

APPENDIX III.

VOL II.



THE MARINE SHELLS  
OF  
THE NORTH OF IRELAND.

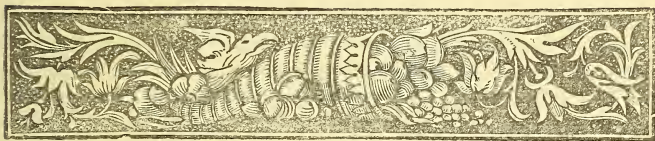
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# The Marine Shells of the North of Ireland.

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## INTRODUCTION.

**I**N compiling the following list of the recent Marine Shells of the North of Ireland, the object of the writer has been to bring together, and present in simple and accessible form, the information which we possess regarding this attractive branch of local zoology. The literature bearing on the subject consists of a number of papers and notes scattered through various publications, some of them not easily obtainable by the enquirer, while the matter which they contain is generally in such a form that it is not easy to discover immediately what shells have been found in our district, and in what localities. Such, too, is the difference of nomenclature in the works referred to, that it is a task of some difficulty to compare and correlate the lists of *Mollusca* which they contain ; and in Thompson's works, indeed, which were published before the value of systematic nomenclature was appreciated as it is now, it is occasionally very troublesome to find what species is intended. In the list which follows, the names adopted by J. Gwyn Jeffreys in his "*British Conchology*"—the standard work on the subject—are employed, and where a species is referred to by any of the authors quoted under a different name, such synonym is appended in parenthesis.

The sources of information which have been utilised in preparing the present paper are as follows :—

I. "*A History of British Mollusca*," by Messrs. Forbes and Hanley. This work supplies a few North of Ireland stations for species, other than those taken from Thompson's work, to be mentioned immediately.

II. "The Natural History of Ireland," by William Thompson: vol. IV., 1856. In this work 350 species and varieties of Marine Shells are recorded as Irish, under the names which were in use prior to the publication of Forbes and Hanley's treatise, of which some 240 are noted from localities in Ulster; the majority of these notes are given *verbatim* in the following pages. Mr. Thompson's earlier list of Irish Shells, which appears in his "Report on the Fauna of Ireland: Division Invertebrata," in the British Association Report for 1843, contains many species not to be found in the "Natural History of Ireland"; but it may be safely assumed that such were intentionally excluded from the latter work, for many Shells had been recorded as native on very insufficient grounds; and the writer has, therefore, thought it best to be guided by the "Natural History" alone, as it contains all the notes which Mr. Thompson considered thoroughly reliable.

III. The "Reports of the Belfast Dredging Committee," by George C. Hyndman, in the Reports of the British Association for 1857, '58, and '59. The following is a summary of the lists which these Reports contain:—

STATION.			Depth in Fathoms.	Species.
1857 Report.	1. Belfast Bay and Neighbourhood	...	0-100	205
	2. Turbot Bank ..	...	25-30	192
	3. Off Maiden Rocks	...	70-100	42
1858 Report.	1. 2 Miles off Ballygalley Head	...	15-25	52
	2. Cod Bank, 3m. N. of Muck I.	...	20	73
	3. Larne Lough, 1-2½m. from entrance...	...	4-5	26
	4. Brown's Bay, Island Magee	...	1-4	21
	5. S. of Maiden Rocks	...	20	45
	6. E. and S.E. of Maiden Rocks	...	70-90	95
	7. Turbot Bank ...	...	25-30	129
	8. Turbot Bank ...	...	25-30	18
	9. 2 Miles S.S.E. of Black Head	...	25	118
	10. "The Riggs" Bank, S.E. of Donaghadee	...	20	63
	11. 4 Miles S.S.E. of Black Head	...	15	79
	12. The Sound, Copeland Islands	...	12	40

1859 Report. An annotated list of additional species and additional localities, and a few corrections.

The Stations above are conveniently arranged in four groups, viz:—

1. Belfast Lough. This signifies the waters lying west of a line drawn from Orlock Point, in Co. Down, to Black Head, in Co. Antrim, and not exceeding 10 fathoms in depth.

2. Entrance of Belfast Lough. Under this head come a number of dredgings made around the entrance of the Bay, from Donaghadee on the Co. Down shore, northward as far as the great cliff-range of The Gobbins, in Island Magee, Co. Antrim. By far the most important of these, as far as results are concerned, are those made on the Turbot Bank, "a great submarine bank lying a short distance out from the cliffs called The Gobbins, and extending from the Isle of Muck across the entrance of Belfast Bay towards the Copeland Islands."\* On this bank, which lies in from 25 to 30 fathoms of water, a number of rare and interesting species have been obtained, but almost all in a dead state, and it is to be noted that some of the Turbot Bank shells are very doubtfully recent, while a few are certainly fossil. Mr. Hyndman expresses the opinion that the majority of the shells are derived from the deep recess lying near the Maiden Rocks, a few miles to the northward, which will presently be mentioned; but it would appear probable that some submarine pleistocene deposit in the neighbourhood has also contributed to the rich store of *Testacea* which the Turbot Bank yields.†

3. Larne Lough. Mr. Hyndman's party made but one haul of the dredge in this lough; it yielded so little that apparently the scientists never revisited waters that gave so poor a return for their labours. This poverty in shells is the more remarkable when we take into consideration the extreme richness in *Mollusca* of the Estuarine Clays in that vicinity.

4. Off Larne. This term embraces a large number of stations, from Isle of Muck northward to Ballygalley Head, and out eastward to beyond the Maiden Rocks. The latter consist of a group of rocky islets lying some six miles from shore; on their seaward side the water deepens rapidly, and over a limited area a depth of 90 and 100 fathoms is reached. This abyss, which is very difficult to dredge on account of the rocky nature of the bottom and the strong currents that sweep over it, is the home of many rare species, and those who have successfully faced

\* Hyndman, 1857 Report.

† The question of the origin of the Turbot Bank shells is one of much interest, and has not been satisfactorily settled. The opinion of the compilers of the Naturalists' Field Club "Guide to Belfast and the adjacent Counties," is worth recording:—"About 200 species of *Mollusca* have been enumerated from the Turbot Bank, many of them being of extreme rarity; but the majority occurring as dead shells only. It has been suggested that this bank is only a submarine fossil bed, and that a great portion of the shells are really relics of the glacial epoch. It is, however, quite as likely that they are accumulated on this bar by currents, and that they belong to species still living in the vicinity, on rocky bottoms where the dredge has little chance of picking them up."

the troubles attending dredging on such ground, at such a depth, have been rewarded with living examples of *Argiope cistellula*, *A. capsula*, *Propilidium ancyloides*, and other deep-sea treasures.

IV. "Report on the Marine Zoology of Strangford Lough, Co. Down, and corresponding part of the Irish Channel," by George Dickie, M.D., Professor of Natural History, Queen's College, Belfast, in the British Association Report for 1857. A summary of the lists here presented is as follows:—

STATION.				Depth in Fathoms.	Species and Varieties.
1. Castle Ward Bay	...	...	...	20	102
2. Wellstream Bay	...	...	...	15	28
3. Upper part, ditto	...	...	...	4-8	43
4. Bay opposite Killyleagh	...	...	...	6	13
5. Centre of Lough	...	...	...	15-25	38
6. Gun Island, Irish Channel	...	...	...	7	8

Then follow lists of the *Testacea* of the open channel opposite the entrance of the Lough, divided into zones according to the distance from shore.

V. "British Conchology," by J. Gwyn Jeffreys, F.R.S., &c., 1863-9. This work contains, besides repetitions of many of Thompson's, Dickie's, and Hyndman's records, some notes of species obtained by the author, and also by Mr. Waller and Mr. Adair, on the North of Ireland coasts; those notes will be found under the respective species.

There are earlier works which contain references to North of Ireland *Mollusca*, but all reliable records of any importance are to be found repeated in the books cited above. During the long period that has elapsed since the publication of even the latest of these, though a good deal of dredging has been done by local scientists, very little has been added to the knowledge of our Marine Shells, attention having been chiefly concentrated on the interesting *Microzoa* which the earlier Naturalists had left almost untouched. Indeed, the only additional matter of which I have been able to avail myself is a few manuscript notes by Mr. S. A. Stewart, F.B.S.E., and the same by the present writer, while an examination of the shells contained in the cabinets of Mr. William Swanston, F.G.S., of Belfast, and Miss Richardson, of Portrush (to both of whom my best thanks are due), and of those in the local collection in the Belfast Museum, has yielded some additional stations for species.



Where practicable, I have preferred giving *verbatim* quotations from the authors quoted, in place of a general summary of their remarks.

Of the 404 British species contained in that portion of the Sub-Kingdom *Mollusca*, as described by Jeffreys, to which the present paper refers (*i.e.* the classes *Brachiopoda*, *Conchifera*, *Solenconchia*, and *Gasteropoda* to the end of *Pleurobranchiata*), our district has yielded 291, or very nearly  $\frac{3}{4}$ —119 bivalves and 172 univalves—exclusive of such species as are importations or fossils, and which are printed inside brackets. On the whole, the Fauna has a northern aspect, since, of these 291 species, 36 are boreal forms, which live either not at all, or very sparingly, south of Britain, while only 12 are essentially southern, having been taken seldom or never north of the British coasts; the remaining 243 inhabit seas both north and south of our islands. As is to be expected from geographical considerations, the southern species frequent chiefly the western shores of the province, while the northern forms have been mostly taken on the eastern coast. Of the northern types, *Crenella decussata*, *Leda minuta*, *Tectura testudinalis*, *Emarginula crassa*, *Trichotropsis borealis*, and *Trophon truncatus*, will serve as examples—they have all been taken alive in our waters; while the following will serve as representatives of the southern forms which the district yields—*Modiolaria costulata*, *Crenella rhombea*, *Arca lactea*, *Trochus Duminyi*, *Natica sordida*, *Ovula patula*.

Only one species is, as a British shell, confined to our province—*Trochus Duminyi*; it occurs on the western coast, and is a southern shell, its foreign stations being all Mediterranean.

The *Testacea* of the counties of Antrim and Down may be considered as pretty well worked up, though the North of Antrim offers a good field that has been scarcely touched. County Londonderry contains extensive sandy beaches, which yield a large variety of species, that of Magilligan especially; here the observations have been chiefly made from shore, and dredgings in the deeper water might yield interesting results. I find no record whatever of any dredging in Lough Foyle. From the extensive coast-line of County Donegal, with its magnificent headlands and deep inlets and sandy bays, comes hardly a single note to enrich the list which follows. At Bundoran, indeed, in the extreme southwestern corner of the county, Mrs. Hancock made many finds, which she communicated to Thompson; and here Mr. Waller discovered a new British *Trochus*, *T. Duminyi*, whose only British station is still Bundoran; but beyond these, the conchology of the most northern county of Ireland still remains to be investigated, and will probably amply repay the investigator.

Mr. Thompson appears to have placed but light value on the *condition* (living or dead) of the shells which he found in his dredgings, or thrown up by the tide, and in many instances does not mention this point at all. In the present paper the writer perhaps has erred in the opposite extreme, and has placed undue importance on this point, but it does appear to him to be of interest and importance to know whether or not a shell has been taken living in the district. It is to be remembered, however, that the fact of a species not having been found living, is by no means positive proof that it no longer

inhabits a region. Many bivalves burrow deeply in sand and mud, and flourish out of reach of the naturalist's dredge. When they die, the shells come up to the surface, and are thus thrown on shore by the waves, or taken by the dredge, in a fresh state.

In conclusion, the writer expresses a hope that the following list may prove a reliable foundation for a more complete and extended paper on the Marine *Mollusca* of the North of Ireland, and that by showing the incompleteness of the record, it may encourage other workers to give some of their attention to this interesting subject.





## ANNOTATED LIST OF SPECIES.

### CLASS BRACHIOPODA.

The *Brachiopoda* are well represented in the district, as out of the six British representatives of the class, four live in our waters.

***Terebratula caput-serpentis*, Linné.**

Not uncommon in the deeper water at the entrance to Belfast Lough, and off Larne, from the Copeland Islands to the Maiden Rocks, living in from 12 to 100 fathoms of water—Thompson (*T. aurita*), Hyndman, and others. Dickie obtained it alive at the entrance to Strangford Lough in 12-15 fathoms.

***Argiope cistellula*, Searles Wood.**

“Living on stones as well as shells in the deeper water”—Hyndman, 1859 Report. Labels in the Belfast Museum Collection show that the Turbot Bank is the place intended.

***Argiope capsula*, Jeffreys.**

Hyndman records this rare species (*sub Terebratula capsula*) as found living with the preceding, and Jeffreys, referring to the same station, says “Larne, Co. Antrim (Hyndman and J. G. J.)” The latter author also gives “off Portrush (Waller).”

***Crania anomala*, Müller.**

Off Larne, and at the entrances to Belfast and Strangford Loughs, living in 12-90 fathoms—Thompson (*C. personata*), Hyndman, and Dickie.

### CLASS CONCHIFERA.

#### ORDER LAMELLIBRANCHIATA.

***Anomia ephippium*, Linné.**

Abundantly distributed throughout our waters, living in from 4 fathoms in Strangford Lough to 90 fathoms near the Maiden Rocks, attached to stones and shells. Different forms of this very variable species are recorded under the names *A. squamula*, *A. cylindrica*, and *A. aculeata*.

**Anomia patelliformis**, Linné.

General, living in 12-90 fathoms. Thompson has it under *A. undulata*; he mentions a fine specimen which was obtained adhering to the inside of a quart bottle found in the stomach of a cod-fish!

*var. striata*. Frequent, living in from 12 to 25 fathoms; Hyndman dredged dead shells in up to 100 fathoms (*A. striata*.)

**Ostrea edulis**, Linné.

Gregarious, and widely distributed, from low-water mark to 25 fathoms. Thompson mentions Carrickfergus oysters which he examined, which weighed, before being opened, over 2lbs., the animal by itself weighing 1½oz. Hyndman states, on the authority of a Groomsport fisherman, that oysters "of large size and good quality" have been brought up on the long lines from 45 fathoms; this depth is the limit assigned by Jeffreys to the species.

**Pecten pusio**, Linné.

Living in Belfast, Strangford, and Carlingford Loughs, and in the deeper waters of the Channel, in up to 90 fathoms, its other limit of depth being 10 fathoms. Thompson notes it *sub P. sinuosus*. Dead valves frequent on the Derry coast—R.Ll.P.

**Pecten varius**, Linné.

10-25 fathoms, attached to old bivalve shells, &c., like the last species. Of general occurrence around the coasts of Donegal, Derry, Antrim, and Down.

**Pecten opercularis**, Linné.

A common species, and almost universally distributed, living on sand in from 7 to 25 fathoms.

*var. lineata*. "Var. *lineatus* I have dredged in Belfast Bay"—Thompson. I have it also from this locality—R.Ll.P.

**Pecten septemradiatus**, Müller.

Recorded with doubt (*sub P. Danicus*) by Hyndman in his 1857 Report as from the Turbot Bank, determined by Dr. Dickie. In 1859 Report he records the finding of a second valve, in 80 fathoms, thus confirming Dr. Dickie's determination.

**Pecten tigrinus**, Müller.

Thompson mentions this shell, under the names *P. levis* and *P. obsoletus*, both of Pennant, as having been found in Belfast and Strangford Loughs. Hyndman dredged it frequently, living in 20-90 fathoms, and Dickie records it from Strangford Lough as living in 12-20 fathoms. Single valves at Portrush—Miss Richardson; and Magilligan—R.Ll.P.

**Pecten Testæ**, Bivona.

The following note on this rare species occurs in Hyndman's 1859 Report (*sub P. furtivus*):—"Taken alive in 1858 by Mr. Waller and Mr. Hyndman on both the Antrim and Down coasts, along with *P. striatus*. It was taken again this year, and at once distinguished by Mr. Jeffreys."

**Pecten striatus, Müller.**

"A single specimen dredged in Strangford Lough in 1837 by Mr. Hyndman and myself"—Thompson. Hyndman obtained it twice alive off Donaghadee, in 12 and 20 fathoms respectively, and also in 70-90 fathoms off the Maidens, and dead on the Turbot Bank. Dickie dredged dead valves in Strangford Lough.

**Pecten similis, Laskey.**

No note of its having been taken alive, but dead valves have been dredged frequently at the mouth of Belfast Lough, in 15-35 fathoms, and Dickie records the same from the entrance of Strangford Lough, 12-15 fathoms.

**Pecten maximus, Linné.**

Common here as elsewhere, living in 7-25 fathoms. "Along the Antrim and Down coasts, where it is commonly called *clam*, and used as human food, though not so generally esteemed as the scallop (*P. opercularis*)"—Thompson.

**Lima subauriculata, Montagu.**

Dead valves only, in from 4 to 90 fathoms on various parts of the Antrim and Down shores, by the Ordnance Survey collectors, Thompson, Hyndman, and Dickie.

**Lima Loscombii, G. B. Sowerby.**

"Dredged very sparingly, alive, in the deeper portions of Belfast and Strangford Loughs, on sandy and shelly ground. Single valves of large size obtained in quantity from 23 fathoms at the entrance to the former by Mr. Hyndman. Obtained occasionally in the stomach of haddock taken on the North-East coast"—Thompson, whose *L. fragilis* also belongs to this species. Hyndman procured it frequently, both living and dead, in 15-90 fathoms; Dickie took it alive outside Strangford Lough, in 12-15 fathoms.

**Lima hians, Gmelin.**

"The Ordnance Museum contains upon a card a fresh-looking specimen of this shell, as dredged from 7 fathoms in Belfast Bay"—Thompson (*sub L. tenera*). Hyndman's only note of it is a repetition of this record. From a note in Jeffreys' work, Waller would appear to have taken it somewhere on the North-East coast, and the Belfast Museum Collection contains a specimen of Thompson's labelled "Belfast Lough."

It is very doubtful if this species can be now reckoned among our indigenous mollusks; but it lived in abundance in our waters at no very distant date, for the Estuarine Clay at Magheramorne, on Larne Lough, yields it in the greatest profusion, and it has been found in the similar deposit at Belfast.

**Pinna rudis, Linné.**

This fine species, our largest British shell, inhabits the waters off Black Head (25-30 fathoms), where it has been obtained by Hyndman (*P. pectinata*) and others. Thompson mentions (*sub P. ingens*) a wider distribution; he says of it, "the very few specimens, all taken in deep water, which I have seen from the coasts of Londonderry, Antrim, Down, and Louth, were of large

size, and all *P. ingens* or *P. fragilis* (Turt. Brit. Biv.),” and he gives Portrush, Belfast Bay, and 50 fathoms off Island Magee, as localities where examples have been procured. It has been found at the first-mentioned station by Miss Richardson also. Probably the earliest record of this shell in our district is that in a letter from the Rev. Robert Innes, Rector of Magilligan, to Dr. Nicholson, Bishop of Derry, dated June 2nd, 1725, in which he describes a large example found in that neighbourhood. General Portlock, of the Geological Survey, writing in 1843\*, and commenting on the above, says “this coast continues a good locality for *Pinna fragilis*; to obtain the fish in the valves they must be dredged up from deep water.”

**Mytilus edulis, Linné.**

Common on all our shores. Thompson gives some interesting notes as to the rapid growth and increase of this prolific species; for instance, that on a buoy in Belfast Lough, cleaned after being 5 years down, “the entire circumference of the base, for a foot of space always under water, was covered a foot thick with full-grown mussels”; and that the bottom of the pilot-boat after its being 9 months afloat, yielded quantities of mussels  $1\frac{1}{2}$  inches long.

*var. incurvata.* “The only bivalve seen on Tory Island, where it is abundant, covering the rocks”—Thompson.

*var. pellucida.* “Common in some parts of Belfast Bay”—Thompson (*sub M. pellucidus*). Cultra, S. A. Stewart—Belf. Mus. Coll.

**Mytilus modiolus, Linné.**

The “horse-mussel” is common, living in gravelly and muddy localities in 6-90 fathoms. Dickie found it very abundant in Strangford Lough (4-25 fathoms), coming up in quantity in almost every haul of the dredge (*sub Modiola modiolus*).

*var. ovata.* “County Antrim (J.G.J.)”—Jeffreys.

**Mytilus Adriaticus, Lamarck.**

Rare in the province. Thompson mentions it (*sub Modiola tulipa*) from Belfast Lough; and Hyndman, under the same name, as living sparingly in 10 to 20 fathoms, while he obtained dead valves on the Turbot Bank, and in 75 fathoms near the Maidens. Strangford Lough—Belf. Mus. Coll. I have found complete and fresh-looking specimens on the shores of Belfast and Carlingford Loughs.

**Mytilus phaseolus, Philippi.**

Living in 15-20 fathoms off Belfast Lough, and in 70-90 fathoms off Larne—Hyndman (*sub Modiola phaseolina*); and in 4-20 fathoms in Strangford Lough—Dickie.

**Modiolaria marmorata, Forbes.**

Found in numbers, embedded in the skin of *Ascidia mentula* and other *Tunicata*, all round the coast, in depths up to 90 fathoms. Hyndman places it under genus *Crenella*, and Thompson and Dickie under *Modiola*.

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\* Report on the Geology of the County of Londonderry &c., p. 23.



**Modiolaria costulata**, *Risso*.

Found at Bundoran, Co. Donegal, by Mr. Waller—Jeffreys.

**Modiolaria discors**, *Linné*.

"Larne Lough, not uncommon. Donaghadee, 8 to 10 fathoms, Dr. Drummond"—Thompson (*sub Modiola discrepans*). "Living, rare, at the roots of *Antennularia* and other Zoophytes, in from 10 to 25 fathoms"—Hyndman, who also obtained it, dead, on the Turbot Bank (*sub Crenella discors*). Crawfordsburn, Mr. S. A. Stewart—Belf. Mus. Coll.

**Crenella rhombea**, *Berkeley*.

"Bundoran (Waller)"—Jeffreys (Supplement).

**Crenella decussata**, *Montagu*.

Living in gravelly sand, in 15 to 30 fathoms, off Donaghadee, Black Head, and Larne, and it was one of the few species which Hyndman obtained alive in Larne Lough (4-5 fathoms). Thompson's only Irish note of the species states that Mr. Hyndman dredged a few odd valves in Strangford Lough; Dickie took it alive in 18-20 fathoms at the entrance of the latter.

**Nucula nucleus**, *Linné*.

Abundant, living in 5-90 fathoms, in sand and gravel, throughout the North of Ireland.

*var. radiata*, though stated by Thompson (*sub N. margaritacea*) to be common around the coast, has apparently a more limited distribution in our waters.

**Nucula nitida**, *G. B. Sowerby*.

Living in mud and sand in from 12 to 20 fathoms, off Donaghadee and Black Head—Hyndman; and frequent in 4-25 fathoms in Strangford Lough—Dickie. Hyndman also records it, with doubt, from 1-4 fathoms, Brown's Bay, Island Magee. Dead shells occur on the Turbot Bank.

**Nucula tenuis**, *Montagu*.

Hyndman records having dredged this species alive in deep water near the Maidens, and specimens labelled as from that locality are in the Belfast Museum.

**Leda pygmæa**, *Münster*.

"On the Antrim Coast"—Jeffreys (all said of it). Belfast Lough—Belf. Mus. Coll. It is rare as a British species, inhabiting chiefly the Scandinavian and arctic seas.

**Leda minuta**, *Müller*.

Portrush; 23 fathoms in Belfast Bay; and 50 fathoms off South Rock, Co. Down; all by Mr. Hyndman—Thompson (*sub Nucula minuta*). In his subsequent systematic exploration, Hyndman obtained it occasionally, living in mud, gravel, and sand, in from 12 to 90 fathoms, and more frequently dead, in 1-90 fathoms (*sub L. caudata*). Dickie took it alive in Strangford Lough.

**Pentunculus glycymeris**, *Linné*.

Living in sand and gravel in 10-90 fathoms all round our coast; and more



abundant in a dead state. Hyndman notes that it was dredged by his party in great quantity in 10 to 12 fathoms at Ballygalley, on the Antrim coast, all dead, but valves united and quite fresh, and that their death was due, in Dr. Dickie's opinion, to deposits from peat-bogs carried down by rivulets. Thrown up in abundance at Magilligan strand, but only single valves. Shells of unusual size ( $2\frac{3}{4} \times 2\frac{3}{4}$  inches) may be found at Orlock Point, Co. Down; they have a rather ancient appearance, and are probably washed in from the Turbot Bank. Thompson cites this species *sub P. pilosus*.

**Arca lactea, Linné.**

Hyndman dredged dead specimens of this shell on the Turbot Bank (25-30 fathoms) on three occasions.

**Arca tetragona, Poli.**

"Portrush *in situ*—Ordinance Collectors. Magilligan, odd valves—W.T."—Thompson. Hyndman obtained it dead on the Turbot Bank several times, and records a single living specimen which he dredged in 50 fathoms, embedded in a pebble of black limestone, off the Copeland Islands. Single valves frequent on the Derry coast—R.Ll.P.

**[Arca barbata, Linné.**

"This very perfect and new shell on our coasts was found alive, adhering to an oyster from Killinchy in Strangford Lough, by Dr. M'Gee of Belfast," Brown. Never found since"—Thompson. It is a common Mediterranean species, which is not admitted as native by any of our conchologists. There must have been some mistake.]

**Lepton nitidum, Turton.**

Dredged alive by Waller on the Turbot Bank, and dead in the same vicinity by Waller and Hyndman—Hyndman, 1858 Report.

**Montacuta substriata, Montagu.**

This little shell, whose peculiar habitat is the ventral spines of *Spatangus purpureus* and other Echinoids, is noted by Thompson and Hyndman as living at the entrance of Belfast Lough, in 20 to 30 fathoms, and by Dickie off Strangford Lough, in 12 to 15 fathoms.

**Montacuta bidentata, Montagu.**

"Bangor, Belfast Bay (one specimen), 1834, Mr. Hyndman and W.T. Bundoran, Mr. Warren"—Thompson. Hyndman, and Mr. Wm. Swanston dredged it dead on the Turbot Bank. Cushendall—Belf. Mus. Coll. These appear to be the only records of a species whose decline as a member of the marine fauna must have been rapid, as our pleistocene clays yield it in great profusion.

**Montacuta ferruginosa, Montagu.**

Turbot Bank, dead—Hyndman. The *M. ovata* mentioned by Thompson is probably this species; he states that several examples of it were found on the beach at Bundoran by Mrs. Hancock.

***Lasæa rubra*, Montagu.**

Common between tide marks—Hyndman. Portrush, and Belfast Bay—Thompson. (Both *sub Kellia rubra*). Magilligan—Belf. Mus. Coll.

***Kellia suborbicularis*, Montagu.**

Bundoran—Thompson. Dead, rare, in 10 fathoms in Belfast Bay, and on the Turbot Bank—Hyndman. In Strangford Lough, and in the Irish Channel adjoining, Dickie found it living in 7 to 25 fathoms. Magilligan—Belf. Mus. Coll.

***Loripes lacteus*, Linné.**

Recorded from the Turbot Bank, dead, by Hyndman, 1857 Report (*sub Lucina leucoma*). This record is not confirmed by Jeffreys, and as the species was not obtained again, and is entirely a southern form, it is doubtful if it should be included in our fauna.

***Lucina spinifera*, Montagu.**

"At Red Bay, County Antrim, I found a valve of this species"—Thompson. Hyndman dredged it once alive "on a bank called 'The Riggs,' lying south of the Copelands, about a mile south of Donaghadee, and a mile from shore, in about 20 fathoms," and several times dead, off Belfast Lough, in 15-30 fathoms.

***Lucina borealis*, Linné.**

Commonly dredged in a dead state, in Belfast and Larne Loughs and the deeper waters adjacent, in all depths from 1 to 30 fathoms. Thompson mentions it (*sub L. radula*) as found at Red Bay, and in 6 to 12 fathoms in Belfast and Strangford Loughs, by himself and Mr. Hyndman, but as the latter naturalist, in his subsequent report on the *Mollusca* of Belfast Bay (1857), notes it only in the column of dead shells, it may be assumed that such alone were found in the locality named. In Strangford Lough Dickie took it frequently alive, in depths ranging from 7 to 25 fathoms. Single valves are commonly thrown ashore on the Derry coast, where also the writer has found living specimens.

***Axius flexuosus*, Montagu.**

"Widely distributed, but in sparing numbers"—Thompson. I find no note of its having been taken alive. Hyndman dredged dead specimens occasionally in 5-30 fathoms, and Dickie, in Strangford Lough, 4-25 fathoms. Thompson gives Strangford Lough and Bundoran as localities. (Mentioned by the authors quoted *sub Lucina flexuosa*).

***Cyamium minutum*, Fabricius.**

Abundant, among sea-weeds and stones near low-water mark. Thompson states (*sub Montacuta purpurea*) that the shoals of mullet (*Mugil chelo*) consume vast quantities of them when roving over the *Zostera* banks in spring and summer, and Hyndman (*sub Turtonia minuta*) estimates that in the stomach of a mullet taken in Larne Lough, there were 35,000 of these little shells,

**Cardium echinatum, Linné.**

In the reports of Hyndman and Dickie, the only note of this fine shell having been taken alive is by the former, who obtained a few living examples in Larne Lough, 4 to 5 fathoms; while in a dead state it occurred in all the localities dredged, in 4 to 30 fathoms. Thompson says "dredged from oozy sand in Belfast and Strangford Loughs" by Hyndman and himself, but does not state whether living or dead. Dredged alive in 6 fathoms off Bangor—Mr. S. A. Stewart. After northerly gales it is thrown ashore in some numbers on the Co. Down shore of the lough, from Holywood to Craigavad, with the animal quite fresh. Single valves of large size are abundant, and complete specimens frequent, on the sandy beaches of Magilligan and Portrush.

**Cardium exiguum, Gmelin.**

Living in oozy ground in Larne Lough, and in the deeper waters adjoining, in 4 to 90 fathoms; the limit assigned by Jeffreys is 15 fathoms, so the greater depth quoted would appear to be quite unusual. In and around Belfast Lough it has not been taken alive, and is rare in a dead state. It lives sparingly in Strangford Lough—Dickie, and R.L.P. Thompson gives Red Bay as an additional station. (*Sub C. pygmaeum* by Hyndman and Dickie). Portrush, dead—Miss Richardson.

**Cardium fasciatum, Montagu.**

Frequent, living on gravel and sand in 15 to 20 fathoms. Dead in Strangford Lough, on the Turbot Bank, and in up to 90 fathoms of water off Larne. In Thompson's work it appears as *sub C. elongatum* and *C. edule* var. *fasciatum*.

**Cardium nodosum, Turton.**

Belfast and Strangford Loughs—Thompson. Dredged living in 12 fathoms in the Sound between the Copeland Islands, and dead on the Turbot Bank, by Hyndman. More abundant in Strangford Lough and the channel adjoining than elsewhere; Dickie dredged it frequently there, living in 7-20 fathoms.

**Cardium edule, Linné.**

Gregarious everywhere in sandy bays, at and near low-water mark. Dead shells are dredged on the Turbot Bank, and Hyndman obtained a living example in 20 fathoms between the Maidens and the Isle of Muck. "Attains a very large size in Donegal Bay"—Thompson.

**Cardium minimum, Philippi.**

Thompson made a new species, *C. Loveni*, out of specimens of this shell dredged by Mr. Hyndman from 50 fathoms off the South Rock, Co. Down, and although they subsequently proved to be identical with a species already described and named, to him belongs the credit of having added this pretty shell to the British fauna. Hyndman subsequently records it (*sub C. Suecicum*) from the Turbot Bank, and from shallower water (4-5 fathoms) in Larne Lough—in both instances dead.

**Cardium Norvegicum, Spengler.**

"Dredged off Glenarm, in Belfast and Strangford Loughs, sparingly"—

Thompson (*sub C. lævigatum*); it is not stated that any of the specimens obtained were alive. Hyndman took it alive only once, which was in 15 fathoms, on a bottom of mud and shells, 4 miles S.S.E. of Black Head, and Mr. Swanston has dredged living examples, of small size, at the entrance of the lough. Dead, it is abundant at various depths in many localities; large single valves are frequently thrown up on the Co. Down shore of Belfast Lough.

**Isocardia cor, Linné.**

This large and handsome shell is extremely rare in the North of Ireland, and the authority for its admission to our marine fauna rests almost entirely with Thompson, whose notes of its occurrence I may give in full:—"The following note appears in Mr. Templeton's MS. journal, under October 28th, 1811: 'Received a drawing of the *Chama cor*, from Mr. George Joy, taken by him from a specimen dredged up at Bangor (Belfast Bay).' The species is known to Mr. J. R. Cleland to have been dredged near the Copeland Islands, at the entrance of this bay. The Giant's Causeway is named by Turton as a locality in which it has been found; but very rarely. Glassdrummond, Co. Down, P. Doran." The only other record of its occurrence which I have come across is in Dr. Dickie's report, who notes it "very rare, dead," upper part of Wellstream Bay, Strangford Lough, 4-8 fathoms. Jeffreys gives east and south of Ireland alone.

**Cyprina Islandica, Linné.**

Living throughout our waters, in sand and mud, in 1-25 fathoms. Thrown up in great numbers on Magilligan strand during northerly gales. From Thompson's notes it would appear to be much more abundant on the eastern than on the western shores of Ireland. Mr. W. H. Patterson, M.R.I.A., contributes two curious local names for this species: the one is "yaghan" or "neayghen," the other "griggan."

**Astarte sulcata, Da Costa.**

"Dredged off the Co. Antrim coast; in Belfast and Strangford Loughs sparingly, from about 8 to 25 fathoms, on mud and sand"—Thompson (*sub A. Danmoniensis*). Living in from 10 to 27 fathoms, at the entrance to Belfast Lough, and more abundantly off Larne, in 15-90 fathoms—Hyndman; and in 7-25 fathoms in Strangford Lough—Dickie.

*var. Scotica.* Antrim coast; Belfast and Strangford Loughs—Thompson (*sub A. Scotica*). Living in 10-20 fathoms off Belfast Lough, and in 70-90 fathoms near the Maidens, and dead on the Turbot Bank—Hyndman. I have specimens dredged near Ardmillan, in Strangford Lough.

*var. elliptica.* Belfast Lough—Belf. Mus. Coll.

**Astarte compressa, Montagu.**

Hyndman's 1859 Report contains a note of a few valves of this species having been found in Turbot Bank sand by Mr. Jeffreys; but Jeffreys, in his "British Conchology," says, evidently referring to the same specimens,



"subfossil in 25 fathoms off Larne, Co. Antrim." As will appear subsequently, this is by no means the only northern species which has been dredged, if not fossil, at least very doubtfully recent, in that locality.

**Astarte triangularis, Montagu.**

Belfast and Strangford Loughs, dredged by Mr. Hyndman—Thompson (*sub Goodalia triangularis*). Living on the Turbot Bank—Hyndman; and in Strangford Lough and the channel adjacent—Dickie; depth 7 to 30 fathoms, sandy ground. Dead valves are abundant on the Turbot Bank.

**Circe minima, Montagu.**

Thompson's only northern locality is Belfast Bay, on the authority of Mr. Hyndman (*Cyprina minima*). Hyndman obtained it alive twice, in 20 fathoms, gravelly bottom, his stations being the Cod Bank north of the Isle of Muck, and "The Riggs" bank south of the Copeland Islands, while in a dead state it occurred frequently in depths ranging from 15 to 100 fathoms. Dickie procured living examples off the mouth of Strangford Lough, 12-15 fathoms, and dead valves further out to sea.

**Venus exoleta, Linné.**

Belfast, Strangford, and Larne Loughs—Thompson, who does not state if the shell was alive in any instance. Though noted by Hyndman and Dickie from almost every station (1-30 fathoms), in no case was it taken in a live state. Hyndman remarks (1857 Report) that at Cultra single valves are thrown up by the tide, and says, "probably still living." At the place in question, fresh-looking specimens with the valves attached are frequent, and I have twice picked up living examples there, and have no doubt that it lives in some quantity in the vicinity. This and the following species are placed under the genus *Artemis* by the authors quoted.

**Venus lincta, Pulteney.**

Rare in a live state, the Cod Bank north of Isle of Muck (20 fathoms), Wellstream Bay in Strangford Lough (15 fathoms), and 12-15 fathoms in the open channel near the entrance of the latter, being the only stations I can find. More common dead, thrown up on sandy beaches, from Magilligan in Co. Derry to Newcastle in Co. Down.

**Venus fasciata, Da Costa.**

This beautiful species is of frequent occurrence throughout the district, living on gravelly and sandy ground; it has been dredged alive off Larne and Belfast Lough, and in Strangford Lough and the open sea adjoining, in depths varying from 7 to 30 fathoms, by Thompson, Hyndman, Dickie, and others.

**Venus Casina, Linné.**

Another handsome species, which inhabits our waters, ranging from 7 fathoms in Strangford Lough to 70 fathoms off the Maiden Light-houses, on gravel, sand, and mud. Dead valves are plentiful on the Turbot Bank and at various depths (6 to 90 fathoms), on the Antrim coast.



**[*Venus verrucosa*, Linné.**

“Mr. Hyndman’s cabinet contains a young shell (*V. cancellata*) given him as from Magilligan”—Thompson; much too slender evidence on which to establish a claim for its admission to our fauna. Its distribution in Ireland is confined to the south and west.]

***Venus ovata*, Pennant.**

The dredgings of Hyndman and Dickie show that this pretty little shell is one of the most generally distributed of all our bivalve mollusks, as it occurred in almost every haul, generally alive, in from 4 to 90 fathoms. In Strangford Lough it lives in great abundance, and it is one of the very few species which Hyndman found living in Larne Lough. “A rather common species”—Thompson (*Cytherea ovata*).

***Venus gallina*, Linné.**

A common species. “Found alive from low-water mark to 8 and 10 fathoms on the North and North-East sandy coasts. Thrown ashore on the sandy beach of Magilligan in quantity and of large size”—Thompson. The *V. Pennantii* mentioned by this author belongs to the present species. Hyndman and Dickie found that it lives in from 0 to 25 fathoms in all the waters explored (*sub V. striatula*). The *V. striolata* in Dickie’s paper is apparently a misprint for *V. striatula*.

***Tapes aureus*, Gmelin.**

Quoting from an older authority, Thompson says of this species “‘Carrick-fergus Bay (Dr. M'Donnell) rare,’ Brown,” and under Turton’s name of *Venus aenea*, gives Strangford Lough as a locality where he has taken it alive. Hyndman states (1857 Report) that it is common, living on sandy beaches between tide-marks, but it does not appear to be by any means of such frequent occurrence as would appear from this remark. Dickie dredged dead valves in Strangford Lough, and Hyndman on the Turbot Bank. Mr. Swanton informs me that it is abundant in Lough Swilly, in Co. Donegal, and Miss Richardson has sent me complete and fresh specimens from Portrush.

***Tapes virgineus*, Linné.**

This handsome shell is of very common occurrence, in sandy and nullipore ground, in 4 to 90 fathoms all round our shores.

*var. Sarniensis.* “Var. *V. Sarniensis*, Turt. Brit. Biv., is taken in Belfast Bay”—Thompson (*sub Pullastra virginea*). “Donaghadee, in 8 fathoms (Patterson)”—Forbes and Hanley. “Living, rare, off Bangor”—Hyndman.

*var. elongata.* “Larne, Co. Antrim (Hyndman)”—Jeffreys. Belfast Lough—Belf. Mus. Coll.

***Tapes pullastra*, Montagu.**

Abundant, living between tide-marks. “A common species on sandy beaches”—Thompson (*sub Pullastra vulgaris*). Dickie records it living in the unusual depth of 7-20 fathoms in Castle Ward Bay, Strangford Lough. Some valves from Belfast Lough are of unusual size—2½ inches broad.

Jeffreys says the breadth of his largest specimen, found in Skye by Edward Forbes, is  $2\frac{1}{4}$  inches, and that 1.7 is the average breadth.

**var. perforans.** Inhabits the forsaken burrows of *Pholades*, and chinks of rocks. Common—Thompson (*sub Pullastra perforans*).

**var. oblonga.** "Bundoran, Co. Donegal (J.G.J.)"—Jeffreys.

**Tapes decussatus, Linné.**

There is no certain record of this generally common species having been taken alive in our province. Thompson, referring to the whole of Ireland, says (*sub Pullastra decussata*) "a common species", and in his "Report on the Fauna of Ireland" (1843), he has a cross opposite its name in the "North of Ireland" column, but he mentions no northerly locality. Jeffreys simply says "shores of Ireland". Hyndman's only note is to the effect that it occurs in the alluvial deposits, and is not now known to be living in Belfast Lough; neither he nor Dickie found even dead valves in their dredgings. Miss Richardson has found a specimen with the valves united, at Carlingford, and it is abundant on the coast of Co. Louth, but appears to stop short on the borders of Ulster.

**Lucinopsis undata, Pennant.**

Dead valves occasionally dredged by Hyndman in 5-90 fathoms in Belfast Lough, and off Larne; and Mr. Swanston has taken it off White Head with the valves still united. Thompson gives "Belfast Bay" (*sub Artemis undata*). Miss Richardson has sent me a fresh and complete specimen from Portrush sands, evidently but recently dead. Like the preceding species, this would appear to be one of those shells which are dying out in the district, as, like it, while it is very rare in a live state, it is to be found in profusion and of large size in the post-tertiary clays in our estuaries.

**Tellina crassa, Pennant.**

Hyndman dredged a single living specimen on the Cod Bank, 3 miles north of Isle of Muck, 20 fathoms, gravelly bottom. In a dead state it has occurred in various localities, Strangford Lough included, in 10-30 fathoms—Thompson, Hyndman, and Dickie. Single valves are thrown up by the tide at Orlock Point, Co. Down, in some quantity—R.Ll.P.

**Tellina Balthica, Linné.**

Common between tide-marks on every shore. *Sub T. solidula* by the writers quoted above.

**Tellina tenuis, Da Costa.**

A common gregarious species, living in sand about low water mark. "The plaice in Belfast Bay feed very much on *T. tenuis*"—Thompson. Dead valves of both this species and the preceding dredged on the Turbot Bank, 25-30 fathoms, by Hyndman.

**Tellina fabula, Gronovius.**

"Not uncommon on extensive sandy beaches, as Magilligan, W.T. Found

from below low water mark to a few fathoms, on sand"—Thompson. Dickie dredged it living outside Strangford Lough, in 7-15 fathoms: Hyndman records dead specimens only.

***Tellina squalida*, Pulteney.**

Not a common species anywhere; rare in our province, and in a dead state only. "Red Bay, Co. Antrim, Mrs. J. Thomson Tennant"—Thompson; specimens from this locality are in the Belfast Museum. Dredged by Hyndman on the Turbot Bank; in shallow water in Brown's Bay, Island Magee; and in 20 fathoms off Black Head (*sub T. incarnata*).

***Tellina donacina*, Linné.**

Strangford Lough—Thompson; whether living or dead not specified. Dead in Strangford Lough—Dickie; and on the Turbot Bank—Hyndman. The latter obtained a single live specimen in 20 fathoms, gravel bottom, on the Cod Bank, north of Isle of Muck.

***Tellina pusilla*, Philippi.**

"Dead, valves united, from the Turbot Bank sand"—Hyndman, 1859 Report (*sub T. pygmaea*).

***Psammobia tellinella*, Lamarek.**

Living in Belfast and Strangford Loughs, and the waters adjoining, in depths ranging from 7 to 30 fathoms—Thompson, Hyndman, and Dickie. Dead valves were dredged in Larne Lough and other places.

***Psammobia costulata*, Turton.**

A single valve, found by Jeffreys in Turbot Bank sand which was forwarded to him by Hyndman, is the only trace of this species in our province.

***Psammobia Ferroënsis*, Chemnitz.**

"Commonly thrown ashore on most sandy beaches. Inhabits below low-water mark"—Thompson. Hyndman and Dickie never seem to have taken it alive, but in a dead state it occurred in most of their dredgings. Thrown up alive by the tide at Castlerock, Co. Derry, and Cultra, Co. Down—R.L.P.

***Psammobia vespertina*, Chemnitz.**

"From Larne Lough, Co. Antrim, a specimen has been sent me"—Thompson. This appears to be the only published note of its occurrence in the North of Ireland. I have before me over a dozen single valves, some of them quite fresh, which were picked up in about twenty minutes' search on the beach at Cultra, Co. Down; it evidently lives in some quantity at no great distance from that place.

***Donax vittatus*, Da Costa.**

"Generally common on extensive sandy beaches. Plentiful close to low water mark at Magilligan, where it is collected by the people for food. Dredged plentifully, but of small size, on pure sand, at a few fathoms' depth, off Newcastle, Co. Down, Mr. Hyndman and W.T."—Thompson (*sub D. trunculus*). The dredgings of Hyndman and Dickie, being generally in

deeper water, do not fairly show its distribution : indeed, this common species was only obtained once—in Brown's Bay, Island Magee (*D. anatinus*). Portrush, Ballycastle, and a single valve at Ballyholme Bay—R.Ll.P.

**[*Donax denticulatus*, Linné.**

"A specimen said to be from Magilligan is in Mr. Hyndman's collection"—Thompson. This is a West Indian species, erroneously introduced into British lists.]

***Mactra solida*, Linné.**

"Not generally distributed; Magilligan, Red Bay, and Larne"—Thompson. "A single valve dredged up off Castle Chichester, and odd valves off Bangor"—Hyndman. Dredged between Bangor and Donaghadee, 6-8 fathoms—Mr. S. A. Stewart (whether living or dead not stated). Portrush, dead, Miss Richardson. Dead valves are abundant at Magilligan, and are not uncommon on the shore beyond Groomsport, Co. Down—R.Ll.P.

*var. truncata*. "Found near low water mark in sand; brought to Belfast with cockles for sale, and together with *Venus aurea*, similarly obtained, commonly called 'Lady Cockle'; Red Bay, W.T."—Thompson. "Bangor Bay, Down (Patterson)"—Forbes and Hanley. "Living on sandy shores between tide marks"—Hyndman. Groomsport—Belf. Mus. Coll.

*var. elliptica*. "Belfast and Strangford Loughs; specimens dead in both localities"—Thompson. Dredged frequently by Hyndman, living, in 12 to 30 fathoms; dead shells common on the Turbot Bank. Dickie took it alive in Strangford Lough and the channel outside. (All sub *M. elliptica*).

***Mactra subtruncata*, Da Costa.**

"Dredged from 10 to 12 fathoms, on sand, in Strangford Lough, Mr. Hyndman and W.T."—Thompson. "Living, few," in Brown's Bay, Island Magee, 4 fathoms and less—Hyndman. Groomsport—Belf. Mus. Coll.

*var. inaequalvalvis*. "Lough Strangford (Adair)"—Jeffreys; which is the only station assigned by that eminent conchologist to this variety.

***Mactra stultorum*, Linné.**

Living on sandy beaches near low water mark; rather local. Red Bay, Co. Antrim, and Newcastle, Co. Down—Thompson. Being a littoral species, it did not occur in any of Hyndman's or Dickie's dredgings. Portrush, and abundant on the Derry coast, and frequently washed up alive on the Co. Down shore from Holywood to Donaghadee—R.Ll.P.

*var. cinerea*. Magilligan—Thompson.

Under the various species and varieties of the above rather critical genus, I have simply placed the notes on them by the observers named, without comment, but there seems to have been some confusion regarding *M. solida* *var. truncata* and *M. subtruncata*, at least. Contrary to what the notes above might lead one to expect, it is the latter that is by far the more abundant of the two in our district, living in profusion in Belfast Lough and elsewhere, and it is to



it that I have always heard the name "Lady Cockle" applied. Beyond the records given, I do not know of *M. solida* var. *truncata* having been taken in the neighbourhood.

**Lutraria elliptica, Lamarck.**

Burrowing deeply in sand and mud, at and below low water mark; common. "Like *Mya arenaria*, plentiful in localities on all sides of the coast"—Thompson (*sub L. vulgaris*). Dredged occasionally (dead) by Hyndman, and alive in 12-15 fathoms by Dickie off Strangford Lough. Newcastle, Ballyholme, Cultra, Redbay, Ballycastle and Portrush may be mentioned as localities, and on the Derry coast it is very abundant. Rev. Canon Grainger, D.D., informs me that the young shells of this species are called "aprons" on Magilligan strand.

**Lutraria oblonga, Chemnitz.**

"Magilligan, Mr. Hyndman"—Thompson (*sub L. hians*).

**Scrobicularia prismatica, Montagu.**

Magilligan, Belfast Bay, and from 50 fathoms off the South Rock, Co. Down—Thompson (*sub Amphidesma prismatica*). "Living, rare, in 20 fathoms off Black Head", and frequent in a dead state, 1-27 fathoms—Hyndman; living both in and outside of Strangford Lough, in 7-20 fathoms—Dickie (*sub Syndosmya prismatica*).

**Scrobicularia nitida, Müller.**

Near Portaferry in Strangford Lough—Thompson (*sub Amphidesma intermedia*). Living, rare, in deep water off Belfast Lough, and in 4-5 fathoms in Larne Lough—Hyndman (*sub Syndosmya intermedia*). Dickie dredged it alive in 15 fathoms in Strangford Lough, and also, in abundance, in 25-26 fathoms in the open channel, 6-7 miles from the bar, on a bottom of fine mud.

**Scrobicularia alba, Wood.**

Belfast and Strangford Loughs, sparingly, oozy sand, 8-10 fathoms—Thompson (*sub Amphidesma Boysii*). Living in Belfast Lough, in 8 to 12 fathoms—Hyndman; and in Strangford Lough, in 6 to 20 fathoms—Dickie (*sub Syndosmya alba*). In a dead state it has been dredged at all depths. Living, common, in 6-8 fathoms off Bangor—Mr. S. A. Stewart.

var. *curta*. "Lough Strangford (Waller); Larne, Co. Antrim (J.G.J.)"—Jeffreys.

**Scrobicularia tenuis, Montagu.**

"I have received specimens of this well-marked species from Larne Lough, County of Antrim"—Thompson. Thompson's specimens from this locality are in the Belfast Museum. It does not appear to have been found since.

**Scrobicularia piperata, Bellonius.**

"This should not perhaps have been noted in the Belfast Bay column, as though not uncommon in a dead state, it has not been found alive to my knowledge"—Thompson (*sub Lutraria compressa*). "Has not been found living,



but is probably to be found"—Hyndman. Like *Tapes decussatus*, this species appears to stop short on the borders of our province, as it lives in Carlingford Lough (R.L.P.), and abounds further southward, while it has never been taken alive further north. Like *T. decussatus*, too, it occurs in profusion in our Estuarine Clays, whence are probably derived the odd valves which are found in Belfast Lough and elsewhere.

***Solecortus candidus*, Renier.**

Dead; dredged by Hyndman on the Turbot Bank, and by Dickie in 12-15 fathoms outside Strangford Lough. Very rare.

***Solecortus antiquatus*, Pulleney.**

"Red Bay and Larne Lough, Co. Antrim—Strangford Lough, 8-10 fathoms, soft sand, W.T."—Thompson (*sub Solen antiquatus*). Hyndman dredged it several times, in a dead state, off Black Head, in 15 to 30 fathoms. In Strangford Lough, Dickie obtained it in almost every haul of the dredge, but never alive. (By Hyndman and Dickie *sub S. coarctatus*).

***Ceratisolen legumen*, Linné.**

The following from Thompson (*sub Solen legumen*):—"Plentiful on the East coast from Cork to Belfast", Brown's Illust. p. 113, 2nd edit. This remark gives quite too extensive an idea of its distribution. Specimens from the extensive sandy coasts of Dublin and Louth only have come under my notice; if the species be found so far North as Down, it must be only on the more southern part of it". Newcastle, Co. Down—Belf. Mus. Coll.; and Mr. Swanston has a fresh and complete specimen, and also a fresh single valve, which he found thrown up by the tide at this place.

***Solen pellucidus*, Pennant.**

A rather common species, living in all our bays and in the deeper waters, on sand and mud, in depths varying from 3 to 25 fathoms. Thompson mentions that plaice caught on the northeast coast have sometimes their stomachs filled with remains of this shell.

***Solen ensis*, Linné.**

Common in sandy bays throughout the province.

***Solen siliqua*, Linné.**

"Most common of the genus on our coast generally"—Thompson. Dead valves have been dredged in up to 90 fathoms, but the habitat of the species is in sandy bays between tide-marks, where it is abundant. As noted by Hyndman, very fine specimens are to be found at Ballyholme Bay, Co. Down.

***Solen vagina*, Linné.**

"A specimen has been given me as from Larne Lough"—Thompson. "On the Irish coast it is local, inhabiting very extensive sandy beaches, as those of Magilligan, and of the counties of Dublin and Cork (Thompson). In eight fathoms, Bangor, County Down, dead (Patterson)"—Forbes and Hanley. "Dead, off Bangor, Co. Down" is Hyndman's only note of it (*sub S. marginatus*), and Dickie's dredgings never yielded it. This species, which is so rare

in our present waters, occurs throughout our later post-tertiary deposits, while *S. siliqua*, which is not found in these beds, appears to have now taken its place, being abundant in suitable localities.

**Pandora inæquivalvis**, Linné.

*var. obtusa*. "Dredged off Carrickfergus, Mr. Hyndman; subsequently by Mr. Hyndman and myself in Strangford Lough"—Thompson. Taken alive off Black Head and Donaghadee, in 15 to 20 fathoms, by Hyndman; and off the entrance of Strangford Lough, in 18-20 fathoms, by Dickie. (All *sub P. obtusa*). Dead on the Turbot Bank and elsewhere.

**Lyonsia Norvegica**, Chemnitz.

This curious shell is rare in the district. "Dredged in Belfast and Strangford Loughs, in from 6 to 12 fathoms, among seaweed"—Thompson. Living in from 8 to 12 fathoms in Belfast Lough, and dead on the Turbot Bank—Hyndman. Dickie took it alive in 15 to 25 fathoms in Strangford Lough, and dead in shallower water. Off Crawfordsburn, 6 to 7 fathoms, dead, but fresh and valves united—Mr. S. A. Stewart.

**Thracia prætenuis**, Pulteney.

Thompson says of it (*sub Anatina prætenuis*)—"Belfast Lough, rare," Brown. The latter locality probably a mistake. Magilligan is the only northern locality in which the species has yet been met with by Mr. Hyndman or myself; it is thrown ashore quite fresh there". Dredged by Hyndman in 15, 20 (valves united), and 27 fathoms off Belfast Lough, and in 20 fathoms off Larne, dead in each instance. "Coast of Down (Patterson)"—Forbes and Hanley. (All *sub Cochloidesma prætenue*). I have a valve found by my brother at Magilligan.

**Thracia papyracea**, Poli.

"Belfast and Strangford"—Thompson (*sub T. declivis*, Thor.). Dredged by Hyndman at various points around the entrance to Belfast Lough, in 20 to 30 fathoms, and by Dickie both in and outside of Strangford Lough, in 7-20 fathoms; in all instances dead (*sub T. phaseolina*). Dead, in 6-8 fathoms, off Bangor and Donaghadee—Mr. S. A. Stewart.

*var. villosiuscula*. Dead, in from 1 to 30 fathoms, off Belfast Lough and Island Magee—Hyndman (*sub T. villosiuscula*).

**Thracia pubescens**, Pulteney.

"Belfast Bay"—Thompson. On the Turbot Bank, rare, dead—Hyndman. "The reputed Irish localities are doubtful"—Jeffreys.

**Thracia convexa**, W. Wood.

"Difficult to procure on account of its habit of burrowing rather deeply in muddy sand"—Jeffreys, which may perhaps account for its not having been taken alive in the province. "In Strangford Lough"—Thompson; specimens from thence are in Thompson's collection in the Belfast Museum. "Not known to be now living in the Bay; two specimens have been dredged off

Black Head, broken, but with ligament fresh, so that it is probably still living"—Hyndman. Dickie took it three times in Strangford Lough, but dead in each case.

**Thracia distorta**, Montagu.

"In limestone near Belfast, with *Saxicava*, Mr. Grainger"—Thompson. The only other note is a repetition by Hyndman of this record.

**Corbula gibba**, Olivi.

"Strangford Lough is the best locality known to me for this species, in some parts of which it is common on muddy ground, at a depth of about from 4 to 10 fathoms"—Thompson (*sub C. striata*). Living in 12-20 fathoms off Belfast Lough, and in 1-90 fathoms off Larne and the Maidens—Hyndman. The results of Dickie's explorations in Strangford Lough amply confirm Thompson's note, as this shell was found in abundance, alive, at every station, 4 to 25 fathoms. Living, common, 8-10 fathoms, Belfast Bay—Mr. S. A. Stewart.

**Mya arenaria**, Linné.

A common littoral species, living in abundance in muddy estuaries. I have seen specimens of unusual size (3 x 5 inches) dug on the Holywood Bank for bait, and at Cultra have found small distorted individuals inhabiting the forsaken burrows of *Pholades*. Locally called "cockabillion" or "cockle-brillion."

**Mya truncata**, Linné.

With the last, but frequenting more the open sea.

*var. abbreviata* was dredged by Hyndman and Jeffreys living in 80 fathoms off the Antrim coast, some 10 miles from land.

**Mya Binghami**, Turton.

Turbot Bank, living, rare—Hyndman (*sub Sphænia Binghami*). Occasionally met with in a dead state.

**Saxicava rugosa**, Linné.

Burrowing in limestone and old shells, or free. "Common around the coast on the North and East"—Thompson. Living commonly in from 0 to 30 fathoms in the waters explored by Dickie and Hyndman; the latter dredged living examples in 70-90 fathoms near the Maiden Rocks.

*var. arctica*. With the typical form, but not so abundant, and inhabiting rather deeper water (*S. arctica*).

**Venerupis Irus**, Linné.

In Thompson's collection in the Belfast Museum, there are specimens of this shell labelled "Bundoran, Co. Donegal"; in the 4th volume of the "Natural History of Ireland" there is no mention of its occurrence there.

**Pholas dactylus**, Linné.

Burrowing in sandstone, marl, and hard clay, between high and low water mark, on both sides of Belfast Lough; Carrickfergus, Greenisland, and Cultra may be mentioned as localities where it may be taken alive,

**Pholas candida, Linné.**

The most common of the genus in Belfast Lough, inhabiting the same situations as the last. Dickie dredged dead valves in 7-20 fathoms in Castle Ward Bay, Strangford Lough.

**Pholas parva, Pennant.**

"Was procured some years ago off the Long Strand, Belfast Bay, by Dr. J. L. Drummond; subsequently by the Ordnance collectors at Whitehouse Point, in the same bay"—Thompson. Hyndman supplies the additional information that it was in submerged peat that it occurred in the former locality.

**Pholas crispata, Linné.**

"Belfast Lough, Brown. Inhabiting indurated clay about low water mark, Belfast Bay"—Thompson. "Living in submerged peat at extreme low-water in Bangor Harbour, County Down, and in other places—Hyndman. Castle Chichester, in Triassic marl, but of very small size—Mr. Swanston. It flourishes on the shore at Cultra, near low water mark, in Boulder Clay, New Red Sandstone, and Carboniferous Shale; at this place, from a piece of soft sandstone less than 6 inches square, the writer has taken *P. dactylus*, *P. candida*, *P. crispata*, and *Tapes pullastra* var. *perforans*, all living.

**Pholadidea papyracea, Turton.**

"Two specimens in the Ordnance Museum are labelled "Portrush", North of Ireland"—Thompson (*sub Pholas papyracea*). "Discovered in the dredgings of 1857, embedded in rolled lumps of hard clay, and again in the deep water this season" (1858)—Hyndman. Off the Maiden Rocks, 70-90 fathoms, is the station where these specimens, which were living, were obtained. In his 1859 Report, Hyndman again records it "living at the depth of 80 fathoms north of the Maidens, in small pieces of soft sandstone. The smaller specimens want the cup-shaped appendage, whether the effect of insufficient space or immature growth." Hyndman first recorded it as *Pholas striata*, but subsequently corrected it to the present species. "Sandstone at low-water, Castle Chichester near Belfast (Hyndman)"—Jeffreys; whence it has been obtained subsequently. Low water mark being its usual habitat, it is probable that all the deep water specimens above should go under the following variety, which is essentially a deep water form.

var. **aborta.** "In soft sandstone dredged in 80 f. off the coast of Antrim (J.G.J.)"—Jeffreys.

**[Teredo Norvegica, Spengler.**

"Donaghadee (Co. Down), the animal alive"—Thompson. "Not known as living in the Bay"—Hyndman. Probably stray specimens only have been met with here.]

## CLASS SOLENOCONCHIA.

**Dentalium entalis**, Linné.

"On most parts of the Irish coast"—Thompson. The curious "tooth-shell" lives in some profusion on the Antrim and Down coasts, on sand and mud, in depths varying from 5 fathoms in Belfast Lough to 90 fathoms at the Maiden Rocks.

## CLASS GASTEROPODA.

## ORDER CYCLOBRANCHIATA.

**Chiton fascicularis**, Linné.

"Generally distributed"—Thompson. Living in Strangford Lough—Dickie, and Mr. S. A. Stewart.

*var. gracilis*. "Lough Strangford (Adair). A specimen from the last-mentioned locality measures nearly an inch and a half in length, while the largest that I have of the typical form (from Unst), is scarcely an inch long"—Jeffreys.

**Chiton Hanleyi**, Bean.

"A fine living specimen on a shell, and one on a stone, in 80 fathoms"—Hyndman, 1859 Report.

**Chiton cancellatus** (Leach?), G. B. Sowerby, Jun.

"Among oysters from Killinchy, Down, Templeton MSS. Found by Mr. Hyndman and myself in different localities on the North-East coast"—Thompson (*sub C. albus*, Mont.). Belfast Lough—Belf. Mus. Coll. "Living; not uncommon in deep water"—Hyndman.

**Chiton cinereus**, Linné.

"On most parts of the Irish coast"—Thompson. Frequent, living in 15-70 fathoms—Hyndman; and commonly in Strangford Lough, 4-20 fathoms—Dickie (*sub C. asellus*). Carrickfergus—Mr. Swanston.

**Chiton albus**, Linné.

"North coast of Ireland"—Thompson. "Strangford Lough"—Mr. S. A. Stewart. Belfast Lough—Belf. Mus. Coll.



**Chiton marginatus**, Pennant.

Among oysters from Killinchy (Temp. MSS.), in the stomach of a haddock taken at Newcastle, Co. Down, and in other localities on the North-East coast—Thompson (*sub C. fuscatus*, Brown). Though it is a common species generally, neither Hyndman nor Dickie has any note of it. Belfast Lough—Belf. Mus. Coll.

**Chiton ruber** (Linné), Lowe.

"Among oysters from Killinchy, Down, Temp. MSS. Found by Mr. Hyndman and myself in different localities on the North-East coast"—Thompson. Living in 15-25 fathoms north of Larne—Hyndman; and in and about Strangford Lough in 7-20 fathoms—Dickie. Belfast Lough—Belf. Mus. Coll.

**Chiton lævis** (Pennant), Montagu.

Living, very rare, in Castle Ward Bay, Strangford Lough, 7-20 fathoms—Dickie. Belfast Lough—Belf. Mus. Coll.

**Chiton marmoreus**, Fabricius.

"Obtained in Strangford Lough by Mr. Hyndman and myself. On oysters brought to Belfast market from Carlingford, and Greencastle (Co. Londonderry), W. T.; Bangor, Co. Down, Mr. R. Patterson"—Thompson (*sub C. lævigatus*). Strangford Lough—Mr. S. A. Stewart.

ORDER PECTINIBRANCHIATA.

**Patella vulgata**, Linné.

Between tide marks, on stones and rocks; very common here, as elsewhere. Hyndman dredged dead shells in 27 fathoms on the Turbot Bank. He makes a curious statement about the limpet on the authority of Captain White, Harbour Master—that it is found to be good for eating and wholesome on the outer coast of Co. Down, but that in Strangford Lough it is found not to be wholesome, and is avoided by the people there. There is an interesting paper in the "Annals of Natural History" for June, 1839, by the late Mr. Robert Patterson, F.R.S., on the use of the limpet as food in the North of Ireland, which will well repay perusal.

*var. depressa*. "Living. Coast of Down, in Mr. Hyndman's cabinet"—Hyndman, 1859 Report (*sub P. athletica*). Bangor, Co. Down—Belf. Mus. Coll.

**Helcion pellucidum**, Linné.

Of general occurrence round our shores, on the broad fronds of *Laminaria digitata*, at and near low water mark. Dickie brought up living specimens from as deep as 15 fathoms in Wellstream Bay, Strangford Lough, and Hyndman dredged it dead on the Turbot Bank (*Patella pellucida*).

*var. lævis*. Equally distributed with the typical form, and not separated from it by the authors quoted above.

**Tectura testudinalis, Müller.**

On stones at and below low water mark. Newcastle and Bloody Bridge—Thompson (*sub Lottia testudinalis*). Frequent on both sides of Belfast Lough—Hyndman; and dead specimens were dredged in Strangford Lough by Dickie, and Mr. S. A. Stewart (*Acmæa testudinalis*). This shell was named by Sowerby *Patella Clealandi* in honour of Mr. J. Rose Clealand, of Rathgael House, who procured the first British examples at Bangor, Co. Down; but as a species it proved to have been previously described and named by Müller, from Danish specimens. On stones near the Twin Islands, Belfast Harbour, of large size—Mr. Swanston.

**Tectura virginea, Müller.**

“Obtained on the shore of Belfast Bay by Mrs. M’Gee, and found by Mr. Hyndman adhering to oysters in Belfast Market in 1831”—Thompson (*sub Lottia virginea*). Hyndman took it very frequently, living at the entrance to Belfast Lough, and off Larne, in from 10 to 25 fathoms; and from Dickie’s dredgings it would appear to live in abundance in Strangford Lough, in 4 to 25 fathoms (*sub Acmæa virginea*). Dead shells frequent on the Turbot Bank.

**Tectura fulva, Müller.**

Turbot Bank, rare, dead; determined by Dr. Dickie—Hyndman, 1858 Report (*sub Pilidium fulvum*).

**Propilidium ancycloides, Forbes.**

“Obtained by Mr. Hyndman many years ago on oysters from Strangford Lough”—Thompson (*sub Patella ancycloides*). In a dead state it is rather common on the Turbot Bank. The only locality on our shores where it has been certainly taken alive would appear to be the deep water near the Maiden Rocks, where Hyndman procured living specimens several times, in between 70 and 100 fathoms of water. Jeffreys says “on the Antrim Coast in 18-100 fathoms (Hyndman and others),” which looks as if some other observer had taken it at a less depth.

**Puncturella Noachina, Linné.**

“Mouth of Belfast Bay, 27 fathoms, one dead specimen dredged by Mr. Hyndman”—Thompson; his only Irish note of the species. Hyndman subsequently obtained it on several occasions on the Turbot Bank (the same locality), always dead. Jeffreys says of it—“Co. Antrim (Hyndman, Waller, and J.G.J.). The specimens, however, from the last-mentioned locality are probably relics of the glacial epoch, and not recent.” It is a species essentially of northern origin, whose most southern station is Scarborough in Yorkshire, while northward it ranges as far as Spitzbergen and North Greenland.

**Emarginula fissura, Linné.**

Common off the South Antrim coast, living in depths varying from 5 fathoms in Belfast Lough to 90 fathoms near the Maiden Rocks—Hyndman; it was not taken alive in Strangford Lough, but was common in a dead state—Dickie (*sub E. reticulata*). Thrown up by the tide on sandy beaches at Castlerock and Magilligan, Co. Derry, and Newcastle, Co. Down—R.Ll.P.

*var. elata*. Jeffreys records this variety, which is larger, more solid, and much higher than the typical form, as taken by him at “Larne near Belfast.”

**Emarginula rosea, Bell.**

Hyndman states that this shell was dredged, in a dead state, by Mr. Waller on the Turbot Bank. It is entirely a southern form, inhabiting, as a British species, the Channel Islands and South of England coasts, and its occurrence here as a native would be, to say the least of it, highly improbable.

**Emarginula crassa, J. Sowerby.**

Very rare, living in 60 fathoms off the Copeland Islands; dead in shallower water in the same vicinity, and on the Turbot Bank, and in 70-100 fathoms near the Maidens—Hyndman. Dredged alive off the Maidens—Mr. Swanston. It is a species of great beauty and rarity, inhabiting rocky ground in deep water, where it is almost inaccessible to the dredge.

**Fissurella Græca, Linné.**

“On all the Irish coasts”—Thompson. Living sparingly in 10 to 25 fathoms at various points of the Antrim and Down coasts—Hyndman, and Dickie (*sub F. reticulata*). Portrush—Miss Richardson. Magilligan and Castlerock, Co. Derry, dead—R.Ll.P.

**Capulus Hungaricus, Linné.**

“Generally distributed”—Thompson (*C. Ungaricus*). Not uncommon, living on stones and oyster shells in 10 to 20 fathoms, off Belfast Lough and Larne. In a dead state it has been dredged by Dickie in Strangford Lough, and by Hyndman in the deepest water off the Maidens (100 fathoms). Rather worn shells are thrown ashore by the tide at Magilligan and Newcastle—R.Ll.P. Hyndman and Dickie mention it under Lamarek’s generic name of *Pileopsis*. Locally called “fool’s cap.”

**[Haliotis tuberculata, Linné.**

“‘Dredged near Groomsport, Co. Down, Oct. 1811,’ Templeton, MSS.”—Thompson. The two specimens affirmed to have been there obtained are preserved in the Belfast Museum, on a card which bears the following manuscript note by Mr. Robert Templeton:—“These are the two haliotes which rank this shell as a native of Ireland. They were got by the late John Templeton, Esq., I believe on the Co. Down shore—R. T.” Jeffreys dismisses this and other records with very little ceremony—“the Irish localities must have been from hearsay, and are manifestly wrong.” It would appear probable that the Groomsport specimens were actually obtained there, for

Mr. Templeton's care and accuracy are well known, but they must have been derived from some passing vessel or other extraneous source; this beautiful species inhabits nowhere north of the Channel Islands.]

**Scissurella crispata**, *Fleming*.

A northern species, frequenting, in Britain, chiefly the Orkney and Shetland Islands. "Mouth of Belfast Bay, 27 fathoms, 2 dead specimens dredged by Mr. Hyndman"—Thompson. In Hyndman's Reports, additional specimens are mentioned as having been obtained on the Turbot Bank, and a single fresh shell was taken in 80 fathoms some 6 miles north of the Maidens.

**Cyclostrema nitens**, *Philippi*.

Found by Jeffreys in Turbot Bank sand sent to him—Hyndman, 1858 Report (as *Trochus (Margarita) pusillus*).

**Cyclostrema serpuloides**, *Montagu*.

In Turbot Bank sand, as last (*sub Skenea divisa*); and in his 1859 Report Hyndman records having dredged living examples off Larne.

**[Margarita costulata, Möller.**

Found by Mr. Waller in Turbot Bank sand—Hyndman. It is an arctic species, whose southern limit is Iceland. Dead specimens have been dredged in several Scotch localities also, which, with those from the Turbot Bank, must be looked on as relics of the great ice age.]

**Trochus hellicinus**, *Fabricius*.

"Living, common, on *Laminaria digitata*, &c."—Hyndman. Assuming that *Margarita communis*, Mont. = *M. vulgaris*, Leach, Thompson mentions the loughs of Belfast, Larne, and Strangford as localities. Hyndman dredged dead specimens on the Turbot Bank.

*var. fasciata*. "Found by Mr. Hyndman in the North of Ireland"—Jeffreys.

**Trochus Groenlandicus**, *Chemnitz*.

Dredged in a dead state by Hyndman on the Turbot Bank (*sub T. (Margarita) undulatus*). The specimens were determined by Jeffreys, who, however, remarks that they look suspiciously like fossils from a submarine post-tertiary deposit in the locality. It is an arctic species, which descends as far southward as the north of Scotland.

**[Trochus cinereus, Couthouy.**

"Has been dredged by Mr. Waller on the Antrim Coast; but it is a submarine fossil"—Jeffreys. Hyndman also records it, as *Margarita cinerea*.]

**Trochus magus**, *Linné*.

Not uncommon on the coasts of Derry, Antrim, and Down, living chiefly in about 5 to 10 fathoms.

**Trochus tumidus**, *Montagu*.

Belfast and Strangford Loughs, and Donaghadee—Thompson. Hyndman dredged it very frequently, living in depths ranging from 10 to 100 fathoms,



and from Dickie's lists it would appear to live in profusion in Strangford Lough.

**Trochus cinerareus, Linné.**

One of our most common species, living on stones and sea-weed between tide-marks and in depths up to 25 fathoms, throughout the province. Hyndman dredged a single living specimen in the great depth of 70-90 fathoms off the Maidens. It is locally called "silver-shell," on account of the pearly lustre of the inner layers. The *T. littoralis*, Brown, for which Thompson, quoting from an older writer, mentions Killough as a station, belongs to the present species, and, according to Jeffreys, can scarcely be considered a variety.

**Trochus umbilicatus, Montagu.**

Between tide-marks, among stones and *Fuci*; common.

**Trochus Duminyi, Requien.**

Our rarest shell, Bundoran in Donegal Bay being its only British habitat. It appears to be of rather rare occurrence there, where it was first discovered some years ago by Edward Waller, an assiduous and distinguished Ulster conchologist.

**Trochus lineatus, Da Costa.**

"This littoral species, found on rocks, stones, &c., is unknown to me further north on the Eastern line of coast than Ballywalter, Co. Down ( $54\frac{1}{2}^{\circ}$  lat.). Southward it is common"—Thompson (*sub Monodonta crassa*). On the western side of the province it flourishes at Bundoran, in just the same latitude—Waller, Jeffreys, and others.

**Trochus Montacuti, W. Wood.**

Sparingly but widely distributed on the Antrim and Down shores. Hyndman dredged it alive off Ballygalley Head, Waller off Groomsport, and Dickie in Strangford Lough and the open channel adjoining—depths ranging from 12 to 25 fathoms; in a dead state it occurred frequently, especially on the Turbot Bank (*sub T. Montagui*). A very elegant scalariform monstrosity was dredged off Larne, as noted by Hyndman and Jeffreys.

**Trochus striatus, Linné.**

"Dead, in Turbot Bank sand, Mr. Jeffreys"—Hyndman, 1859 Report; specimens from that locality are in the Belfast Museum Collection. In his "British Conchology," the most northern station which Jeffreys gives is Dublin Bay. It is a southern species, and frequents the Channel Islands and south coasts of England and Ireland.

**[Trochus exasperatus, Pennant.**

"Turbot Bank, Dr. Dickie, doubtful"—Hyndman, 1857 Report (*sub T. exiguus*). This is the only note of the occurrence of the present species. Jeffreys regards as doubtful all localities other than those on the South of England coasts and Channel Islands.]



***Trochus millegranus*, Philippi.**

Of not uncommon occurrence, living in depths varying from 10 fathoms in Belfast Lough to 100 fathoms at the Maiden Rocks; Dickie includes it in his lists of Strangford Lough shells. Thompson says—"It inhabits the deeper portions of Belfast and Strangford Loughs, chiefly from 10 to 23 fathoms, in sand ooze, &c. Bundoran, Mrs. Hancock. *T. Clelandi*, Wood, is considered another variety. It was sent to the Author from Strangford Lough by James Rose Cleland, Esq." Dredged at Glenarm, Mr. S. A. Stewart.

***Trochus granulatus*, Born.**

This handsome shell, the largest British *Trochus*, is of extreme rarity in our province. "Two broken specimens dredged up at separate times in Belfast Bay; but as there are only two other examples known of its being found so far from its usual southern habitat, these have been no doubt introduced accidentally"—Hyndman, 1857 Report. "Fragments in 25 fathoms, 2 miles off Black Head"—*Ibid.*, 1858 Report. It has been dredged off the Mull of Galloway, and at Sanda Island, opposite the Antrim coast, so its occurrence on our shores is not improbable. I find the following marginal note in Mr. Wm. Swanston's copy of Thompson's work, opposite the name (*T. papillosus*, Brown) of this species: "One living and one dead, S.E. of Maidens, 72 fathoms, 11th Sept., 1882—W. S." The specimens are in Mr. Swanston's cabinet, and are fine and characteristic examples.

***Trochus zizyphinus*, Linné.**

A pretty and well-known species, which is distributed throughout our waters, and has been taken alive at all depths. It flourishes most in from about 5 to 25 fathoms.

*var. Lyonsii*. "The pure white variety has been dredged of all sizes, but very sparingly, in Belfast Lough by Mr. Hyndman and myself; on one occasion we found numbers of this variety on the beach at Ardmillan (Strangford Lough), whence they were brought adherent to "wrack" (*Fuci*) cut for manure about some of the islands"—Thompson. Hyndman took it living in from 20 to 90 fathoms off Larne, and Dickie in Strangford Lough.

*var. elata*. "Deep water on the coast of Antrim (J. G. J.)"—Jeffreys.

***Phasianella pulla*, Linné.**

"Littoral in some localities; dredged in from about 6 to 10 fathoms in Belfast Bay, common"—Thompson. Living, frequent, near low water mark—Hyndman; it was dredged by him alive in as deep as 20 fathoms on the Cod Bank off Larne. In a dead state it is abundant in the shell sand of the Turbot Bank, and Dickie records it from Strangford Lough.

***Lacuna crassior*, Montagu.**

Frequent, ranging from low water mark to the deepest water at the Maidens. Thompson and Dickie took it in Strangford Lough.

***Lacuna divaricata*, Fabricius.**

A common species. "The var. *L. vineta* is not uncommon; *L. canalis* is

more so"—Thompson (*sub L. quadrifasciata*). "Common on *Laminaria*"—Hyndman (*sub L. vineta*). Abundant in Turbot Bank sand, in a dead state.

**Lacuna puteolus**, *Turton*.

Apparently rare. Dredged by Hyndman, in a dead state, on the Turbot Bank, and near Ballygalley Head. Strangford Lough—Mr. S. A. Stewart. Bundoran—Belf. Mus. Coll.

*var. conica*. "Co. Antrim (Hyndman)"—Jeffreys.

**Lacuna pallidula**, *Da Costa*.

"Inhabits the laminarian region in Belfast and Strangford Loughs, and chiefly found on the broad fronds of *Laminaria digitata*; also on oysters; occurs but sparingly; procured in some quantity at Ballycastle by the Rev. Thomas Hincks"—Thompson. "Living, common, on *Laminaria*"—Hyndman. Magilligan—Belf. Mus. Coll.

**Littorina obtusata**, *Linné*.

Abundant on stones and *Fuci* on all beaches. Hyndman dredged dead shells on the Turbot Bank (*L. littoralis*). "Common around the shores"—Thompson (*L. Neritoides*, Forbes).

*var. neritiformis*. "Captain Brown has given Downpatrick as an Irish locality"—Jeffreys.

*var. fabalis*. "I have found it plentifully at Larne in the North of Ireland. I believe it represents the young males of the ordinary form"—Jeffreys.

**Littorina neritoides**, *Linné*.

On rocks and stones above high water mark; common. Bundoran—Thompson (*L. petraea*, Mont.).

**Littorina rudis**, *Maton*.

Plentiful on stony beaches everywhere.

*var. saxatilis*. "North of Ireland"—Thompson (*L. saxatilis*).

*var. jugosa*. "Is common on all quarters of the rocky coasts"—Thompson (*L. jugosa*).

*var. patula*. "Living, common, on rocky ground a little below high water mark"—Hyndman (*L. patula*). Is this correct? Jeffreys gives only three stations in Britain—Eddystone, Penzance, and Unst.

*var. tenebrosa*. "Although met with on all sides of the coast, it is local"—Thompson (*L. tenebrosa*). It is an estuarine form, and occurs on our *Zostera* banks. Larne Lough—Hyndman. Fair Head—Belf. Mus. Coll.

**Littorina litorea**, *Linné*.

In the greatest abundance on stones and mud banks. "Abundant round the shores of the Island"—Thompson (*L. communis*, Turt. Br.).

*var. turrita*. Belfast Lough, Mr. S. A. Stewart—Belf. Mus. Coll.

**Genus Rissoa**, *Fréminville*.

Of this large genus of tiny shells, out of the 25 species which Jeffreys in-

cludes in the British catalogue, 20 are recorded as occurring in our province. The *Rissoæ*, and that other large genus of small univalves, the *Odostomia*, will serve as good examples of the richness in the smaller univalves of that interesting area of sand and gravel which is known as the Turbot Bank. Thus, of the 20 species of *Rissoa* found in the district, 18, or all but 2, occur in the shell-sand from this vicinity, about half of these being inhabitants of the littoral and laminarian regions, while the other half frequent the coralline and deep-sea zones. As regards *Odostomia*, to be mentioned presently, we have 24 species, out of 34 British, of which no less than 21 occur in the Turbot Bank sand, and 10 of these have not been obtained elsewhere in our waters. As suggested by Mr. Hyndman, the home of the majority of this large number of species, whose deserted habitations bestrew the Turbot Bank, is probably the profound rocky depths near the Maidens, where they may live, out of reach of the trawl and dredge.

NOTE.—Except where otherwise stated, the shells referred to in the notes on species of *Rissoa*, were dead.

***Rissoa striatula*, Montagu.**

Bundoran—Thompson. Frequent on the Turbot Bank—Hyndman.

***Rissoa cancellata*, Da Costa.**

Of frequent occurrence on the Turbot Bank—Hyndman. Dredged in Strangford Lough, and the open channel adjoining—Dickie. (Both *sub R. crenulata*).

***Rissoa calathrus*, Forbes & Hanley.**

Turbot Bank, rare—Hyndman.

***Rissoa reticulata*, Montagu.**

Common on the Turbot Bank—Thompson, and Hyndman. Common, 7-20 fathoms, Castle Ward Bay, Strangford Lough—Dickie. (All *sub R. Beanii*). In shell-sand dredged near Ardmillan in the latter lough—R.L.P.

***Rissoa cimicoides*, Forbes.**

“Larne, Co. Antrim (J.G.J.)”—Jeffreys. The Turbot Bank is probably the locality intended. Specimens in the Belfast Museum Collection are labelled as from Larne.

***Rissoa punctura*, Montagu.**

Bundoran—Thompson. Common on the Turbot Bank—Hyndman.

***Rissoa Zetlandica*, Montagu.**

On the Turbot Bank—Hyndman. Specimens from thence are in the Belfast Museum Collection.

***Rissoa costata*, Adams.**

Bundoran—Thompson. On the Turbot Bank, and in about 20 fathoms off Ballygalley Head—Hyndman. Strangford Lough—Dickie, and R.L.P.

***Rissoa parva*, Da Costa.**

“A very common species around the coast”—Thompson. It lives in

profusion on *Zostera* and *Algæ* at low water mark and a few fathoms depth. Dead on the Turbot Bank and elsewhere.

**var. interrupta.** Common around the coast—Thompson (*R. interrupta*).

**Rissoa inconspicua**, *Alder*.

“One specimen at Bundoran, Mrs. Hancock”—Thompson. Frequent on the Turbot Bank—Hyndman.

**Rissoa albella**, *Lovén*.

Turbot Bank; from Hyndman's collection—Belf. Mus. Coll. I find no note of it in Hyndman's Reports. If the determination of the species be correct, the specimens probably belong to the variety *Sarsii*, which is abundant along the west coast of Scotland; the typical form is confined to Bantry Bay, according to Jeffreys.

**Rissoa membranacea**, *Adams*.

“Bundoran, Warren. On muddy banks, within and below low water, it is common and fine in Belfast Bay”—Thompson, who remarks that he is informed that this species lives on the leaves of the “sleech-grass” (*Zostera marina*), and never, like other *Rissoæ*, on *Fuci*. A common species, living on *Zostera* banks throughout the district. Dead on the Turbot Bank, and in deep water in and outside of Strangford Lough—Hyndman, and Dickie. (*R. labiosa* by all).

**Rissoa violacea**, *Desmarests*.

Bangor, Belfast Bay—Thompson. “Living, scarce, on sea-weed between tide-marks”—Hyndman. Dead, common, Castle Ward Bay, Strangford Lough—Dickie. (All sub *R. rufilabrum*). It is one of the two North of Ireland *Rissoæ* which alone are not recorded from the Turbot Bank.

**Rissoa striata**, *Adams*.

This tiny shell swarms around our shores, on sea-weeds, stones, and mud, between tide-marks. Common also, in a dead state, in up to 30 fathoms of water on the Antrim and Down coasts.

**Rissoa proxima**, *Alder*.

“Magilligan (W.T.); Bundoran (Mrs. Hancock)”—Thompson. Turbot Bank, very rare—Hyndman. It is a rare and critical species, and as it has a southern distribution, and Dublin is the most northern station given by Jeffreys, it is possible that Thompson's localities belong to the following species.

**Rissoa vitrea**, *Montagu*.

Turbot Bank, extremely rare—Hyndman.

**Rissoa fulgida**, *Adams*.

“I have found it sparingly at Larne Lough, near Belfast”—Jeffreys.

**Rissoa soluta**, *Philippi*.

In Turbot Bank sand, very rare—Hyndman. Specimens from thence are in the Belfast Museum Collection.



**Rissoa semistriata**, Montagu.

"*R. semistriata* has come under my inspection in shell-sand from Magilligan and Bundoran"—Thompson. On the Turbot Bank, rare—Hyndman.

**var. pura.** Observed in Turbot Bank sand by Mr. Jeffreys—Hyndman (*sub* *var. alba*).

**Rissoa cingillus**, Montagu.

On all sides of the coast"—Thompson (*R. cingilla*). "Living, common, under stones near low water mark"—Hyndman. Dead shells in the deeper water.

**var. rupestris.** "North-East coast, Mr. Hyndman and W. T., not rare"—Thompson. Turbot Bank, rare—Hyndman.

**[Rissoa Bryerea, Montagu.**

"Among shell-sand from Magilligan, one procured by Mr. Hyndman"—Thompson. This is *Rissoina Bryerea*, a West Indian species, stray examples of which have been occasionally found at different places in the British Isles.]

**[Rissoa dispar** (Turbo dispar, Montagu).

Thompson, quoting from Brown, says that this species has been met with on the rocks near the Giant's Causeway. It is *Littorina dispar*, a West Indian shell, and has no claim to be considered British.]

**Hydrobia ulvæ**, Pennant.

Swarming on *Zostera* banks and muddy sands in all our bays and estuaries, between tide marks. Dead on the Turbot Bank—Hyndman (*Rissoa ulvæ*). In summer it is the chief food of the grey mullet. In winter various sea-birds feed on it.

**Barleeia rubra**, Montagu.

"Among sea-weed brought from Tory Island, off the north coast of Donegal, by Mr. Hyndman, in 1845, this species was found"—Thompson (*sub* *Rissoa rubra*). "Bundoran, Co. Donegal (J.G.J.)"—Jeffreys. Specimens from the latter station are in the Belfast Museum.

**Jeffreysia diaphana**, Alder.

"In shell-sand collected at Bundoran by Mrs. Hancock, in 1840"—Thompson (*sub* *Rissoa albella*, Alder).

**Skenea planorbis**, Fabricius.

This tiny shell abounds on *Zostera* and *Algæ* between tide-marks. Abundant in Belfast and Strangford Loughs; Bundoran, Mr. Warren—Thompson (*sub* *S. depressa*). Larne Lough—R.L.P. Dead shells in Turbot Bank sand—Hyndman.

**var. trochiformis.** Larne Lough—Jeffreys. This is the convex-spired variety mentioned by Hyndman in his 1859 Report.

**Homalogyra atomus**, Philippi.

"Living on *Zostera marina*, shores of Larne Lough"—Hyndman (*sub* *Euomphalus nitidissimus*). "Donegal in Ireland (Warren)"—Forbes and



Hanley (*Skenea nitidissima*). Belfast Lough—Belf. Mus. Coll. Has probably been passed over on account of its very minute size; it would seem to be a common species generally.

**Homalogyra rota**, Forbes & Hanley.

"This rare species has been taken in Donegal by Mr. Warren and Mr. Barlee"—Forbes & Hanley (*sub Skenea? rota*). It is the smallest known species of British shells, having a length, according to Jeffreys, of only 0·0115 inch, and is rare.

**Cæcum trachea**, Montagu.

Turbot Bank; from Hyndman's collection—Belf. Mus. Coll. "Strangford (Waller)"—Jeffreys (supplement).

**Cæcum glabrum**, Montagu.

"Shell-sand, deep water, Belfast Bay, Mr. Hyndman"—Thompson (*sub Brochus lævis*). Rare, in shell-sand from the Turbot Bank—Hyndman. These refer to the same station, and are the only notes of the occurrence in our district of the species, which Jeffreys says is common and universal; its insignificant size may account for this.

[**Brochus reticulatus** of Brown is the young of his *B. annulatus*, which is an exotic shell. It is said to have been found in Strangford Lough.].

**Turritella terebra**, Linné.

Very common, living in 7 to 25 fathoms throughout our waters. Thompson says Mr. Hyndman observed it living between tide-marks in Carlingford Lough. In Lough Foyle the dead shells of this species constitute a large part of the great shell-banks for which the place has long been noted.

**Truncatella truncatula**, Draparnaud.

"A specimen agreeing with Montagu's description of *Turbo subtruncata*, but not very well with his figure, was found among shell-sand collected at Bundoran by Mrs. Hancock"—Thompson (*sub T. Montagui*). "I fear there has been some mistake as to the specimen from this place"—Jeffreys. Its British distribution only extends to the south coast of England and the Channel Islands, and its foreign range is entirely southern.]

**Scalaria Turtonæ**, Turton.

"At Newcastle, Co. Down, this shell has been met with by Dr. Drummond"—Thompson. This station is given also by Forbes and Hanley, and Jeffreys, on Thompson's authority. Strangford Lough—Mr. S. A. Stewart. As a pleistocene fossil it is of common occurrence in the Estuarine Clays at Belfast; perhaps the specimens labelled "Belfast Lough" in the Museum Collection were thus derived.

**Scalaria communis**, Lamarek.

"Although not yet (so far as I am informed) taken in the Loughs of Strangford or Belfast, it has been procured in the adjacent Lough of Larne; Bundoran, Mrs. Hancock"—Thompson (*sub S. elathrus*). Turbot Bank, dead, rare—Hyndman. Magilligan—Belf. Mus. Coll.

**Scalaria Trevelyana**, Leach.

"Mr. Hyndman possesses a specimen from Magilligan"—Thompson; a specimen from thence, out of Mr. Thompson's collection, is in the Belfast Museum. It does not appear to have been taken elsewhere in the province.

**Scalaria clathratula**, Adams.

"Bundoran, Mrs. Hancock"—Thompson; specimens from thence are in the Belfast Museum. Hyndman dredged dead shells on several occasions, in the vicinity of the Turbot Bank.

**[Acirsa borealis**, Beck.

"Dead, in Turbot Bank sand, Mr. Waller, 1857. Described by him in the "Transactions of the Royal Dublin Society," and provisionally named *Turritella Hibernica*"—Hyndman (*sub Scalaria Eschrichti*). "Dredged in 18-20 f. off the coast of Antrim, by Mr. Hyndman, Mr. Waller, and myself. This species has not been found living south of Iceland"—Jeffreys.]

**Aclis unica**, Montagu.

"Bundoran, Mrs. Hancock. Deep water, Belfast Bay, Mr. Hyndman"—Thompson (*Chemnitzia unica*). Turbot Bank, dead, very rare—Hyndman. It is a littoral species.

**Aclis ascaris**, Turton.

"Bundoran (Mrs. Hancock, *vide* Thompson)"—Jeffreys.

**Aclis supranitida**, S. Wood.

"It has been collected at Bundoran by Mrs. Hancock"—Thompson (*sub Chemnitzia glabra*). Hyndman dredged dead shells occasionally in the vicinity of the Turbot Bank.

**Aclis Gulsonæ**, Clark.

In Turbot Bank sand, determined by Mr. Jeffreys—Hyndman (*Jeffreysia Gulsonæ*). Specimens from the Turbot Bank are in the Belfast Museum.

*var. tenuicula*. "Lough Strangford (Waller)"—Jeffreys.

**Genus Odostomia**, Fleming.

This, the largest and perhaps the most complicated genus of British shells, has by no means been worked out in our district. With the assistance of that eminent conchologist, Mr. Jeffreys, Hyndman was enabled to publish very full lists of the *Odostomiæ* of the Turbot Bank, and of the 34 British species, no less than 21 are recorded from this vicinity, all in a dead state; but beyond this, there is a paucity of information concerning them. Their minute shells are easily overlooked, and it is only with the aid of the microscope that the exquisite sculpture which characterises many of the species, may be seen with advantage. In the absence of records of any of the following species having been taken alive, I have omitted noting "dead" after each station.

**Odostomia nivosa**, Montagu.

"Turbot Bank sand Mr. Jeffreys"—Hyndman (*sub O. cylindrica*).

**Odostomia truncatula, Jeffreys.**

A single specimen found among Turbot Bank sand by Mr. Jeffreys; and later it was dredged in 25 fathoms off Black Head—Hyndman; specimens from thence are in the Belfast Museum. It is a very rare species, and its other British stations are all on the South of England coasts.

**Odostomia Lukisi, Jeffreys.**

“Bundoran, Co. Donegal, in drift shell sand (Waller)”—Jeffreys.

**Odostomia rissoides, Hanley.**

Found by Jeffreys in Turbot Bank sand—Hyndman. Bundoran—Belf. Mus. Coll. It is a littoral species, and is distributed throughout the British coasts.

*var. alba.* Turbot Bank, Mr. Waller—Hyndman (*sub O. alba*).

*var. nitida.* Found by Jeffreys in Turbot Bank sand—Hyndman (*sub O. nitida*).

*var. dubia.* As last (*sub O. dubia*).

**Odostomia pallida, Montagu.**

“A very few individuals of this species have been dredged in Belfast Bay, and taken in the stomach of the grey mullet captured there; under stones between tide marks. Strangford Lough, on soft sand and ooze”—Thompson. Dredged in the vicinity of the Turbot Bank on several occasions—Hyndman (*sub O. eulimoides*). In shell sand dredged near Ardmillan in Strangford Lough—R.L.P. It is one of the commoner *Odostomia*, and lives on the ears of *Pecten opercularis* and *P. maximus*, in the coralline zone; the littoral habitat assigned above by Thompson for the species, casts some doubt on the correctness of his determination.

**Odostomia acuta, Jeffreys.**

From the Turbot Bank; determined by Mr. Alder—Hyndman.

**Odostomia conspiciua, Alder.**

As last; like it, it is an inhabitant of the coralline zone (15-50 fathoms).

**Odostomia unidentata, Montagu.**

“More frequent in the shell sand than has come under my notice than any other species of *Odostomia*”—Thompson; he mentions Strangford Lough as a locality. Hyndman took it several times on the Turbot Bank, and Dickie off the entrance to Strangford Lough. Twin Islands in Belfast Harbour—Mr. Swanston.

**Odostomia turrita, Hanley.**

Turbot Bank, Mr. Waller—Hyndman (*sub O. unidentata var. turrita*).

**Odostomia plicata, Montagu.**

“It has been found in Belfast Bay and Strangford Lough by Mr. Hyndman and myself; at Bundoran by Mrs. Hancock”—Thompson. Rare, off Bangor, and on the Turbot Bank—Hyndman. Jeffreys gives no northern stations for the present species, and says that *O. turrita* has been often mistaken for it.

**Odostomia insculpta**, Montagu.

Observed by Jeffreys in Turbot Bank sand which was sent to him for examination—Hyndman.

**Odostomia obliqua**, Alder.

"Two specimens obtained from shell sand collected at Bundoran by Mrs. Hancock"—Thompson.

**Odostomia Warreni**, Thompson.

"A specimen from Bundoran, Mrs. Hancock"—Thompson (*sub Rissoa Warreni*). Turbot Bank, Mr. Waller—Hyndman. In the body of Jeffreys' "British Conchology" it appears as *O. obliqua* var. *Warreni*, but in the Supplement to that work it is restored to the rank of a species. It was first described by Mr. Thompson in the "Annals of Natural History," from specimens found at Portmarnock by Mr. T. W. Warren, an assiduous Irish conchologist, in whose honour Mr. Thompson named it as above.

**Odostomia decussata**, Montagu.

This beautiful little shell has been found in Turbot Bank sand by Mr. Jeffreys. Specimens labelled "Co. Antrim" are in the Belfast Museum Collection.

**Odostomia indistincta**, Montagu.

Bundoran, Mrs. Hancock—Thompson. On the Turbot Bank on several occasions—Hyndman. In Strangford Lough and the channel adjoining, very rare—Dickie. (All *sub Chemnitzia indistincta*).

**Odostomia interstincta**, Montagu.

It would appear to be of common occurrence in the Turbot bank shell sand (*Chemnitzia interstincta*), but is not noted elsewhere. A widely distributed and common species generally.

**Odostomia spiralis**, Montagu.

"Very sparingly, in shell sand collected at Magilligan by Miss Moody"—Thompson. Common on the Turbot Bank—Hyndman. Entrance to Strangford Lough, 12-15 fathoms, very rare—Dickie.

**Odostomia excavata**, Philippi.

"Bundoran, Mr. Warren"—Thompson (*sub Rissoa Harveyi*). Turbot Bank, Mr. Waller—Hyndman. Mr. Thompson named it *R. Harveyi* in honour of Dr. W. H. Harvey, who discovered the first British examples, in Co. Clare; Dr. Harvey had previously named it *Cingula sculpta*. Both these proved to be subsequent to Philippi's name of *R. excavata*.

**Odostomia scalaris**, Philippi.

Found in Turbot Bank sand by Mr. Jeffreys—Hyndman (*Chemnitzia scalaris*). Dickie records it from Strangford Lough, but from a remark in Jeffreys' work, it would appear that it was the following variety which he obtained there.

var. **rufescens**. Rare, off Groomsport (Waller); and dredged on the Turbot



Bank—Hyndman (*sub Chemnitzia rufescens*). “Lough Strangford (Dickie)” —Jeffreys.

**Odostomia rufa, Philippi.**

*var. fulvocincta.* Turbot Bank, rare; determined by Mr. Alder—Hyndman (*Chemnitzia fulvocincta*). Bundoran—Belf. Mus. Coll. The *Chemnitzia rufa* of Hyndman’s 1858 Report, in Jeffreys’ list of Turbot Bank shells, in all probability belongs to the variety; the typical form is exclusively southern, while the variety has a northern distribution.

**Odostomia lactea, Linné.**

Not uncommon—Thompson. Dredged frequently around the Turbot Bank by Hyndman, and in Strangford Lough and the open channel adjacent by Dickie (all *sub Chemnitzia elegantissima*). Twin Islands in Belfast Harbour—Mr. Swanston. Bundoran—Belf. Mus. Coll. It is a common but beautiful species, inhabiting the laminarian zone.

**Odostomia Scillæ, Scacchi.**

Both Waller and Hyndman dredged this shell on the Turbot Bank (*Eulimella Scillæ*). Jeffreys, referring to this station, says “perhaps from a post-glacial deposit.” Specimens from the Turbot Bank are in the Belfast Museum, and look quite as recent as the majority of the shells from that vicinity.

**Odostomia acicula, Philippi.**

Found in Turbot Bank sand by Mr. Jeffreys—Hyndman (*sub Eulimella acicula*). The collection in the Belfast Museum contains specimens from that locality.

*var. ventricosa.* Turbot Bank, Mr. Waller—Hyndman (*sub Eulimella affinis*).

*var. obeliscus.* “Dredged by Mr. Waller on the north-east coast of Ireland” —Jeffreys. Possibly this and the previous note refer to the same specimens.

**Odostomia nitidissima, Montagu.**

“Specimens from Bundoran have come under my inspection”—Thompson (*Chemnitzia nitidissima*).

**Ianthina rotundata, Leach.**

This beautiful oceanic species, popularly known as the “blue snail,” is occasionally wafted to our shores by the western winds, during the autumn months. Thompson mentions having obtained a few shells, still containing the animal, on the beach at Groomsport in Co. Down, in the year 1836 (*sub I. communis*), but it is very rarely that it is found so far south in the channel. On the north coast of Antrim, and on the coast of Derry, it is of more frequent occurrence, and is occasionally washed in in quantity. I am informed that after October gales the strand at Bush-foot is sometimes thickly strewn with it. Portrush, occasionally—Miss Richardson, and R.L.P.

**Eulima polita, Linné.**

About the entrance of Belfast Bay (Ordnance Survey Collectors and Mr. Hyndman), and in Strangford Lough (Mr. Hyndman and W. T.), bottom



pure sand in each case—Thompson. Hyndman records dead shells only, which appear to be of frequent occurrence in the neighbourhood of the Turbot Bank. Dickie dredged a few living examples off the entrance to Strangford Lough, in 12-15 fathoms, and dead specimens inside the lough. Off Bangor, in 8 fathoms, living—Mr. Swanston.

***Eulima distorta*, Deshayes.**

Bundoran, Mrs. Hancock—Thompson. Dead shells are not unfrequent on the Turbot Bank, according to Hyndman.

*var. gracilis*. Dredged by Hyndman on the Turbot Bank, and by Dickie in 12-15 fathoms outside Strangford Lough.

**[*Eulima subulata*, Donovan.**

Stated by Thompson to have been obtained at Bundoran, Co. Donegal, and Dundrum, Co. Down, but there is no doubt that *E. bilineata* is the species intended.]

***Eulima bilineata*, Alder.**

"Dredged from a sandy bottom, 8-10 fathoms, off Dundrum, Co. Down, Mr. Hyndman and W.T.; a specimen at Bundoran, Mr. Warren"—Thompson (*sub E. subulata*). Dead shells are common on the Turbot Bank—Hyndman. Living, very rare, in 7-20 fathoms, in Strangford Lough, and dead in the channel adjoining—Dickie.

***Natica Islandica*, Gmelin.**

Dead; a single young specimen by Mr. Jeffreys"—Hyndman, 1859 Report (*sub N. helicoides*). The locality is not given, but was probably the Turbot Bank. This specimen may have been a quaternary fossil. It is a northern species, which in Britain is taken chiefly on the northeast coasts, though it has been found at Cork. It is widely distributed in post-glacial beds.

**[*N. Groenlandica*, Beck.**

A shell from the Turbot Bank is in Thompson's collection in the Belfast Museum. Any specimens occurring there are not recent, but relics of the glacial epoch; Jeffreys records it also as dredged on the Turbot Bank, and enters it as a fossil. Its present habitat in Britain is limited to rather deep water off the northeast coasts of England and Scotland.]

***Natica sordida*, Philippi.**

Strangford Lough and the channel adjoining are the only localities in which this species has been obtained in the North of Ireland. Here Dickie dredged it on several occasions, but only in a dead state, in depths varying from 10 to 25 fathoms; specimens from the same locality are in Thompson's collection in the Belfast Museum.

***Natica catena*, Da Costa.**

One of our commoner shells, living chiefly in sandy bays at a few fathoms depth. "Living, common, 6-8 fathoms, from Bangor to Donaghadee"—Mr. S. A. Stewart. Thrown up alive, and of large size, on Magilligan Strand,

Co. Derry—R.L.P. Dead shells were dredged in some abundance around Belfast and Strangford Loughs by Hyndman and Dickie, in from 15 to 30 fathoms (*N. monilifera*).

**Natica Alderi**, *Forbes*.

This very pretty shell is common, living at nearly all depths (4 to 90 fathoms) throughout the waters dredged by Hyndman and Dickie (*N. nitida*), and thrown up on sandy beaches throughout the province.

**Natica Montacuti**, *Forbes*.

Thompson records a living specimen dredged in Belfast Bay. Hyndman took it alive off Larne, at different depths up to 90 fathoms, and dredged dead shells in abundance around the entrance to Belfast Lough, in 15 to 30 fathoms (*sub N. Montagu*). It did not occur in any of Dickie's dredgings.

**Natica clausa**, *Broderip & Sowerby*.

Dredged by Hyndman and Jeffreys on the Turbot Bank. It is a glacial fossil, and now inhabits the circumpolar seas alone.]

**Adeorbis subcarinatus**, *Montagu*.

Dredged up from the Turbot Bank by Hyndman, in a dead state, on several occasions; it is a southern shell, and has not been found elsewhere in our district.

**Lamellaria perspicua**, *Linné*.

"Generally distributed"—Thompson (*Sigaretus perspicuus*). Rare, living on *Laminaria*, and dredged alive in the unusual depth of 80 fathoms north of the Maidens, and dead in 15-25 fathoms off Ballygalley Head—Hyndman. Very rare, dead, in 15-25 fathoms off the entrance to Strangford Lough—Dickie. *Sigaretus tentaculatus*, recorded by Thompson as dredged by Mr. Hyndman and himself in Strangford Lough, is the male of the present species; the typical form is the female.

**Velutina lævigata**, *Pennant*.

A species of frequent occurrence, living on hard ground at all depths. Hyndman took it alive in 12 to 20 fathoms off Belfast Lough, and in 70-90 fathoms near the Maidens; and in a dead state on the Turbot Bank. Dead, rare, in 6 to 8 fathoms, off Bangor—Mr. S. A. Stewart. It did not occur in Dickie's dredgings, probably owing to the muddy nature of the bottom in Strangford Lough. Thrown up by the tide at Newcastle, Portrush, and Magilligan—R.L.P.

*var. candida*. Jeffreys found this white variety on the coast of Antrim.

**Trichotropsis borealis**, *Broderip & Sowerby*.

In Hyndman's Reports for 1857 and 1858, this species is noted as occurring in a dead state in almost every haul of the dredge made around the entrance to Belfast Lough, and on the Turbot Bank especially; in the 1859 Report he records having obtained it alive in the latter place. Dead shells also occurred to him in the deepest water at the Maidens. Dickie dredged a

single dead specimen in 12-15 fathoms off the entrance to Strangford Lough.

**Aporrhais pes-pelecani**, *Linné*.

A well-known and common species, locally called "leg-of-mutton shell." It lives in about 10 to 25 fathoms, but is sometimes taken at both less and greater depths.

**[Cerithium metula**, *Lovén*.

In dredged sand from the Turbot Bank—Hyndman, 1859 Report. Erroneously recorded from the same vicinity in the 1857 Report; *Cerithiopsis pulchella* was the species intended. It is a northern form, and its only British station is the Shetland fishing-banks, where it lives in 45-96 fathoms (Jeffreys); the Turbot Bank specimens are manifestly fossil.]

**Cerithium reticulatum**, *Da Costa*.

Very common, living between tide-marks and to a few fathoms depth, everywhere. In a dead state it is common on the Turbot Bank.

**Cerithium perversum**, *Linné*.

"In shell sand, mouth of Belfast Bay, Mr. Hyndman"—Thompson (*sub Triphoris adversus*). Not uncommon in Turbot Bank sand—Hyndman; very rare, in 12-15 fathoms, off the entrance to Strangford Lough—Dickie (*sub C. adversum*); in all instances dead. Specimens labelled "Bundoran" are in the Belfast Museum Collection.

ORDER SIPHONOBANCHIATA.

**Cerithiopsis tubercularis**, *Montagu*.

"Sandy beach at Magilligan; and in stomach of Scaup duck shot in Belfast Bay"—Thompson (*sub Cerithium tuberculare*). Hyndman several times dredged dead shells on the Turbot Bank.

**Cerithiopsis pulchella**, *Jeffreys*.

Found by Mr. Waller in Turbot Bank sand—Hyndman. It is a rare species.

**[Cerithiopsis costulata**, *Möller*.

Another of the Turbot Bank fossils; it was dredged there by Waller and Hyndman (*sub Skenea costulata* and *Cerithium niveum*) and specimens from thence are in the Belfast Museum. It inhabits the northern seas, and Shetland appears to be its most southern station.]

**Purpura lapillus**, *Linné*.

Very common, on rocks and stones, between tide-marks. Locally called "white wilk," or "dog wilk." Dead shells occur on the Turbot Bank.

**Buccinum undatum**, *Linné*.

The common whelk, or "buckie," as it is locally called, is abundant

on all kinds of ground and at all depths, from half-tide down to 100 fathoms, the limit of the British fauna.

*var. littoralis*. Carrickfergus—Belf. Mus. Coll. It is probably common.

*var. striata*. Living in 60 fathoms about 6 miles from the Maidens—Hyndman.

**[*Buccinum cyaneum*.**

“A fragment only, considered by Mr. Jeffreys to be this species, in Turbot Bank sand, Mr. Waller”—Hyndman, 1858 Report. I have failed to trace this species to a modern synonym; it is probably some glacial fossil.]

***Murex erinaceus*, Linné.**

“Of general occurrence”—Thompson (*Triton erinaceus*). Jeffreys, after giving a list of British stations, remarks “all the specimens procured from the northern coasts were dead;” and this remark applies to our province, for, though it is of frequent occurrence on the shore, and in depths up to 30 fathoms, I find no note of its having been taken alive.\*

***Trophon muricatus*, Montagu.**

Hyndman dredged it alive on the Cod Bank off Larne (20 fathoms), and also in 25 fathoms off Black Head, but very sparingly; and took it rather commonly in a dead state off Donaghadee, and on the Turbot Bank, and in 70-100 fathoms near the Maidens. From Dickie’s Report, dead shells appear to be distributed throughout Strangford Lough and the channel adjacent. Jeffreys queries these and other northern records, and considers that they are probably referable to *T. Barvicensis*. The present species has its headquarters in Lusitanian and Mediterranean waters, and does not range north of Britain.

***Trophon Barvicensis*, Johnston.**

Hyndman obtained it living with the last in the two stations mentioned, and dead in 8-10 fathoms in Belfast Lough, and on the Turbot Bank. Dickie dredged a few dead specimens in 12-15 fathoms outside Strangford Lough. This is a northern form, ranging to the arctic seas, and not found south of Britain.

***Trophon truncatus*, Ström.**

“On all parts of the Irish coast”—Thompson (*sub Fusus Bamffius*). Living in from 6 to 25 fathoms around Belfast Lough, and in much deeper water (70-90 fathoms) off the Maidens, and common in a dead state in from 12 to 100 fathoms—Hyndman. Very rare, dead, in Strangford Lough and the channel adjoining—Dickie. (Both *sub T. clathratus*.)

**[*Fusus scalariformis*, recorded by Hyndman as found in Turbot Bank sand by Mr. Jeffreys, is *Trophon clathratus*, a characteristic fossil of all glacial and post-glacial beds.]**

**[*Fusus decussatus* of Brown (Illust. Conch. G. B.) is said to have been discovered by him at Killough, Co. Down. The figures and description are**

\* Since above went to press, the writer has dredged it alive in 3 fathoms off Rockport, Belfast Lough.



not sufficient for identification. Jeffreys suggests that it may have been a plain-coloured variety of *Trophon Syracusanus*, which is a rather common Mediterranean shell.]

**Fusus antiquus**, Linné.

Living commonly around the coast, ranging in depth from between tide-marks in Belfast Lough to 100 fathoms at the Maiden Rocks. Called "buckie" along with *Buccinum undatum*. Specimens of great size from Carrickfergus are in the Belfast Museum Collection. A curious convoluted monstrosity is mentioned by Hyndman as dredged off Groomsport by Mr. Samuel Vance.

var. **alba**. Carrickfergus—Belf. Mus. Coll.

**Fusus gracilis**, Da Costa.

Frequent, but not so generally distributed as the last. Hyndman dredged it alive in 60 to 90 fathoms off the Maidens (*F. Islandicus*). Jeffreys gives its range as 20 to 145 fathoms, but it frequents less depths in our district, as it has been dredged living in abundance in 6-8 fathoms off Bangor by Mr. S. A. Stewart, and is sometimes thrown ashore in quantity, with the animal quite fresh, between Holywood and Craigavad, where the greatest depth of water in the vicinity does not exceed 4 or 5 fathoms, and the writer has noticed it living between tide-marks at Cultra. It did not occur to Dickie in Strangford Lough, nor have I observed it on the Derry coast. It is *F. corneus* of Thompson's work.

**Nassa reticulata**, Linné.

Would appear to be somewhat local. Occasionally found living about Belfast Lough, in 10 to 20 fathoms; dead on the Turbot Bank—Hyndman. Living between tide-marks at Cultra—R.L.I.P. Not recorded from Strangford Lough. I have dead shells from Portrush and Magilligan.

**Nassa incrassata**, Ström.

Abundant throughout the province, living in from 7 to 90 fathoms. *N. macula* of Thompson's work.

**Nassa pygmæa**, Lamarck.

Very rare. In Hyndman's 1858 Report it is noted as having been taken alive by Mr. Waller on the Turbot Bank; in the previous Report it had been recorded with doubt from the same vicinity, by Dr. Dickie, but only in a dead state. It is a common shell in our Estuarine Clays, where *N. incrassata* is unknown.

**[Nassa hepatica**, Montagu.

Recorded from Strangford Lough, on the authority of Turton and Brown (*Monoceros hepaticus*). It is a West Indian shell.]

**[Columbella Holbolii**.

Appears in Hyndman's Reports for 1857 and 1858 (*sub Mangelia Holbolii* and *Buccinum Holbolii*) as dredged on the Turbot Bank. It is an inhabitant of the arctic seas, and occurs in Britain only as a glacial fossil.]



**Defrancia teres, Forbes.**

Fragments of this shell were dredged by Hyndman on the Turbot Bank.

**Defrancia Leufroyi, Michaud.**

Dead, but very fresh, in Turbot Bank sand, and a single broken example in 40 fathoms off the Copelands—Hyndman (*Mangelia Leufroyi*).

**Defrancia linearis, Montagu.**

“Generally distributed”—Thompson (*Pleurotoma linearis*). Frequent on the Turbot Bank—Hyndman; rare in Strangford Lough and the channel adjoining—Dickie; in all instances dead (*sub Mangelia linearis*).

**Defrancia reticulata, Renier.**

“A single dead specimen of this rare and beautiful shell was found by Mr. Jeffreys in dredging from the deep water north of the Maidens. New to the Irish list. It is a southern form”—Hyndman, 1859 Report (*sub Mangelia reticulata*). As *Mangelia scabra*, it is recorded in Hyndman’s 1858 Report as found by Mr. Jeffreys in Turbot Bank sand.

**Defrancia purpurea, Montagu.**

“Of general occurrence”—Thompson (*Pleurotoma purpurea*). “Rare, in shell sand”—Hyndman (*Mangelia purpurea*). Very rare, in 12-25 fathoms off the entrance to Strangford Lough—Dickie. Bangor—Belf. Mus. Coll. Shell sand on beach at Cultra—R.L.P.

**Pleurotoma striolata, (Scacchi) Philippi.**

Turbot Bank sand—Hyndman (*Mangelia striolata*).

**Pleurotoma attenuata, Montagu.**

“General, but not abundant”—Thompson. “Dead, Turbot Bank sand, Mr. Waller”—Hyndman (*Mangelia attenuata*). Very rare, dead, in 18-20 fathoms 4 to 5 miles from Strangford Bar—Dickie. Bundoran—Belf. Mus. Coll.

**Pleurotoma costata, Donovan.**

Dead, rare, in 10 fathoms, and not unfrequent on the Turbot Bank—Hyndman (*Mangelia costata*). Dickie dredged dead shells off the entrance to Strangford Lough, 12-15 fathoms. The variety *coarctata*, mentioned by Hyndman as obtained near the Turbot Bank, is merely the northern and larger form of the species.

**Pleurotoma brachystoma, Philippi.**

“Co. Antrim (Waller)”—Jeffreys; this is all the information we possess about the occurrence of this shell in the district.

**Pleurotoma nebula, Montagu.**

Dead, rare, in shell sand dredged on the Turbot Bank—Hyndman (*Mangelia nebula*).

**Pleurotoma septangularis, Montagu.**

“Generally distributed”—Thompson. Living, rare, in 10 fathoms in Belfast Lough, and dead on the Turbot Bank—Hyndman; and Dickie found a few living examples in Castle Ward Bay, Strangford Lough, 7-20 fathoms (both *sub Mangelia septangularis*). Bangor—Belf. Mus. Coll.

**Pleurotoma rufa**, Montagu.

Living, rare, off Groomsport (Waller), and dead on the Turbot Bank—Hyndman (*Mangelia rufa*). Dead shells in Strangford Lough—Thompson, Dickie, and R.L.P.; and in the channel outside—Dickie.

*var. lactea*. "A small form of this pretty variety, mostly having the upper part of the spire tinged with purplish-brown, was procured by Mr. Hyndman from Port Ballantrae, Co. Antrim"—Jeffreys.

*var. Ulideana*. "Round the Irish coasts, but rare"—Thompson (*sub P. Ulideana*).

**Pleurotoma turricula**, Montagu.

"Of general occurrence"—Thompson. Living in 25 fathoms off Black Head; dead, rare, on the Turbot Bank, and off Ballygalley Head, and frequent in 5-6 fathoms in Belfast Lough—Hyndman. Dead, rare, in Strangford Lough—Dickie (*Mangelia turricula*). Bangor—Belf. Mus. Coll. Crawfordsburn, dead—Mr. Swanston. Cultra, dead—R.L.P.

**[Pleurotoma Trevelyana, Turton.**

Dredged in 25 and 27 fathoms in the neighbourhood of the Turbot Bank—Hyndman (*Mangelia Trevelliana*). Jeffreys considers that the specimens there obtained were glacial fossils. The species is entirely northern.]

**Marginella laevis**, Donovan.

"Magilligan, Co. Londonderry, G. C. Hyndman"—Thompson (*sub Erato laevis*).

**Cypraea Europaea**, Montagu.

Generally diffused throughout our waters, living in from about 0 to 20 fathoms. In a dead state it is thrown up on most sandy beaches, and was dredged in up to 100 fathoms depth near the Maidens. The pretty and well-known shells of this, the only British cowry, are locally called "Johnny-grots," which is a corruption of the Scotch name of "John-o'-Groats's buckie." *Bulla diaphana*, recorded by Thompson as taken in Strangford Lough, is the young of the present species before the outer lip is formed.

**[Cypraea moneta.**

"Specimens of this shell have been frequently found on the shore near Bangor, Co. Down. Although not indigenous, its occurrence may be worth noticing, as there is a tradition that a ship engaged in the slave trade was wrecked there, and thus the cowries are accounted for"—Hyndman. It is the money-cowry of South Africa.]

**Ovula patula**, Pennant.

"A shell of this species, found some years ago on the sandy beach of Magilligan, County of Londonderry, by Mrs. R. A. Hyndman, of Dublin, is in the cabinet of Mr. Hyndman, at Belfast"—Thompson. A single dead specimen dredged by Mr. Waller on the Turbot Bank—Hyndman. These are the only notes of the occurrence of this curious shell in the North of Ireland. The Magilligan specimen is in the Belfast Museum.

ORDER PLEUROBRANCHIATA.

**Cylichna acuminata**, Bruguière.

Mr. Waller obtained a single dead shell of this species on the Turbot Bank, and Hyndman another. These are recorded in Hyndman's Reports, under the name *Ovula acuminata*.

**Cylichna umbilicata**, Montagu.

Very rare; dead shells in Turbot Bank sand—Hyndman.

**Cylichna cylindracea**, Pennant.

"Generally distributed"—Thompson (*sub Bulla cylindracea*). Dredged, in a dead state, on the Turbot Bank, and off Ballygalley Head, by Hyndman, and in Castle Ward Bay, Strangford Lough, by Dickie. Bundoran—Belf. Mus. Coll.

**[Cylichna striata** (*Bulla striata*, Brown).

"The late Mr. Thompson of Belfast erroneously noticed this arctic species as found at Bangor, Co. Down, by Mr. Hyndman. It inhabits the eastern coasts of North America, Greenland, and Finmark"—Jeffreys.]

**Utriculus mammillatus**, Philippi.

Turbot Bank, dead, Mr. Waller—Hyndman (*Cylichna mammillata*).

**Utriculus truncatulus**, Bruguière.

"Generally distributed"—Thompson (*Bulla truncata*). Hyndman occasionally dredged dead shells on the Turbot Bank (*Cylichna truncata*), but does not record having taken it elsewhere. Magilligan—Belf. Mus. Coll. Twin Islands in Belfast Harbour—Mr. Swanston.

**Utriculus obtusus**, Montagu.

"Generally distributed"—Thompson (*Bulla obtusa*). Hyndman notes it (*sub Cylichna obtusa*) from the Turbot Bank several times, and from off Ballygalley Head, in a dead state. Dead shells dredged in Strangford Lough—Dickie, and R.L.P. It frequents muddy estuaries chiefly.

*var. Lajonkaireana*. "From the Turbot Bank, dead; determined by Mr. Jeffreys, in Mr. Hyndman's cabinet"—Hyndman, 1859 Report (*sub Cylichna Lajonkaireana*).

**Utriculus hyalinus**, Turton.

"Obtained in shell sand collected at Bundoran by Mrs. Hancock"—Thompson (*sub Bulla hyalina*). "Dead, in 80 fathoms, off the Maidens"—Hyndman (*sub Amphisphyra hyalina*).

**Acera bullata**, Müller.

Generally distributed—Thompson (*sub Bulla Akera*). It abounds on the *Zostera* banks of Strangford, Belfast, and Larne Loughs, and in Lough Foyle. Hyndman says he has sometimes seen it swimming in the channel leading to the Quays at Belfast, giving out a purple liquid when touched.

*var. nana.* "Occurs in Larne Lough"—Jeffreys.

**Actæon tornatilis**, *Linné.*

Generally distributed—Thompson. Dead, rare, off Bangor, and on the Turbot Bank—Hyndman. Dead, rare, in Castle Ward Bay, Strangford Lough—Dickie. (*Sub Tornatella fasciata* by all.) Groomsport—Mr. Swanston. Dead, rare, 8-10 fathoms, Belfast Bay—Mr. S. A. Stewart. Port Stewart—Miss Richardson. Frequent on the Derry coast, thrown up by the tide, from the Bann to Magilligan Point—R.L.P. It is a most elegant shell. Rev. Canon Grainger informs me that at Magilligan it is locally known as "beer-barrel."

**Bulla utriculus**, *Brocchi.*

"Living, very rare. A single specimen from Groomsport many years ago; none since"—Hyndman; and in his first list of Turbot Bank shells he notes "a single dead specimen each to Dr. Dickie and G. C. H." (*sub B. Cranchii*).

**Scaphander lignarius**, *Linné.*

"Generally distributed"—Thompson (*sub Bulla Lignaria*). "Not uncommon, of large size, off Groomsport, living, in 6 or 8 fathoms, and in other places"—Hyndman; and he dredged dead shells in depths up to 100 fathoms. Living in abundance, and of large size, in 6 to 8 fathoms off Bangor, and from thence to Crawfordsburn—Mr. Swanston, and Mr. S. A. Stewart. Fine living examples dredged in 2 fathoms off Cultra, and it is occasionally thrown up by the tide between Holywood and Craigavad in quantity, with the animal fresh—R.L.P. Jeffreys states that it usually frequents the coral-line zone (15-50 fathoms); the above notes show that in our district it inhabits shallower water. Dead shells at Portrush and Magilligan—R.L.P.

*var. alba.* Bangor—Belf. Mus. Coll.

**Philine scabra**, *Müller.*

"Has been found at Bundoran (Co. Donegal), by Mrs. Hancock"—Thompson (*sub Bulla pectinata*). Rare, dead, on the Turbot Bank—Hyndman.

**Philine catena**, *Montagu.*

"Bundoran, Co. Donegal (J.G.J.)"—Jeffreys. Specimens from the same station are in Thompson's collection in the Belfast Museum.

**Philine angulata**, *Jeffreys.*

"Larne, Co. Antrim (J.G.J.)"—Jeffreys.

**Philine quadrata**, *Searles Wood.*

"Dead, in 80 fathoms off the Maidens"—Hyndman, 1859 Report.

**Philine punctata**, *Clark.*

Bundoran in Co. Donegal, where it has been obtained by Mrs. Hancock (*fide* Thompson, *sub Bullæa punctata*), and Jeffreys.

**Philine aperta**, *Linné.*

"Generally distributed"—Thompson (*Bullæa aperta*). A rather common species, living in sand and mud at a few fathoms depth. "Living, common,



6-8 fathoms off Bangor"—Mr. S. A. Stewart. Of large size on the Holywood Banks—Mr. Swanston. Dead shells on Magilligan strand—R.L.P.

***Aplysia punctata*, Cuvier.**

"Living, rather scarce, in 8 or 10 fathoms, off Bangor and Groomsport, and in Castle Chichester Bay"—Hyndman (*sub A. hybrida*). *A. nexa* of Thompson is the young of this species.

***Pleurobranchus membranaceus*, Montagu.**

"Living, scarce, off Groomsport, in 6 or 8 fathoms, and in other places"—Hyndman.

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# INDEX.

Names of shells which are not admitted as native, owing to their being importations, mistakes, or fossils, or which appear in the foregoing list only as synonyms, are printed, in the case of *genera*, in parenthesis, and in the case of *species*, in italics.

<b>Acera</b>		punctata	105	var. striata	99
bullata	103	<b>Aporrhais</b>		<b>Bulla</b>	
var. nana	104	pes-pelecani	98	<i>Akera</i>	103
( <b>Acirsa</b> )		<b>Arca</b>		<i>Cranchii</i>	104
borealis	92	barbata	66	<i>cylindracea</i>	103
<b>Aclis</b>		lactea	66	<i>diaphana</i>	102
ascaris	92	tetragona	66	<i>hyalina</i>	103
Gulsonæ	92	<b>Argiope</b>		<i>Lignaria</i>	104
var. tennicula	92	capsula	61	<i>obtusa</i>	103
supranitida	92	cistellula	61	<i>pectinata</i>	104
unica	92	( <b>Artemis</b> )		<i>striata</i>	103
( <b>Acmæa</b> )		<i>exoleta</i>	70	<i>truncata</i>	103
testudinalis	82	<i>lncta</i>	70	utriculus	104
virginea	82	<i>undata</i>	72	( <b>Bullæa</b> )	
<b>Actæon</b>		<b>Astarte</b>		<i>aperta</i>	104
tornatilis	104	compressa	69	<i>punctata</i>	104
<b>Adeorbis</b>		<i>Danmoniensis</i>	69		
subcarinatus	97	<i>Scotica</i>	69		
( <b>Amphidesma</b> )		sulcata	69		
<i>Boysii</i>	75	var. elliptica	69	<b>Capulus</b>	
<i>intermedia</i>	75	var. <i>Scotica</i>	69	<i>Hungaricus</i>	83
<i>prismatica</i>	75	triangularis	70	<i>Ungaricus</i>	83
( <b>Amphisphyræ</b> )		<b>Axius</b>		<b>Cardium</b>	
<i>hyalina</i>	103	flexuosus	67	echinatum	68
( <b>Anatina</b> )				edule	68
<i>pratensis</i>	77			var. <i>fasciatum</i>	68
<b>Anomia</b>		<b>Barleeia</b>		<i>elongatum</i>	68
<i>aculeata</i>	61	rubra	90	exiguum	68
<i>cylindrica</i>	61	( <b>Brochus</b> )		fasciatum	68
ephippium	61	<i>annulatus</i>	91	<i>laevigatum</i>	69
patelliformis	62	<i>lævis</i>	91	<i>Loveni</i>	68
var. <i>striata</i>	62	<i>reticulatus</i>	91	minimum	68
<i>squamula</i>	61	<b>Buccinum</b>		nodosum	68
<i>striata</i>	62	<i>cyaneum</i>	99	Norvegicum	68
<i>undulata</i>	62	<i>Holbolii</i>	100	<i>pygmæum</i>	68
<b>Aplysia</b>		undatum	98	<i>Succicum</i>	68
<i>hybrida</i>	105	var. <i>littoralis</i>	99		
<i>nexa</i>	105				

<b>Ceratisolen</b>		<b>Crenella</b>		<b>(Eulimella)</b>	
legumen	76	decussata	65	<i>acicula</i>	95
<b>Cerithiopsis</b>		<i>discors</i>	65	<i>affinis</i>	95
costulata	98	<i>marmorata</i>	64	<i>Scilla</i>	95
pulchella	98	rhombea	65	<b>(Euomphalus)</b>	
tubercularis	98	<b>Cyamium</b>		<i>nitidissimus</i>	90
<b>Cerithium</b>		minutum	67	<b>Fissurella</b>	
<i>adversum</i>	98	<b>Cyclostrema</b>		Græca	83
<i>metula</i>	98	nitens	84	<i>reticulata</i>	83
<i>niveum</i>	98	serpuloïdes	84	<b>Fusus</b>	
reticulatum	98	<b>Cylichna</b>		antiquus	100
perversum	98	acuminata	103	<i>var. alba</i>	100
tuberculare	98	cylindracea	103	<i>Bamffius</i>	99
<b>(Chama)</b>		<i>Lajonkaireana</i>	103	<i>corneus</i>	100
<i>cor</i>	69	<i>mammillata</i>	103	<i>decussatus</i>	99
<b>(Chemnitzia)</b>		<i>obtusa</i>	103	<i>gracilis</i>	100
<i>elegantissima</i>	95	<i>striata</i>	103	<i>Islandicus</i>	100
<i>fulvocincta</i>	95	<i>truncata</i>	103	<i>scalariformis</i>	99
<i>glabra</i>	92	umbilicata	103	<b>(Goodalia)</b>	
<i>indistincta</i>	94	<b>Cypræa</b>		<i>triangularis</i>	70
<i>interstincta</i>	94	Europæa	102	<b>(Haliotis)</b>	
<i>nitidissima</i>	95	<i>moneta</i>	102	<i>tuberculata</i>	83
<i>rufa</i>	95	<b>Cyprina</b>		<b>Helcion</b>	
<i>rufescens</i>	95	Islandica	69	pellucidum	81
<i>scalaris</i>	94	<i>minima</i>	70	<i>var. lævis</i>	82
<i>unica</i>	92	<b>(Cytherea)</b>		<b>Homalogyra</b>	
<b>Chiton</b>		<i>ovata</i>	71	atomus	90
albus, <i>Linné</i>	80			rota	91
albus, <i>Mont.</i>	80	<b>Defrancia</b>		<b>Hydrobia</b>	
<i>asellus</i>	80	Leufroyi	101	ulvæ	90
cancellatus	80	linearis	101		
cinereus	80	purpurea	101	<b>Tanithina</b>	
fascicularis	80	reticulata	101	<i>communis</i>	95
<i>var. gracilis</i>	80	teres	101	<i>rotundata</i>	95
<i>fuscatus</i>	81	<b>Dentalium</b>		<b>Isocardia</b>	
Hanleyi	80	entalis	80	<i>cor</i>	69
<i>lævigatus</i>	81	<b>Donax</b>			
<i>lævis</i>	81	<i>anatinus</i>	74	<b>Jeffreysia</b>	
marginatus	81	<i>denticulatus</i>	74	diaphana	90
marmoreus	81	<i>truncatus</i>	73	<i>Gulsonæ</i>	92
ruber	81	vittatus	73		
<b>(Cingula)</b>				<b>Kellia</b>	
<i>sculpta</i>	94	<b>Emarginula</b>		<i>rubra</i>	67
<b>Circe</b>		crassa	83	suborbicularis	67
minima	70	fissura	83		
<b>(Cochlodesma)</b>		<i>var. elata</i>	83	<b>Lacuna</b>	
<i>prætenue</i>	77	<i>reticulata</i>	83	<i>canalis</i>	86
<b>Cæcum</b>		rosea	83	crassior	86
glabrum	91	<b>(Erato)</b>		divaricata	86
trachea	91	<i>lævis</i>	102	pallidula	87
<b>(Columbella)</b>		<b>Eulima</b>		puteolus	87
<i>Holbolii</i>	100	bilineata	96	<i>var. conica</i>	87
<b>Corbula</b>		distorta	96	<i>quadrifasciata</i>	87
gibba	78	<i>var. gracilis</i>	96	<i>vineta</i>	86, 87
<i>striata</i>	78	polita	95		
<b>Crania</b>		subulata	96		
anomala	61				
<i>personata</i>	61				

<b>Lamellaria</b>		<b>Mactra</b>		truncata	78
perspicua	97	elliptica	74	var. abbreviata	78
<b>Lasæa</b>		solida	74	<b>Mytilus</b>	
rubra	67	var. elliptica	74	Adriaticus	64
<b>Leda</b>		var. truncata	74	edulis	64
caudata	65	stultorum	74	var. incurvata	64
minuta	65	var. cinerea	74	var. pellucida	64
pygmæa	65	subtruncata	74	modiolus	64
<b>Lepton</b>		var. inæquivalvis	74	var. ovata	64
nitidum	66	( <b>Mangelia</b> )		pellucidus	64
<b>Lima</b>		attenuata	101	phaseolinus	64
fragilis	63	costata	101		
hians	63	Holbolii	100	<b>Nassa</b>	
Loscombii	63	Leufroyi	101	hepatica	100
tenera	63	linearis	101	incrassata	100
subauriculata	63	nebula	102	macula	100
<b>Littorina</b>		purpurea	101	pygmæa	100
communis	87	reticulata	101	reticulata	100
dispar	90	rufa	102	<b>Natica</b>	
jugosa	87	scabra	101	Alderi	97
litorea	87	septangularis	101	catena	96
var. turrita	87	striolata	101	clausa	97
littoralis	87	Trecelliana	102	Groenlandica	96
Neritoides, Forbes	87	turricula	102	helicoides	96
neritoides, Linné	87	( <b>Margarita</b> )		Islandica	96
obtusata	87	cinerea	84	monilifera	97
var. fabalis	87	communis	84	Montacuti	97
var. neritiformis	87	costulata	84	Montagui	97
patula	87	pusilla	84	nitida	97
petræa	87	undulata	84	sordida	96
rudis	87	vulgaris	84	<b>Nucula</b>	
var. jugosa	87	<b>Marginella</b>		margaritacea	65
var. patula	87	lævis	102	minuta	65
var. saxatilis	87	( <b>Modiola</b> )		nitida	65
var. tenebrosa	87	discrepans	65	nucleus	65
saxatilis	87	marmorata	64	var. radiata	65
tenebrosa	87	modiolus	64	tenuis	65
<b>Loripes</b>		phaseolina	64		
lacteus	67	tulipa	64	<b>Odostomia</b>	
( <b>Lottia</b> )		<b>Modiolaria</b>		acicula	95
testudinatis	82	costulata	65	var. obeliscus	96
virginea	82	discors	65	var. ventricosa	95
<b>Lucina</b>		marmorata	64	acuta	93
borealis	67	( <b>Monoceros</b> )		alba	93
flexuosa	67	hepaticus	100	conspicua	93
leucoma	67	( <b>Monodonta</b> )		cylindrica	92
radula	67	crassa	85	decussata	94
spinifera	67	<b>Montacuta</b>		dubia	93
<b>Lucinopsis</b>		bidentata	66	culimoides	93
undata	72	ferruginosa	66	excavata	94
<b>Lutraria</b>		ovata	66	indistincta	94
compressa	75	purpurea	67	insculpta	94
elliptica	75	substriata	66	interstincta	94
hians	75	<b>Murex</b>		lactea	95
oblonga	75	erinaceus	99	Lukisi	93
vulgaris	75	<b>Mya</b>			
<b>Lyonsia</b>		arenaria	78		
Norvegica	77	Binghami	78		



nitida	93	<b>Pentunculus</b>		<i>virginæa</i>	71
nitidissima	95	glycymeris	65	<i>vulgaris</i>	71
nivosa	92	<i>pilosus</i>	66	<b>Puncturella</b>	
obliqua	94	<b>Phasianella</b>		Noachina	82
var. <i>Warrenii</i>	94	pulla	86	<b>Purpura</b>	
pallida	93	<b>Philine</b>		lapillus	98
plicata	93	angulata	104		
rissoides	93	aperta	104		
var. alba	93	catena	104	<b>Rissoa</b>	
var. dubia	93	punctata	104	<i>albella, Alder</i>	90
var. nitida	93	quadrata	104	<i>albella, Lovén</i>	89
rufa	95	scabra	104	var. <i>Sarsii</i>	89
var. fulvocincta	95	<b>Pholadidea</b>		<i>Beanii</i>	88
scalaris	94	papyracea	79	<i>Bryerea</i>	90
var. rufescens	94	var. aborta	79	calathrus	88
Scillæ	95	<b>Pholas</b>		cancellata	88
spiralis	94	candida	79	cimicoides	88
truncatula	93	crispata	79	<i>cingilla</i>	90
turrita	93	dactylus	78	cingillus	90
unidentata	93	<i>papyracea</i>	79	var. <i>rupestris</i>	90
var. <i>turrita</i>	93	parva	79	costata	88
Warreni	94	<i>striata</i>	79	<i>crenulata</i>	88
<b>Ostrea</b>		<b>(Pileopsis)</b>		<i>dispar</i>	90
edulis	62	<i>Hungaricus</i>	83	<i>excavata</i>	94
<b>Ovula</b>		<b>(Pillidium)</b>		fulgida	89
acuminata	103	<i>fulvum</i>	82	<i>Harveyi</i>	94
patula	103	<b>Pinna</b>		inconspicua	89
		<i>fragilis</i>	64	<i>interrupta</i>	89
		<i>ingens</i>	63, 64	<i>labiosa</i>	89
		<i>pectinata</i>	63	membranacea	89
		rudis	63	parva	88
<b>Pandora</b>		<b>Pleurobranchus</b>		var. <i>interrupta</i>	89
inæquivalvis	77	membranaceus	105	proxima	89
var. obtusa	77	<b>Pleurotoma</b>		punctura	88
obtusa	77	attenuata	101	reticulata	88
<b>Patella</b>		brachystoma	101	<i>rubra</i>	90
<i>ancyeloides</i>	82	costata	101	<i>rufilabrum</i>	89
<i>athletica</i>	81	var. <i>coarctata</i>	101	semistriata	90
<i>Clealandi</i>	82	<i>linearis</i>	101	var. <i>alba</i>	90
<i>pellucida</i>	81	nebula	101	var. <i>pura</i>	90
vulgata	81	<i>purpurea</i>	101	soluta	89
var. depressa	81	rufa	102	striata	89
<b>Pecten</b>		var. lactea	102	striatula	88
<i>Danicus</i>	62	var. <i>Ulideana</i>	102	<i>ulvæ</i>	90
<i>furtivus</i>	62	septangularis	101	violacea	89
<i>lævis</i>	62	striolata	101	vitrea	89
maximus	63	<i>Trevelyana</i>	102	<i>Warrenii</i>	94
<i>obsoletus</i>	62	turricula	102	Zetlandica	88
opercularis	62	<i>Ulideana</i>	102	<b>(Rissoina)</b>	
var. lineata	62	<b>Propilidium</b>		<i>Bryerea</i>	90
pusio	62	<i>ancyeloides</i>	82		
septemradiatus	62	<b>Psammobia</b>			
similis	63	costulata	73	<b>Saxicava</b>	
<i>sinuosus</i>	62	Ferröensis	73	<i>arctica</i>	78
striatus	63	tellinella	73	rugosa	78
Testæ	62	vespertina	73	var. <i>arctica</i>	78
tigrinus	62	<b>(Pulicaster)</b>			
varius	62	<i>decussata</i>	72		
		<i>perforans</i>	72		

<b>Scalaria</b>		<i>var. elongata</i>	71	<i>papillosus</i>	86
communis	91	<i>var. Sarniensis</i>	71	<i>pusillus</i>	84
clathratula	92	<b>Tectura</b>		striatus	85
<i>clathrus</i>	91	fulva	82	tumidus	84
<i>Eschrichti</i>	92	testudinalis	82	umbilicatus	85
Trevelyana	92	virginea	82	undulatus	84
Turtonæ	91	<b>Tellina</b>		zizyphinus	86
<b>Scaphander</b>		Balthica	72	<i>var. elata</i>	86
lignarius	104	crassa	72	<i>var. Lyonsii</i>	86
<i>var. alba</i>	104	donacina	73	<b>Trophon</b>	
<b>Scissurella</b>		fabula	72	Barvicensis	99
crispata	84	incarnata	73	clathratus	99
<b>Scrobicularia</b>		pusilla	73	muricatus	99
alba	75	<i>pygmea</i>	73	<i>Syracusanus</i>	100
<i>var. curta</i>	75	solidula	72	truncatus	99
nitida	75	squalida	73	<b>Truncatella</b>	
piperata	75	tenuis	72	Montagui	91
prismatica	75	<b>Terebratula</b>		truncatula	91
tenuis	75	aurita	61	(Turbo)	
( <b>Sigaretus</b> )		capsula	61	dispar	90
perspicuus	97	caput-serpentis	61	subtruncata	91
tentaculatus	97	( <b>Teredo</b> )		<b>Turritella</b>	
<b>Skenea</b>		Norvegica	79	Hibernica	92
costulata	98	<b>Thracia</b>		terebra	91
depressa	90	convexa	77	(Turtonia)	
divisa	84	declivis	77	minuta	67
nitidissima	91	distorta	78		
planorbis	90	papyracea	77		
<i>var. trochiformis</i>	90	<i>var. villosiuscula</i>	77		
rota	91	phaseolina	77	<b>Utriculus</b>	
<b>Solecurtus</b>		pratenuis	77	hyalinus	103
antiquatus	76	pubescens	77	mammilatus	103
candidus	76	villosiuscula	77	obtus	103
coarctatus	76	( <b>Tornatella</b> )		<i>var. Lajonkaireana</i>	103
<b>Solen</b>		fasciata	104	truncatulus	103
antiquatus	76	<b>Trichotropsis</b>			
ensis	76	borealis	97		
legumen	76	( <b>Triphoris</b> )			
marginatus	76	adversus	98	<b>Velutina</b>	
pellucidus	76	( <b>Triton</b> )		lævigata	97
siliqua	76	erinaceus	99	<i>var. candida</i>	97
vagina		<b>Trochus</b>		<b>Venerupis</b>	
( <b>Sphœnia</b> )		cinerareus	85	Irus	78
Binghami	78	cinerus	84	<b>Venus</b>	
( <b>Syndosmya</b> )		Clelandi	86	aurea	74
alba	75	Duminyi	85	cancelata	71
intermedia	75	exasperatus	85	Casina	70
prismatica	75	exiguus	85	exoleta	70
		granulatus	86	fasciata	70
		Grœnlandicus	84	gallina	71
		helicinus	84	lincta	70
		<i>var. fasciata</i>	84	œnea	71
<b>Tapes</b>		lineatus	85	ovata	71
aureus	71	littoralis	85	Pennantii	71
decussatus	72	magus	84	Sarniensis	71
pullastra	71	Montacuti	85	striatula	71
<i>var. oblonga</i>	72	Montagui	85	striolata	71
<i>var. perforans</i>	72	millegranus	86	verrucosa	71
virgineus	71				

