedings of the Royal Irish Academy for 1843*, and in a communication brought before the present meeting†, Dr. Geo. J. Allman has given the results of his investigation of the freshwater species.

The collections of Dr. J. L. Drummond and Mr. Hyndman from the north and north-east coast; of Mr. W. H. Harvey (communicated to me in 1834), Miss Ball, and Mr. R. Ball from the Dublin coast; of the two last-named from Youghal (co. Cork); of Mrs. Hancock from Ballysodare (co. Sligo), and others of less extent have added much—in addition to those of the naturalists who have written upon the subject—to our knowledge of the native species.

To my kind friend Dr. Johnston I am indebted for a manuscript catalogue of the British Zoophytes as known to him at the present time: the nomenclature and synonyma of the following list are taken from it, as are, also, the data on which the concluding remarks are founded.

* The title of this paper is "On the Muscular System of *Paludicella articulata* and other Ascidian Zoophytes of fresh water."

† See present volume.

ZOOPHYTA*.	Distribution. North.	East.	West.	South.
Order HYDROIDA.				
Clava multicornis; Coryne squamata, *Lam.*	*	...	*	
" capitata; Echinochorum clavigerum, *Hass.*	*?	*		
" minuticornis; Hydra corynaria, *Temp.*	*			
Coryne pusilla, *Gært.*; C. glandulosa, *Lam.*	*	...	*	
Eudendrium rameum; Tubularia ramea, *Pall.*	...	*		
,, ramosum; Tub. ramosa, *Lin.*	*	*	*	*
Tubularia indivisa, *Lin.*	*	*	...	*
,, larynx, *Ellis*	*	*		
,, muscoides, *Lin.*	*	*		
Thoa halecina, *Lamx.*	*	*	*	
,, Beanii, *Johnst.*	*	*		
,, muricata, *Johnst.*	*			
Sertularia polyzonias, *Lin.*	*	*	...	*
,, rugosa, *Lin.*	*	*		
,, rosacea, *Lin.*	*	*	...	*
,, pumila, *Lin.*	*	*	*	*
,, pinaster, *Ellis*; S. margareta, *Hass.* (*W. T.*)	*	*		
,, tamarisca, *Lin.*	*	*		
,, abietina, *Lin.*	*	*		
,, filicula, *Ellis*	*	*		
,, operculata, *Lin.*	*	*	*	*
,, argentea, *Ellis*	*	*	*	*
,, cupressina, *Lin.*	*	*	*	*
Thuiaria thuja, *Flem.*	*			
,, articulata, *Flem.*	*	*		
Antennularia antennina, *Flem.*; A. ramosa	*	*	*	*
,, arborescens, *Hass.* (probably not distinct from last.)	...	*		
Plumularia falcata, *Lam.*	*	*	*	
,, cristata, *Lam.*	*	*	*	*
,, pennatula, *Lam.*	...	...	...	*
,, pinnata, *Lam.*	*	*	*	*
,, setacea, *Lam.*; Sertularia Templetoni, *Flem.* (*W. T.*)	*	*	*	*
,, Catharina, *Johnst.*	...	*		
,, myriophyllum, *Lam.*	...	*	...	*
,, frutescens, *Flem.*	...	*	...	*
Laomedea dichotoma, *Lamx.*	*	*	*	*
,, geniculata, *Lamx.*	*	*	*	*
,, gelatinosa, *Lamx.*	*	*	...	*
Campanularia volubilis, *Lam.*	*	*	...	*
,, integra, *Macgill.*	*			
,, syringa, *Lam.*	*	*		
,, verticillata, *Lam.*	*	*	...	*
,, dumosa, *Flem.*	*	*	*	*
Hydra viridis, *Lin.*	...	*	...	*
,, vulgaris, *Pall.*	*	*	...	*
,, fusca, *Lin.*	...	*		
,, verrucosa, *Temp.* (Allman makes this identical with H. fusca.)	*			
Cordylophora lacustris, *Allman.* (See present volume.) (I.)	...	*		
Order ASTEROIDA.				
Virgularia mirabilis, *Lam.*	*			
Gorgonia anceps, *Pall.*	...	*?		
Alcyonium digitatum, *Lin.*	*	*		

* Before entering on the Zoophytes it may be mentioned that Templeton noticed ten species of *Vorticella* in the ninth volume of Loudon's Mag. Nat. Hist. (p. 420), of which three are described and figured as new.

	Distribution.			
	North.	East.	West.	South.
Order Helianthoida.				
Zoanthus Couchii, *Johnst.*	...	...	...	*
Caryophyllia Smithii, *Stokes*	...	*	*	*
Anthea cereus, *Johnst.*	*	*	*	
Adamsia maculata, *Forb.*; Actinia mac., *Adams*	*	*		
Actinia mesembryanthemum, *Ellis*	*	*	*	*
,, margaritifera, Temp. Loud. M. N. H. vol. ix. p. 304. f. 50. (I.).	*	...	*	
,, viduata, *Mull.*	...	...	*	
,, coccinea, *Mull.* (I.)	...	...	*	
,, bellis, *Ellis*	*	*		
,, gemmacea, *Ellis*	*	*		
,, dianthus, *Ellis*	*	*		
Lucernaria fascicularis, *Flem.*	*			
,, auricula, *Fabr.*	*			
Order Ascidioida.				
Serialaria lendigera, *Lam.*	*	*	...	*
Vesicularia spinosa, *Thomp.* (*J. V.*)	*	*	*	*
Valkeria cuscuta, *Flem.*	*	*	*	*
,, uva, *Flem.*	*	*		
,, pustulosa, *Johnst.*	*	*	...	*
Bowerbankia imbricata, *Johnst.*; B. densa, *Farre*, primary state = Sertularia imbricata, *Adams*; Valk. glomerata, *Colds.*: adult state.....	*	*	*	*
Lagenella repens, *Farre*	*	*		
Pedicellina echinata, *Sars.* (I.)	*	*	...	*
Crisea cornuta, *Johnst.*	*	*	*	
,, eburnea, *Lamx.*	*	*	*	*
,, luxata, *Flem.*; C. denticulata, *Edw.*	*	*	...	*
,, aculeata, *Hass.*	*	*		
Tubulipora patina, *Lam.*; Discopora verrucaria, *Flem.*	*	*	...	*
,, hispida, *Johnst.*; Discopora hisp., *Flem.*	*	...	...	*
,, flabellaris, *Johnst.*; Tubipora flab., *Fabr.*; T. lobulata, *Hass.*	*	*		
,, serpens; Tubipora serpens, *Lin.*; T. transversa, *Lam.*	*	*	*	*
,, obelia, *Johnst.*	*	...	...	*
Alecto ———?	...	...	...	*
Encratea chelata, *Lamx.*	*	*	*	*
Notamia loriculata, *Flem.*	*	*		
Hippothoa catenularia, *Flem.*	...	*	...	*
,, divaricata, *Lamx.*; H. lanceolata, *Gray*	*	*	*	*
Anguinaria spatulata, *Lam.*	...	*	...	*
Cellepora pumicosa, *Lin.*	*	*	*	*
,, ramulosa, *Lin.*	*	*	...	*
,, cervicornis, *Flem.*	*	...	...	*
Lepralia hyalina, *Johnst.*; β L. cylindrica, *Hass.*	*	*	*	*
,, Hassalli, *Johnst.* MSS.; Cellep. bimucronata, *Hass.*	...	*		
,, unicornis, *Johnst.*; L. coccinea, *Johnst.*	*	*	*	
,, pediostoma, *Hass.*; Flust. Hibernica, *Hass.*	...	*		
,, verrucosa, *Johnst.*; L. Johnstoni, *Bean*, MSS.	...	*		
,, biforis, *Johnst.*	*			
,, granifera, *Johnst.* MSS.	*?			
,, variolosa, *Johnst.*	*	*	...	*
,, immersa, *Johnst.*	*	*	*	*
,, punctata, *Hass.*	...	*		
,, nitida, *Johnst.*	*	*		
,, ciliata, *Johnst.*; B. utriculata, *Flem.*; β L. insignis, *Hass.*	*	*	*	*
,, spinifera, *Johnst.*; L. ciliata, *Hass.*	...	*		
,, coccinea; Cell. coccinea, *Mull.*	*			

Order Ascidioida.	Distribution. North.	East.	West.	South.
Lepralia semilunaris, *Hass.*	...	*		
,, linearis, *Hass.* (I.)	*	*		
,, auriculata, *Hass.*	...	*		
,, ventricosa, *Hass.*	...	*		
,, tenuis, *Hass.* (I.)	...	*		
,, assimilis, *Hass.* (I.)	...	*		
,, ovalis, *Hass.**	...	*		
Membranipora pilosa; Flustra pil., *Lin.*	*	*	*	*
,, membranacea; Fl. memb., *Mull.*; Fl. tuberculata, *Johnst.*	*	*	*	*
Flustra foliacea, *Lin.*	*	*		
,, chartacea, *Gmel.*	...	*	...	*
,, truncata, *Lin.*	*			
,, carbasea, *Ellis & Solan.*	*?			
,, avicularis, *Sower.*	*	*	*	*
,, lineata, *Lin.*†	*	*	*	
Cellularia ciliata, *Pall.*	*	*	*	*
,, scruposa, *Pall.*	*	*		
,, reptans, *Pall.*	*	*	*	*
,, avicularia, *Ellis & Solan.*	*	*		
Acamarchis neritina (sp.), *Lin.*	*			
,, plumosa; Cellul. plum., *Pall.*; Sert. fastigiata, *Lin.*	*	*		
Farcimia salicornia; Cellul. sal., *Pall.*	*	*		
,, sinuosa, *Hass.*	*	*		
Alcyonidium gelatinosum; Alcyonium gel., *Pall.*	*	*	*	
,, hirsutum, *Flem.*	*	*	*	*
,, echinatum, *Flem.*	*	*	*	*
,, ? parasiticum, *Flem.*	...	*		
Cycloum hispium, *Fabr.* (sp.) Cycl. papillosum, *Hass.*; Flustra ? carnosa, *Johnst.*; Flustra spongiosa, *Temp.*	*	*	*	
Sarcochitum polyoum, *Hass.*	*	*		
Cristatella mucedo, *Cuv.*	...	*	...	*
Alcyonella stagnorum, *Lam.*	...	*		
Plumatella repens, *Lam.*	*	*	...	*
,, emarginata, *Allman* (I.)	...	*	...	*
,, fruticosa, *Allman* (I.)	...	*	...	*
Fredericella gelatinosa; Plumat. gel., *Flem., Johnst.*	...	*	...	*
,, sultana; Tubularia sult., *Blumen.* "Identical with F. gelatinosa," *Allman*	...	*	...	*
,, dilatata, *Allman* (I.) (See present vol. or Annals, vol. xiii. p. 331.)	...	*	...	*
Paludicella articulata, *Gervais* (I.)	*	*		

Of the *Zoophyta Hydroida* there are fifty-two British species, five of which are not recorded as Irish: of these, three are each from a single locality—*Corymorpha nutans*, from Shetland; *Sertularia Evansii*, Yarmouth, and known only to Ellis; *Laomedea obliqua*, south of England? The others are *Sertularia pinnata*, of which nothing positive can be said, owing to the confusion in which the species is involved; *Sertularia nigra*, noticed on the east coast of Great Britain and in Cornwall. *Cordylophora lacustris*, a freshwater species discovered in the vicinity of Dublin by Dr. Geo. J. Allman, and for the reception of which he has constituted a new genus, has not been met with in Great Britain.

Ireland is very deficient in the *Zoop. Asteroida*, three only of the eight

* The preceding seven *Lepraliæ* have not been examined by Dr. Johnston.

† *Flustra distans*, Hass. not a veritable species.

British species having been found upon our coast: two of these eight—*Gorgonia placomus*, noted as from Cornwall (Ellis), and *Isis hippuris*, from the east of Scotland and Orkney—are considered by some authors as doubtful British species. The others are *Pennatula phosphorea*, for which the only localities particularized in Johnston's British Zoophytes are on the eastern coast of Scotland*; *Gorgonia verrucosa* from Cornwall, Devon, "Scotland;" *Gorgonia lepadifera* from Shetland and Aberdeenshire.

There are twenty British species of *Zoophyta Helianthoida*, including *Capnea sanguinea*, discovered in the Irish Sea near the Isle of Man by Professor Edw. Forbes. Nine of these have not been noticed on the Irish coast, and on the British, one only of the number has been found in more than a single locality, viz. *Lucernaria campanulata*, obtained at Torbay and Berwick. The others are the *Capnea* already mentioned; *Turbinolia borealis* and *Actinia intestinalis* from Zetland; *Anthea Tuedia* and *Actinia saxatilis* from Berwick; *Act. biserialis* from Guernsey; *Iluanthus Scoticus* from Loch Ryan.

The *Actinia margaritifera* and *Act. coccinea* found on the coast of Ireland, are unknown to the British catalogue.

The British species of *Zoop. Ascidioida* may be reckoned ninety-three in number†, after several species described as distinct have been made synonymous with others previously known; of these, twenty-eight have not yet been recorded as Irish:—several are yet unpublished as British. On the other hand, eight known as Irish have not a place in the catalogue of Great Britain; three are *Lepraliæ* described by Mr. Hassall; the *Pedicellina echinata* of Sars; *Plumatella emarginata*, *Plum. fruticosa* and *Fredericella dilatata* of Allman; *Paludicella articulata* of Gervais‡. Of the Irish desiderata seventeen species are each from a single British locality—*Beania mirabilis* and *Flustra Murrayana* from Scarborough; *Tubulipora penicillata*, *T. deflexa*, *T. trahens* and *T. hyalina*§ (described by Mr. Conch), from Cornwall, which is the only locality for *Retepora reticulata*. *Tubulipora truncata*, *Cellepora lævis*, and *Flustra setacea* have been obtained at Zetland. Pallas's habitat for *Notamia bursa*—"mare Anglicum"—should probably be more strictly a limited locality. *Lepralia trespinosa* is from Berwickshire; *Cellularia Hookeri* from Torquay; *Eschara fascialis*, Isle of Wight; *Lepralia reticulata*, Aberdeen. The remaining species respecting which localities have been published, are *Cellepora Skenei*, east coast of Great Britain, &c., from Northumberland to Zetland, and lately dredged off the Mull of Galloway by Capt. Beechey, R.N.; *Retepora cellulosa*, Shetland, Fulah and Scarborough; *Eschara foliacea*, Sussex and the south coast of England.

AMORPHOZOA.

A catalogue of the Irish Sponges known to Templeton was published in the ninth volume of Loudon's Magazine of Natural History, and a few

* A specimen once brought to me from Belfast market was stated to have been found among haddock sent from Glasgow, and most probably captured on the west coast of Scotland.

† Included in this number are two of Delle Chiaje's species from Sana island, on the Scottish coast, noticed by myself in the Annals of Nat. Hist. (vol. x. p. 20), and the seven last-named species of Mr. Hassall in the preceding catalogue, all of which require to be further studied with the view to ascertain whether they be really new or only synonymous with species previously described—indeed, the *Bereniceæ*, *Celleporæ* and *Lepraliæ* require a thorough revision.

‡ A highly interesting paper on the anatomy of the species, by Dr. Geo. J. Allman, has been published in the Proceedings of the Royal Irish Academy for 1843.

§ I have not seen the descriptions of these species of *Tubulipora*.

additional species were noticed by myself in the fifth volume (p. 254) of the Annals of Natural History. More recently, the native species obtained by Mr. Hassall, myself and others, and those procured by Wm. McCalla, collector to the Royal Dublin Society, were placed in Dr. Johnston's hands for description in his work on the British Sponges which appeared in 1842. They are fully treated of there, with the exception of one species, the *Grantia lacunosa* (which I obtained in Strangford lough in July 1838) being accidentally omitted. The names in the following list are those adopted in the work just mentioned.

AMORPHOZOA.

Class AMORPHOZOA, Blainv.—*Sponges.*

	Distribution.			
	North.	East.	West.	South.
Tethea lyncurium, *Lam.*	...	...	*	
Halichondria oculata, *Pall.* (sp.)	*	*		
,, cervicornis, *Pall.* (sp.)	*	*	...	*
,, Montagui, *Flem.*	...	*	*	
,, ventilabra, *Lin.* (sp.)	...	...	...	*
,, simulans, *Johnst.* (I.)	...	*	*	
,, cinerea, *Grant* (sp.)	...	*	*	
,, fucorum, *Esper* (sp.)	*			
,, panicea, *Pall.* (sp.)	*	*	*	
,, ægagropila, *Scouler, Johnst.* (I.)	...	...	*	
,, incrustans, *Esper* (sp.)	*	*		
,, saburrata, *Johnst.* (perhaps not distinct from last, Johnst. Sponges, p. 197.) (I.)	...	...	*	
,, areolata, *Johnst.*	*	*	*	
,, serrata, *Grant* (sp.)	...	*		
,,? celata, *Grant* (sp.)	*	...	*	
,, sanguinea, *Grant* (sp.)	...	*	*?	
,, hirsuta, *Flem.*	*			
,, suberea, *Mont.* (sp.)	*	*		
,, mammillaris, *Mull.* (sp.)	*			
,, carnosa, *Johnst.* (I.)	...	...	*	
Spongilla fluviatilis, *Pall.*	*	...	*	
Spongia pulchella, *Sow.*	*			
,, limbata, *Mont.*	*	*	*	
Grantia compressa, *Fabr.* (sp.)	*	*	*	*
,, lacunosa, *Bean, Johnst.*	*			
,, ciliata, *Fabr.* (sp.)	*	*	*	*
,, botryoides, *Ellis and Solan.* (sp.)	*	...	*	
,, fistulosa, *Johnst.* (I.)	*			
,, nivea, *Grant* (sp.)	...	...	*	
,, coriacea, *Mont.* (sp.)	...	*		
Dysidea fragilis, *Mont.* (sp.)	*	...	*	
,,? papillosa, *Johnst.*	*			

Class LITHOPHYTA*.

Corallina officinalis, *Lin.*	*	*	*	*
Jania rubens, *Lamour., Lin.* (sp.)	*	*	*	*
Halimeda opuntia, *Lamour. Pall.* (sp.)	...	*		
Nullipora polymorpha, *Lin.* (sp.)	*	*	*	*
,, fasciculata, *Lam.* (sp.) (I.)	...	...	*	
,, agariciformis, *Pall.* (sp.) (I.)	...	...	*	

Of the fifty-one species of Sponge found in Great Britain, twenty-seven

* Now referred to the vegetable kingdom.

have been met with in Ireland, and 5 species—*Halichondria simulans*, *H. ægagropila*, *H. saburrata*, *H. carnosa*, *Grantia fistulosa*; all described as new—being indigenous to the latter island only, make our number thirty-two. The most common *Halichondriæ* thrown ashore on the north-east coast of Ireland are *H. fucorum* and *H. panicea*: on the Dublin coast the latter is in the highest perfection. *H. suberea* is not uncommonly dredged from deep water. *Spongilla fluviatilis* is found in several localities in the north, and both in swiftly-flowing and still waters.

Grantia compressa and *G. ciliata* are common on *Algæ* around the coast, as *G. botryoides* is in the north.

Of the twenty-four British Sponges unknown as Irish, the following species are recorded but from one district or one locality—*Geodia Zetlandica* and *Tethea cranium*, Shetland Isles—*Halichondria hispida*, *H. ramosa*, *H. plumosa*, *H. fruticosa*, *H. aurea*, *H. conus*, *H. rigida*, *H. perlevis*; *Spongia lævigata* and *Pachymatisma Johnstonia* from the south of England: of these ten species, seven rest on the authority of Montagu alone. *Halich. aculeata* and *H. virgultosa* are from Scarborough (Mr. Bean); *Halich. albescens* and *Halisarca Dujardinii* from Berwick and its vicinity (Dr. Johnston); *Halich. sevosa* from the Isle of Man (Mr. E. Forbes); *Spongilla lacustris* from the adjoining counties of Angus (or Forfar) and Fife; the remainder are *Halich. palmata* found in the Orkney and Shetland Islands, the east and south of England; *Halich. Columbæ*, Icolmkill and Brighton; *Halich. infundibulum*, northern islands of Scotland and Cumbrae; *Halich. coalita*, east and south Great Britain; *Halich. ficus*, Scarborough and Isle of Man; *Grantia pulverulenta*, Devon and Zetland.

Of the eight British species (or forms considered as such) of *Lithophyta*, four are known as Irish, and in the catalogue of the latter, two new species—*Nullipora fasciculata* and *N. agariciformis*—are included, thus making the number altogether six. *Corallina officinalis*, *Jania rubens*, and *Nullipora polymorpha*, are abundant round the coast. Of the four British species unknown as Irish, three—*Corallina elongata*, *C. squamata* and *Jania corniculata*—have been found only in the south of England; *Nullipora calcarea* there, and also on the west coast of Scotland: this last is considered by Dr. Johnston to be merely a state of *N. polymorpha*.

Conclusion.

The progress made in the portions of the Invertebrata of Ireland embraced in this Report has been indicated under the respective Classes. It is considerable in all, and exhibits, from the circumstance of our Fauna being about equally investigated with that of Great Britain, a fair comparison with the larger island*. Much still remains to be done in every department with reference to mere species, and to their distribution. The manner in which the various marine species are found associated together; the relative depths considered in connection with their mineralogical character; the many influences affecting the distribution of species, are subjects of inquiry, for the study of which the coast of Ireland offers a rich harvest†. Accurate observations on the habits and general economy of the species are always valuable. The

* More attention has been bestowed on the Mollusca Nudibranchia, Foraminifera and Annelida of Great Britain than on those of Ireland, where on the other hand the Mollusca Cephalopoda, Moll. Tunicata and Entozoa have (as to species) claimed more attention.

† The natural history of Ireland *exclusively* being alluded to, the all-important questions of structure and physiology are not mentioned, as they can be studied in every country which the species inhabits.

following is a brief summary of the departments in which the greatest additions to our knowledge as to species, &c. may be anticipated:—MOLLUSCA, Orders *Nudibranchiata* and *Tunicata* generally; *Cephalopoda*—as evinced by Mr. R. Ball's discoveries in one locality; *Pectinibranchiata*—minute species of the families *Turbinidæ* and *Buccinidæ*; *Lamellibranchiata*—in the species not to be met with on the beach, but only to be obtained by dredging. CRUSTACEA generally, excepting the order *Decapoda*. CIRRHIPEDA, with respect to the various forms assumed by each species. ANNELIDA generally, land, freshwater and marine: the testaceous species of the tribe *Serpulina*, though as to their mere number the best known, much require rigid analysis. FORAMINIFERA generally. ECHINODERMATA, the families *Holothuriadæ* and *Sipunculidæ*. ACALEPHA generally. ZOOPHYTA; in *Hydroida*, the soft species or those which do not form horny cases, as the genera Clava, Hydra, &c.; the *Helianthoida* generally; in *Ascidioida*, the genera Tubulipora and Lepralia, in reference to the extent of form assumed by the respective species. AMORPHOZOA or Sponges generally. ENTOZOA generally—tracing the forms assumed by the respective species from birth to their adult state, &c.

The chief collections of objects illustrative of the Zoology of Ireland are the following. In Dublin there are of public collections, the Ordnance Museum, Phœnix Park, good in various departments of Vertebrata and Invertebrata; the Royal College of Surgeons Museum, in which Mr. J. V. Thompson's collection of Crustacea is preserved; Trinity College, containing the late Mr. Tardy's fine collection of Insects, added to by Dr. Coulter; Natural History Society, Zoophytes, &c.; Royal Dublin Society, Vertebrata and Invertebrata: of private collections there are in the metropolis Mr. R. Ball's, very rich in the various branches of Vertebrata and Invertebrata; Miss M. Ball's, Insects chiefly, and Shells; Mr. Warren's, very fine in Shells and Birds; Dr. Farran's, also very fine in Shells, and good in Birds; Dr. Bellingham's, in Entozoa; Mr. Egan's, in Insects; Dr. George J. Allman's, in freshwater Zoophytes and Mollusca Nudibranchiata; Mr. O'Kelly's, in Shells *. In Belfast, the Museum of the Natural History Society contains a general collection of Vertebrata and Invertebrata, including the late Mr. Templeton's; Mr. Hyndman's collection is rich in Mollusca, Insects, &c.; Mr. Haliday's very rich in some orders of Insects; Dr. Drummond's in Entozoa and various Invertebrata; Mr. Patterson's in Insects; my own in various departments, Vertebrata and Invertebrata. In Cork, Dr. Harvey has a good collection of Vertebrata, as Mr. Clear has of Insects; Mr. Humphreys, of Shells; Mr. Samuel Wright, of Shells, &c.: Mr. Samuel Green of Youghal has a good collection of the eggs of native birds. In Limerick, Mr. Wm. Henry Harvey has a good collection of land, freshwater and marine Shells. In the county of Tipperary Mr. Robert Davis, Jun. of Clonmel, has a collection of Birds, and of the Eggs of Birds, the best in Ireland: the Rev. Thomas Knox of Toomavara has a good collection of Birds, as Mr. Edward Waller of Finnoe has of land and freshwater Shells: the late Mr. Hely had an extensive collection of the Insects of his district. Dr. Burkitt of Waterford has a large collection of Birds. Mr. John Vandeleur Stewart of Rockhill, Letterkenny, county of Donegal, has an extensive collection of Mammalia and Birds:—the Rev. Benj. J. Clarke, now of Tuam, of land and freshwater Mollusca:—Mrs. W. J. Hancock of Lurgan, of Shells, &c., from two localities on the western coast. The collection of Irish Shells formed by Capt. Brown now belongs to Lady Jardine, and that of Dr. Turton is in the possession of Mr. Jeffreys of Swansea.

* This collection having been formed previous to the publication of the catalogues of Dr. Turton and Capt. Brown, is frequently referred to by them. Mr. O'Kelly states that it was from him Dr. Turton first imbibed a taste for conchology: the genus *Kellia* was dedicated to him by this author.

Finally, it should be stated that the various Classes of the Vertebrate and Invertebrate animals of Ireland contained in this and the former Report are not treated of for the first time. They were all studied by JOHN TEMPLETON, and catalogues of the species they embrace, with the exception of Mollusca (omitted only because others had written on it), were published from his manuscript by his son (who is likewise most favourably known to zoologists) in the ninth volume of Loudon's Magazine of Natural History, and in the first volume of the same work conducted by Charlesworth: the former volume contains the Invertebrata; the latter, the Vertebrata.

The only portions of the Animal Kingdom as displayed in Ireland and not included in this Report (two parts), are Insecta (including *Myriapoda*, *Arachnoida*, &c.) and Infusoria. That the Insecta have not been altogether neglected, the following summary, kindly contributed by Mr. A. H. Haliday, will show. This distinguished entomologist remarks,—

"My catalogue, which has lain untouched for several seasons, contained of named and described species—

"*Coleoptera*, about 950. A good many of these from Mr. Tardy's MSS., and as his health for some years previous to his death had not allowed him to follow the progress of science, the additions from this source may require some revision.

"Some particulars as to Irish *Coleoptera* are given in Entomologist, Annals of Nat. Hist. vol. ii. Entom. Magazine, vol. iv.

"*Strepsiptera*, 2 species.

"*Orthoptera*, about 50. See Ent. Mag. vol. iii. iv.

"*Hemiptera*, under 150. The order very little examined yet.

"*Diptera*, about 1050. Annals Nat. Hist. ii. & iii. Zool. Journal, v. Ent. Mag. i. iii. iv.

"*Hymenoptera*, about 1100. Annals Nat. Hist. ii. Ent. Mag. 1—5. F. Walker, Monographia Chalciditum; A. H. Haliday, Hymenoptera Britannica.

"*Lepidoptera*, about 450, chiefly from Tardy's MSS. and collection, and requiring revision, as they had fallen into confusion. I had the liberty of availing myself of these from the late possessor, Dr. Coulter.

"*Thysanura*, about 22, collected by me. See Templeton in Trans. Ent. Society, vol. i. p. 89.

"*Neuroptera*, about 70.

"Total number of Irish Insects known, about 3850.

"Some additions in each I owe to W. Clear, Esq., and the collections, &c. of the late G. Hely and — Hafield, but I suppose nine-tenths of the whole (except *Lepidoptera*) were taken near Belfast; so that independent of the numbers unexamined and unnamed the selection affords no clue to the numbers of *Irish* Fauna. I have had opportunity however to judge that the south of Ireland does not afford the same increase of *forms* which we find in the like change of latitude in Great Britain.

"Stephens and Curtis both give, scattered throughout their principal works, information about the insects found in Ireland. There are also a *few* detached notices elsewhere which I cannot just now refer to."

To the above from Mr. Haliday it may be added, that some species found in the north of Ireland are incidentally noticed in Patterson's volume on the 'Insects mentioned in Shakspeare's Plays;' and that in Mr. Denny's work entitled 'Anoplura Britannica,' the Irish species are included. Mr. Robert Templeton, in addition to the *Thysanura* already mentioned, has published a

list of the *Myriapoda** and *Arachnoida*†. The *Infusoria* have been little attended to: some native genera and species placed by some authors in the Animal Kingdom are described in Harvey's 'Manual of the British Algæ:' others of a similar nature have been brought before the Microscopical Society of Dublin by Capt. Portlock‡ and Mr. David Moore§. Dr. Geo. J. Allman‖ has likewise exhibited to that Society a few species of *Infusoria*, which it is unnecessary to name here.

In concluding this Report, it may be permitted me to state that no one can be more sensible than myself of its numerous imperfections. With the hope of diminishing their number by a more extended time, I was desirous of its postponement for another year, but it was urged that a Report on the Fauna of Ireland should be brought forward at an Irish meeting of the Association, and to this consideration I at length waived my desire for a longer period of preparation.

* Loudon's Mag. Nat. Hist. ix.

† Id. and Zool. Journ. vol. v. p. 400. A singular parasite obtained on a Grey Seal (*Halichærus gryphus*) killed on the Dublin coast by Mr. R. Ball, has been investigated by Dr. Geo. J. Allman, who brings it under *Arachnoida* and constitutes a new genus—*Halarachne*—for its reception. He proposes to call the species *Halar. halichœri*: it will be described in the Annals of Natural History.

‡ Microscopic Journal, vol. ii. p. 6. § Id. vol. i. p. 159.

‖ An interesting paper on Fossil Infusoria from the county of Down was published by Dr. Drummond in Charlesworth's Magazine of Natural History, vol. iii. p. 353.