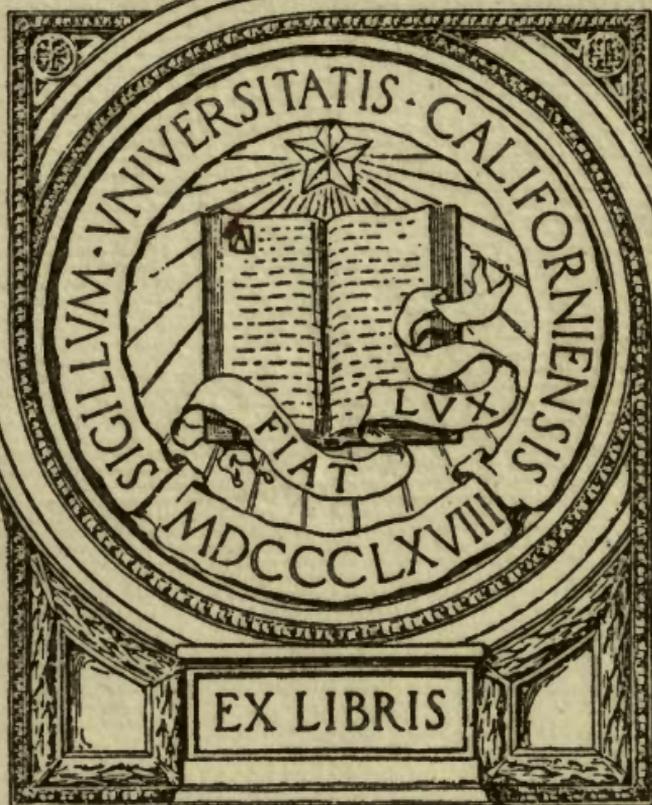


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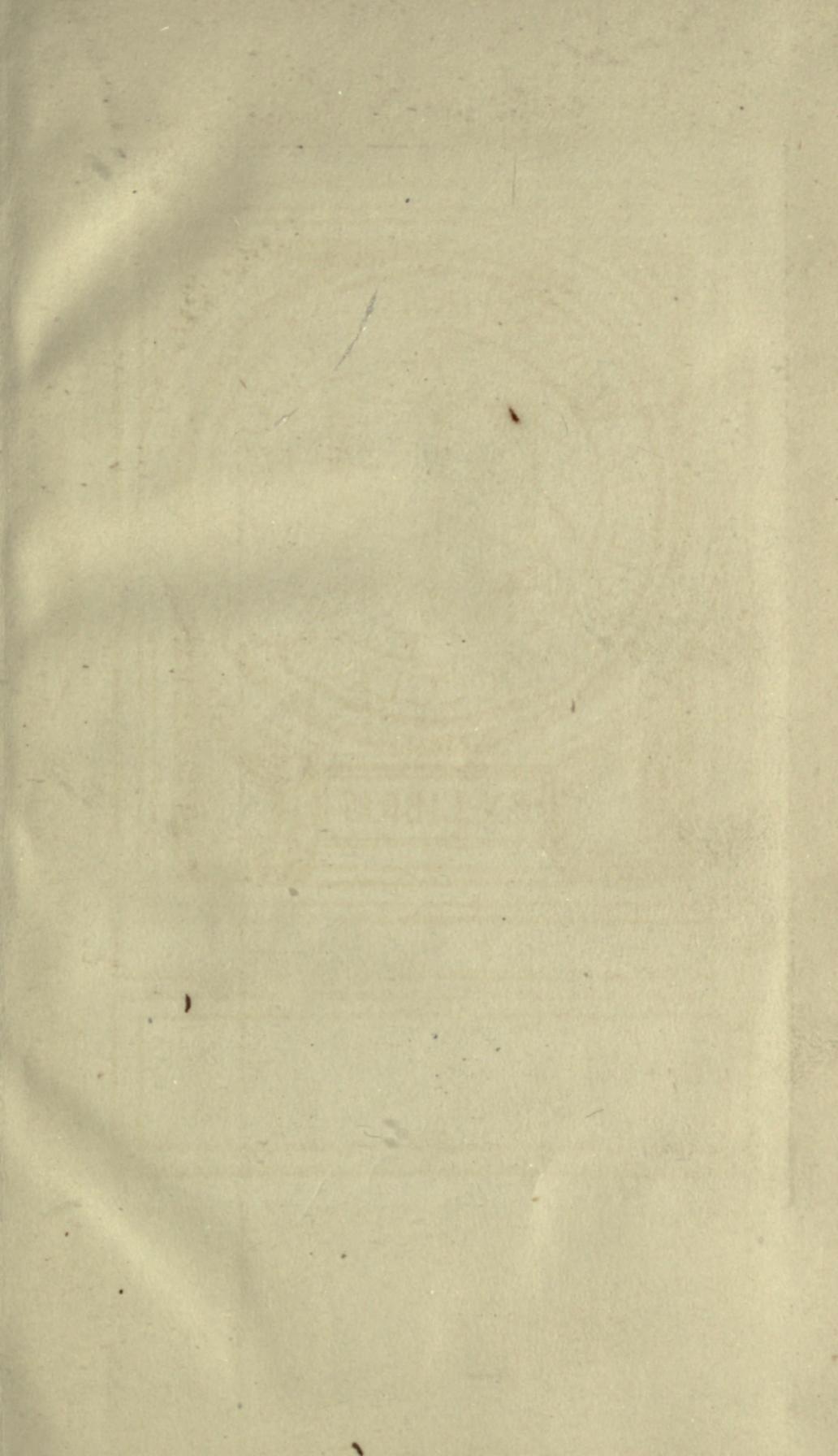
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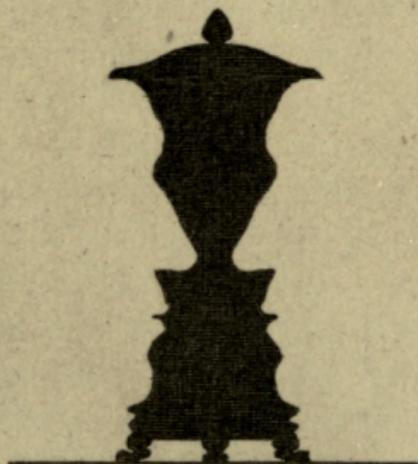
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1845



A  
CONCHOLOGICAL  
DICTIONARY  
OF  
The British Islands.

BY  
WILLIAM TURTON, M.D.  
ASSISTED BY  
HIS DAUGHTER.



*"Hæc studia adolescentiam alunt, senectutem oblectant, secundas  
res ornant, adversis solatium et per fugium præbent."*

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# PREFACE.

The elegance and simplicity in the texture of  
these shells, the richness and variety of their  
colors, and the singularity in many of their forms,  
have ever excited attention to this confined but  
interesting department of created nature; and the  
desire has been felt to have a facility with which they may be col-  
lected and arranged, together with the durability of  
their structure, make them peculiarly adapted for  
the display of a cabinet. They have, however, never  
been entirely confined to the use of curiosity,  
but have found a more useful employment. The inhabitants of  
many of them give a rich and nutritious food. The  
outer part of the lime used in America, for agri-  
cultural and architectural purposes, is made of cal-  
careous shells; the public works of Constantinople  
and Santa Cruz, are paved with the Silesites  
shells; and the town of Constantinople is entirely  
built of marine shells. The blue and white beds  
of the Islands of North America, are composed of  
shells and sand, in opposition to the white beds,  
which are composed of sand and shells. The  
shells of the Virgin mountains; and the natural  
formation of the rocks of the Alps, are  
entirely composed of shells. The military men of Italy  
have used the shells of the Virgin mountains for  
the purpose of building the walls of their cities, and  
the shells of the Virgin mountains, in Italy,



## P R E F A C E.

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**T**HE elegance and simplicity in the contour or shape of shells, the richness and variety of their colors, and the singularity in many of their forms, have ever excited attention to this confined but interesting department of created nature : and the comparative facility with which they may be collected and arranged, together with the durability of their structure, make them peculiarly adapted for the display of a cabinet. Their uses, however, have not been entirely confined to the gaze of curiosity, or to fanciful embellishment. The inhabitants of many of them give a rich and nutritious food. The greater part of the lime used in America, for agricultural and architectural purposes, is made of calcined shells : the public streets of Christianstadt and Santa Cruz, are paved with the *Strombus Gigas* ; and the town of Conchylium is entirely built of marine shells. The blue and white belts of the Indians of North America, as symbols of peace and amity, in opposition to the war hatchet, and by which the fate of nations is often decided, are made of the *Venus mercenaria* ; and the gorget of the chieftain's war-dress is formed of the *Mytilus margaritiferus*. The military horn of many African tribes is the *Murex Tritonis* ; the rare variety of which, with the volutions reversed, is held

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sacred,

sacred, and used only by the high-priests. The highest order of dignity, among the Friendly Islands, is the permission to wear the *Cypræa Aurantium*, or orange cowry. And Lister relates, that the inhabitants of the province of Nicaragua fasten the *Ostrea virginica* to a handle of wood, and use it as a spade to dig up the ground. As matter of traffic they bear a nominal value and appreciation, proportionate to their supposed scarcity or beauty. Rumphius is said to have given nearly a thousand pounds for one of the first discovered specimens of the *Venus Dione*. The *Conus Cedo nulli*, so very rarely offered for sale, is valued at three hundred guineas. The *Turbo Scalaris*, if large and perfect, is worth a hundred guineas: the *Cypræa Aurantium*, without a hole beaten through it, is worth fifty: and it has been calculated, that a complete collection of the British Conchology is worth its weight in pure silver. In an economical and political view, they are of no inconsiderable import. Pearls, the diseased excrescences of mussels and oysters, form a portion of the revenues of these and some other kingdoms; and constitute, with jewels, the rich and costly ornaments, by which the high and wealthy ranks of polished society are distinguished. The *Cypræa Moneta*, or money cowry, forms the current coin of many nations of India and Africa; and this covering or coat of an inconsiderable worm, stands at this day as the medium of barter for the liberty of man; a certain weight of them being given in exchange for a slave. The scholar needs not the reminiscence, that the suffrages of the ancient Athenians were delivered in





in, marked upon a shell; the record of which is still commemorated in the derivation of our terms, testament, and attestation. As one of the principal agents of decomposition and gradual dissolution, the geologist will find his researches assisted by an examination into their rapid and astonishing powers of perforating and disuniting rocks of calcareous sandstone, limestone, marble, and even the hardest masses of granite and porphyry, wherever they come in contact with the ocean: and by a comparative examination of the different stratifications of marine testaceous depositions, he may eventually be led to some important conclusions as to the probable elevation of the general deluge.

But the systematical conchologist has a loftier and more noble object in his pursuit; to unfold a leaf from the great book of Nature: that portion of which, respecting the treasures of our own islands, it has been our study to contemplate, and our wish to explain. Although we have not been honored by the use of the library of the venerable patriarch of natural history, Sir Joseph Banks, without which, we are informed by a modern compiler on this subject\*, “no writer can hope to attain any tolerable degree of perfection;” we have not been entirely without the means by which this study can be best understood and most faithfully displayed. The whole of what is described, ourselves have seen and accurately examined, with the exception of such as are indistinct and not to be found in cabinets, a few of the rarer and nearly unique species, and some microscopic objects, the

\* *Dillwyn* (Advertisement).

number of which is daily lessening. We may also hope to escape a sort of sneer by another modern writer \*, of "indulging ourselves in a conjecture only on plates."

Such as we have examined in a living state, are marked *v. v.* (*vidimus vivam*); and those which have been examined in a dead state only, *v. m.* (*vidimus mortuam*).

In the figures which accompany this work, it was our wish to have presented all which we had considered as new acquisitions; but the nature of the intention would in some measure have been frustrated, by the representation of minute objects; as our design, in this respect, was chiefly explanatory.

Every species which has hitherto been found in the British Islands, we have thought it proper to record, leaving to individual collectors their own ideas of purity as to patriotal adoption.

The practical conchologist will make himself acquainted with all the most probable habitats of his object. With dredgers and trawlers he will carefully examine the produce of their toils, even the pieces of perforated rocks or timber which may be brought up. The sea shores; the under surfaces of loose stones; the minutest crevices of rocks which may be uncovered at low water; the mouths of rivers and their soils, especially when laid bare by the recess of the tide; sandy coves and inlets of the ocean; fine or drifted sand; sea weeds, with their roots; all marine refuse; floating timber, and the bottom of vessels; and even the stomachs of fish.

\* *Maton*, Descriptive Catalogue, p. 56.



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The land and fresh-water kinds will in all situations present themselves. In hedges and ditches; in streams and stagnant waters; in the crevices of rocks and old walls; in the clefts of the bark and at the roots of trees; in arid plains and upland meadows, after the grass has been mown; in woods and marshes, and on mountains; under stones and fallen timber; on the leaves and at the roots of plants; and under the top stones of the loftiest buildings.

To assist his pursuits in the accomplishment of these ends, it will be necessary to be provided with a small conchological apparatus, easily portable. A chisel and hammer; a knife and a saw; boxes and bags for the preservation of minute species; a pocket magnifier, with two or three powers; a spoon, such as is described in Brown's Elements, five inches long and three and a half wide, of an oval shape, with a rim about an inch in height, and a hollow handle by which it may be put on and taken off the end of a stick or umbrella: this implement is well adapted for the collection of fresh-water shells, and sifting fine sand.

Live shells are always preferable to dead ones: and the animals of the spiral kind may be easily removed, by putting them first into hot water and afterwards into cold to diminish their bulk, when they may be carefully removed by a pin or other pointed instrument. Sea shells may be soaked in fresh water for a night, to dissolve any salt particles which might corrode them. Before they are placed in the cabinet, wash them well with a small brush in soap and water; and if a polish be necessary,

two drachms of gum arabic or gum mastich, dissolved in two ounces of spirits of wine, will make a light transparent varnish, easily to be washed off. And to remove the outer coat of the Trochi, or such as it may be the wish to preserve in an uncoated state, the muriatic acid, diluted with water according to the strength of the shell, may be used; and afterwards to give the highest lustre, the manual operation of rubbing with pumice stone, tripoli, or rotten-stone. Specimens should also be collected in their different stages of growth; for the young of many shells have so different an appearance from their full-grown state, as to be often mistaken for distinct species.

The more minute ones, as soon as they are ascertained, may be fixed by gum water on black or white cards, according to the opposition of their colors, labelled with their generic and specific names, and their exact habitats, with the addition of *v.* or *m.* to signify whether they have been procured in a living or a dead state.

It has also been our habit to place a mark in the margin of the descriptive work we generally use, against the species as it first occurred to us, by which, at one view, we distinguish such as we possess, and such as are among our desiderata,



# CONSTITUTIONAL HISTORY

THE HISTORY OF THE CONSTITUTION OF THE UNITED STATES

The history of the Constitution of the United States is a subject of great interest and importance. It is a subject which has attracted the attention of the people of this country for many years. The Constitution is the foundation of our government, and its history is the history of our nation.

The Constitution was adopted in 1787, and it has since then been the basis of our government. It has been amended many times, but the basic principles of the Constitution have remained the same. The Constitution is a living document, and it has adapted itself to the needs of the people of this country over the years.

The Constitution is a document of great importance, and it is the duty of every citizen to know its history and its principles. The Constitution is the foundation of our government, and it is the duty of every citizen to understand it and to support it.

The Constitution is a document of great importance, and it is the duty of every citizen to know its history and its principles.

## CONCHOLOGICAL AUTHORS.

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THE following works, to which we have generally and almost exclusively referred, and of which we will endeavour to give a short account, will probably furnish a library fully competent to all the purposes of a complete knowledge of British Conchology, both in description and delineation, as far as it has hitherto been illustrated. The learner may also avail himself of the Elementary Introductions of Brooks, Brown, or Burrow.

*Broun, Wern. Soc.* Account of the Irish Testacea; by Thomas Brown, Esq. F.L.S.—M.W.S.—M.K.S. &c. in vol. ii. part 2. of The Memoirs of the Wernerian Society, with a plate of some new and rare subjects.

We are anxious to correct an error, for which, as it may have originated in our own carelessness, we cannot but consider ourselves in a great measure responsible. Among a parcel of shells which we transmitted to Captain Brown, as collected on the Irish coasts, there was by accident included the spiral termination of *Serpula lumbricalis*, which he has figured and described under the name of *Turbo pentangularis*.

*Da Costa.* The British Conchology, by Emanuel Da Costa, quarto, 1778, with 17 colored plates. One of the truly original works on this subject. One hundred and twenty-seven species are well delineated, and many more faithfully and minutely described, both in English and French, all from the subjects themselves. The arrangement is not according to the Linnéan system: but it possesses the rare, and we believe unique, excellence of giving the whole of the synonyms in the words of the respective authors themselves.

To the student who may wish to compare his specimens with the figures of this author, it may be proper to remark, that

that in the eighth plate, the figures 1 and 3, of *Turbo Pul- lus*—2, of *Voluta tornatilis*—4, of *Murex costatus*—5, of *Buccinum lineatum*—6 and 9, of *Turbo Cimex*—7, of *Murex Erinaceus*—10, of *Turbo striatulus*—12, of *Turbo Lacuna*—13, of *Murex reticulatus*—and 14, of *Strombus costatus*, are erroneously represented as having the volutions reversed: and that all these errors have been copied in the fourteenth plate of the Dorset Catalogue.

*Dillwyn.* A Descriptive Catalogue of recent Shells, arranged according to the Linnéan method, by Lewis Weston Dillwyn, F.R.S. and F.L.S. in two vols. octavo, 1817.

Of a forcible and comprehensive intellect, Mr. Dillwyn has already given sufficient proofs. In his present work, however, we cannot resist the suspicion, that he has yielded much to conjecture, and formed his specific characters, more in accommodation to his own opinions than strict precision will justify.

*Tellina Radula* and *Venus spuria* are united, with the specific characters of each combined together. Both the species are before us. The former is dull brownish white, with numerous rough rasp-like transverse ridges, without the longitudinal groove or flexure on the anterior side, where the margin runs in a straight direction from the beaks; the inside is slightly striate longitudinally, with two primary teeth only in each valve. The latter is glossy-white, with a few transverse wrinkles, and a longitudinal groove down the anterior side, where the margin is rounded from the beaks; and the inside has no longitudinal striæ, with three primary teeth in each valve. The *Solen vesper- tinus* of modern authors, is referred to the *Tellina albida* of Linné, with the observation that it answers to the description in the *Systema Naturæ*; a correspondence which we cannot exactly acknowledge. The *T. albida* is described as smooth, and having three teeth in each valve. The *Solen vesper- tinus* is transversely striate, and has a single tooth in one valve and two in the other. Our *Tellina tenuis*, which has a single cloven tooth in one valve, and two in the other, with a minute lateral tooth in one valve only, is referred to the *T. balaustina* of Linné, omitting to observe, that this last is described as having lateral *teeth* in one valve; *valvulâ alterâ dentibus lateralibus*. His *Venus ri- gida*,





gida, and the V. Casina, we believe to be the same species ; and also the Trochus papillosus, and Tr. Granatum.

These and some other circumstances have inclined us to forbear the adoption of his numerous alterations, in many of which we have conviction he is in error.

For a future edition of his work, we will venture to give Mr. Dillwyn a few hints ; and they are meant as friendly ones. Conus Thomæ should be C. Omæ, or after Brugniere, C. Omaicus : St. Thomas being a corruption of St. Oma's, or of the island from whence it is procured. See Calonne's Catalogue, p. 15. n. 239, whom Mr. Dillwyn has misnamed Callone through his work. In the description of Murex scriptus, we think the words striæ and stripes are used as synonymous. At p. 999, the reference to Da Costa's British Conchology for a figure of Nerita pléxa, should probably be to Da Costa's Elements. And it is among the errors which have been copied from Maton and Rackett's Descriptive Catalogue, to affix the letter A in the quotations from Lister's figures, as at p. 895. It has no relation whatever to the plate or the figure, but merely signifies that Lister knew it to be English, *Anglica*.

In his attempts to criticise the characters as established by Linné, we do not think Mr. Dillwyn has been very fortunate. The Buccinum Glans he considers as incorrectly described with two teeth on the pillar-lip, observing that he has never been able to find more than one. In the specimens now before us, and in all which we have examined, there are evidently and visibly two teeth at the upper angle of the pillar, the lower of which is much smaller ; besides a strong tooth-like projection pointing outwards near the base. He doubts the propriety of the term, *apice spirali acuto*, as applied to the Serpula lumbricalis, suspecting that the spiral end is the part by which it is affixed. A slight glance at any one specimen would have satisfied Mr. D. that the larger and open end is attached at the different points of contact, caused by its undulating surface, and that the spiral part is detached and nearly erect, as is well represented in Lister's plate. The closed and pointed end of a taper univalve shell is its proper apex. And had Mr. Dillwyn well examined the Helix stagnalis, one of the most common of our fresh-water shells, he would not have expressed

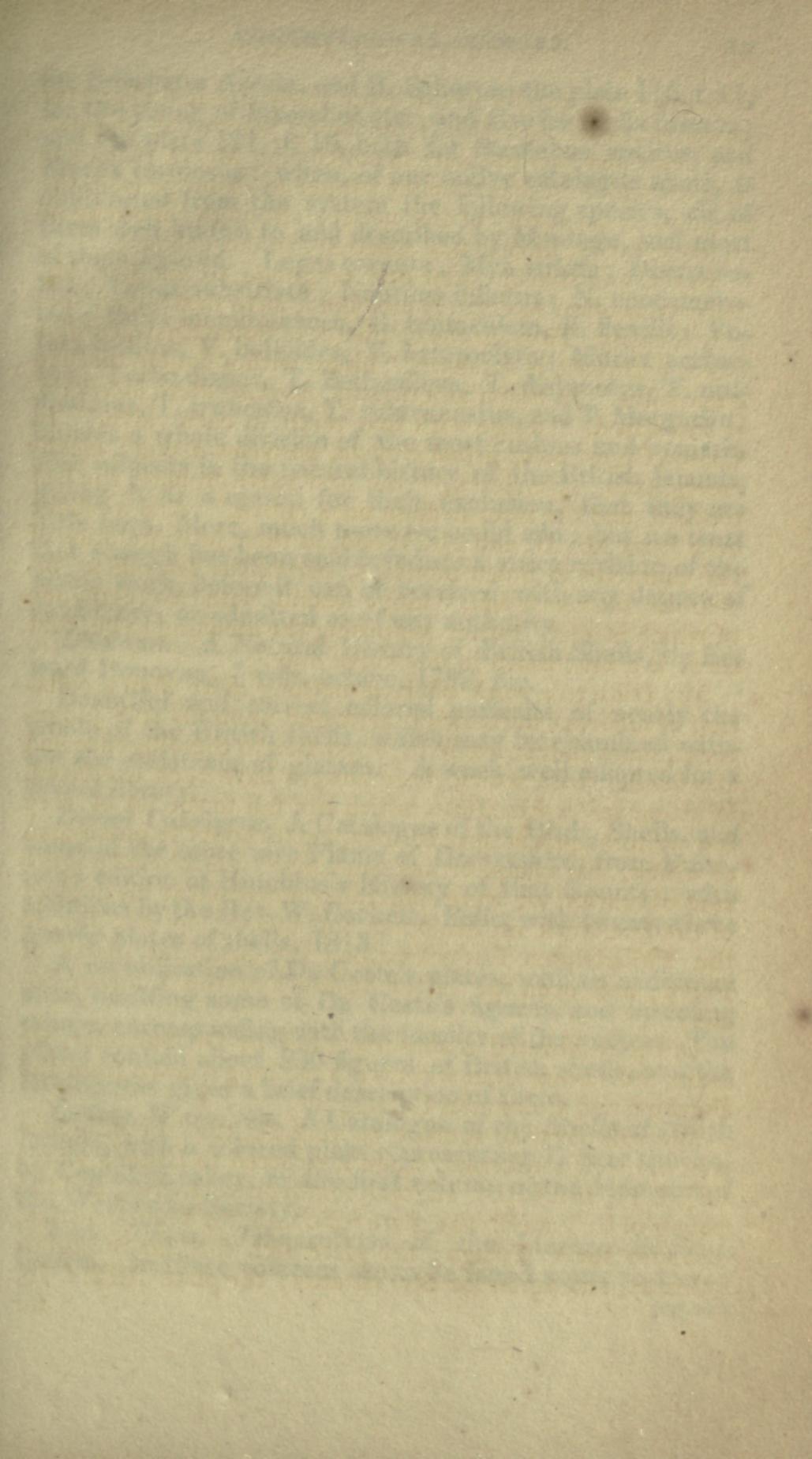
expressed his wonder at the exquisitely finished character by Linné, who describes it as being somewhat angular. We shall also feel pleasure in convincing Mr. D. that some species which he has thought proper to expunge from the system, as unworthy of his notice, although they may be of great rarity, have actual existence in our cabinet.

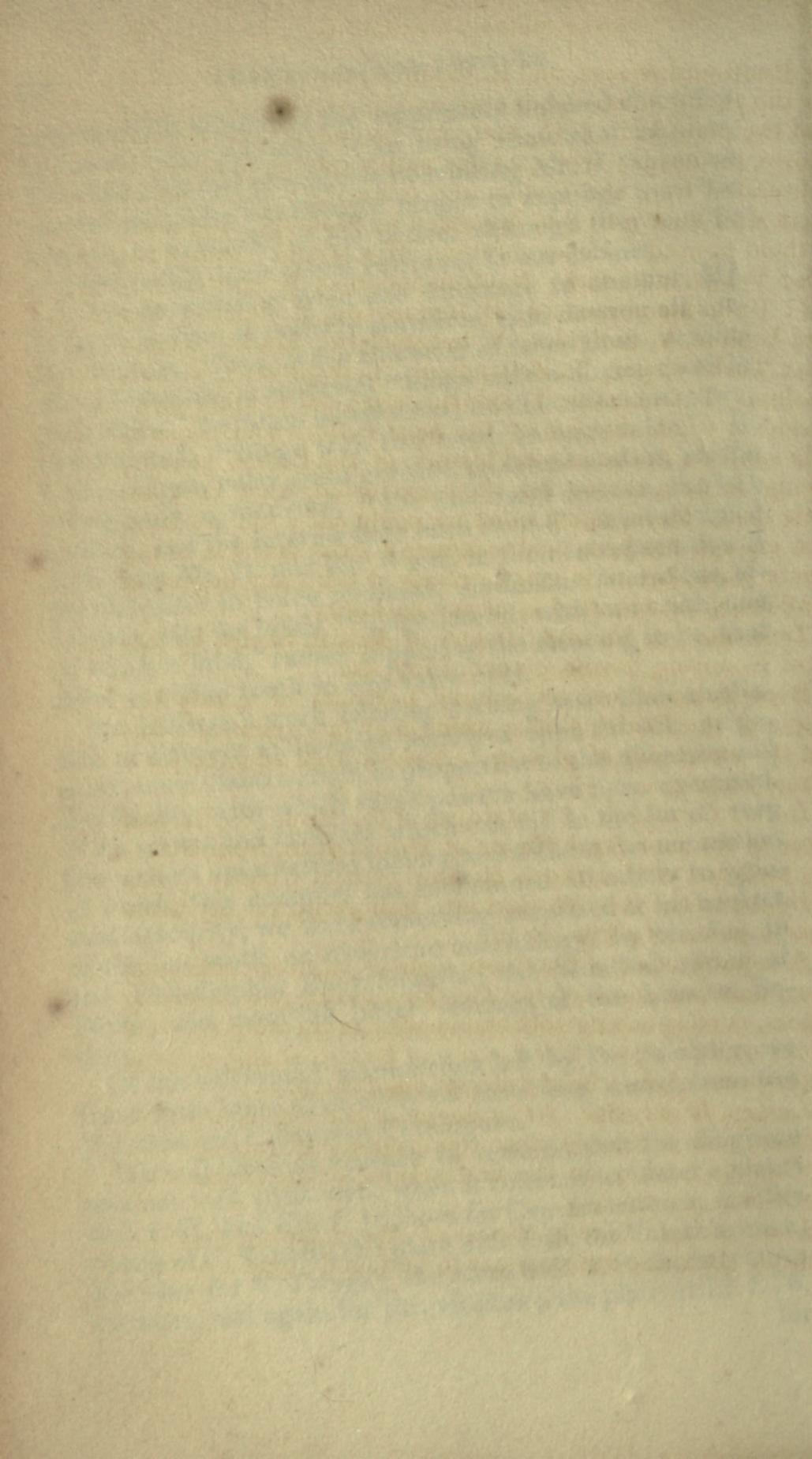
In the transfusion from one language to another, Mr. Dillwyn is often so entirely mistaken, as to destroy all specific identity. Thus, in the character of *Solen Ensis, cardine altero bidentato*, is rendered "hinge with a double tooth in each valve." In *Solen amethystus, cardine altero bidentato*, is translated, "hinge with two teeth in each valve." In *Chiton Gigas, valvâ primâ crenata, postremâ dentatâ, mediis emarginatis*, is rendered, "the first valve crenate, the last toothed, and the intermediate ones entire." And we differ both from Mr. D. and Mr. Wood, in their interpretation of the character in *Solen minimus, cardinibus lateralibus, bidentatis, alterius bifido*, "hinge lateral, with two teeth, one of which is bifid," rather supposing the meaning to be, that there is a bifid tooth in one valve only.

Mr. Dillwyn's work offering nothing more than a collation of different authorities, arranged upon his sole judgment, must claim a credit in proportion to the diligence and the fidelity with which these powers have been exercised. With means and facilities which can fall to the lot of very few writers upon natural history, and without the possession of which, this compiler has condemned all others to ignorant obscurity, we were something surprised at his neglect of the fine work on American conchology, by Mr. Jay, in the Philadelphia Encyclopædia; the beautiful plates of Perry; and even the latter volumes of the Linnéan Society.

Of the celebrated manuscripts left by Dr. Solander, we learn little more than what we have long known from the Portland and Calonian Catalogues.

We will likewise venture to remark, that the diligence was not well awakened, when it referred to Lister's plates 667. f. 11, and 670. f. 16; both for *Cypræa cinerea*, and the young of *C. Vanelli*; the plate 825. f. 45, for *Voluta rustica*, and also for *V. Tringa*; the plate 852. f. 8, for *Strombus sulcatus*, and again for *Str. vittatus*; the plate 1012. f. 76,  
for





for *Buccinum Areola*, and *B. Saburon*; the plate 116. f. 11, for the young of *Strombus ater*, and also for *Helix fuscata*; and the plate 121. f. 16, both for *Strombus auritus*, and *Murex torulosus*: when, of our native catalogue alone, it obliterated from the system the following species, all of them well known to and described by Montagu, and most of them figured. *Lepas cornuta*; *Mya striata*; *Donax rubra*; *Venus substriata*; *Nautilus inflatus*; *N. concameratus*; *Bulla membranacea*, *B. tentaculata*, *B. flexilis*; *Voluta hyalina*, *V. bulloides*, *V. heteroclyta*; *Murex accinctus*; *Turbo dispar*, *T. Zetlandicus*, *T. disjunctus*, *T. nitidissimus*, *T. truncatus*, *T. subtruncatus*, and *T. Margaria* besides a whole division of the most curious and remarkable subjects in the natural history of the British Islands, giving it as a reason for their exclusion, that they are little ones. More, much more we could add; but we trust that enough has been said to induce a strict revision of the whole work, before it can be received with any degree of confidence, or admitted as of any authority.

*Donovan.* A Natural History of British Shells, by Edward Donovan, 7 vols. octavo, 1799, &c.

Beautiful and correct colored portraits of nearly the whole of the British shells, which may be examined without the assistance of glasses. A work well adapted for a school library.

*Dorset Catalogue.* A Catalogue of the Birds, Shells, and some of the more rare Plants of Dorsetshire, from Pulteney's edition of Hutchins's History of that County: with additions by the Rev. W. Rackett. Folio, with twenty-three quarto plates of shells, 1813.

A republication of Da Costa's plates, with six additional ones, omitting some of Da Costa's figures, and inserting others, corresponding with the locality of the subject. The plates contain about 230 figures of British shells, and the letter-press gives a brief description of them.

*Laskey, Wern. Soc.* A Catalogue of the Shells of North Britain, with a colored plate representing 17 rare species, by Captain Laskey, in the first volume of the Memoirs of the Wernerian Society.

*Linn. Trans.* Transactions of the Linnean Society, Quarto. In these volumes are to be found some scattered papers

papers on the British Testacea; especially the excellent observations on the hinges of bivalve shells, in the sixth volume, by Mr. Wood. Maton and Rackett's Descriptive Catalogue, in the eighth volume, is subsequently mentioned.

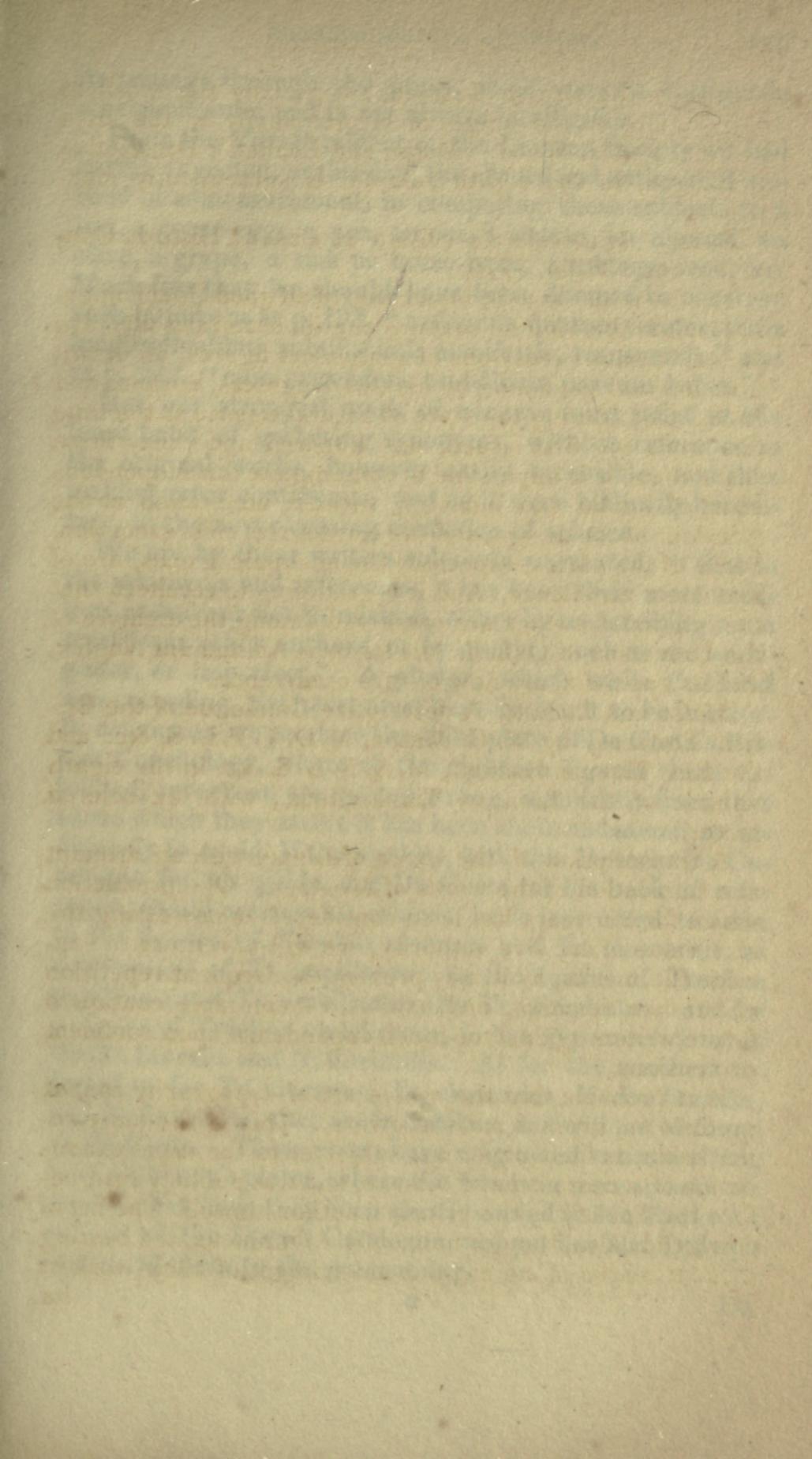
*Lister.* Huddesford's edition of Lister's *Historia Conchyliorum*. Folio, 1770.

The basis and ancient foundation of all good Conchology. This admirable volume contains one thousand and fifty-five plates, besides twenty-one of anatomical figures, all drawn from original specimens by his two daughters, Susanna and Anna. Considering the state of natural science at the time this work was first issued, one hundred and thirty-three years since, it is impossible to contemplate this stupendous effort of genius and industry, without admiration at the grandeur of the design, and the correctness of its execution. Some of the plates, especially the anatomical ones, are of matchless excellence. And it is gratifying to recollect, that the original drawings are preserved among the archives of the University of Oxford. His *Historia Animalium Angliæ*, and its appendix, are now of rare occurrence.

*Maton and Rackett.* A descriptive Catalogue of the British Testacea, by W. G. Maton, M.D. V. P. L. S. &c. and the Rev. Thomas Rackett, M.A. F. L. S. &c. in the eighth volume of the *Linnean Transactions*; with six colored plates.

A transcription of the words of Linné, with an attempt at a translation of the words of Montagu. Of a production which for ten years has been considered as possessing the rare value of decisive authority, we will adventure to examine the merits, as it may prevent the frequent repetition of our own remarks, and exhibit a memorable caution to future writers against too much dependence upon confident pretensions.

It is probable that the whole art of typography cannot produce so gross a mass of errors. This is the more remarkable, as their paper was subjected to the usual examination of a committee of science, and was publicly read before the Society by the principal author himself. The list of corrigenda also, though unusually voluminous, and bearing evident marks of an anxious amendment of their work in  
its



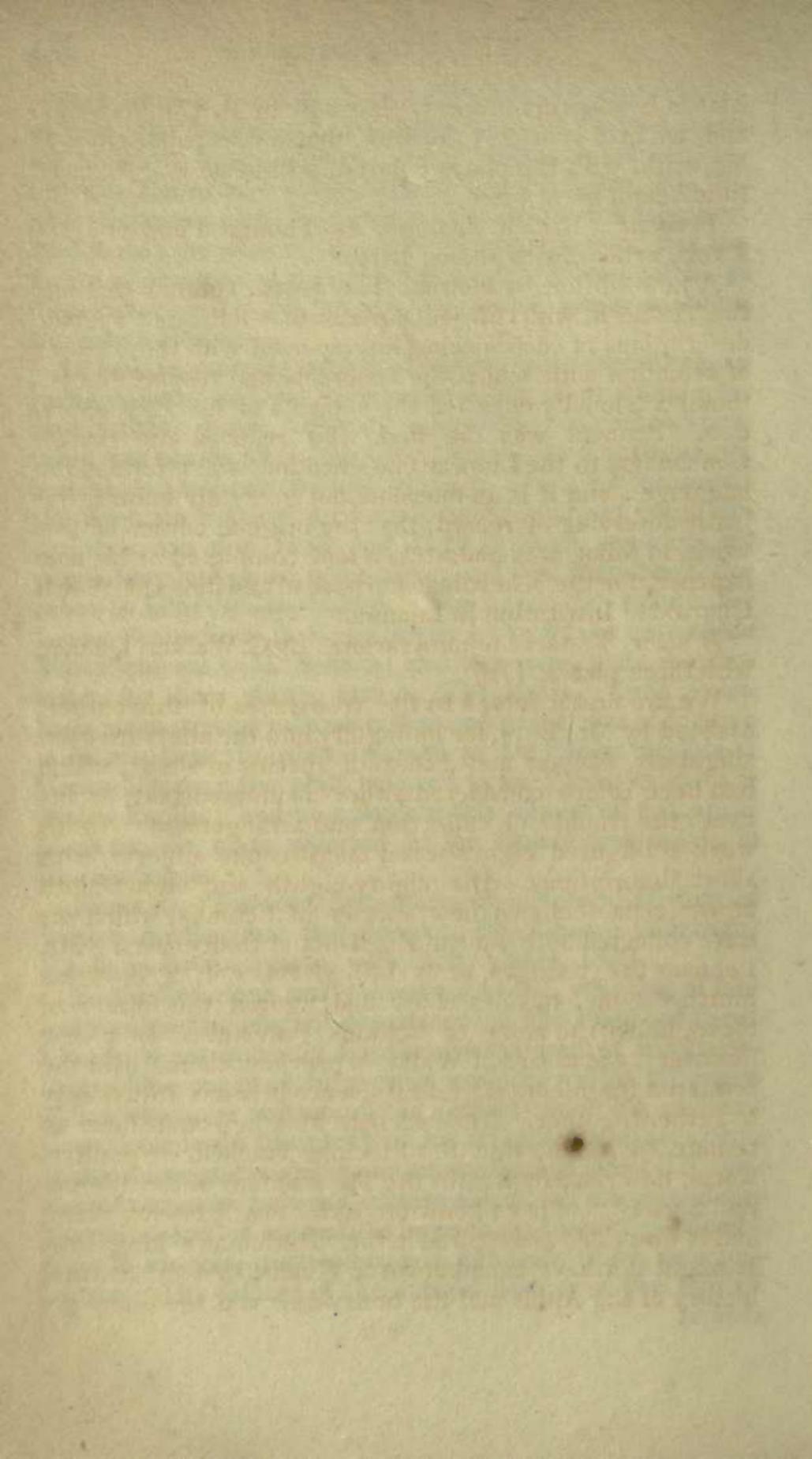
Da Costa has evidently been collated through subsequent writers. His figures of *Lepas anatifera*, and *Turbo Lacuna* are omitted. *Turbo labiatus*, and *T. nigricans* are both referred to the same description, omitting his figure. His *Venus verrucosa*, and *V. Casina*, are confounded together. And it may possibly be an error of transcription, that the figure of *Mactra truncata* is referred to for *Mactra solida*, of *Mya Pictorum* for *Pholas crispata*, and of *Lepas anatifera* for *Solen Siliqua*.

In looking casually over their references to Lister, whose noble volume we have been in the habit of examining for nearly thirty years, we were something puzzled to know what was meant at p. 86, of the Descriptive Catalogue, by a reference to Lister's *Conchology*, p. 1113; till turning to the *Systema Naturæ*, we found that the subject under description was at p. 1113, and 1114 of Linné, one of which pages they had given in its place, and had transferred the other to Lister's *Conchology*. The figure they refer to for *Lepas Scalpellum* is *L. pollicipes*: the figure quoted for *Mya Pictorum* is *M. Batava*; and the same plate is referred to for *Arca pilosa*, and *A. Glycymeris*. Such is also their most strange misconception and perversion of Lister's numbers, that the plate referred to for *Pholas candida* is *Venus Dysera*; the plate referred to for *Pholas crispata* is *Venus Paphia*; and to complete this climax of ridiculous blunders, the plate referred to for *Donax complanata* is *Chama Gigas*.

*Montagu*. *Testacea Britannica*, or a Natural History of British Shells, and Supplement, by George Montagu, F.L.S. in 3 vols. quarto, with thirty plates, 1803.

To this laborious and lyncean naturalist, who that of late has studied this elegant department of the Fauna of these islands, is not indebted for the greater part of his knowledge! The pages of the present work, as well as the pages of all who have written on the subject since his publications, bear large testimony of his diligence and accuracy. In the thirty plates and vignettes are figured about 230 species of the more rare and minute shells, all drawn and engraved under his immediate inspection, from original subjects in his own possession, and generally of his own collection. His cabinet of the natural history of the British islands.

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islands is now very properly placed in the British Museum : and we may venture to predict, that a fine paper copy of his work, with the plates colored, will in no long lapse of time bear a great price.

*Pennant.* British Zoology, by Thomas Pennant, Esq. 4 vols. octavo, with plates, 1812.

A new edition by his son. The fourth volume contains the Testacea, with fifty-nine plates of shells, and specific descriptions of each species, interspersed with those stores of erudition with which the venerable and respectable author occasionally enriched the subjects of his contemplation. Pennant was the first who reduced the British Conchology to the Linnéan classification, and reformed the language : and it is an anecdote not generally known, but justly deserving of record, that the original edition of this work, in folio, was undertaken and completed at his sole expense, for the benevolent purpose of assisting the Welsh Charitable Institution in London.

*Walker.* Testacea minuta rariora. By G. Walker. Quarto; with three plates, 1787.

We are first indebted to the researches of this author, assisted by Mr. Boys, for an inquiry into the diminutive but singularly elegant and beautiful species of shells, which had been before considered either as unimportant, or beneath the trouble of collection and arrangement. In his work are figured eighty-seven microscopic subjects, with short descriptions. His eighty-eighth and eighty-ninth figures represent two new species of Echinus, which we have collected both on the English and Irish coasts. Mr. Pennant the younger, at p. 140. pl. 38. f. 1, 2, 3. of his fourth volume, has described and figured the former of these, under the name of Echinus Pulvinulus, as a new discovery, not aware of Walker's previous claim. But the scattered fragments of general science it is not always easy to gather together. The excellent Montagu could have no remote suspicion, that the Fasciola Trachea, or poultry-worm, described by him in the Transactions of the Wernerian Society, had been known to us for nearly twenty years, and is described and figured in the Gentleman's Magazine. It might not have been known to Curtis, that the natural history of the Aphis and the honey-dew was the discovery

of a French naturalist, a translation of whose paper on this subject is printed in one of the early volumes of the Annual Register. And when Sir Joseph Banks gave his history of the introduction of the Potatoe, in the Transactions of the Horticultural Society, from the notes of Dryander, he was not aware that the same matter had been detailed in Thralkeld's Synopsis *Stirpium Hibernicarum*.

*Wood*. General Conchology, by W. Wood, F. R. S. and F. L. S. Volume the first, octavo, 1815.

This excellent and scientific volume contains sixty colored plates, explanatory of the Genera Chiton, Lepas, Pholas, Mya, Solen, Tellina, and Cardium, with descriptions at large, besides much useful and explanatory matter. Mr. Wood possesses a clear and comprehensive knowledge of the subject, with a peculiar felicity of delineation and description. And we will not abandon the hope, that this respectable author will be eventually induced to a continuation and completion of so great and desirable a design.

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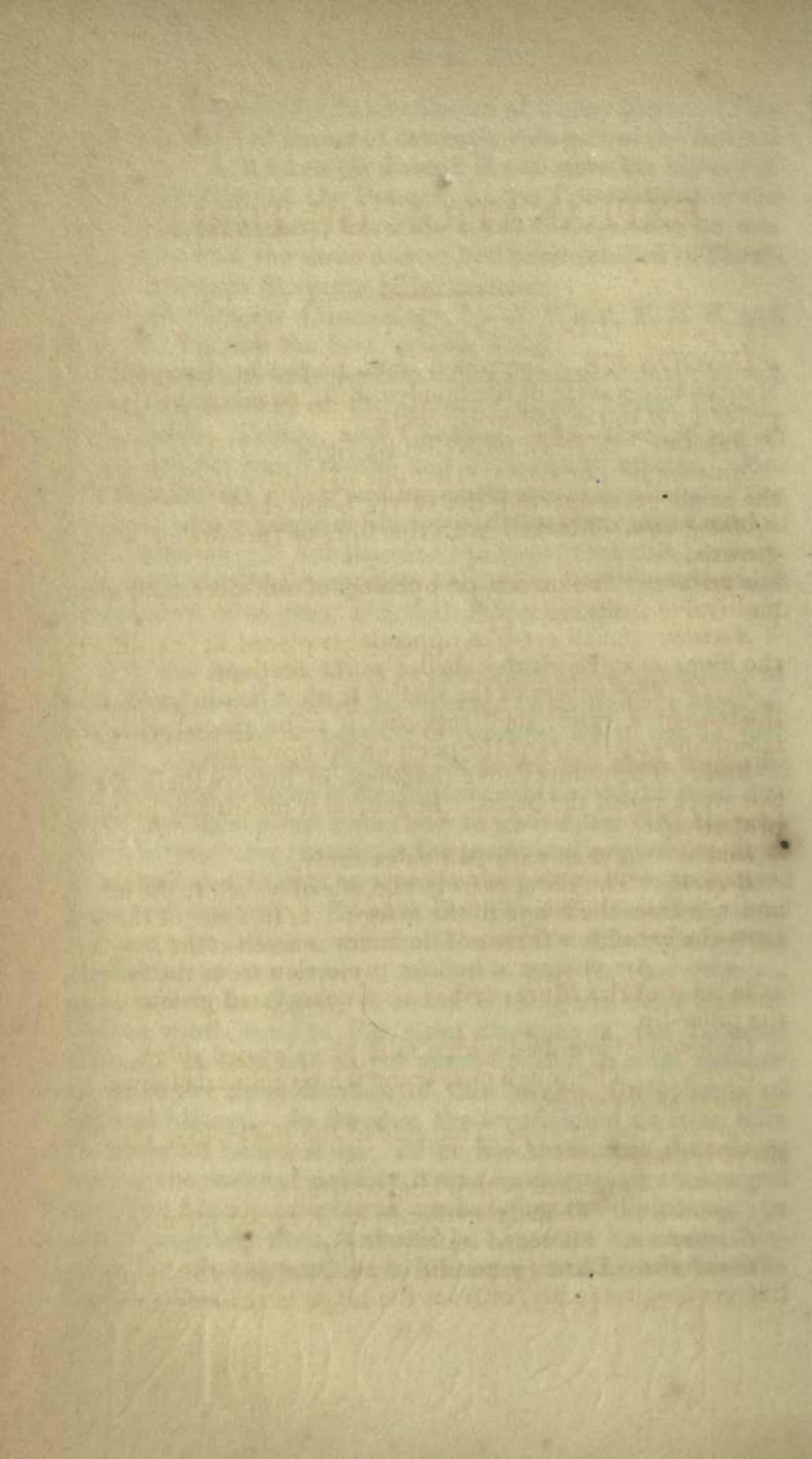
If in the foregone short examination and appreciation of individual merit, it shall be objected to us that we have indulged ourselves in asperity of censure, let it not be forgotten, that it is our duty, as far as we are able, to purify the polluted sources of intelligence and record, to point out gross and indesinent error, and to give every bird his proper feather. Our reverence for truth, and regard for accuracy, will at all times supersede our personal respect, perhaps our courtesy. To such discipline we cheerfully submit our own labours, and shall thankfully acknowledge the correction of our errors; solicitous only for that *χαρις μισ-  
μοις* which the dignity of sound learning can alone bestow.

One word more to the strict disciples of the Linnéan school. It does not as yet seem decided in what manner to write the denomination of this mighty Coryphæus of natural history. In Sweden the termination *us* is an affix to plebeian names only. After his enrolment therefore, among the ranks of nobility, it was consequently exchanged for Von Linné, or a Linné, exchanging the diphthong. In strict propriety then, it should be Linné for his name; Linnéan for what appertains to his name; and Linnéa borealis for his plant.

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## EXPLANATION OF TERMS.

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**ANNOTINATE.** Depressed lines, placed at irregular distances across some of the bivalve shells, to mark their yearly growth; as in the common cockle.

**Annulate.** Marked with circular rings.

**Anterior side, or slope.** That side of bivalve shells to which the cartilage, connecting the valves, is attached.

**Antiquated.** Marked with the lines or furrows of annual growth.

**Aperture.** The mouth or opening of univalve, and some multivalve shells.

**Auricles.** Small ear-like appendages placed at the sides of the hinge of some bivalve shells; as the Scallops.

**Base.** The bottom of the shell. It must be observed, that the base of a spiral shell supposes it to be placed with the mouth downwards, and the point or tip upwards.

**Beak.** The points above the hinge in bivalve shells are in this work called the beaks. In general it means any point or projection.

**Bivalve.** A shell with two valves only.

**Breadth.** The distance from one side of a shell to the other, and not from the hinge to the margin; as in some of the Solenes the breadth is three or four times as much as the length.

**Canal.** An elongated hollow projection from the mouth, as in most of the Murex tribe; or an excavated groove down the pillar-lip.

**Carinate.** Furnished with a keel-like elevated ridge.

**Cartilage.** The tough membrane which connects the valves of the shell together.

**Cartilage side, or slope.** That side of the shell where the cartilage is placed.

**Ciliate.** Furnished with a kind of fringe.

**Complicated.** Folded together in an irregular manner.

**Compressed.** Flattened in the valves.

**Concentric.** Running parallel from one side to the other, but not longitudinally, or from the hinge to the margin.

*Confluent.* Running into each other.

*Convolute.* Rolling regularly over each other.

*Coriaceous.* Of a tough leather-like substance.

*Crenate.* Notched in a rather undulating manner.

*Crown.* The top of the shell.

*Cylindrical.* Elongated and rounded, and of equal diameter throughout.

*Decorticated.* Worn down, as if by accident or design.

*Decussate.* Furnished with fine lines both lengthways and across.

*Denticles.* Small tooth-like protuberances.

*Denticulate.* Furnished with denticles.

*Dorsal.* Appertaining to the outer-surface, or back part of the shell.

*Duplicature.* A fold tending backwards.

*Ears.* Appendages on the sides of the hinge, as in most of the Scallops.

*Effuse.* Having the aperture extending from one end of the shell to the other, and open at both extremities.

*Emarginate.* Notched.

*Ferruginous.* The color of rust or iron-mould.

*Flexuous.* Running in a waved or indented manner.

*Fusiform.* Shaped like a spindle; swollen in the middle, and tapering to each end.

*Gape.* The opening in some of the bivalve shells, when the valves are closed.

*Genus.* A separate family, distinguished from all others by certain permanent marks, called generic characters, and to which all such belong as are furnished with these characters; as the bivalves are known by the hinge and the teeth.

*Glabrous.* Quite smooth, and without wrinkles, lines or ridges.

*Granular, or Granulate.* Covered with pimples or small wart-like protuberances.

*Gutter.* The elongated projection beyond the mouth in some of the Murex tribe.

*Habitat.* The natural local habitation of a shell, or the place where it is generally found.

*Hinge.* The upper part of bivalve shells, where the teeth and connecting cartilage are placed.

*Hyaline.* Transparent like glass or water.

*Inflected.* Bending inwards.

*Imbricate.* Lying over one another, like the tiles of a house.

*Involute.* Turning or rolling inwards.

*Irregular.*



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*Irregular.* With the spires reversed, or turning from left to right when the shell is placed with its mouth downwards.

*Juncture, Junction.* The circular line, where one volution or turn of a spire meets another.

*Laminæ.* Small thin layers, or plate-like teeth.

*Lanceolate.* Shaped like the head of a spear.

*Lateral.* Placed on one or both sides.

*Length.* Extending from the hinge to the opposite margin; as in some of the Solenes the length is not one-third of the breadth.

*Linear.* Extremely narrow in proportion to its breadth, and of nearly equal diameter throughout.

*Lip.* A projection or extension: the margin of the mouth of a spiral shell.

*Lobe.* A rounded division.

*Longitudinal.* Extending from the hinge towards the front margin, or from the tip to the base.

*Membranaceous.* Extremely thin, like a membrane.

*Multivalve.* Having more than two valves.

*Nacred.* Highly polished and lustrous, like mother of pearl.

*Ob* In construction means reversed: as obconic is the resemblance of a cone reversed; oboval a reversed oval.

*Opake.* Not in the smallest degree transparent.

*Orbicular.* Quite round or circular.

*Pillar.* The support which passes through the centre of a spiral shell, and round which the volutions turn.

*Posterior.* The hinder slope or margin of a bivalve shell, is the side opposite to that where the cartilage is placed.

*Radiate.* Furnished with rays, proceeding either from the centre, or the hinge to the margin.

*Reflected.* Turned backwards.

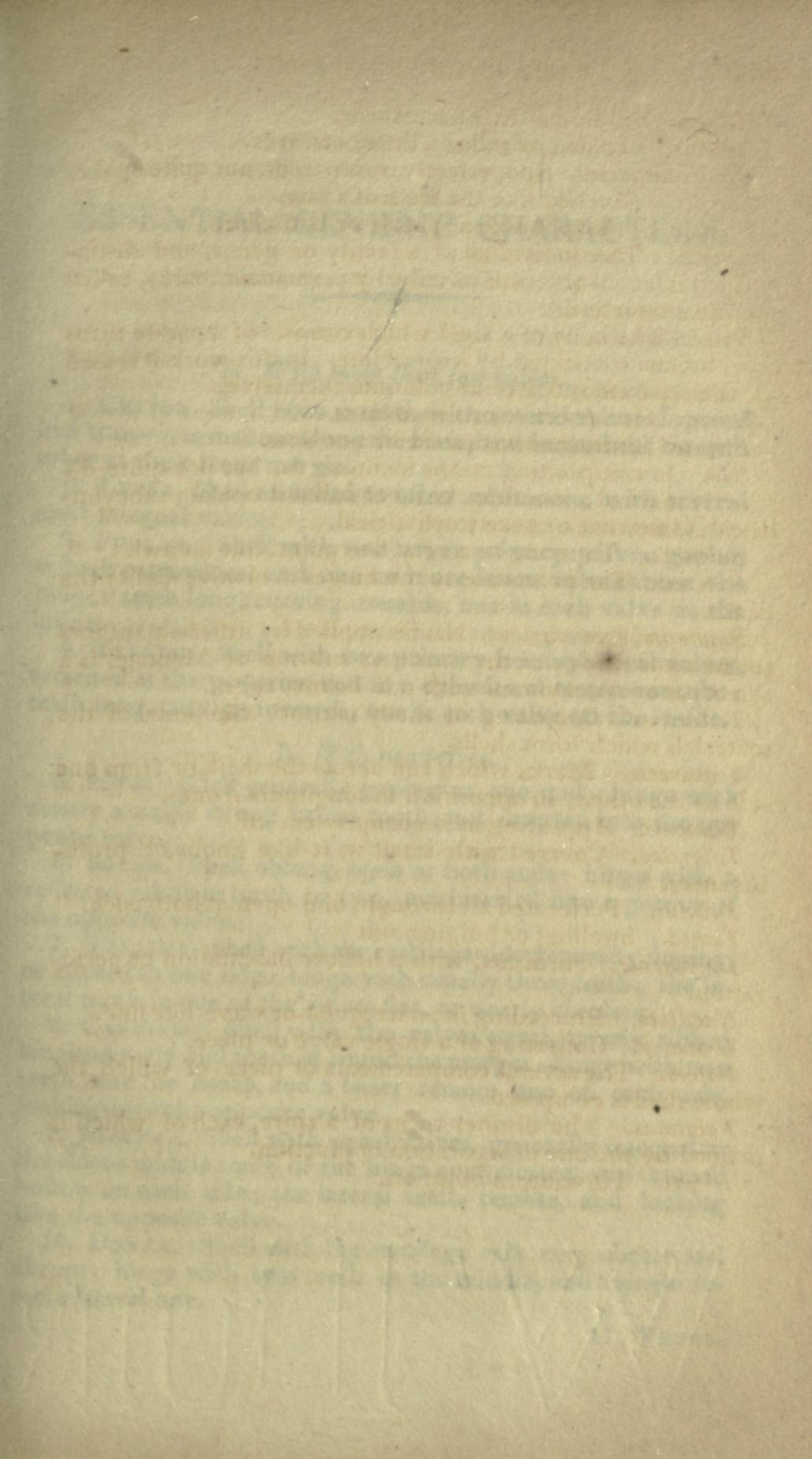
*Regular.* With the volutions turning from the right to the left when the shell is placed with its mouth downwards.

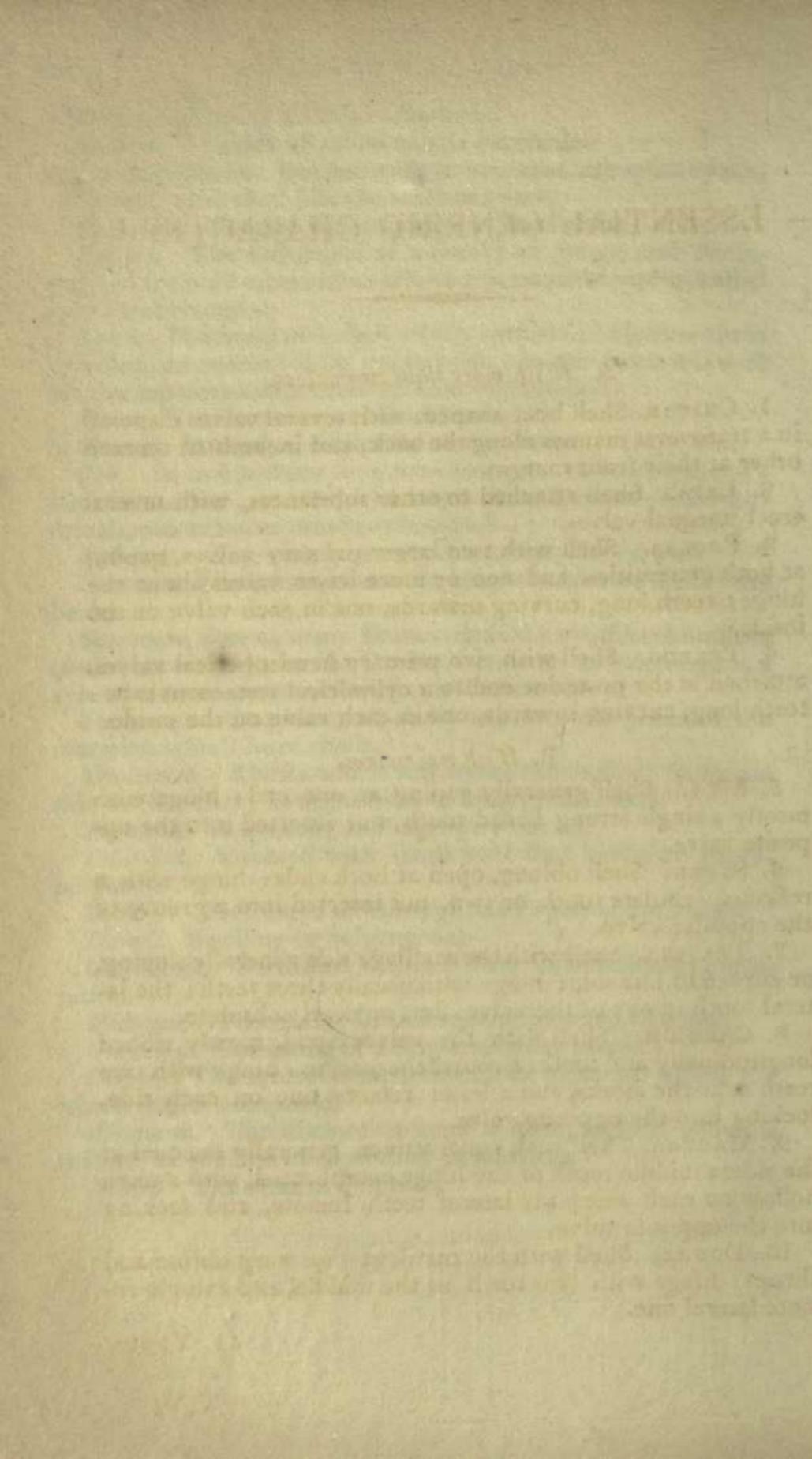
*Reversed.* Applied to a spiral shell whose volutions turn in a contrary direction to the generality of shells; that is, whose volutions turn from the left hand to the right. Hold up a spiral shell with the tip or smaller end upwards, and the aperture towards you: if the mouth or aperture be placed on the right hand of the pillar, and the volutions wind round in that direction, it is called a regular spire; but if the mouth be placed on the left hand of the pillar, and the volutions follow that direction, it is a reversed or irregular shell.

*Reticulate.* Ribbed or marked both lengthways and across, so as to form a kind of network.

*Retuse.*

- Retuse.* Bending a little backwards.
- Revolute.* Folded or rolled a little outwards.
- Semitransparent.* Not perfectly transparent, nor quite opaque.
- Serrate.* Notched like the teeth of a saw.
- Spatulate.* Shaped like a spatula or battledore.
- Species.* The individual of a family or genus, and distinguished from all others of its tribe by permanent marks, called specific characters.
- Spire.* The body of a shell which consists of separate turns or volutions connected by a spiral line. In this work it is used for the separate and several volutions themselves.
- Striæ.* Fine concave or raised lines.
- Striate.* Furnished with striæ or fine lines.
- Sub.* In composition means inclining to, but not quite distinctly marked: as subopaque means almost opaque; subcylindrical, somewhat or nearly cylindrical.
- Subulate.* Tapering to a very fine point, like an awl.
- Summits.* The points above the hinges in bivalve shells: the beaks.
- Synonym, Synonymous.* Names applied by different authors to the same thing: as the *Cardium rubrum* of Montagu is a synonym or synonymous with our *Tellina rubra*.
- Testaceous.* Consisting of shelly matter: composed of the materials which form shells.
- Transverse.* Marks which run across the shell, or from one side to the other; in opposition to longitudinal ones.
- Truncate.* Appearing as if abruptly cut off.
- Tubercled.* Covered with small wart-like knobs or protuberances.
- Tubular.* Perforated all through, and open at both ends.
- Tumid.* Swelling or bulging out.
- Umbilicate.* Furnished with a hollow indentation or perforation.
- Undulate.* Proceeding in an irregular or wave-like line.
- Univalve.* Consisting of a single valve or piece.
- Valves.* The several compartments or pieces of which the whole shell is composed.
- Volutions.* The distinct turns of a spire, each of which is defined by the line of separation or junction.
- Whirl.* The same as volution.





## ESSENTIAL GENERIC CHARACTERS.

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### A. *With more than two valves.*

1. **CHITON.** Shell boat-shaped, with several valves disposed in a transverse manner along the back, and incumbent on each other at their front margin.

2. **LEPAS.** Shell attached to other substances, with several erect unequal valves.

3. **PHOLAS.** Shell with two larger primary valves, gaping at both extremities, and one or more lesser valves about the hinge: teeth long, curving inwards, one in each valve on the inside.

4. **TEREDO.** Shell with two primary hemispherical valves, attached at the posterior end to a cylindrical testaceous tube: teeth long, curving inwards, one in each valve on the inside.

### B. *With two valves.*

5. **MYA.** Shell generally gaping at one end: hinge with mostly a single strong broad tooth, not inserted into the opposite valve.

6. **SOLEN.** Shell oblong, open at both ends: hinge with a reflected subulate tooth or two, not inserted into a groove of the opposite valve.

7. **TELLINA.** Shell with the cartilage side generally sloping, or curved to one side: hinge with usually three teeth; the lateral tooth in one of the valves flat, or nearly obsolete.

8. **CARDIUM.** Shell with the valves equal, mostly ribbed longitudinally and toothed round the margin: hinge with two teeth near the beaks, and a lesser remote one on each side, locking into the opposite valve.

9. **MACTRA.** Shell with equal valves, generally unequal at the sides: middle tooth of the hinge complicated, with a small hollow on each side; the lateral teeth remote, and locking into the opposite valve.

10. **DONAX.** Shell with the cartilage side very obtuse and abrupt: hinge with two teeth in the middle, and a single remote lateral one.

11. **VENUS.**

11. VENUS. Hinge with three teeth, all near together; one of them placed longitudinally, and inclining outwards.

12. CHAMA. Hinge rugged and gibbous, with the teeth locking obliquely into the opposite valves.

13. ARCA. Hinge with numerous teeth, alternately locking within each other.

14. OSTREA. Shell with the valves generally unequal: hinge without teeth, but furnished with a cavity in the middle, and generally lateral grooves.

15. ANOMIA. Shell with unequal valves; one of them usually flat and perforated near the hinge, through which it is fixed to other substances: hinge without teeth; an oblong transverse projection on the flat valve connecting them by a strong cartilage under the beak.

16. MYTILUS. Shell generally fixed by a mass of silky filaments: hinge without teeth, marked by a longitudinal groove which is sometimes finely notched.

17. PINNA. Shell brittle, gaping at the larger end, and fixed at the other by a mass of silky filaments: hinge without teeth; the valves connected by the cartilage nearly the whole breadth.

*C. With a single valve.*

*1. More or less spiral.*

18. NAUTILUS. Shell with several compartments or cells, communicating with each other by means of a small tube or perforation.

19. CYPRÆA. Shell involute, oval, obtuse at both ends: aperture very narrow, reaching the whole length of the shell, and toothed on both its edges.

20. BULLA. Shell convolute, without teeth: aperture contracted, oblong, reaching nearly or entirely the whole length of the shell, without beak, entire at the base: pillar oblique, smooth.

21. VOLUTA. Shell more or less spiral: aperture narrow, extending much down the shell, without beak: pillar plaited or toothed.

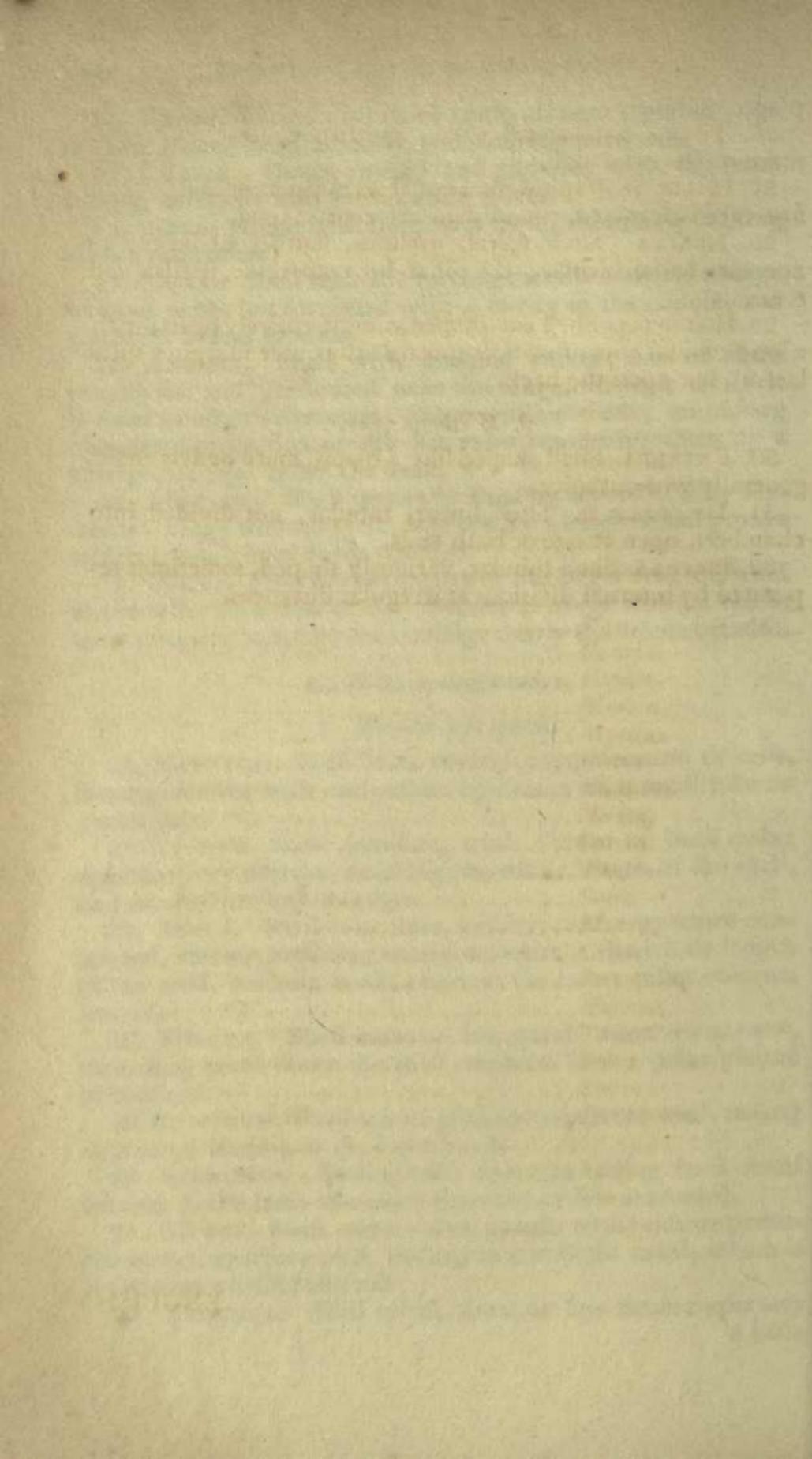
22. BUCCINUM. Shell spiral, gibbous: aperture oval, ending in a canal leaning to the right hand.

23. STROMBUS. Shell spiral: aperture ending in a canal leaning to the left; the outer-lip more or less expanded.

24. MUREX. Shell spiral, often rough with folds or protuberances: aperture oval, ending in a straight canal, which is sometimes a little reflected.

25. TROCHUS. Shell spiral, more or less conic: aperture  
a little





a little angular or rounded, and contracted transversely : pillar placed obliquely.

26. **TURBO.** Shell spiral, solid : aperture contracted, entire, more or less orbicular.

27. **HELIX.** Shell spiral, more or less transparent and brittle : aperture contracted, roundish or crescent-shaped.

28. **NERITA.** Shell spiral, gibbous, flattish underneath : aperture half orbicular ; the pillar-lip transverse, flattish and truncate.

29. **HALIOTIS.** Shell ear-shaped, almost entirely open, with a longitudinal row of orifices towards the outer margin : spire lateral, flat upon the back.

2. *Without spire.*

30. **PATELLA.** Shell shaped like a bason, more or less conic, generally without spire.

31. **DENTALIUM.** Shell linear, tubular, not divided into chambers, open at one or both ends.

32. **SERPULA.** Shell tubular, variously shaped, sometimes separated by internal divisions at irregular distances.

# ENGLISH AND LATIN NAMES OF THE GENERA.

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|                     |                   |
|---------------------|-------------------|
| Acorn-shell .....   | <i>Lepas.</i>     |
| Ark-shell .....     | <i>Arca.</i>      |
| Barnacle .....      | <i>Lepas.</i>     |
| Bowl-shell .....    | <i>Anomia.</i>    |
| Canoe-shell .....   | <i>Chiton.</i>    |
| Cockle .....        | <i>Cardium.</i>   |
| Cowry .....         | <i>Cypræa.</i>    |
| Creepers .....      | <i>Serpula.</i>   |
| Dipper .....        | <i>Bulla.</i>     |
| Gaper .....         | <i>Mya.</i>       |
| Heart-cockle .....  | <i>Chama.</i>     |
| Limpet .....        | <i>Patella.</i>   |
| Mactra .....        | <i>Mactra.</i>    |
| Mussel .....        | <i>Mytilus.</i>   |
| Nacre .....         | <i>Pinna.</i>     |
| Nautilus .....      | <i>Nautilus.</i>  |
| Nerite .....        | <i>Nerita.</i>    |
| Oyster .....        | <i>Ostrea.</i>    |
| Piddock .....       | <i>Pholas.</i>    |
| Razor-shell .....   | <i>Solen.</i>     |
| Rock shell .....    | <i>Murex.</i>     |
| Scallop-shell ..... | <i>Ostrea.</i>    |
| Screw-shell .....   | <i>Strombus.</i>  |
| Sea-ear .....       | <i>Haliotis.</i>  |
| Ship-worm .....     | <i>Teredo.</i>    |
| Snail-shell .....   | <i>Helix.</i>     |
| Tellen .....        | <i>Tellina.</i>   |
| Tooth-shell .....   | <i>Dentalium.</i> |
| Top-shell .....     | <i>Trochus.</i>   |
| Turban .....        | <i>Turbo.</i>     |
| Venus .....         | <i>Venus.</i>     |
| Volute .....        | <i>Voluta.</i>    |

THE BRITISH ISLANDS

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## CONCHOLOGICAL DICTIONARY

OF

## THE BRITISH ISLANDS.

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 ANOMIA. *BOWL-SHELL.*

**SHELL** with two unequal valves; one of them usually flat and perforated near the hinge, through which it is fixed to other substances: hinge without teeth; a transverse oblong projection on the flat valve connecting the convex one by a strong cartilage under the beak.

1. *Anomia electrica.* *Amber Bowl-shell.* Fig. 67.

*Lister*, pl. 205. f. 39.

*Anomia pellucida.* *Brown, Wern. Soc.* p. 514.

Shell thin, brittle, transparent, glassy round the edges, somewhat orbicular, a little distorted but not undulated round the circumference; the upper-valve convex, and something rugged or irregularly wrinkled on the outer surface; under-valve flat and scaly, with a large perforation near the hinge: color bright yellow, or amber, with more or less of a greenish tinge, and becoming yellowish-white after much exposure to the air: beaks pointed, hardly reaching to the margin, which is rounded: inside bright glossy yellow: diameter an inch and a quarter.

It differs from *A. Ehippium* in color, in having the upper valve much more convex, and not so irregular round the circumference.

West of Ireland, and England, and Dublin bay. *v. v.*

2. *Anomia Ephippium*. *Wrinkled Bowl-shell*.

*Lister*, pl. 204. f. 38—*Pennant*, pl. 65. upper fig.—*Da Costa*, pl. 11. f. 3—*Linn. Trans.* vi. pl. 18. f. 11, 12—*Donovan*, pl. 26—*Dorset Cat.* pl. 11. f. 3.

Shell thin, more or less transparent, rather convex, rounded, irregularly wrinkled and plaited, and often indented on the margin; the outside dirty white, or of a brownish cast; inside perlaceous; beak small pointed, curved, and reaching to the end of the margin: the flat valve with an oblong rather oblique perforation close to the hinge, which is generally cut off by the margin of the upper valve, and often taking the impression of shells and other substances to which it may be attached: diameter hardly three inches.

*Variety A.* Reversed, or with the convex valve perforated.

*Variety B.* Thick, strong, somewhat orbicular, but a little produced on one side, quite even round the circumference and not wrinkled nor plaited; the upper-valve a little rugged on the outside, and scaly towards the margin: color dull white with a slight tinge of purple, and of a most rich pearly lustre when the outer coat is removed: beak reaching close to the margin, which is rather rounded; inside finely polished, of the most splendid perlaceous lustre, with a tinge of dark green towards the produced side: lower valve a little concave, thin, transparent, perlaceous except round the margin of the aperture, which is large oval and extending to the hinge: length two inches and a quarter; breadth two and a half.

This most beautiful shell, by far exceeding the finest pearls we have ever seen in the richness and splendor of its iridescent gleams, was brought to us from Torbay in the autumn of 1817. Beneath the cartilage impression are two oblong cavities, about a quarter of an inch in length, evidently the lodgement of pearls: and it is probable, that if the larger species of this family could be procured from the deeps of the ocean, the most valuable pearls might be obtained from them. Our knowledge of this shell being confined to this single specimen, we can for the present only consider it as a variety.

*Variety C.* Of a triangular shape, appearing as if regularly





larly cut down the sides and leaving the front margin a mere obtuse point, rough on the outside but not irregular nor undulate, white with a tinge of pale purple: upper valve convex, slightly inflected both at the beak and front margin: beak a little projecting, and curved over the lower valve, which is rugged with a large perforation near the summit: length an inch and a quarter; breadth at the hinge an inch.

This singular variety, if it be only a variety, we have found both in Dublin bay and the south of Devon; and it may be remarked, that the oval perforation of the under valve points in an opposite direction to that of *A. Ehippium*.

On most rocky coasts. *v. v.*

### 3. *Anomia Squamula*. *Scaly Bowl-shell*.

*Walker*, f. 80—*Dorset Cat.* pl. 13. f. 4.

Shell rounded, smooth, regular and entire at the margin; the upper-valve nearly flat, with a small beak projecting beyond the margin, very thin, transparent, dirty white or horn color; inside silvery, or tinged with green; under valve extremely thin and filmy, like the scale of a fish, often wrinkled or ribbed and a little concave, perforated near the hinge: diameter about half an inch.

We have found this shell full an inch in diameter, and with the surface quite smooth: on the other hand we have the *A. Ehippium* from two-tenths of an inch to more than three inches in diameter, all of them preserving the irregular undulations of the margin. These circumstances, together with the different appearance of the beak, which always projects beyond the margin, make us consider it as a distinct species.

On stony or rocky coasts. *v. v.*

### 4. *Anomia Cepa*. *Onion-peel Bowl-shell*.

Shell with the upper-valve very convex or semiglobular, sometimes inclining to oval, very slightly wrinkled, of a glossy reddish-violet color, not unlike the coat of an onion; lower-valve nearly flat, and perforated near the hinge; inside glossy pale violet: diameter about an inch.

On the English and Irish coasts. *v. m.*

5. *Anomia aculeata*. *Prickly Bowl-shell*.

*Montagu*, pl. 4. f. 5.

Shell roundish, or inclining to oblong, sometimes wrinkled, thin, transparent; the upper valve flat, covered with concave scales disposed in longitudinal rows, which enlarge towards the margin, with a small and somewhat inflected beak; lower-valve scaly, smooth, or a little spinous towards the margin: color dirty white, brownish or yellowish, silvery within; the perforation near the hinge: diameter about a quarter of an inch.

In the many specimens which we have examined from the English and Irish coasts, both loose and attached to the roots of Fuci, we have never been able to observe the numerous rows of concentric pores on the under-valve mentioned by Mr. Dillwyn, but have often found this valve prickly for the greater part of its surface.

Southern coasts of England and Ireland. v. v.

6. *Anomia undulata*. *Striated Bowl-shell*.

*Lister*, pl. 202. f. 36, and pl. 203. f. 37—*Montagu*, pl. 4. f. 6—*Dorset Cat.* pl. 11. f. 4.

*Ostrea striata*. *Da Costa*, pl. 11. f. 4—*Donovan*, pl. 45.

Shell roundish, more or less inclining to oblong, rather flat, thin and transparent; the upper valve somewhat flexuous and produced on one side under the hinge, like the valves of the *Tellina flexuosa*, with longitudinal ribs, which in the young shells are regular and quite straight, but in the older ones more or less undulated and branching into each other or divided, especially towards the front, giving the margin a notched appearance; the interstices transversely rugged or striate: beak small, pointed, scarcely reaching to the margin; under-valve thin, flat, scaly, and ribbed, with an oval perforation under the hinge: color whitish or brownish, with more or less of a purple red or yellow cast, and iridescent when the outer coat is rubbed off; inside ribbed, glossy, with usually a dull oblong chalky patch below the hinge: length an inch or more; breadth not so much.

On the English and Irish coasts. v. v.

7. *Anomia*

Shank

Shanklin August 13. 1822  
attached to a Whelk -  
length very nearly an inch



7. *Anomia Psittacea*. *Parrot-beak Bowl-shell*. Fig. 42, 43, 44.

*Lister*, pl. 211. f. 46.

Shell blackish horn-color, semitransparent, oval, rather convex, with numerous very fine regular longitudinal ribs; the sides abruptly turned in and flattened, without the ribs, but marked with a few irregular striæ; the front margin a little indented on each side and projecting in the middle; one valve produced into an elongated incurved and pointed beak, like a parrot's bill; the other oval and rather flat; the perforation somewhat triangular: inside dull greyish-white, with a strong tooth-like projection each side a little below the beak, and which reaches down the incurvature of the sides in a strong rib-like form: length nearly an inch and a quarter; breadth an inch.

A specimen of this very rare shell we found on the shore about a mile to the east of Teignmouth, after a severe gale, and have since seen several broken fragments: but we suspect they come from very great depths. *v. m.*

8. *Anomia Terebratula*. *Pierced Bowl-shell*.

*Da Costa's Elements*, p. 292. pl. 6. f. 3.

Shell somewhat oval, thin, brittle, transparent, dirty white, nearly smooth; one valve tumid, truncate, and perforated at the summit, and inflected over the other; the other valve not quite so tumid, and something smaller: length an inch; breadth about three quarters.

A single specimen of this rare shell was dredged up alive in Dublin bay, and was placed in the Museum of the Dublin Society. *v. v.*

9. *Anomia Cranium*. *Death's-head Bowl-shell*.

*Terebratula Cranium*. *Linn. Trans.* xi. pl. 13. f. 2—B.

Shell oval, convex, equivalve, thin, brittle, semitransparent, whitish-brown, minutely striate both longitudinally and transversely, giving it a very fine shagreened appearance, with a few irregular concentric wrinkles; the upper valve projecting beyond the lower, nearly rounded in front, where there is a small perforation; inside thickened about the beaks, forming in the larger valve a process on each side for the connecting hinge; under which there is a depression

pression roughened by two or three slight longitudinal ridges, and in the smaller valve forming a raised transverse ridge, which is grooved along the middle, and reflecting at the sides for the purpose of receiving the processes of the opposite valve, with two small reflected tooth-like projections near the middle of the shell, and a small erect one at the base of each: length about an inch; breadth seven-eighths of an inch.

Found by Mr. Fleming in the Shetland Islands: very rare.

10. *Anomia cylindrica*, *Cylindrical Boat-shell*.

*Anomia cymbiformis*. *Linn. Trans.* viii. pl. 3. f. 6.

Shell oblong-oval, thin, semitransparent, brownish-white, strongly wrinkled or striate transversely, the wrinkles often rising into thin membranaceous scales which turn downwards and are nearly incumbent on each other; the upper-valve convex, more or less cylindrical according to the substances on which it is fixed, narrowed towards the top, tumid and turned in at the beak over the under valve, which is flat and perforated near the top; inside glossy-white: length nearly half an inch; breadth about a third of its length.

We find this shell frequently on the Devonshire coast, attached to Fuci, consequently of a less cylindrical form than when it adheres to *Sertulariæ*, or the spines of the *Echinus*. *v. v.*

ARCA. ARK.

Shell of two equal valves: hinge with numerous teeth, alternately locking within each other.

A. *With the margin notched*. 1, to 4.

B. *With the margin very entire*. 5, to 11.

1. *Arca pilosa*. *Downy Ark*.

*Lister*, pl. 247. f. 82—*Pennant*, pl. 61. f. 1—*Da Costa*, pl. 11. f. 2—*Dorset Cat.* pl. 11. f. 2—*Linn. Trans.* vi, pl. 18. f. 1, 2, and viii. pl. 3. f. 4.

*Arca Glycymeris*. *Donovan*, pl. 37,

Shell thick, convex, with the sides exactly equal or rarely a little flexuous on one side, covered with a dark-brown downy skin, particularly round the margin, with obscure broad rounded remote ribs, minutely striate both longitudinally



Pectunculus  
Weymouth 1818. m.

dinally and across, and marked with a few transverse wrinkles; under the skin whitish, yellowish, or dusky-brown, with angular zigzag chesnut or orange-yellow stripes or lines, which in the younger shells are of a carnation color, often spotted with red; inside white, with sometimes a purplish-brown tinge on one side, and marked with fine longitudinal lines which extend as far as the polished area round the margin: beaks quite central, prominent, not curved to either side nor quite close together at their points: teeth in a curved line, placed obliquely, about twelve on each side the beaks: diameter sometimes nearly three inches.

Southern and western coasts, and Dublin bay. *v. v.*

2. *Arca Glycymeris. Large Ark.* *Weyn*

*Lister*, pl. 240. f. 77—*Linn. Trans.* viii. pl. 3. f. 3.

Shell much resembling the last, but the sides are not quite equal, one of them being a little produced; in consequence the circumference is not exactly orbicular, nor the beaks quite central.

Specimens of these two species, if they are really distinct, we have examined, from a quarter of an inch in diameter, to three inches and a half long, and three and a quarter wide. In the number of teeth, markings, and external coat they exactly correspond; and we think we can perceive a gradual tendency to a deviation from their exact circular form as they enlarge to the fullest growth, and thus consequently causing the beaks to lose their central position, a circumstance by no means uncommon in many bivalve shells. If our conjecture should turn out eventually to be correct, the *A. pilosa* must be considered as the younger shell of *A. Glycymeris*, which latter is of very rare occurrence in these climates. The finest and most perfect series which we have seen are in the cabinet of Mrs. C. W. Loscombe of Exmouth, and were taken on the Devon and Cornish coasts. *v. m.*

3. *Arca reticulata. Reticulated Ark.*

*Lister*, pl. 233. f. 67.

*Arca barbata. Brown, Wern. Soc.* pl. 24. f. 3.

Shell oblong, somewhat rhombic, rather flat, strong, white,

white, rounded at the posterior end, elongated and a little angular at the other, covered with an olive-brown skin, and beset with a marginal beard of strong brown hair-like byssus, with numerous nearly equidistant flat longitudinal ridges which are covered with fine short thickset brown hair, and crossed with numerous fine lines giving it a reticulate appearance; the hollows at the anterior and posterior slopes are also covered with bristles of a dark umber color: beaks nearer one end, pointed and close together; inside rather glossy, with pale rays; and clouded with pale chesnut; the margin finely notched: teeth in a straight line, rather small, but increasing in size as they recede from the centre: length half an inch; breadth rather more than an inch.

It differs from *A. barbata*, in having the margin notched, and in being a little angular on the anterior side.

A perfect specimen was found alive, adhering to an oyster, from Killinchy in Lough Strangford, Ireland, by Dr. Macgee of Belfast.

4. *Arca Nucleus. Silvery Ark. Fig. 1, 2.*

*Da Costa*, pl. 15. f. 6. right hand fig.—*Linn. Trans.* vi. pl. 18. f. 3 to 6—*Donovan*, pl. 63—*Dorset Cat.* pl. 12. f. 6. right-hand fig.

Shell somewhat triangular, slightly convex, produced on one side, covered with a smooth olive-green skin, under which it is white with generally some yellowish rays from the beak to the margin, and mostly marked with flesh-color or blueish transverse bands and a few coarse ridges, finely and regularly striate longitudinally: beaks small, turning towards the shorter side, beneath which is an oval depression; inside bright silvery: teeth in a curved line, about twenty on the elongated side, and half the number on the other, separated by a triangular cavity: length half an inch or more; breadth not so much.

On most sandy shores. v. v.

B. *With the margin very entire. 5, to 11.*

5. *Arca minima. Least Ark.*

Shell somewhat globular, a little produced on one side, transparent, glossy, smooth or so minutely striate longitudinally





dinally as hardly to be visible with the highest magnifying powers: beaks not quite central, prominent, pointed, close together; teeth in a curved line, three or four on each side; inside glossy, with the margin thin and very entire: diameter the eighth of an inch.

Specimens of this minute Arca were first presented to us by the Rev. Dr. Goodall, who we believe obtained them from the Devonshire coast. They seem to differ from the very young of *A. pilosa*, in their transparency, total want of colored markings, in the circumference not being circular, and in not having the slightest appearance of teeth or crenatures on the margin. *v. m.*

6. *Arca Noæ. Noah's Ark.* Fig. 58.

*Lister*, pl. 368. f. 208—*Donovan*, pl. 158. f. 1, 2.

Shell oblong, inclining to rhombic, rounded at one end, elongated, narrower, and somewhat angular at the other, the smaller end of each valve turning in to meet the other, forming a sharp angle and a gape at the margin, regularly and strongly ribbed longitudinally, and crossed with fine transverse lines giving it a punctured appearance, and sometimes marked with a few concentric ridges: beaks nearer to one end, much separated by a deep rhombic space which is smooth: color pale rufous-brown, with deeper chesnut bands crossing the valves diagonally; inside whitish or tinged with brown; the teeth placed in a straight line: length about half an inch; breadth rather more.

Sanctuary shores of Devon and Cornwall, Dunbar, and Leith roads in Scotland, and Dublin bay: rare. *v. m.*

7. *Arca perforans. Perforating Ark.*

*Lister*, pl. 235. f. 69.

*Arca lactea.* *Pennant*, pl. 61. f. 2—*Da Costa*, pl. 11. f. 5—*Donovan*, pl. 135—*Dorset Cat.* pl. 11. f. 5.

Shell thin, convex, rhombic oval, generally rounded at one end and more or less angular at the other, but varying much in its depth and figure, with numerous close-set regular raised longitudinal lines, which are finely beaded by minute transverse striæ, and marked with deeper transverse ridges; covered when fresh with a dark-brown silky skin which fringes the margin, under which it is of a rusty-brown

brown color, becoming white by exposure to the air: beaks nearly central, incurved, rather remote, with the intermediate space rhombic black and finely but regularly striate longitudinally; inside white, entire at the margin, with about twenty teeth each side the beak placed in a straight line: length nearly an inch; breadth something more.

However averse we may be to the alteration of established specific names, the uncertainty in which this shell has hitherto stood, and the discovery of its peculiar habitat and history, will we trust hold us justified in this instance. The Linnéan *Arca lactea* is described as having the margin toothed, a circumstance which has never been found subject to variation in any shell; nor on the contrary has any shell with the margin usually plain been found toothed: and from *A. barbata* and *A. reticulata* it differs, in having the points of the beaks remote from each other.

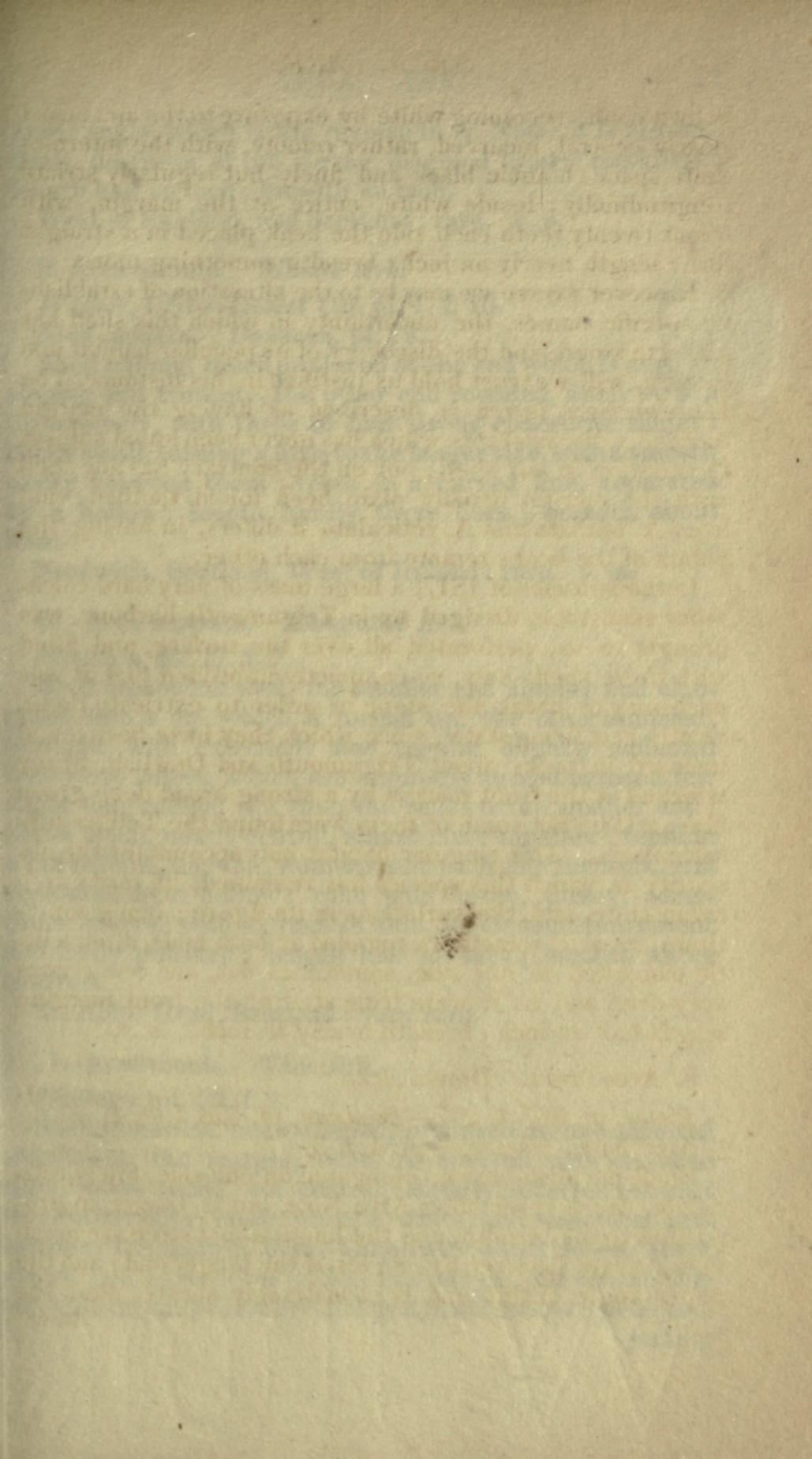
In the summer of 1817, a large mass of very hard calcareous sandstone, dredged up in Teignmouth harbour, was brought to us, perforated all over the surface, and filled with these shells only, so compactly imbedded that it was necessary to break the stone in order to extricate them, mostly in a living state; since which they have been found inclosed in rocks about Teignmouth and Dawlish, firmly attached at the front margin by a strong broad deep green film; and within some of them were found the *Tellina suborbicularis*. This singular habitat may account for the obscurity in which this species has remained, its rarity in a living state, and the variations in its figure; being sometimes angular, sometimes rounded at both ends, often a little elongated on one side, sometimes flat, and sometimes very deep and as it were truncated at the front margin: length half an inch; breadth nearly an inch. *v. v.*

8. *Arca fusca.* *Brown Ark.*

*Lister*, pl. 367. f. 207—*Donovan*, pl. 158. f. 3, 4.

*Arca Noæ.* *Montagu*, pl. 4. f. 3.

Shell purplish-brown, elongated on one side, finely reticulate, much resembling *Arca Noæ*, but is longer in proportion to the breadth, and the longitudinal striæ are much finer, except between the angles of the longer end; and the upper angle of this end is considerably shorter than the  
lower





lower angle, which is the reverse in *A. Noæ*: it is also entirely destitute of the zigzag diagonal brown markings: length half an inch; breadth an inch.

West of England, and Scotland: rare. *v. v.*

9. *Arca minuta*. *Minute Ark.*

*Walker*, f. 81—*Dorset Cat.* pl. 1. f. 16.

*Arca caudata*. *Donovan*, pl. 78.

Shell oblong, much produced at one end which is angular sloping and truncate, the other end rounded, finely striate transversely, with three or four strong concentric ridges: beaks small, turning a little to the longer side, with a smooth cavity between them: teeth in a curved line, separated by a hollow: length hardly three lines; breadth about four.

Sandwich, Scotland, West of Ireland: rare. *v. m.*

10. *Arca rostrata*. *Elongated Ark.*

*Montagu*, pl. 27. f. 7.

Shell somewhat oval, the smaller end sloping and elongated into a lip which is turned up, the other rounded, wrought with extremely fine regular slightly reflected transverse ridges, which are angularly turned across a few slight longitudinal ribs from the beaks to the smaller end: beaks small, nearly central, almost close together: teeth in a curved line, angular, numerous on each side the beak, and separated by a hollow: color pale horny, glossy, sometimes covered with a greenish skin, inside semitransparent and finely polished: length half an inch; breadth three quarters.

St. Abb's Head, Scotland: very rare.

11. *Arca tenuis*. *Thin Ark.*

*Montagu*, pl. 29. f. 1.

Shell somewhat heart-shaped, produced on one side and rounded at the margin, white or covered with an olive skin: beaks small, not central, slightly inflected towards the shorter side; inside smooth, white, and somewhat perlaceous; the margin thin: hinge with about fifteen teeth placed in a curved line within the margin, six on one side and nine on the other, divided by a small concave plate projecting

jecting inwards : length not a quarter of an inch ; breadth rather more.

Dunbar, and Leith roads : very rare.

### BUCCINUM. *WHELK.*

Shell with a single spiral gibbous valve : aperture oval, ending in a short canal leaning to the right.

#### 1. *Buccinum Perdix. Partridge Whelk.*

*Lister*, pl. 984. f. 43—*Montagu*, pl. 8. f. 5—*Dorset Cat.* pl. 15. f. 14.

Shell somewhat oval, thin, inflated, with five or six spires ending in a fine point, the first very large and tumid, with about twenty flat circular ridges which are broader than the interstices between them : color greyish or yellowish-brown irregularly marbled and spotted with white : aperture large, oval ; the outer lip thin and without teeth ; pillar-lip a little folding back on the lower part, and forming a slight elongated hollow behind it : length an inch and a half ; breadth an inch.

On the Devon and Dorset coasts : rare. *v. m.*

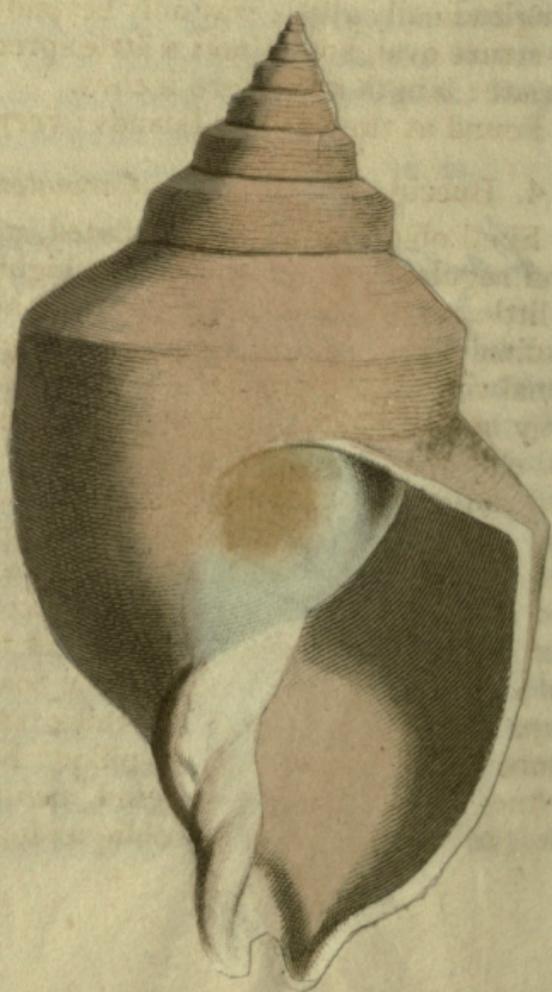
#### 2. *Buccinum undatum. Waved Whelk.*

*Lister*, pl. 962. f. 14—*Pennant*, pl. 76—*Da Costa*, pl. 6. f. 6—*Donovan*, pl. 104—*Dorset Cat.* pl. 17. f. 6.

Shell oblong, coarse, tapering to a fine point : spires seven or eight, inflated and deeply defined, with numerous rather remote rounded longitudinal ribs which are rather undulated, strongly striate transversely, and again crossed with finer longitudinal lines : outer-lip a little undulated in its circumference, sometimes thick and a little reflected, sometimes thin : pillar-lip forming a slight projection below the canal which is reflected, rugged on the outside towards the top : color whitish or pale carnation, covered with a brown skin, sometimes marked with rufous blotches or bands, and sometimes there are three or four strong foliations near the outer lip on the larger volution : length four or five inches ; breadth nearly two.

The young ; soon after they are excluded from the cells,  
have

Hastings - in the sand -



have an obtuse globular tip; and in a more advanced state are thin and transparent.

*Variety.* With the undulated ribs nearly obliterated, the striæ more distinct and elevated, the larger volution more swollen, the outer-lip thin and much expanded, and the shell much thinner.

*Buccinum striatum.* *Pennant*, p. 272. pl. 77. *Lister*, pl. 962. f. 15.

Common on most coasts. *v. v.*

### 3. *Buccinum glâciale.* *Northern Whelk.*

*Donovan*, pl. 154.

Shell oblong-oval, taper thin, of a livid-brown color: spires eight or nine, a little swollen, finely striate in a circular manner, and sloping rather suddenly to the line of junction, the larger one with a raised circular rib round the top, which disappears towards the next, giving it a slightly carinated appearance; they are also slightly ribbed longitudinally a little way only beyond the line of separation: aperture oval, sometimes a little spread and thickish, finely striate: length about two inches.

Found at the Orkney Islands: very rare. *v. m.*

### 4. *Buccinum carinatum.* *Carinated Whelk.*

Shell oblong-oval, thin, inflated, marked with very fine and regular circular lines, every eighth or tenth of which is a little more raised, and crossed by minute irregular longitudinal ones, with a faint appearance of numerous longitudinal rib-like elevations, which however appear only a little way beyond the line of separation: spires six or seven, with an elevated circular rib at the top of each, from which they suddenly slope to the line of junction, appearing as if carinate at the edges of them all, and giving them a very distinct and turrited appearance, not unlike the *Murex Turricula*: the first volution is swollen and rounded on the body till it meets the carinated line; but the rest are flattened, or not more tumid in the middle than at the ends: aperture dilated; the outer-lip thick at the edge; inner-lip smooth and spread on the pillar: beak short, somewhat truncate, and hardly reflected, behind which it is a little rugged, with two raised oblique longitudinal ribs: color

whitish with a rufous mixture, and a broad pale rufous band round the middle of the volutions : length four inches and a quarter ; breadth two and a half.

The principal differences between this species and the last, consist in the lesser number of volutions, the carinated rib which winds round the top of them all, and the consequent flattened appearance of their surface. The above description was taken from a specimen in the cabinet of Mr. O'Kelly, of Dublin, who found it on the strand of Portmarnock, in Dublin bay : another was dredged up at Bray, in Ireland, and is we believe in the possession of Mr. Sowerby : and our friend Mr. O'Kelly has lately informed us that it has been found by Mr. Tardy, at Bullock, in Ireland. It has also been taken at Exmouth. *v. m.*

5. *Buccinum Lapillus. Rock Whelk.*

*Lister*, pl. 965. f. 18 and 19—*Pennant*, pl. 75. f. 1—*Da Costa*, pl. 7. f. 1, 2, 3, 4. 9. 12—*Donovan*, pl. 11—*Dorset Cat.* pl. 15. f. 1—4. 9. 12.

Shell oval, thick, with five or six spires ending in a fine point, the first very large, all spirally ribbed and crossed with fine irregular striæ ; when young rough with raised hollow membranaceous scales, which disappear in its advanced stage of growth ; when old covered with scales disposed longitudinally, and sometimes nearly smooth : aperture oval, the outer-lip with a very thin edge, more or less indented, with often four or five tooth-like protuberances on the inside ; pillar-lip transversely rugged on the outside, with a slight hollow near the end, and projecting into an angle withinside : color white, yellowish, or greenish, with often a broad band or two of chesnut brown or deep yellow, rarely of light blue : length from an inch to one and a half ; breadth a third of its length.

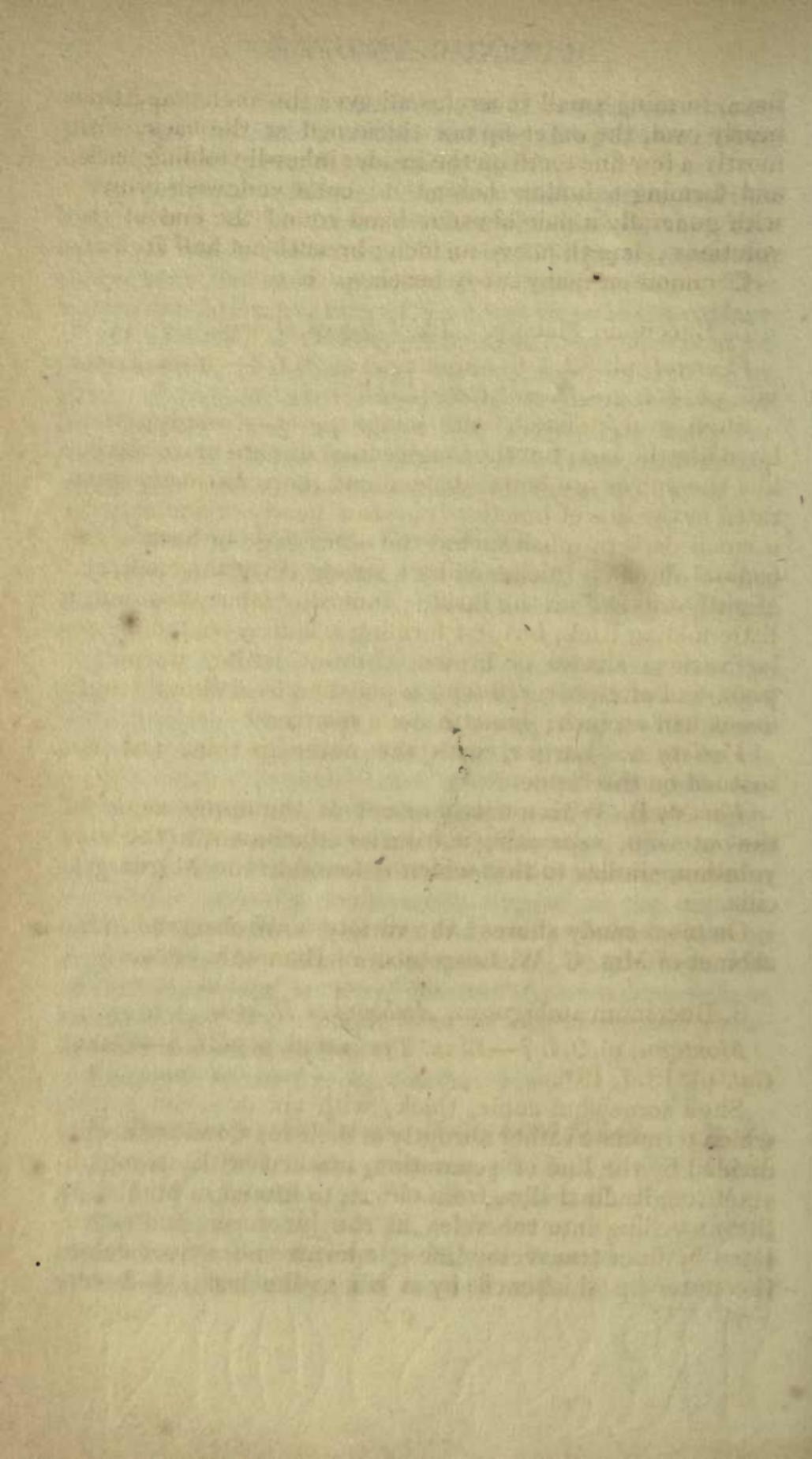
Common on most rocky coasts. *v. v.*

6. *Buccinum reticulatum. Reticulated Whelk. Fig. 75.*

*Lister*, pl. 966. f. 21—*Pennant*, pl. 75. f. 2—*Da Costa*, pl. 7. f. 10—*Donovan*, pl. 76—*Dorset Cat.* pl. 15. f. 10.

Shell oblong-oval, pointed, with seven or eight spires, which hardly rise above the line of separation, strongly ribbed longitudinally, and crossed with finer transverse lines,





lines, forming small tubercles all over the shell: aperture nearly oval, the outer-lip not thickened at the back, with mostly a few fine teeth on the inside; inner-lip folding back, and forming a hollow behind it: color yellowish-brown, with generally a pale chesnut band round the end of the volutions: length above an inch; breadth not half an inch.

Common on many sandy beaches. *v. v.*

7. *Buccinum Macula. Thick-lipped Whelk.*

*Pennant*, pl. 82. f. 6—*Montagu*, pl. 8. f. 4—*Linn. Trans.* viii. pl. 4. f. 4—*Dorset Cat.* pl. 15. f. 8.

Shell oval, pointed, with seven spires, strongly reticulated like the last; but the longitudinal ribs are more waved, and the spires are better defined and more distinctly separated by the line of junction: aperture nearly orbicular, with a small dark purplish spot at the outer edge or back of the canal; outer-lip thickened by a strong rib at the back, and slightly toothed on the inside; inner-lip faintly toothed, a little folding back, but not forming a hollow behind it: color various shades of brown, chesnut, white, purple, or pink, and often covered with a polished livid skin: length about half an inch; breadth not a quarter.

*Variety A.* Larger, with the outer-lip thin, and not toothed on the inside.

*Variety B.* With a notch or cut at the upper angle of the outer-lip, separating it from its attachment to the body volution, similar to that which is found in the *Murex gracilis*.

On most sandy shores: the variety B. we observed in the cabinet of Mrs. C. W. Loscombe, of Exmouth. *v. v.*

8. *Buccinum ambiguum. Ambiguous Whelk.*

*Montagu*, pl. 9. f. 7—*Linn. Trans.* viii. pl. 4. f. 5—*Dorset Cat.* pl. 18. f. 19\*.

Shell somewhat conic, thick, with six or seven spires, which terminate rather abruptly at their tops, and are deeply divided by the line of separation, marked with strong distant longitudinal ribs, from eleven to fifteen in number, a little swelling into tubercles at the junctures, and reticulated by finer transverse lines: aperture nearly orbicular; the outer-lip thickened by a rib at the back, and very

slightly toothed within; inner-lip slightly reflected with generally two faint distant folds: color whitish, or pale ochre: length about half an inch; breadth hardly three-eighths.

It differs from the last, and from the young of *B. reticulatum*, in being broader in proportion to its length, in the volutions being a little flattened at their tops, and in the ribs being more distant and a little swelling at the junctures: it wants also the colored spot at the back of the canal.

Maton and Rackett, and consequently Mr. Dillwyn, in referring to the fig. 19. in the Dorset Catalogue, not considering that there are two numbers of this denomination, have directed us to that without the star, which is *Helix succinea*. The former authors, in their corrigenda, have strangely desired us to erase 19, and substitute 23, a number not to be found.

About Weymouth and Poole, and at Portmarnock in Dublin bay: rare. *v. m.*

#### 9. *Buccinum tuberculatum. Tubercled Whelk.*

Shell taper, white but not glossy: spires six, rounded and well defined by the line of junction, with numerous strong longitudinal ribs crossed by fine transverse lines, giving them a tubercled appearance: aperture oval; the outer-lip thin and toothed within; inner-lip strongly marked with oblique striæ, and ending in a short reflected rather cloven canal: length six-tenths of an inch; breadth not a third of its length.

It differs from *B. reticulatum* in its elongated and taper shape, and in the inner-lip and canal; from *B. ambiguum*, in having the ribs more numerous and closer together, and in wanting the stronger tubercles at the junctions of the volutions; from *B. hepaticum*, in not having the volutions entirely covered with tubercles; and from all, in the strong oblique striæ on the pillar.

Found in the sand at Exmouth, and is in the cabinet of Mrs. C. W. Loscombe: very rare. *v. m.*

#### 10. *Buccinum hepaticum. Liver-colored Whelk.*

*Montagu*, pl. 8. f. 1—*Dorset Cat.* pl. 15. f. 13.

Shell oblong-oval, pointed, with seven or eight swollen  
and





and strongly divided spires, ribbed longitudinally, and each of them crossed by a transverse depressed line near the junction, cutting that part into tubercles; the larger volution a little striate at the base: outer-lip thick, turning inwards to an edge, faintly toothed or striate on the inside; inner-lip reflected, with a single tooth-like ridge on the upper part: color liver-brown, with sometimes a few rufous spots, and sometimes there is a white band on the inside of the inner-lip: length hardly an inch; breadth about a quarter.

Weymouth, and Dublin bay: rare. *v. m.*

11. *Buccinum lineatum. Lineated Whelk.*

*Da Costa*, pl. 8. f. 5—*Donovan*, pl. 15—*Dorset Cat.* pl. 14. f. 5.

Shell conic, pointed, smooth, with five or six volutions regularly banded with alternate spiral lines of chocolate-brown and white, giving them a striated appearance; sometimes quite white: aperture oval, the outer-lip a little spread, marked with the brown lines at the margin, giving it the appearance of being slightly notched: length a quarter of an inch; breadth an eighth.

Dorset and Devon coasts, on Fuci: rare. *v. m.*

12. *Buccinum bilineatum. Bilineated Whelk.*

*Lister*, pl. 998. f. 63?—*Pennant*, pl. 82. f. 9—*Dorset Cat.* pl. 17. f. 8.

Shell oval, tumid, whitish, with from two to four bands of brown spots on the body volution: spires five or six, smooth except two rows of tubercles close to the junctions of the largest volutions, which disappear on the smaller ones: aperture large, somewhat oval, with the canal slightly recurved; the outer-lip slightly toothed; pillar-lip rugged and granular: length hardly an inch; breadth three quarters.

In *Lister's* figure, the larger volution appears to be striate transversely.

Weymouth and Dunbar: very rare.

13. *Buccinum cinctum. Girdled Whelk.*

*Montagu*, pl. 15. f. 1. *Dorset Cat.* pl. 14. f. 17.

Shell conic, pointed, white, with a fine thread-like ru-

fous-brown line round the middle of each volution : spires six or seven, very little raised, finely and closely ribbed longitudinally, and obscurely striate transversely in the depressions between the ribs : aperture narrow, the outer-lip thickened at the back, and slightly toothed within, with a small rufous spot on the edge, and another at the upper angle of the aperture, and from these two spots may be traced two obscure broken lines round the base of the shell ; inner-lip slightly notched by the transverse striæ of the base : length barely a quarter of an inch ; breadth about a third of its length.

Found at Weymouth by Mr. Bryer : very rare.

14. *Buccinum minimum.* *Minute Whelk.*

*Montagu*, pl. 8. f. 2—*Donovan*, pl. 179. f. 2.

Shell strong, conic, taper : spires five, rounded and well defined, ribbed longitudinally, and reticulate by finer transverse lines : color from light to dark chesnut brown : aperture oval, a little elongated at the base, with both the lips smooth : length hardly two-tenths of an inch.

Western coasts, and Dunbar : rare. *v. m.*

15. *Buccinum terrestre.* *Land Whelk.*

*Montagu*, pl. 8. f. 3—*Walker*, f. 60.

Shell very slender, smooth, glossy, transparent, obtusely pointed, white : spires six, a little raised, and very obliquely separated by the line of junction ; the first more than twice as long as the second : aperture oblong, somewhat oval ; the lips without teeth, the outer-one thin and even, the inner-one thickened and forming a small canal : length about a quarter of an inch ; breadth a line.

On the top of Barham Downs, in moss and at the roots of grass ; and brought down by the floods into the Avon, at Lackham in Wiltshire : Eton, and Dunbar : rare. *v. m.*

The following species are very obscure and imperfectly described, not having been ascertained since the time of their respective discoverers.

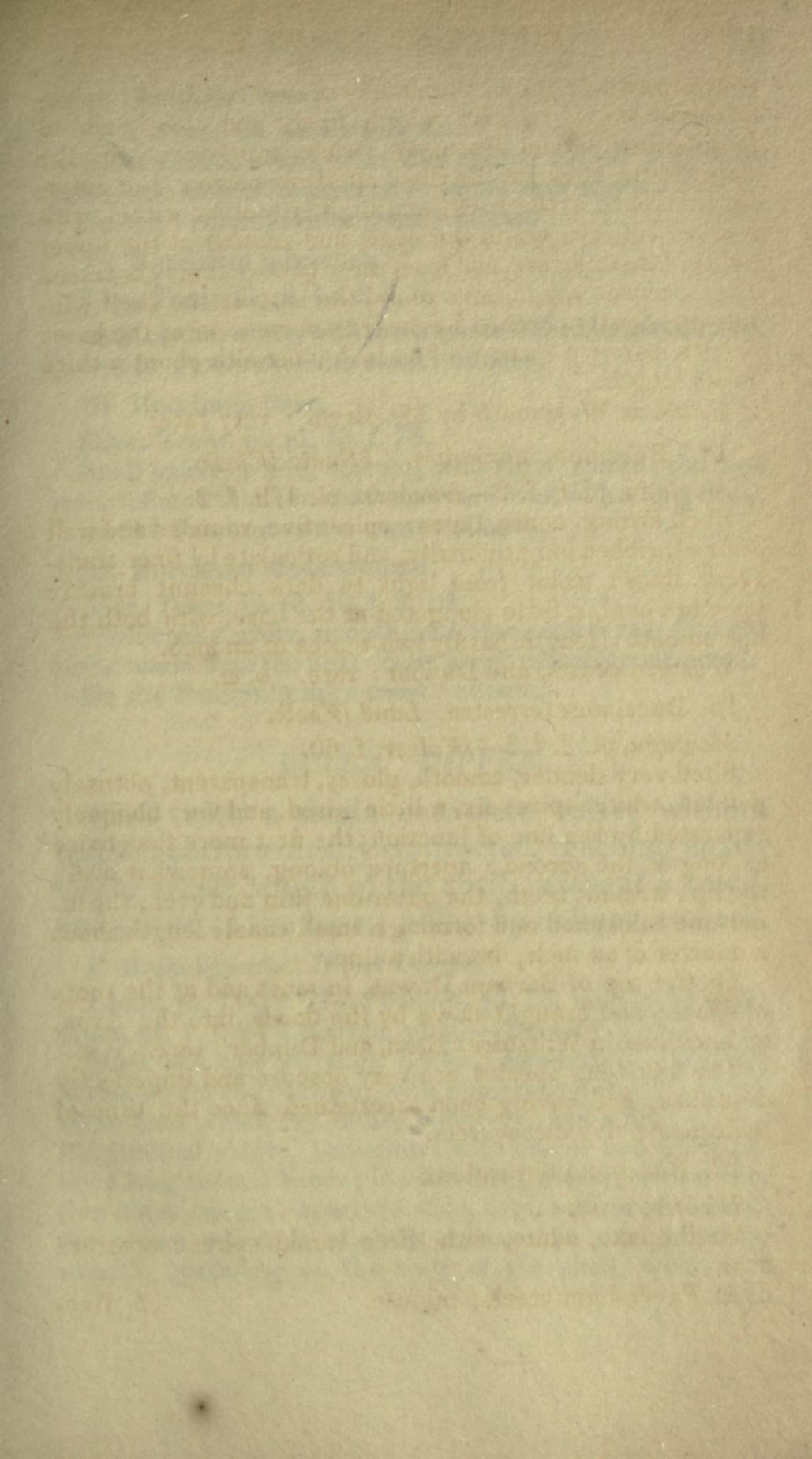
16. *Buccinum obtusulum.*

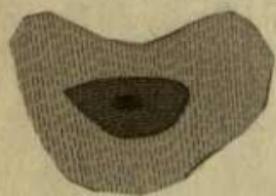
*Walker*, f. 59.

Shell opake, white, with three tumid spires : aperture oval.

At Faversham creek ; minute.

17. Buc-





17. *Buccinum breve*.*Linn. Trans.* iii. pl. 13. f. 3, 4.

Shell opaque, white, with five spires, ribbed longitudinally, and striate transversely: canal very short.

On the Pembrokeshire coast: minute.

18. *Buccinum minutum*.*Linn. Trans.* iii. pl. 13. f. 5, 6.

Shell opaque, white, with three spires ribbed longitudinally.

On the Pembrokeshire coast: minute.

19. *Buccinum læve*.*Linn. Trans.* iii. pl. 13. f. 78.

Shell opaque, white, smooth, with three spires; the first more inflated than the next: aperture oval, with a long beak.

On the Pembrokeshire coast: minute.

20. *Buccinum obtusissimum*.*Linn. Trans.* iii. pl. 13. f. 9, 10.

Shell opaque, white, smooth, with three spires; the first not more tumid than the next: beak longitudinally contracted.

On the Pembrokeshire coast: minute.

## BULLA. DIPPER.

Shell with a single convolute valve, without teeth: aperture mostly contracted, reaching nearly or the whole length of the shell, without a canal, and entire at the base; pillar-lip oblique, smooth.

1. *Bulla lignaria*. *Wood Dipper*.*Lister*, pl. 714. f. 71—*Pennant*, pl. 73, middle fig.—*Da Costa*, pl. 1. f. 9—*Donovan*, pl. 27—*Dorset Cat.* pl. 23. f. 9.

Shell oblong-oval, thin, brittle, semitransparent, yellowish or chesnut brown, with numerous fine pale transverse lines which run rather obliquely, and a few obscure longitudinal ridges, sometimes with one or two white oblique longitudinal bands; inside white, glossy, with a very thin outer margin: aperture wide, oval, narrowed towards the crown which is slightly concave at top: pillar-lip smooth, spreading on the body of the shell, white with

often

often a chesnut shade, and visible all the way down : length two inches or more ; breadth one and a quarter.

The animal is furnished with a strong gizzard, consisting of two somewhat triangular thin smooth white testaceous plates, nearly an inch in diameter, placed upon each other, with an intervening thick tough yellowish ligament connecting them together : and within one of the lateral angles placed on the ligament, is an elongated testaceous semi-cylindrical hollow white additional plate. Fig. 3, 4.

On the Devon and Cornish coasts ; and Dublin bay. *v. v.*

### 2. *Bulla Hydati*s. *Paper Dipper*.

*Montagu*, Vignette 1. f. 1, 2—*Da Costa*, pl. 1. f. 10—*Donovan*, pl. 88—*Linn. Trans.* ix. pl. 6. f. 1—*Dorset Cat.* pl. 23. f. 10.

Shell oval, thin, brittle, semitransparent, tumid, green or yellowish, often covered with a thin chesnut-colored skin, irregularly wrinkled transversely, and very finely and closely striate longitudinally, when young glossy and nearly smooth : aperture large, contracting near the crown, which is concave and without external volution : outer-lip very thin and extending beyond the crown ; inner-lip spread, a little thickened, and whitish or chesnut-colored : length an inch ; breadth three quarters.

The inhabitant of this shell is also furnished with a strong coriaceous blackish gizzard, of a triangular form, or consisting of three oval petal-like divisions, each with a strong raised longitudinal rib down the middle, and about twelve transverse ones. *Montagu*, Vignette 1. f. 5, 6.

On the western coasts, Dunbar in Scotland, and the strand at Balbriggan in Ireland. *v. v.*

### 3. *Bulla Akera*. *Elastic Dipper*.

*Dorset Cat.* pl. 22. fig. 13.

*Bulla-resiliens*. *Donovan*, pl. 79.

Shell oval, transparent, membranaceous, elastic, pale horn-color, often marked with brown spots or patches, slightly striate longitudinally, whitish within : aperture large, much contracted at top, which is obtuse, convolute and channelled round the circumference, the volutions not produced but flat and even with the body ; outer-lip extremely





tremely thin, often a mere film, the upper part lying close to the body volution, but not attached till it has taken nearly one turn; pillar visible to the end, the lip a little thickened and white: length about three quarters of an inch; breadth not half an inch.

In the plates to the Dorset Catalogue, the figure, which is a very indifferent one, of this shell, is marked 13: but in the description and the index fig. 12 is referred to. This error has been copied by Mr. Dillwyn. And Maton and Rackett, having first quoted fig. 13, have in their corrigenda directed us to amend it, by altering it to 12.

On the western coasts, North Britain, and the strand at Balbriggan in Ireland: rare. *v. m.*

4. *Bulla Ampulla. Bubble Dipper.*

*Lister*, pl. 713. f. 69, and pl. 1056. f. 8—*Montagu*, pl. 7. f. 1.

Shell oblong-oval, smooth, glossy, opaque, whitish marbled and veined with light chesnut-brown generally in waves, glossy white within: aperture moderately wide, open all down, contracting towards the crown which is slightly concave at top; outer-lip thin; pillar-lip thickened, opaque white, not spreading on the body of the shell, nor is the pillar visible all the way down as in *B. lignaria*: length about three-eighths of an inch; breadth a quarter of an inch.

On the western coasts, and North Britain: very rare. *v. m.*

5. *Bulla patula. Patulous Dipper.* Fig. 27, 28.

*Pennant*, pl. 73, two figures under the uppermost—*Donovan*, pl. 142—*Dorset Cat.* pl. 12. fig. 8.

Shell oblong, or rather fusiform, transparent, very minutely striate longitudinally, glossy white or with a pale rosy tinge, involute and open all the way, both the ends lengthened into a canal; one of which is shorter and truncate, a little leaning to the left, with a twist or fold on the pillar, and furnished with a few transverse striæ; the other end more open and lengthened, with a slight indenture or furrow on the pillar-lip, and obliquely striate; aperture arched, the outer-lip very thin and plain: length an inch; breadth nearly half as much.

On

On the South Devon coasts, and North Britain: very rare. *v. v.*

6. *Bulla diaphana*. *Transparent Dipper*.

*Pennant*, pl. 74. f. 2—*Montagu*, pl. 7. f. 8.

Shell oval, extremely thin and fragile, smooth, transparent, glossy white: spires three, very little produced and ending rather obtusely, the first occupying three-fourths of the shell, the others rather rounded and well defined: aperture dilated, somewhat oval, extending to the termination of the body volution; outer-lip extremely thin and plain; pillar-lip smooth and not reflected: length four tenths of an inch; breadth hardly three tenths.

Having carefully examined a specimen of this very rare shell, from the cabinet of Mrs. C.W. Loscombe, of Exmouth, and compared it with the *Cypræa europæa* in its various stages of growth, we are strongly and decidedly of opinion that it is distinctly a *Bulla*, much resembling in its outline some of the short-spined fresh-water species of this family. Independently of the animal inhabitant being of a totally different construction, as was observed by *Montagu*; its general dissimilarity, comparative size, extreme tenuity, and the total absence of the least appearance of incipient ribs or teeth, induce us to strengthen this opinion.

Salcomb bay, Falmouth, and Exmouth. *v. m.*

7. *Bulla cylindracea*. *Cylindrical Dipper*.

*Lister*, pl. 714. f. 70, two middle figures—*Pennant*, pl. 73, two lowest figures—*Montagu*, pl. 7. f. 2—*Donovan*, pl. 120. f. 2—*Dorset Cat.* pl. 18. f. 22.

Shell cylindrical, slender, of nearly equal diameter at both ends, smooth, glossy white: aperture very narrow, a little dilated at one end, reaching the whole length; the crown without external volution, but impressed with a deep cavity; outer-lip thin, sharp, straight; inner-lip thickened, opaque white, the pillar a little indented: length about five lines; breadth not two.

On the western coasts, Scotland, and Dublin bay. *v. v.*

8. *Bulla umbilicata*. *Indented Dipper*.

*Montagu*, pl. 7. fig. 4.

Shell oblong, smooth, white, rounded and concave at the crown,

On the South Devon coast and North Devon coast  
 The Billiard Wazer is a small, round, shallow  
 bowl, usually thin and light, made of  
 wood, usually white pine, very little produced  
 and being rather scarce. The first appearance of this bowl  
 is still the same as the one now in use, and  
 was first seen at the court of the Duke of  
 Devonshire, and not before. It is a very  
 small bowl, usually three or four inches  
 in diameter, and is used for playing  
 a game called Billiard Wazer, which is  
 a very ancient game, and is said to have  
 been first played in the reign of King  
 Henry II. It is a game of skill, and  
 is played on a table covered with  
 cloth, and is a very interesting game.  
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 ancient game, and is said to have  
 been first played in the reign of  
 King Henry II. It is a game of  
 skill, and is played on a table  
 covered with cloth, and is a very  
 interesting game. The Billiard  
 Wazer is a very ancient game,  
 and is said to have been first  
 played in the reign of King Henry  
 II. It is a game of skill, and  
 is played on a table covered with  
 cloth, and is a very interesting  
 game.

... without external volutions; ...  
... the base ...  
... the length ...

... Bill ...



crown, without external volutions : aperture very narrow, reaching the whole length of the shell, dilated into an oval at the base : resembles the last, but is not so cylindrical, and the length, which is about a quarter of an inch, is double its breadth.

Western coasts, Scotland, and Dublin bay. *v. v.*

9. *Bulla retusa*. *Truncate Dipper*.

*Bulla truncata*. *Montagu*, pl. 7. f. 5—*Linn. Trans.* v. pl. 1. f. 1, 2—*Walker*, f. 62.

Shell somewhat cylindrical, white, rather opaque, finely and regularly striate longitudinally on the upper half only, the lower part being nearly smooth : crown abrupt, with a large perforation in which the volutions are visible : aperture reaching the whole length of the shell, very narrow, something contracted about the middle and dilated into an oval at the base, where the outer-lip is a little spread over the pillar : length hardly two lines ; breadth more than half as much.

Western coasts, Dublin bay, and North Britain. *v. v.*

10. *Bulla obtusa*. *Obtuse Dipper*.

*Montagu*, pl. 7. f. 3—*Dorset Cat.* pl. 18. f. 14—*Walker*, f. 61.

Shell somewhat cylindrical, opaque, white or covered with a chesnut-brown skin, longitudinally wrinkled ; crown obtuse, with four or five very slightly produced volutions : aperture extending nearly but not quite to the whole length of the shell, narrow, a little compressed in the middle, and dilated into an oval at the base ; inner-lip thickened, smooth, white : length about two-tenths of an inch ; breadth half its length.

Walker's figure is an excellent representation of this shell : but Mr. Jacobs, who furnished the author with the descriptions, mistaking it for a *Voluta*, it has hitherto been quoted for the *V. alba*, to which it has no resemblance.

Western coasts, Dublin bay, and Scotland. *v. m.*

11. *Bulla aperta*. *Wide Dipper*.

*Da Costa*, pl. 2. f. 3—*Montagu*, Vignette 2. f. 1—*Donovan*, pl. 120. f. 1—*Dorset Cat.* pl. 22. f. 3.

Shell somewhat orbicular, extremely thin and brittle, transparent,

transparent, clear white, irregularly wrinkled transversely but glossy on the outside, almost entirely open, rounded and dilated at the base, a little narrowed at the crown which has a slight indenture; outer-lip extending beyond the crown; inner-lip slightly turned in, rendering the pillar or involution quite visible to the end: length more than half an inch; breadth rather less.

The animal also possesses a gizzard something resembling that of the *B. lignaria*, but it is of a more regularly triangular form, with the base elongated; and the supplemental plate, which is placed within the base of the triangular ones, is of a lozenge shape, or quadrangular, with the points of two of the angles elongated. Fig. 5, 6.

Western coasts, Dublin bay, Scotland. *v. v.*

### 12. *Bulla Catena. Chain Dipper.*

*Montagu*, pl. 7. fig. 7.

*Bulla punctata. Linn. Trans.* v. pl. 1. f. 6, 7, 8.

Shell somewhat oval, white, transparent, glossy, with numerous fine transverse striæ which run rather obliquely and with the assistance of a magnifier seem to be connected and interwoven in a chain-like manner: aperture very large, almost entirely open like *B. aperta*, but closing at the crown, which is obtuse and turned in so as to form a single volution; inside glossy, the pillar-lip a little spread: length about the tenth of an inch; breadth not so much.

*Variety*, with a more transparent single zone round it, taking in eight or ten of the chain-like striæ, the other parts appearing frosted and not so glossy; the crown a little concave, and the outer margin of the aperture close to the body reflecting a little and forming a depression on that part.

Western coasts, and North Britain: rare. *v. m.*

### 13. *Bulla haliotoidea. Ear-shaped Dipper.*

*Montagu*, pl. 7. f. 6—*Dorset Cat.* pl. 22. f. 5\*.

Shell somewhat oval, white, extremely thin, transparent, very slightly wrinkled on the outside: aperture broad oval, not quite extending to the crown, which is small, obtuse, and twisted sideways into about two volutions: inner-lip a little turned in; the inside visible to the end. It differs from



At the end of the day, the  
the following results were  
obtained: the total weight  
of the sample was found  
to be 100.00 grams, and  
the percentage of water  
was determined to be  
15.00%. The remaining  
85.00% of the sample  
was found to be dry  
matter. The results of  
this analysis are shown  
in the following table:

Table 1. Results of the analysis of the sample.

| Component  | Percentage |
|------------|------------|
| Water      | 15.00%     |
| Dry Matter | 85.00%     |

The following table shows the results of the analysis of the sample. The total weight of the sample was found to be 100.00 grams. The percentage of water was determined to be 15.00%. The remaining 85.00% of the sample was found to be dry matter. The results of this analysis are shown in the following table:

from *B. aperta*, in its elongated and ear-shaped form : length three quarters of an inch ; breadth half an inch.

When alive, the animal completely envelops the shell, from which circumstance it naturally falls into this family.

Western coasts, Dublin bay, Scotland. *v. v.*

14. *Bulla tentaculata*. *Armed Dipper*.

*Linn. Trans.* xi. pl. 12. f. 5, 6.

Shell so extremely similar to the *B. haliotoidea*, that Montagu observes no distinction can be conveyed by description or figure, except that it is rather more depressed and opaque. To the animal alone, therefore, must we refer for the actual identity of each, which in their structure is materially and essentially different. The animal of *B. haliotoidea* is represented at fig. 6, in the Vignette to the second part of Montagu's *Testacea Britannica* ; and that of *B. tentaculata* as above quoted.

At the salt-rock, in the estuary of Kingsbridge, Devon : rare.

15. *Bulla flexilis*. *Flexible Dipper*.

*Laskey, Wern. Soc.* i. pl. 8. fig. 6.

Shell oval, transparent, horn-color, flexible when wet, very brittle when dry, white and opaque at the crown, where there is a single oblique volution. In shape and the form of the involution it exactly resembles *B. haliotoidea*, but is much more distinctly wrinkled : length half an inch.

Found by Captain Laskey, at Dunbar : very rare.

16. *Bulla Plumula*. *Feather Dipper*.

*Montagu*, pl. 15. f. 9, and Vignette 2. f. 5.

Shell oblong-oval, flat, thin, transparent, concentrically wrinkled, with two or three ray-like impressions from the base to the crown : color yellowish-white, tinged with brown at the base, the other end folded into a single very minute volution : aperture extending over the whole shell, slightly turned in at the crown to form the very minute volution : length half an inch ; breadth nearly a quarter.

On Milton sands, Devon : very rare. *v. m.*

17. *Bulla membranacea*. *Membranous Dipper*.

*Linn. Trans.* xi. pl. 12. f. 4.

Shell oval, flat, extremely thin and delicate and somewhat

what membranaceous, especially about the margin, with a single minute lateral volution which is a little prominent, transversely wrinkled, and covered with a silvery skin tinged with pink, changeable in different positions of light, and occasionally appearing nacre'd or with a metallic lustre: aperture extending over the whole shell: length nearly an inch and a half; breadth an inch.

It much resembles *B. Plumula*, but is more membranaceous, rather more convex, with the volution more prominent, and not placed so laterally.

Found by Montagu, at the salt rock, in the estuary of Kingsbridge, Devon: rare.

18. *Bulla fontinalis*. *Stream Dipper*.

*Lister*, pl. 134. f. 34—*Da Costa*, pl. 5. f. 6—*Dorset Cat.* pl. 21. f. 6—*Linn. Trans.* viii. pl. 4. f. 1.

Shell oval, swelling, transparent, glossy, pale horn-color: spires four or five, rounded and well defined, reversed, very little produced; the first very large, the others small, obtuse at the point: aperture oval-oblong, reaching three-fourths of the length of the shell; the outer-lip reaching beyond the base. Old ones are a little wrinkled longitudinally, with two or three faint transverse ridges on the body volution: length half an inch; breadth a quarter.

In stagnant and slow running waters, under the leaves and on the stalks of plants. *v. v.*

19. *Bulla rivalis*. *River Dipper*.

*Linn. Trans.* viii. pl. 4. f. 2.

Shell oval-oblong, transparent, smooth, glossy, horn-color, with five or six reversed volutions ending in a very fine point: aperture oblong. It differs from *B. fontinalis*, in being more elongated and pointed, in having the first volution not so proportionately large nor tumid, and in being more contracted at one end of the aperture; and from the next, in being of a more conic shape, and more sharply pointed: size of the last.

Slow streams in Hampshire, and near Naas in Ireland; rare. *v. v.*

20. *Bulla Hypnorum*. *Slender Dipper*.

*Lister*, pl. 1059. f. 5—*Walker*, f. 54—*Linn. Trans.* viii. pl. 4. f. 3—*Dorset Cat.* pl. 18. f. 20.





Shell oblong, taper, transparent, glossy, smooth, horn-color, with five or six reversed pointed volutions, the first half as long as the shell: aperture narrow-oval, spreading a little at the base; outer-lip very thin; inner-lip a little thickened and slightly indented. It differs from *B. fontinalis*, in being more taper and produced, in having the aperture more narrow and contracted, and in its darker color: length half an inch; breadth not a quarter.

Stagnant waters, and slow streams. *v. v.*

21. *Bulla fluviatilis*. *Rivulet Dipper*.

*Helix Bullæoides*. *Donovan*, pl. 168. f. 2.

Shell oval, smooth, glossy, brittle, horn-color, with two reversed volutions which are hardly raised or extending beyond the body of the shell: aperture oval-oblong, nearly as long as the body volution: length a quarter of an inch; breadth three tenths.

Two specimens of this rare shell were found, by Captain Brown, in a stream near Clonoony Barracks, in Ireland, by which we are enabled to clear up the doubts which have as yet existed respecting this very obscure species. In every respect they corresponded with the shell figured by Donovan. They were undoubtedly full grown, and both in the number of volutions, and other specific marks, materially differed from *B. fontinalis*. And we cannot but concur with this respectable conchologist, that it has no more reason to be placed among the *Helices*, than *Bulla fontinalis*, *Hypnorum*, or *rivalis*. *v. m.*

22. *Bulla emarginata*.

*Linn. Trans.* v. pl. 1. f. 9, 10, 11.

Shell gibbous, transparent, smooth, with the aperture notched, and the lip slightly arched.

On the Pembrokeshire coast: minute.

23. *Bulla denticulata*.

*Linn. Trans.* v. pl. 1. f. 3, 4, 5.

Shell oblong, smooth, white, transparent, obtuse, nearly equal: aperture with a very sharp tooth at the top.

On the Pembrokeshire coast: minute.

## CARDIUM. COCKLE.

Shell with two equal convex valves, mostly ribbed longitudinally, and toothed round the margins: hinge with two primary teeth, and a larger remote one on each side, all locking into the opposite valve.

1. *Cardium aculeatum*. *Spinous Cockle*.

*Lister*, pl. 321. f. 158—*Pennant*, pl. 53. f. 1—*Donovan*, pl. 6—*Wood*, pl. 51. f. 1.

Shell very convex, thin and light in proportion to its size, with about twenty-one ribs which have a groove down the middle of each, produced, rather straight, and a little angular on the cartilage side, clothed with pointed and straight or somewhat curved spines which increase in size towards the flattened margin; the anterior side rounded and covered with flattened tubercles which enlarge towards the margin: color yellowish-brown, with darker bands and blotches, and sometimes pale or whitish markings; inside white, glossy, often tinged with purple or flesh-color, grooved in the middle up to the very hinge: length, when full grown, nearly four inches; circumference about eleven.

*Cardium spinosum*. *Sowerby*, *Brit. Miscell.* pl. 32.

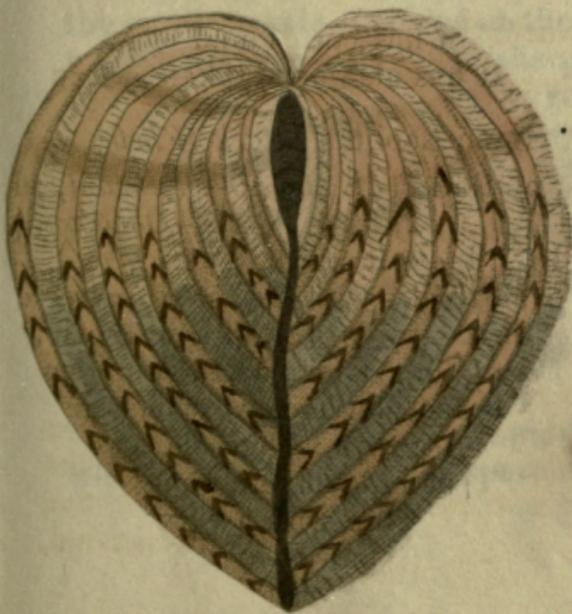
The half-grown shell.

Western coasts, and North Britain. v. v.

2. *Cardium tuberculatum*. *Tubercled Cockle*. Fig. 12.

*Lister*, pl. 328. f. 165—*Donovan*, pl. 107. f. 2—*Dorset Cat.* pl. 2. f. 2—*Wood*, pl. 50. f. 1, 2.

Shell very convex, thick, ponderous, and rounded, with about twenty-two very prominent and rounded ribs, which are not grooved down the middle, covered with obtuse tubercles which form very rugged wrinkles on the posterior side, and roughly striate in the interstices; the anterior side elongated, flattened, and slightly prominent in the middle, presenting a broad heart-shaped front, with about seven cord-like ribs on each side, and a little gaping below the cartilage; the posterior side remarkably prominent and rounded,





rounded, very rugged with tubercular wrinkles: color yellowish-brown, with often pale and chocolate-brown bands and markings, generally of a deep chocolate-brown about the margin and anterior side, and of a milky whiteness about the posterior protuberance: beaks very prominent and nearly central; inside glossy, with a fawn-color or fleshy tinge; the grooves on the inside reaching only about half way up the shell: diameter sometimes above three inches.

It is much larger than *C. echinatum*, and so ponderous that one of them will outweigh three of the latter of the same size; the tubercles are never produced into spines, and the anterior slope, when viewed in front, is remarkably flattened and regularly ribbed, in which state it is represented in our figure. *v. v.*

*Cardium nodosum.* *Montagu*, p. 81. The young shell.

Shell flatter than the young of *C. echinatum*, more regularly orbicular, of a reddish colour, with often darker bands; the tubercles are closer and more obtuse; the ribs are more rounded; and it is thicker and stronger. We have this species in all its gradations of size, and can therefore have no hesitation in combining them together.

On the South Devon coast. *v. v.*

### 3. *Cardium echinatum.* *Thorny Cockle.*

*Lister*, pl. 324. f. 161—*Da Costa*, pl. 14. f. 2—*Donovan*, pl. 107. f. 1—*Dorset Cat.* pl. 6. f. 2—*Wood*, pl. 49. f. 1, 2.

Shell very convex, a little produced but not flattened on the cartilage side, rounded on the other, with from eighteen to twenty ribs clothed with sharp white enamelled spines, which when viewed sideways resemble fine teeth; these are often much curved towards the produced side, while those near the hinge are of a longitudinally lance-shaped form: color dull rusty brown more or less mixed with white, with often deeper belts; inside, glossy white: diameter about two inches and a half.

*Cardium ciliare.* *Pennant*, pl. 53. f. 2—*Donovan*, pl. 32. f. 2—*Dorset Cat.* pl. 4. f. 1—*Wood*, pl. 49. f. 3, 4. The young shell.

Shell nearly globular, not produced on the cartilage side, white, very thin and transparent, with the spines all flat

and longitudinally lance-shaped, like the upper ones of the full grown shell.

*Variety.* With the spines somewhat spatulate or flattened, and rather longer and more distant. We have in our cabinet specimens, where some of the spines are lanceolate, some of them pointed and curved, and others spatulate, thick, and very obtuse.

*Cardium Spatula.* *Laskey, Wern. Soc. p. 381.*

Common on most sandy coasts. *v. v.*

4. *Cardium edule.* *Common Cockle.*

*Lister, 334. f. 171—Pennant, pl. 53. f. 3—Da Costa, pl. 11. f. 1—Dorset Cat. pl. 11. f. 1—Donovan, pl. 124—Wood, pl. 55. f. 4.*

Shell convex, a little produced on one side, with about twenty-six ribs, which are flattened in the middle and a little rounded at the sides, mostly marked with concentric rings and ridges, and somewhat roughened near the circumference with obsolete recurved scales, which are stronger on the shorter side: color white or yellowish-white with often a blueish cast, generally dark red at the elongated end and towards the hinge; inside white, with a large dark red blotch on the produced side. The very young are globular, semitransparent, and clear white. Length about an inch and a half; breadth a little more.

*Variety A.* *Cardium rusticum.* *Lister, pl. 329. f. 166. Donovan, pl. 124. f. 2. Wood, pl. 55. f. 2, 3.*

Shell larger, with about eighteen or twenty ribs, which are more elevated and rugged in the interstices, of a ferruginous or livid color, with often narrow chocolate-brown zones.

*Variety B.* Very much elongated and flattened on one side.

*Variety C.* Globular, with all the ribs rounded, rather polished, of a pale reddish white, with a rose-colored tinge about the projection below the hinge on the posterior side, and about half the size.

These two last are found imbedded in blue clay at the mouths of rivers, in Dublin bay: but all the varieties may be distinguished by the obscure transverse scales.

Common on all coasts. *v. v.*

5. Car-





5. *Cardium lævigatum*. *Smooth Cockle*.

*Lister*, pl. 332. f. 169—*Pennant*, pl. 54, lower fig.—*Da Costa*, pl. 13. f. 6—*Dorset Cat.* pl. 7. f. 6—*Donovan*, pl. 54—*Wood*, pl. 54. f. 1, 2.

Shell somewhat oval, much produced at one end, with very numerous faint flat ribs, between which it is obscurely striate longitudinally, and crossed by distant obscure raised transverse lines, quite smooth at the anterior side, covered with a yellowish-brown skin almost concealing the markings, under which it is of a pale flesh-color; the younger ones finely polished and marbled with whitish and pink or dull red; inside smooth, glossy, with more or less of a pink hue, the margin strongly toothed: length two inches and a half; breadth two inches.

Sandy shores of England and Ireland. *v. v.*

6. *Cardium elongatum*. *Lengthened Cockle*.

*Montagu*, p. 82.

Shell flattish, somewhat oval, a little angular and elongated on one side, with twenty-one faintly wrinkled and rounded ribs: color yellowish-white or pale rufous, with sometimes red blotches on the elongated side which are visible within; inside yellowish-white; beaks not quite central: diameter a quarter of an inch.

In Salcomb bay, Devon: rare. *v. m.*

7. *Cardium exiguum*. *Pigmy Cockle*.

*Dorset Cat.* pl. 2. f. 11.

*Cardium pygmæum*. *Donovan*, pl. 32. f. 3.

Shell coarse, sometimes rather flattened and sometimes very convex, somewhat heart-shaped and produced at one end, with about twenty ribs, which are tubercled towards the shorter end and wrinkled towards the margin; the older ones wrinkled all over; strongly striate transversely in the interstices: color dirty white or brown, often covered with a dark skin: under the beaks a strong heart-shaped impression: inside smooth, white, often rufous at the angular side: length about half an inch; breadth nearly as much.

Western coasts, and Dublin bay and Cove in Ireland. *v. v.*

8. *Cardium medium*. *Marbled Cockle*.

*Lister*, pl. 316. f. 153—*Donovan*, pl. 32. f. 1—*Wood*, pl. 50. f. 3—*Walker*, f. 83, 84.

Shell somewhat triangular and heart-shaped, a little abrupt on one side, and running into an angle at the front margin, the other side shorter and rounded, with from thirty-six to forty smooth ribs: color white; the inside with mostly a ferruginous or chesnut hue about the abrupt side: teeth one in each valve, and together with the lateral ones strong and prominent; the margin notched: length about an inch; breadth the same.

On the coast of Durham: very rare. *v. m.*

9. *Cardium fasciatum*. *Banded Cockle*.

*Montagu*, pl. 27. f. 6.

Shell nearly orbicular, semitransparent, with about twenty-seven smooth glossy flattened ribs, slightly tubercled at the shorter side, and sometimes round the margin: color rufous white, with three or four darker transverse bands, more strongly marked at the longer end and on the inside, where the ribs are also obvious: length hardly three-eighths of an inch; breadth rather more.

Sandy coasts of England, Ireland, and Scotland. *v. v.*

## CHAMA. HEART-COCKLE.

Shell with two strong valves: hinge rugged and gibbous, with the teeth obliquely locking into the opposite valves.

1. *Chama Cor*. *Ox-heart Cockle*. Fig. 17.

*Lister*, pl. 275. f. 111—*Donovan*, pl. 134—*Laskey*, pl. 8. f. 7.

Shell nearly globular, a little produced and flexuous on the anterior side, heart-shaped, strong, thick, covered with a yellowish-brown skin, under which it is whitish or pale ferruginous, with sometimes a few brownish blotches, very finely striate transversely with several coarser ridges; the cartilage prominent and rounded: beaks large, prominent, much curved inwards towards the posterior slope so as to form a single flat volution, and inclining outwards, very re-

mote





mote from each other; inside smooth, white, with often a reddish tinge, the margin thin and plain: teeth flattish, two in each valve, with a very remote pointed lateral one in each valve on the cartilage side, all locking into each other; the cavities of the primary ones very deep.

The specimen before us of this rare and noble shell, taken in Dublin bay, is full four inches long, and more than three and a half wide. It has also been found near the Giant's Causeway, at Belfast, in Bantry bay, and at Abb's Head in Scotland: very rare. *v. m.*

## CHITON. CANOE-SHELL.

Shell boat-shaped, with several valves or plates disposed along the back in a transverse manner, and incumbent on each other at their front margin.

1. *Chiton marginatus*. *Bordered Canoe-shell*.

*Pennant*, pl. 39. f. 2—*Linn. Trans.* viii. pl. 1. f. 2—*Dorset Cat.* pl. 1. f. 2—*Wood*, pl. 3. f. 4.

Shell with eight valves, finely punctured like shagreen, the seven hinder ones with a small ridge on the back which ends in a small beak pointing forwards over the next; the margin coriaceous and coarsely serrate; inside covered with a tough skin under which it is polished with the margin finely notched: color dusky, grey, greenish, or inclining to red, often spotted or marbled: length half an inch or more; breadth a quarter. In Scotland they appear to grow of a large size, as the separate valves have been found half an inch wide.

*Variety*. *Chiton septemvalvis*. *Montagu*, p. 3.

With seven valves, the five middle ones dark grey, transversely divided, rough on the hinder part and nearly smooth in front; the beaks and the two ends rufous brown, and the margin faintly reticulate.

Rocky coasts, on stones and shells. *v. v.*

2. *Chiton lævis*. *Smooth Canoe-shell*.

*Pennant*, pl. 39. f. 3.

Shell with eight valves, smooth or very faintly striate transversely, raised and beaked on the back like the last; the

the margin finely reticulate : color deep rufous-brown, often variegated and marked with a yellowish line down the back : smaller, narrower, and more convex than the last.

Scotland, West of England, and Dublin bay. *v. v.*

3. *Chiton cinereus*. *Ash-colored Canoe-shell*.

*Dorset Cat.* pl. 1. f. 4—*Linn. Trans.* viii. pl. 1. f. 3—*Wood*, pl. 3. f. 5.

Shell with eight valves, nearly smooth, ridged down the back and beaked, finely fringed round the margin, a little reflected on the hinder angle at the base : color grey or with a reddish tinge : length a quarter of an inch.

It differs from the last principally in the margin, which is not reticulate, but furnished with a fine fringe. The color is also of an uniform grey with occasionally a faint reddish tinge. The color of the *Ch. lævis* is of a dark dusky red, which does not change after it is dead, as is evident from the specimens in our own cabinet, which have been preserved for some years. Mr. Dillwyn, however, has united the two species into one, under the assertion that the *Ch. lævis* is red when alive, and grey when dead.

Western coasts, and Dublin bay. *v. v.*

4. *Chiton punctatus*. *Punctured Canoe-shell*. Fig. 10.

Shell with eight valves, raised, beaked, and margined, very convex, deep red, finely and distinctly punctured all over. The valves being distinctly punctured in this species seem to mark the only difference between it and the *Ch. lævis*, in which they are faintly but evidently striate only : size of the last.

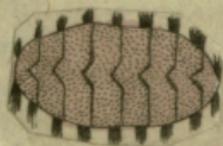
It is probable that the *Chiton ruber*, so very slightly mentioned by Laskey in the Memoirs of the Wernerian Society, as being transversely striate, is only the *Ch. lævis* of a deeper color.

Found by Mr. O'Kelly, at Portmarnock, Ireland. *v. m.*

5. *Chiton fascicularis*. *Tufted Canoe-shell*. Fig. 9.

*Montagu*, pl. 27. f. 5—*Dorset Cat.* pl. 1. f. 1—*Linn. Trans.* viii. pl. 1. f. 1—*Wood*, pl. 2. f. 6.

Shell with eight valves, finely shagreened but not distinctly punctured, slightly ridged and beaked down the back, the margin surrounded with tufts of whitish hairs,



COLEMAN, 1907

Shell with a single valve, oval, moderate, distant  
the ends, apertures very narrow, reaching the  
one length of the shell, located along both the

Open Pedicels, Van Emery, Fig. 14. 15.



the same as the bivalves of the  
shell closed, found with  
the back, surrounded with  
the surface with the  
ventral side at the level of the  
the surface, showing the  
the surface of the  
with a bivalve, with a

one at the juncture of each valve and two in the front, making eighteen in all: color brown or dark grey, often mottled: length more than half an inch.

On shells and under stones. *v. v.*

6. *Chiton albus*. *White Canoe-shell*.

*Dorset Cat.* pl. 1. f. 3—*Linn. Trans.* viii. pl. 1. f. 4.

Shell with eight valves, smooth, not ridged nor beaked down the back, pure white; the first valve notched on the hinder edge: length not a quarter of an inch.

On shells and sea-weed: rare. *v. v.*

7. *Chiton crinitus*. *Hairy Canoe-shell*.

*Pennant*, pl. 39. f. 1, and A. 1. magnified.

Shell with seven valves, thickly clothed with short hairs: length five lines.

It is probable that this obscure species may, like the *Ch. septemvalvis* of Montagu, be only an accidental variety of *Ch. marginatus* or some other. The short hairs might, upon examination, have been a *Conferva*, young *Fucus*, or marine substance, such as is often seen on shells, particularly *Nerites*.

At Aberdeen and Sandwich.

CYPRÆA. COWRY.

Shell with a single valve, oval, involute, obtuse at the ends: aperture very narrow, reaching the whole length of the shell, toothed along both the lips.

1. *Cypræa Pediculus*. *Nun Cowry*. Fig. 14, 15.

*Da Costa*, pl. 2. f. 6—*Donovan*, pl. 43.

Shell polished, tumid, without the longitudinal groove on the back, surrounded with numerous transverse ribs which terminate within the lips and give them a notched appearance, some of them forked, or divided by intermediate shorter ones: color white, yellowish, pink, or chestnut brown: the inner-lip at the more protruded end is broad, with a depression which narrows and lessens as it gets towards the middle of the shell.

In most specimens there may be also observed a slight tendency to protrusion at the more obtuse end or crown, which in some forms a very visible point, or, as it were, the incipient rudiment of a spire; and in the smooth variety, the faint lines of two volutions may be evidently discovered, which in the still more transparent *C. bullata* of Montagu are elongated into manifest spires: length about half an inch.

The following are the known British varieties: the foreign one, with the groove down the back, we can only consider as a variety.

A. strongly ribbed, with from two to four colored spots on the back. *v. v.*

B. smaller, ribbed, and without spots. *v. v.*

*Cypræa arctica*. *Lister*, pl. 707. f. 57—*Pennant*, pl. 73, uppermost fig.—*Dorset Cat.* pl. 22. f. 6.

C. smooth, white, polished, much smaller, semitransparent, with clear transparent lines in the place of the ribs. *v. m.*

These are found in the West of Ireland, and, except for the highly polished surface, appear to be worn down.

D. Very thin and semitransparent, glossy white or with a pale purplish tinge, sometimes faintly striate half way from the back to the inner lip, the other half with extremely thin longitudinal striæ; the outer-lip not thickened at the edge which is finely crenate; inner-lip faintly toothed: crown slightly produced, and forming two or three small volutions. *v. m.*

For this rare and beautiful variety, which from its size, apparent volutions, and general appearance, may create a reasonable suspicion of its being a distinct species, but is at present considered as merely a young and unformed shell, we are indebted to Miss Lawless of Dublin, a naturalist of rare and excellent discrimination and industry, who in a single excursion on the celebrated strand of Portmarnock has been known to collect more than a hundred different species.

*Cypræa bullata*. *Montagu*, pl. 6. f. 1.



## DENTALLUM TOOTH-SHELL

Shell with a single valve, linearly elongated, not divided into chambers, open at the top and sides.

1. *Dentallium dentatum*.—Common form, linearly elongated, with a single valve, linearly elongated, not divided into chambers, open at the top and sides. Length, 1/2 to 1/3 inch; width, 1/16 to 1/8 inch. Color, white to yellowish.

Shell slender, tapering to a point, slightly curved, open at both ends, regular and almost linear, with white facets, the fine striae or lines in number, often a few but sometimes as the larger end, white or brownish-white, mostly below at the smaller end, length about half an inch.

2. *Dentallium dentatum*.—Shell tooth-shell.

Shell slender, tapering to a point, slightly curved, open at both ends, regular and almost linear, with white facets, the fine striae or lines in number, often a few but sometimes as the larger end, white or brownish-white, mostly below at the smaller end, length about half an inch.

In the western coast; often found in the stomach of the

3. *Dentallium dentatum*.—Tooth-shell.

Shell a little taper and slightly bent, open at both ends, translucent, heavy white but not glossy, often marked with obscure dark purple spots, divided in longitudinal rows, with regular fine raised longitudinal striae, each twenty in number, and generally a smaller one between each of them; the lower end not pointed, with a rounded, level surface; length seven eighths of an inch; breadth at the larger end the eighth of an inch, at the smaller end about half an inch.

This species has been possibly mistaken for the *D. Dentatum*, but may be distinguished at a single glance. The latter shell is a brownish color, and contains a tooth.

## DENTALIUM. TOOTH-SHELL.

Shell with a single valve, linear, tubular, not divided into chambers, open at one or both ends.

1. *Dentalium Entalis*. *Common Tooth-shell*.

*Lister*, pl. 547. f. 2, and pl. 1056. f. 4—*Pennant*, pl. 93. f. 5—*Da Costa*, pl. 2. f. 10—*Donovan*, pl. 48—*Dorset Cat.* pl. 22. f. 10.

Shell slender, tapering, a little curved, opaque, glossy, open at both ends, smooth or marked with a few circular striæ or obscure annulations: color white or yellowish-white, with mostly a rufous tinge towards the smaller end: length an inch and a half; diameter at the larger end two-tenths of an inch, and one-fourth as much at the smaller.

Sandy shores of England and Ireland. *v. m.*

2. *Dentalium Dentalis*. *Small Tooth-shell*.

Shell slender, tapering to a fine point, slightly curved, opaque, open at both ends, regularly and closely striate the whole length, the striæ thirty or more in number, with often a few faint annulations at the larger end: color white or brownish-white, mostly rufous at the smaller end: length about half an inch.

On the western coasts: often found in the stomach of the Gurnard. *v. m.*

3. *Dentalium eburneum*. *Ivory Tooth-shell*.

Shell a little taper and slightly bent, open at both ends, semitransparent, ivory white but not glossy, often marked with obscure dark purple spots disposed in longitudinal rows, with regular fine raised longitudinal ribs, eighteen or twenty in number, and generally a smaller one between each of them; the lower end not pointed, with a roundish-oval aperture: length seven eighths of an inch; breadth at the larger end the eighth of an inch, at the smaller end about half as much.

This species has been possibly mistaken for the *D. Dentalis*, but may be distinguished at a single glance. The latter shell is of a brownish color, and conical or funnel-

shape form, being full two tenths of an inch wide at the larger end, and tapering to hardly the twentieth part of an inch at the smaller end, which terminates in a small circular perforation; the striæ are also much finer, double the number of our present species, and stronger at the pointed end, whence they gradually lessen, so as to become hardly visible at the larger end. Our present shell, which is not uncommon on the western coast, tapers very little, and has the striæ equally strong throughout. *v. v.*

4. *Dentalium striatum*. *Striated Tooth-shell*.

*Lister*, pl. 547. f. 1, lower fig.

*Dentalium octangulum*. *Donovan*, pl. 162.

Shell slender, tapering to a fine point, slightly curved, semitransparent, open at both ends, with eight longitudinal angular ribs, between each of which are three or four very obtuse longitudinal striæ: color greyish-white, pale rufous, or green with a white tip: length about two inches.

Cornish and Devon coasts: very rare. *v. m.*

5. *Dentalium labiatum*. *Proboscis Tooth-shell*.

Shell nearly cylindrical, very slightly tapering and curved, semitransparent, ivory white, covered when fresh with a black glossy skin, most finely and minutely striated longitudinally, open at the larger extremity, the smaller end truncate, with the flattened surface somewhat undulated in a radiate manner and finely striate circularly, from the centre of which projects an oval transparent process or lip terminating in an oval aperture, one side of which is cloven half way down: length an inch or rather more; breadth at the open end two tenths of an inch.

A few specimens of this species have very lately been brought to us alive, taken by the trawl at Torbay: the animal is cylindrical, white, with a small central tube at the larger end, and a spoon-shaped mouth at the other. *v. v.*

6. *Dentalium politum*. *Polished Tooth-shell*.

Shell somewhat cylindrical, slightly tapering and a little curved, semitransparent, quite smooth and finely polished, white with generally some irregular grey circular bands which grow darker and more combined together towards the narrower extremity, open at both ends; the smaller end

very



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Fourth block of faint, illegible text, showing further details.

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very obtuse, not truncate, but rounded, with an oval perforation: length an inch; breadth at the larger extremity two tenths of an inch; at the smaller end one eighth.

The outline of this shell very much resembles that of the *D. labiatum*; but its polished surface, rounded termination at the smaller end, and the want of the projecting lip, strongly mark its distinction. We believe it to be very rare, as we have yet been able to obtain two living specimens only, both of them dredged up at Torbay. *v. v.*

7. *Dentalium semistriatum. Semistriated Tooth-shell.*  
Fig. 68.

Shell very slender, tapering to a very fine point, glossy, transparent, a little curved, open at both ends, quite smooth on the upper part, the lower part marked with numerous fine longitudinal striæ, which are very distinct at the point, but grow fainter towards the middle and at length totally disappear: color clear white, with a pale rufous tinge at the smaller end: length more than an inch; diameter at the larger end not the twentieth part.

Two specimens of this new and very delicate species were found near the Pigeon-house, in Dublin bay. They are much more transparent than the last, much thinner in substance, much longer in proportion to the breadth, and are faintly but evidently striate on the lower part only. *v. m.*

8. *Dentalium imperforatum. Imperforated Tooth-shell.*  
*Walker, f, 15.*

Shell slender, slightly curved, whitish, transversely striate; the larger end a little contracted at the margin; the smaller end closed, and furnished with a small round protuberance: length the eighth of an inch.

In Falmouth harbour: very rare.

9. *Dentalium clausum. Closed Tooth-shell.*

Shell slender, slightly tapering, nearly straight, semi-transparent, horn-color or yellowish-white, irregularly striate longitudinally, open at the larger end, with the opposite end closed and obtuse: length an inch; diameter at the open end the eighth of an inch.

Two specimens only of this species have as yet occurred to us, both of them collected on the Calves Islands, in the west of Ireland. The size, the longitudinal striæ, and the want of the contraction at one end and the knob at the other, sufficiently distinguish it from *D. imperforatum*. *v. m.*

The difficulty of procuring living or very perfect specimens of the several species of this family, has no doubt contributed much to their obscurity. In all our specimens of what we consider to be the true *D. Entalis*, the aperture at the pointed extremity is oval, with a small slit down the back or convex side; and in our most perfect specimen, just below the orifice at the smaller end, is a circular groove, as if it had been indented by a tight ligature.

10. *Dentalium glabrum*. *Smooth Tooth-shell.*

*Montagu*, p. 497.

Shell curved, of equal diameter at both ends, glossy white, quite smooth; one end open, the other closed rounded and slightly margined: length hardly a line.

On the Devonshire coast, and North Britain: rare. *v. m.*

11. *Dentalium Gadus*. *Hake's Tooth-shell.*

*Montagu*, pl. 14. f. 7.

Shell slender, tapering to a fine point, slightly curved, open at both ends, narrowed at the larger end beneath which it is inflated: color white, glossy, and quite smooth; length about three eighths of an inch.

In the ocean, brought up with the sounding lead. *v. v.*

12. *Dentalium Trachea*. *Windpipe Tooth-shell.*

*Montagu*, pl. 14. f. 10.

Shell a little tapering, curved, marked with regular strong rounded transverse ribs or annulations, not contracted at the larger end; the smaller end closed, truncate, and furnished with a small round protuberance: color rusty-brown, paler towards the smaller end: length above the eighth of an inch.

It differs from the last, in being more curved, in its color and strong ribs, and in having no contraction at the top.

On Milton sands: very rare.

Two specimens only of this species have as yet been found, both of them collected on the Galves Islands, in the west of Ireland. The size, the longitudinal striae, and the want of the contraction at one end and the knob at the other, sufficiently distinguish it from *D. inconstans*. The identity of structure living or very recent specimens of the several species of this family, has no doubt contributed much to their obscurity. In all our specimens of what we consider to be the true *D. Lucinae*, the aperture at the pointed extremity is oval, with a small slit down the center, convex sides, and in our most perfect specimen, at least, the surface at the smaller end is a circular groove, as if it had been indented by a slight ligature.

10. *Lucina gibbosa*, Smith's Tooth-shell.

Montagu, p. 137.

Shell curved, of equal diameter at both ends, glossy white, quite smooth; one end open, the other closed, rounded and slightly beak-shaped; length hardly a line. On the Iroquois coast, and North Britain; rare.

11. *Lucina gibbosa*, Smith's Tooth-shell.

Montagu, p. 143.

Shell slender, tapering to a fine point, slightly curved, open at both ends, narrowed at the larger end beneath, which it is inflated; color white, glossy, and quite smooth; length about three eighths of an inch. In the ocean, brought up with the sounding lead.

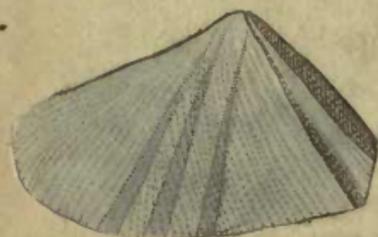
12. *Lucina gibbosa*, Smith's Tooth-shell.

Montagu, p. 143.

Shell a little tapering, curved, marked with regular transverse ribs or angulations, not convex at the larger end, the smaller end closed, truncate, and furnished with a small round protuberance; color rusty-brown, paler towards the smaller end; length above the eighth of an inch.

It differs from the last, in being more curved, in its color, and strong ribs, and in having no contraction at the top. *O. Miltonensis*; very rare.

Hastings. - When the fish is  
alarmed it sinks into the sand  
with great rapidity -



## DONAX. WEDGE-SHELL.

Shell with two valves, with the cartilage side very obtuse and abrupt: hinge with two primary teeth, and a single remote lateral-one on the posterior side.

1. *Donax Trunculus*. *Smooth Wedge-shell*.

*Lister*, pl. 376. f. 217—*Pennant*, pl. 58. f. 1—*Da Costa*, pl. 14. f. 3—*Linnaeus*. *Trans.* vi. pl. 16. f. 13, 14, 15, 16—*Donovan*, pl. 29. f. 1—*Dorset Cat.* pl. 6. f. 3.

Shell oblong, rounded at one end and a little produced at the other, glossy, covered with a thin pale chesnut or olive-green skin, finely striate longitudinally with often a few irregular transverse striæ near the pointed end, a little contracted at the margin near the pointed end: color yellowish-white, with a few faint rays from the beak to the margin, and generally a few brown and purple transverse bands; the margin finely toothed: beaks small, near the abrupt end; inside rich purple: length more than half an inch; breadth an inch and a half.

Sandy coasts of England, Ireland, and Scotland. v. v.

2. *Donax denticulata*. *Toothed Wedge-Shell*. Fig. 19.

*Lister*, pl. 376. f. 218—*Dorset Cat.* pl. 5. f. 12—*Pennant*, pl. 58. f. 2.

*Donax crenulata*. *Donovan*, pl. 24.

Shell strong, thick, somewhat wedge-form, abruptly sloped at the larger end, where it is truncate and much more convex, with a prominent ridge from the beak to the margin, dividing the slope in the middle; finely striate longitudinally, and punctured in the interstices; on the part of the slope next the margin, towards the hinge, the striæ become transverse and undulated: color whitish, brownish, yellowish or purple, with mostly a few longitudinal purple rays from the beak; inside white, the margin finely notched: beaks near the larger end; teeth strong, with a lateral one on each side the middle ones: length seven lines; breadth an inch.

On Weymouth and Dawlish sands; very rare. v. m.

3. *Donax complanata*. Flat Wedge-shell.

*Lister*, pl. 384. f. 227—*Montagu*, pl. 5. f. 4.

Shell oblong, smooth, glossy, with often a few faint distant transverse striæ, but no longitudinal ones: color yellowish or purplish, often covered with a polished skin, with white streaks or spots, and a single broad white longitudinal ray from the beaks to the margin, the edges of which are ferruginous; inside purple, with the margin plain: teeth small; beaks nearer one end; length five eighths of an inch; breadth an inch and a quarter.

From *D. Trunculus* it may be readily distinguished, by the more flattened form, the single white ray, and more especially by the plain and smooth margin.

Devon, Dorset, and Cornish coasts: very rare. v. m.

4. *Donax plebeia*. Plebeian Wedge-shell.

*Lister*, pl. 389. f. 228—*Montagu*, pl. 5. f. 2—*Dorset Cat.* pl. 5. f. 13.

Shell oblong, somewhat oval, thick, strong, smooth, glossy, with a few distant transverse furrows, dull yellowish horn-color, rarely white, with generally two longitudinal brown rays from the beaks to the margin; inside glossy and paler, with the margin smooth: beaks near one end; teeth remarkably large and strong, with a single lateral one; length hardly half an inch; breadth three quarters.

Weymouth, and North Britain: very rare. v. m.

5. *Donax castanea*. Chesnut Wedge-shell.

*Montagu*, pl. 17. f. 2.

Shell strong, glossy, smooth, with a few irregular transverse wrinkles: color chesnut, with a single darker longitudinal ray, curving from the back to the larger end, and dividing each valve into two nearly equal parts, the color becoming paler towards the posterior end; inside the same color, with a slight trace of the ray at the margin, which is smooth: beaks obtuse, rather inclining to the longer side, with one of the teeth very large, the other small, without lateral ones.

It differs from the last, in the obliquity of the teeth, which are bent in a recurved manner and are not furnished with lateral

3. Roman veridulca. The Naga-shell.

Plate p. 384. 1837. — *Monog.* pl. 1. 4.

Shell oblong, smooth, glossy, with often a few faint dorsal transverse striae, but no longitudinal ones: color yellowish or purplish, often covered with a polished skin, with white streaks or spots, and a single broad white longitudinal ray from the beaks to the margin, the edges of which are irregular; inside purple, with the margin very pale and narrow; beaks rather one end: length five eighths of an inch; breadth an inch and a quarter.

From the Lamprosis it may be readily distinguished, by the more flattened form, the single white ray, and more regularity of the form and smooth margin.

Found in Britain, and North America: very rare.

4. Roman veridulca. The Naga-shell.

Plate p. 384. 1837. — *Monog.* pl. 1. 5. — *Dover* color

Shell oblong, somewhat oval, side strongly smooth, with a few distant transverse furrows, dull yellowish, rather rarely white, with generally two longitudinal rays from the beaks to the margin; inside very pale, with the margin smooth; beaks near one end: length remarkably large and strong, with a single longitudinal ray: length hardly half an inch; breadth three quarters.

Weymouth, and North Britain: very rare.

5. Roman veridulca. The Naga-shell.

Plate p. 17. 1. 2.

Shell strong, glossy, smooth, with a few irregular transverse wrinkles: color chestnut, with a single darker longitudinal ray, curving from the back to the larger end, and dividing the valve into two nearly equal parts, the color becoming paler towards the posterior end; inside the same color, with a slight trace of the ray at the margin, which is smooth; beaks obtuse, rather inclining to the longer side, with one of the teeth very large, the other small, without lateral ones.

It differs from the last, in the obliquity of the teeth, which are bent in a recurved manner and are not furnished with lateral



lateral ones, and in the beaks inclining a little to the longer end : length a quarter of an inch ; breadth three eighths.

Devonshire, and North Britain : very rare. *v. m.*

6. *Donax rubra*. *Red Wedge-shell*.

*Montagu*, Suppl. p. 38.

Shell wedge-form, smooth, truncate at one end, of an uniform reddish color, inside the same, with the margin smooth : beaks obtuse ; hinge with two teeth in each valve, placed angularly, and approaching each other at their summits : breadth not a line.

Devonshire coasts, among Corallines : very rare.

7. *Donax Irus*. *Piercer Wedge-shell*.

*Da Costa*, pl. 15, f. 6, left hand fig.—*Donovan*, pl. 29, f. 2—*Dorset Cat.* pl. 12, f. 6, left hand fig.

Shell somewhat oval, rugged, varying much in shape, sometimes nearly as long as it is broad, sometimes twice as broad as it is long, sometimes nearly flat, and often very convex, brownish white, with numerous rather close-set transverse-broken or undulated membranaceous ridges which reflect upwards and are stronger towards one end, the interstices finely striate longitudinally ; inside white or flesh-color, with more or less of a purple tinge, the margin plain and smooth ; beaks small, nearer one end, much curved ; teeth small, often three together giving it the appearance of a Venus, two of them cloven ; length about a quarter of an inch.

Western coasts, and Howth in Ireland, imbedded in the hardest limestone. *v. v.*

## HALIOTIS. SEA-EAR.

Shell with a single valve, ear-shaped, almost entirely open, with a longitudinal row of orifices towards the outer margin ; spire lateral, and flat upon the shell.

1. *Haliotis tuberculata*. *Tuberoled Sea-ear*. Fig. 66.

*Lister*, pl. 611, f. 2—*Pennant*, pl. 91—*Da Costa*, pl. 2, f. 1, 2—*Donovan*, pl. 5—*Dorset Cat.* pl. 22, f. 1, 2.

Shell thick, strong, opaque, rough, flat, oval, striate longitudinally,

itudinally, ribbed or wrinkled transversely, with a longitudinal ridge near the thicker margin beset with tubercles, which towards the thinner end become larger flat and concave, the last six or eight of them perforated; the other end with a single slightly raised spire, surrounded circularly with a continuation of the gradually decreasing tubercles, and ending in an obtuse point; below the ridge is a furrow and a small rib, behind which the margin is rounded and turned in; the outer margin very thin and plain: color reddish-brown, sometimes spotted or marbled; inside concave, glossy and richly perlaceous: length sometimes four inches, and three in breadth.

Guernsey and Jersey, on rocks at low-water mark; rarely thrown up on the western coasts, Bullock in Ireland, and North Britain. *v. m.*

### HELIX. SNAIL-SHELL.

Shell with a single valve, spiral, more or less transparent and brittle: aperture contracted, roundish or crescent-shaped.

*Obs.* There ever has been, and probably ever will be, a difficulty in making precise and definite limits between this family and that of the Turbo. It may therefore be necessary to understand, that all which have an orbicular aperture, however transparent and brittle they may be, are ranged with the latter genus. The student who finds any difficulties on this point, will, by turning to the proper division of each family, easily have his difficulties removed.

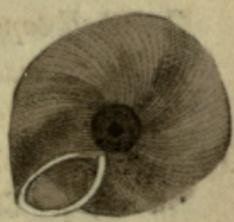
- A. *Flattened, with an acute keel-like ridge.* 1 to 5.
- B. *Not keeled, but perforated or concave.* 6 to 37.
- C. *The volutions rounded: imperforated at the base.* 38 to 43.
- D. *Shell tapering.* 44 to 51.
- E. *Shell oval, without perforation.* 52 to 65.

A. Flattened, with an acute keel-like ridge. 1 to 5.

1. *Helix lapicida.* *Rock Snail-shell.* Fig. 59, 60.

*Lister*, pl. 69. f. 68—*Pennant*, pl. 86. f. 1—*Du Costa*, pl. 4. f. 9—*Donovan*, pl. 39. f. 2—*Dorset Cat.* pl. 20. f. 9.

Shell





Shell flattish, a little convex on both sides, semitransparent, with a wide and deep perforation on the underside, strongly and irregularly wrinkled, and crossed in an opposite direction with very fine and minute striæ, giving it a kind of shagreened roughness: spires six, the larger one sloping down on each side so as to form a sharp ridge on the margin, which runs spirally throughout the upper volutions and marks their separation by a fine line, the edges of which appear slightly toothed or crenate by the wrinkles: color dark horny, with deeper blotches: aperture transverse, nearly oval, narrowed to a kind of angle where it meets the keel, a little dilated in the middle, and rounded beneath with a thin sharp white margin which is slightly reflected, and dilated and a little spreading towards the perforation: diameter three quarters of an inch; height about three eighths.

Woods, clefts of rocks, and old walls. *v. v.*

2. *Helix subcarinata*. *Subcarinated Snail-shell*.

*Montagu*, pl. 7. f. 9—*Walker*, f. 22.

*Trochus rugosus*. *Brown*, *Wern. Soc.* pl. 24. f. 5.

Shell rather convex, semitransparent, white or pale rust-color, sometimes glossy, but generally appearing as if frosted: spires four, well defined and finely striate longitudinally, with two fine circular raised lines round the base of the body volution and one on the upper part, which last continues round the middle of the second volution, and is obliterated in the line of junction towards the top: from the lower ridge at the base commences a semicircular channel which terminates in a large and deep perforation: aperture roundish oval; the outer-lip projecting and thin; inner-lip reflected, spreading into a sharp angle, and raised on the body of the volution: diameter one tenth of an inch; height more than half as much.

In fine sand, on the western coasts, Kent, and Dublin bay. *v. m.*

3. *Helix planorbis*. *Bordered Snail-shell*.

*Montagu*, pl. 25. f. 1.

*Helix planata*, *Linn. Trans.* viii. pl. 5. f. 14—*Dorset Cat.* pl. 20. f. 18.

Shell

Shell flat, semitransparent, pale horn-color with sometimes a rufous tinge, concave on both sides : spires four or five, a little sloping on each of the sides, finely striate across ; the largest with a slight prominent ridge placed exactly in the middle of the margin : aperture compressed, with a rather acute termination at the upper end ; the lower end oblique, one side being more elongated than the other : diameter about half an inch.

It differs from the next, in having the circular ridge round the margin of the body volution placed exactly in the middle, giving the shell a more convex appearance ; in the paler color and greater fragility ; and in the aperture being oval.

Stagnant waters, and slow streams. v. v.

#### 4. *Helix complanata*. *Flattened Snail-shell*.

*Lister*, pl. 138. f. 42—*Montagu*, pl. 25. f. 4.

*Helix limbata*. *Da Costa*, pl. 4. f. 10, and pl. 8. f. 8.

*Helix planorbis*. *Pennant*, pl. 86. f. 2—*Linn. Trans.* viii. pl. 5. f. 13—*Dorset Cat.* pl. 14. f. 8, and pl. 20. f. 10.

Shell flat, semitransparent, brown, chesnut, or nearly black, concave on both sides : spires four or five, rather rounded, slightly striate across ; the largest with a faint prominent circular ridge round the margin and placed at the base, and all well defined by the line of separation : aperture oblique, one lip reaching further down the volution than the other, rather rounded at the top : diameter more than half an inch.

In consequence of the keel or ridge being placed not in the middle of the margin but at the base, the under side of the volution does not slope so much down to the edge as the upper, giving the shell a flatter appearance ; and consequently the upper edge of the lip is not so acute.

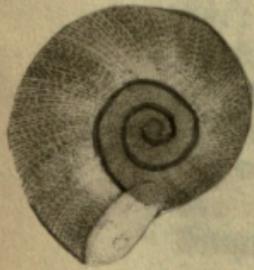
Ponds, ditches, and stagnant waters. v. v.

#### 5. *Helix Vortex*. *Whirled Snail-shell*.

*Lister*, pl. 138. f. 43—*Pennant*, pl. 86. f. 4—*Da Costa*, pl. 4. f. 12—*Donovan*, pl. 75—*Dorset Cat.* pl. 20. f. 12.

Shell very flat, semitransparent, horn-color, concave on one side, with six or seven close-set and well defined spires, the largest one with a slight ridge round the margin





gin near the base : aperture nearly oval, compressed, rather acute towards the top : diameter hardly half an inch.

It differs from the two last in the number and compactness of the volutions.

In ponds and ditches. *v. v.*

B. *Without keel; perforated or concave.* 6 to 36.

6. *Helix cornea.* *Horn Snail-shell.* Fig. 52. *Planor*

*Lister*, pl. 137. f. 41—*Pennant*, pl. 86. f. 3—*Da Costa*, pl. 4. f. 13—*Donovan*, pl. 39. f. 1—*Dorset Cat.* pl. 20. f. 13.

Shell flattish, semitransparent, reddish or blackish horn-color, becoming white with age, concave on one side and a little depressed on the other : spires four or five, separated by a deep line, the first large and well rounded, wrinkled across, with often a larger transverse ridge or two not far from the aperture : aperture somewhat crescent-shaped, a little oblique downwards ; inner lip slightly spread on the body, whitish at the angles and round the inner-margin : diameter an inch or rather more.

Ponds and old water-courses. *v. v.*

7. *Helix spirorbis.* *Spiral Snail-shell.*

*Montagu*, pl. 25. f. 2—*Dorset Cat.* pl. 20. f. 17.

Shell flat, brown horn-color, concave on both sides : spires six, rounded and close-set, finely striate across : aperture oval, sometimes inclining to circular, but always attached to the body volution at the sides, a little oblique : diameter about a quarter of an inch.

It differs from *H. Vortex*, in not having any ridge or keel on the body volution.

Ponds and still waters. *v. v.*

8. *Helix rhombea.* *Rhombic Snail-shell.*

Shell flat, semitransparent, a little concave on both sides, whitish or tinged with rufous, often covered with a rough brown skin : spires four, smooth, well defined by the line of separation, the larger volution compressed or flattened on the back so as to give it a slightly carinated appearance at the edge on both sides, which however is much stronger underneath : aperture obliquely rhombic, in consequence  
of

of the flattened surface of the outer volution, and sometimes produced into an oblique angle at the upper and outer end, the margin thin, and slightly embracing the next volution at the sides: diameter the tenth of an inch.

This new species, sufficiently distinct from any of its division by the mouth, which forms an oblique parallelogram, resembles the *H. albina* of Gmelin, except that it is nearly equally concave on both sides: we have as yet only found it, attached to the cases of the *Phryganææ*, in its larva state, in the pond at Glasnevin botanic garden, near Dublin; where they are met with in tolerable abundance. These cases are chiefly clothed with this shell, the *H. planorbis* and *planata*; *Turbo fontinalis*, and the young of *Tellina cornua*. v. v.

9. *Helix contorta*. *Coiled Snail-shell*.

*Montagu*, pl. 25. f. 6—*Da Costa*, pl. 4. f. 11—*Donovan*, pl. 99—*Dorset Cat.* pl. 20. f. 11.

Shell flat, horn-color, sometimes rufous or whitish, concave in the very centre only on one side, but largely and deeply so on the other: spires six, rounded, finely striate, deeply divided by the line of separation: aperture narrow crescent-shaped, like the moon in its first quarter, pointed at the sides: diameter hardly two tenths of an inch.

It differs from *H. spirorbis*, in the deep cavity on one side, the narrow aperture, and the number and compactness of the volutions.

Ponds and wet ditches. v. v.

10. *Helix alba*. *White Snail-shell*.

*Montagu*, pl. 25. f. 7—*Dorset Cat.* pl. 19. f. 18—*Walker*, f. 19.

Shell flattish, pale horn-color, semitransparent, often covered with a brown skin, slightly concave on one side and more deeply so on the other: spires four, finely rounded, very closely but distinctly striate both across and circularly; the larger volution very faintly inclining to an edge or keel: aperture somewhat orbicular or crescent-shaped, a little oblique and clasping the spire: diameter a quarter of an inch.

Ponds and slow streams. v. v.

11. *Helix*



11. *Helix* *...* *...*  
 12. *Helix* *...* *...*  
 13. *Helix* *...* *...*  
 14. *Helix* *...* *...*  
 15. *Helix* *...* *...*  
 16. *Helix* *...* *...*  
 17. *Helix* *...* *...*  
 18. *Helix* *...* *...*  
 19. *Helix* *...* *...*  
 20. *Helix* *...* *...*

PLATE XXXIII

21. *Helix* *...* *...*  
 22. *Helix* *...* *...*  
 23. *Helix* *...* *...*  
 24. *Helix* *...* *...*  
 25. *Helix* *...* *...*  
 26. *Helix* *...* *...*  
 27. *Helix* *...* *...*  
 28. *Helix* *...* *...*  
 29. *Helix* *...* *...*  
 30. *Helix* *...* *...*

PLATE XXXIV

31. *Helix* *...* *...*  
 32. *Helix* *...* *...*  
 33. *Helix* *...* *...*  
 34. *Helix* *...* *...*  
 35. *Helix* *...* *...*  
 36. *Helix* *...* *...*  
 37. *Helix* *...* *...*  
 38. *Helix* *...* *...*  
 39. *Helix* *...* *...*  
 40. *Helix* *...* *...*

11. *Helix fontana*. *Fountain Snail-shell*.  
*Montagu*, pl. 6. f. 6—*Dorset Cat.* pl. 19. f. 19.

Shell very flat, horn-color, transparent, smooth, a little concave in the centre on both sides, but more deeply and distinctly so on one side: spires four, a little concave in the centre on both sides, but more distinctly so on one; the outer volution with a faint ridge-like appearance, formed by the gradual slope of the primary volution on each side: aperture contracted, half oval, a little pointed at the top, oblique, the edges very thin and taking in half the body volution at their point of contact: diameter hardly two tenths of an inch.

In fresh waters: not common. *v. v.*

12. *Helix Ericetorum*. *Heath Snail-shell*.

*Lister*, pl. 78. f. 78—*Pennant*, pl. 88. f. 5—*Montagu*, pl. 24. f. 2—*Donovan*, pl. 151. f. 2—*Dorset Cat.* pl. 20. f. 8.

Shell semitransparent, a little convex on one side, with a large and deep perforation on the other: spires six or seven, well defined, the primary one large and finely rounded, striate across: color whitish or grey, often pale rufous, with mostly a brown band on the upper part of the larger volution which continues round the edge of the smaller ones, and frequently several small girdles at the base; sometimes it is variegated with brown, the bands often lighter and more transparent, and sometimes they are hardly discernible: the tip or termination of the spires dark polished brown: aperture somewhat orbicular, slightly crescent-shaped, attached half way down the body volution: diameter nearly an inch.

Dry sunny banks, and warm walls. *v. v.*

13. *Helix cingenda*. *Banded Snail-shell*.

*Lister*, pl. 78. f. 79—*Montagu*, pl. 24. f. 4—*Pennant*, pl. 88. f. 2—*Linn. Trans.* viii. pl. 5. f. 6—*Dorset Cat.* pl. 18. f. 5.

Shell semitransparent, rather convex, reddish or yellowish-white, with numerous narrow spiral zones of a chestnut or chocolate-brown color placed at irregular distances, but generally divided into sets of three or four each by broader whitish bands, and often interrupted so as to form short streaks, especially towards the top, where they be-

come obsolete: spires five or six, the larger ones rounded, but a little flattened near the line of separation, irregularly wrinkled longitudinally, and crossed by very fine obsolete circular lines, so as to give them a minutely reticulate appearance when examined by a glass; the tip a little flattened, and defined by a black spiral line; the base slightly but deeply perforated, whitish, with generally a band in the middle composed of two or three narrow chocolate zones, the interstices of which are of a reddish color: aperture crescent-shaped, inclining to oblong, the margin thin and reflected over the perforation, with usually a raised line round it on the inside near the edge, as in *H. virgata*.

Sometimes it is found nearly plain, or with only a few faint girdles on the body-volution; but may always be distinguished from *H. virgata*, by its larger size and proportional breadth, the flattened top and slightly flattened volutions, and its numerous but very narrow zones: breadth three quarters of an inch; height half an inch.

Dry sandy heaths near the sea. v. v.

#### 14. *Helix virgata*. Zoned Snail-shell.

*Lister*, pl. 59. f. 56—*Montagu*, pl. 24. f. 1—*Da Costa*, pl. 4. f. 7—*Dorset Cat.* pl. 20. f. 7—*Pennant*, pl. 88. f. 3.

*Helix zonaria*. *Donovan*, pl. 65.

Shell convex at top, semitransparent, irregularly wrinkled across, with a deep but narrow perforation; spires six, rounded and well defined, white with a rufous tinge; the body-volution with a single purplish-brown band winding round the middle and continuing at the base of the rest quite up to the top, beneath which is generally a smaller white one; at the under part are three or four very fine circular zones, and often two or three broader ones at the base, sometimes interrupted with white spots, none of them however close to the perforation: aperture somewhat orbicular, oblique, the margin reddish and reflecting over the perforation, within pale purplish-brown, with a white or purplish thread-like raised line round the margin and a little within it: length about half an inch; height hardly as much.

*Variety A.* Pale rufous-brown or greyish, with an obscure

Isle of Wight - Clife near  
Shanklin diam. <sup>2</sup> 5/8



scure narrow whitish band on the middle of the body volution.

This variety might be mistaken for the *H. rufescens*, but for its much greater convexity, and the raised line within the lip of the aperture.

*Variety B.* Dark chocolate brown and somewhat glossy, with sometimes a few whitish marks, and a milk-white band round the middle of the body volution, and continued at the base of the rest to the top.

Maritime pastures and dry banks. *v. v.*

15. *Helix caperata.* *Blacktipped Snail-shell.*

*Montagu*, pl. 11. f. 11—*Dorset Cat.* pl. 19. f. 20.

Shell rather flattened at top, semitransparent, with a large and deep perforation: spires six, closely and regularly striate across, the larger one appearing as if slightly ridged by the flatness of the volutions: color white or blueish-white with purplish brown bands, generally one on the body volution, continuing up the lower part of the rest; at the base are several zones, often broken, and appearing like chains of spots; sometimes it is dark chocolate brown, or grey, with a white belt and spots, and sometimes inclining to rufous; the tip black or dark brown; aperture somewhat orbicular, the inner lip a little reflected over the perforation: diameter rarely half an inch; height a quarter.

From all the varieties of *H. virgata* it may be distinguished, in not being so much produced, in the strong and regular striæ, in the subcarinated appearance of the outer volution, and in wanting the thread-like rib round the inside of the lip.

Upon the examination of numerous living specimens, we could never perceive the crenulations which Mr. Dillwyn says are formed by the junction of the striæ at the subcarinated margin of the outer volution, and from which he has assimilated it with the *H. crenulata* of Gmelin. This ridge is, in fact, hardly to be discerned, and the striæ are continued regularly and without interruption round it.

Dry hedge banks in the west of England, and Bullock in Ireland: rather rare. *v. v.*

16. *Helix rufescens*. *Rufous Snail-shell*.

*Lister*, pl. 71, lower fig.—*Montagu*, pl. 23. f. 2—*Pendant*, pl. 88. f. 6—*Da Costa*, pl. 4. f. 6—*Donovan*, pl. 157. f. 1—*Dorset Cat.* pl. 20. f. 6.

*Helix hispida*. *Donovan*, pl. 151. f. 1.

Shell a little raised at top, semitransparent, rather obtuse, irregularly striate across, with a rather large and deep perforation: color rufous or orange brown with sometimes a chocolate tinge, often dull ash-color, and frequently mottled or marbled with paler or darker blotches, rarely appearing as if faintly zoned underneath: spires six, the larger volution a little compressed, forming a slight kind of keel, where it is marked by a narrow pale band, under which it is rather convex: aperture crescent-shaped, slightly compressed in the middle, purplish at the angle near the perforation over which it is something spread: diameter half an inch.

When young it is often clothed with short hairs, and in this state mistaken for *H. hispida*, from which it may be easily distinguished by the subcarinated ridge accompanied by the pale band.

In woods, and under stones. *v. v.*

17. *Helix Cantiana*. *Kentish Snail-shell*.

*Montagu*, pl. 23. f. 1—*Dorset Cat.* pl. 19. f. 21.

*Helix pallida*. *Donovan*, pl. 157. f. 2.

Shell semitransparent, slightly depressed and striate, of a pale blueish or lead color tinge, especially towards the top, very much resembling the last, but is larger and without the subcarinated edge, but has often a faint white band, with the base and round the mouth rufous, and the perforation is smaller: diameter about three quarters of an inch.

Woods and hedges, especially in Kent, and Cork. *v. v.*

18. *Helix nitens*. *Glossy Snail-shell*.

*Linn. Trans.* viii. pl. 5. f. 7—*Dorset Cat.* pl. 19. f. 22.

*Helix lucida*. *Montagu*, pl. 23. f. 4.

Shell flattish at top, thin, transparent, glossy, very faintly striate, fulvous horn-color or whitish, more opaque and



Fole & Wright. Chalk  
Ships between Luccombe  
& Barn Church

and generally with a greenish cast at the base, with a large and deep perforation: spires five or six, the body volution finely rounded at the margin: aperture crescent-shaped, with the margin thin and not reflecting over the perforation: diameter nearly half an inch, and about two tenths in height.

Wet woods, and under stones. v. v.

19. *Helix hispida*. *Bristly Snail-shell*.

Montagu, pl. 23. f. 3—*Da Costa*, pl. 5. f. 10—*Donovan*, pl. 151. f. 1—*Dorset Cat.* pl. 21. f. 10.

Shell very convex, thin, transparent, finely striate across, with a small perforation: spires five, rounded, covered with fine short hairs which give it a whitish downy cast: aperture roundish crescent-shaped, reflected at the angle near the perforation: diameter a quarter of an inch.

Shady places, and under stones. v. v.

20. *Helix radiata*. *Radiated Snail-shell*.

*Lister*, pl. 1058. f. 11—*Montagu*, pl. 24. f. 3—*Da Costa*, pl. 4. f. 15, 16—*Dorset Cat.* pl. 20. f. 15, 16.

Shell flattish, a little raised on the upper side and convex beneath, chesnut-brown with paler rays from the centre to the margin, with a very large and deep perforation exhibiting the internal volutions: spires six, well defined by the line of separation, crossed with regular close-set fine and rather curved raised lines; the body volution a little flattened, with a very faint keel-like ridge in consequence of the convexity underneath: aperture roundish crescent-shaped, not reflected over the perforation: diameter a quarter of an inch.

*Variety*, of a greenish-white color, without rays, and semitransparent.

This very beautiful variety has, we believe, hitherto been only found at Dinton, in Buckinghamshire.

Moist places, and under stones. v. v.

21. *Helix rotundata*. *Rounded Snail-shell*.

Shell quite flat and level on both sides, dark horn-color with transverse chesnut marks or blotches, which however

are not disposed in a regular radiate manner, with the perforation rather large, but not exhibiting the internal volutions: spires six, rounded and well defined, crossed with regular close-set fine rather oblique raised lines; the larger volution rounded at the margin and without the faint keel-like appearance: aperture large roundish crescent-shaped, the margin thin and not reflected over the perforation: diameter not a quarter of an inch.

This species, sufficiently distinguished from *H. radiata*, in being quite flat on both sides, and in not having the slightest keel-like appearance on the margin of the outer volution, was found by the author in the woods near Brecon. Mr. Dillwyn thinks that our former species, *H. radiata*, is the *H. rotundata* of Gmelin and Muller, observing that it is different from *H. radiata*, which latter species however he has not described. *v. v.*

## 22. *Helix umbilicata*. *Open Snail-shell*.

*Montagu*, pl. 13. f. 2—*Dorset Cat.* pl. 19. f. 24.

Shell raised and obtuse on the upper side, a little convex at the base, semitransparent, dark horn-color or chocolate brown, finely striate across, with a large and deep perforation: spires five, much rounded and deeply divided by the line of separation: aperture roundish crescent-shaped, not reflected over the perforation: diameter the tenth of an inch.

It differs from the young of *H. radiata*, in being much more convex, of an uniform dark chocolate brown color, and in not having the least trace of the subcarinated edge on the margin of the body volution.

Under loose stones on the tops of walls and the loftiest buildings, and the crevices of high rocks, in various parts of England and Ireland. *v. v.*

## 23. *Helix trochiformis*. *Top-shaped Snail-shell*.

*Montagu*, pl. 11. f. 9.

Shell produced at top, thin, transparent, smooth, glossy, horn-color with sometimes a rufous tinge, with a very small perforation which is hardly distinguishable in young shells: spires six, rounded and deeply divided by the line of separation: aperture compressed, somewhat crescent-shaped,

are not disposed in a regular radial manner, with the per-  
foration rather large, but not exhibiting the usual con-  
tion: spines six rounded and well defined, crossed with  
very close-set lines rather oblique toward the larger  
volutions rounded at the margin and without the faint keel  
like appearance: aperture large rounded crescent-shaped,  
the margin thin and not reflected over the perforation.

mountain and a quarter of an inch.  
This species, sufficiently distinguished from *H. radiata*,  
to belong to the genus on both sides, and in not having the  
aperture keel-like appearance on the margin of the volu-  
tion, was found by the author in the woods near the con-  
tinent, Mr. H. says that our former species, *H. radiata*, is  
the *H. radiata* of Lamarck and Müller, observing that it  
is different from *H. radiata*, which latter species however  
he has not described.

22. *Helix emilliana*. (See *Enail*.)

Montagu, pl. 13 f. 2—Bosc. Cat. pl. 13 f. 24.  
Shell rather and obtuse on the upper side, a little con-  
vex at the base, somewhat dark horn-color or choco-  
late brown, glossy striate above, with a large and deep per-  
foration: spines five, much rounded and deeply divided by  
the line of separation: aperture rounded crescent-shaped,  
reflected over the perforation: diameter the fourth of an  
inch.

It differs from the young of *H. radiata*, in being much  
more convex, of an uniform dark chocolate brown color,  
and in not having the least trace of the subulated edge  
on the margin of the body volution.

Under loose stones on the tops of walls and the loftiest  
hedges, and the crevices of high rocks, in various parts  
of England and Ireland.

23. *Helix trochiformis*. (See *Enail*.)

Montagu, pl. 11 f. 9.  
Shell produced at top, thin transparent, smooth, glossy,  
pale-ochre with sometimes a tawny tinge, with a very  
small perforation which is hardly distinguishable in young  
shells: spines six rounded and deeply divided by the line  
of separation: aperture compressed, somewhat crescent-  
shaped.

stepped, the pillar-like a little reflected over the protoconch diameter about the fourth of an inch; nearly as much high. On layers wood very rare.

21. Helix spinesca. Pilsbry & Smith.

Monterey, pl. 1. 1. 10—Dover, Cal. pl. 12. 1. 23.

Shell thin, conical but rather obtuse at the top, finely striate longitudinally; spires five or six, distinct, divided by a fine depressed line and marked with a prominent ridge round the base of each; color livid white, with some times a brown line round the middle of the volutions; the base flattened, with a strong carinate edge toward the center in a radial manner from the center; aperture much compressed, with a small perforation behind the pillar; diameter more than a quarter of an inch; height not quite so much.

This species has a much greater resemblance to a Trochus than the last, from which it is distinguished by its more conical shape, the flat volutions, and the carinate ridge that winds round their base. It is not uncommon on the coast, but we believe has only been found in this part of the mountains of Cumberland and Northumberland.

22. Helix spinulosa. Pilsbry & Smith.

Monterey, pl. 1. 1. 10—Dover, Cal. pl. 12. 1. 23.

Shell produced at top, thin, somewhat flattened, with a small perforation; spires five, rounded and distinctly divided by the line of separation, brown horn-color, covered with a tough skin which rises into thin flat membrane-coats directly striate folds or processes, especially round the middle of each volution, giving it the appearance of being ridged with small spines, and which may be easily rubbed off leaving a smooth surface; aperture narrow, ear-shaped; diameter the tenth of an inch, and about as much high.

On layers wood, and among moss; very rare.

shaped, the pillar-lip a little reflected over the perforation: diameter about the tenth of an inch; nearly as much high.

On decayed wood: very rare. *v. m.*

24. *Helix elegans*. *Elegant Snail-shell*.

*Gmelin*, p. 3642—*Lister*, pl. 61. f. 68.

*Trochus terrestris*. *Pennant*, pl. 83. f. 5—*Donovan*, pl. 111.

Shell thin, conic but rather obtuse at the top, finely striate longitudinally: spires five or six, flattish, divided by a fine depressed line, and marked with a prominent ridge round the base of each: color livid white, with sometimes a brown line round the middle of the volutions; the base flattened, with a strong carinated edge round it, and striate in a radiate manner from the centre: aperture much compressed, with a small perforation behind the pillar: diameter more than a quarter of an inch; height not quite so much.

This species has a much greater resemblance to a *Trochus* than the last, from which it is distinguished by its more conical shape, the flat volutions, and the carinated ridge that winds round their base. It is not uncommon on the continent, but we believe has only been found as British on the mountains of Cumberland and Northumberland. *v. m.*

25. *Helix spinulosa*. *Prickly Snail-shell*.

*Montagu*, pl. 11. f. 10—*Dorset Cat.* pl. 19. f. 23.

Shell produced at top, thin, semitransparent, with a small perforation: spires five, rounded and distinctly divided by the line of separation, brown horn-color, covered with a tough skin which rises into thin flat membranaceous bristly striate folds or processes, especially round the middle of each volution, giving it the appearance of being ridged with small spines, and which may be easily rubbed off leaving a smooth surface: aperture narrow crescent-shaped: diameter the tenth of an inch, and about as much high.

On decayed wood, and among moss: very rare. *v. v.*

26. *Helix*

26. *Helix Pomatia*. *Edible Snail-shell.*

*Lister*, pl. 48. f. 46—*Pennant*, pl. 87. f. 1—*Da Costa*, pl. 4. f. 14—*Donovan*, pl. 84—*Dorset Cat.* pl. 20. f. 14.

Shell nearly globular, semitransparent, longitudinally wrinkled, reddish-brown with whitish bands, sometimes nearly white with the bands hardly discernible: spires five, the first very large and tumid, with generally four whitish bands, the two lower of which are close together and continue round the next volution, the upper ones dull white; the remaining volutions small and a little produced: aperture large, roundish crescent-shaped; the inner margin a little thickened and white, and spreading over the perforation, which is small: diameter about two inches.

*Variety*, with the volutions reversed.

*Lister*, pl. 33. f. 32.

Woods of the southern counties. Dr. Rutty, in his *Natural History of the County of Dublin*, gives this as an Irish shell, not uncommon in his time; but it has not been found of late. Mr. Dillwyn remarks that the margin of the aperture is slightly margined, which we have not observed in the many specimens under our examination, all of which were, however, dead. *v. m.*

27. *Helix Arbustorum*. *Shrub Snail-shell.*

*Lister*, pl. 56. f. 53—*Pennant*, pl. 88. f. 4—*Da Costa*, pl. 17. f. 6—*Donovan*, pl. 136—*Dorset Cat.* pl. 2. f. 6.

Shell nearly globular, semitransparent, glossy, rather pointed at the top, slightly wrinkled, with a very small perforation which is almost obliterated in the old shells: spires five, rounded and well defined, beautifully marbled with chesnut brown and yellowish white; the larger volution with a darker narrow band round the middle, and continuing along the base of the next: aperture crescent-shaped, produced on the fore-part, with a reflected rim round it, and a pure white broad margin within; the pillar white, and spread over the perforation. The dark band on the body volution is sometimes either very faint, or wanting. Diameter more than half an inch; height as much.

Moist boggy woods: not common. *v. v.*





28. *Helix resupinata*. *Walker*, f. 24.

Shell semitransparent, glossy, horn-color, with the two terminal top spires reversed.

At Sandwich : minute.

29. *Helix globosa*. *Walker*, f. 25.

Shell globular, opaque, white, smooth, glossy, with two volutions : aperture roundish.

At Sandwich : minute.

30. *Helix reticulata*. *Walker*, f. 26.

Shell white, transparent, elegantly reticulate, slightly perforated, with a single volution : aperture rounded and margined.

At Reculver : minute.

31. *Helix unispiralis*. *Walker*, f. 27.

Shell white, opaque, glossy, concave on both sides, with a single volution : aperture rounded.

At Sandwich : minute.

32. *Helix striata*. *Walker*, f. 29.

Shell transparent, greenish-white, striate : spires three, reflected on the back : aperture somewhat oval.

At Sandwich : minute.

33. *Helix coarctata*. *Walker*, f. 30.

Shell white, transparent, with two volutions : aperture roundish, contracted at the perforation.

At Sandwich : minute.

34. *Helix tubulata*. *Linn. Trans.* iii. pl. 13. f. 35, 36.

Shell longitudinally striate, with three volutions : a margined tube extending beyond the surface of the shell, in the place of a perforation.

At Pembroke : minute.

35. *Helix fasciata*. *Linn. Trans.* v. pl. 1. f. 20, 21.

Shell white, transparent, slightly perforated, with three volutions ; the first tumid, and marked with three belts of a rich marone color : aperture dilated.

Pembrokeshire coast : minute.

36. *Helix*

36. *Helix nitidissima*. *Linn. Trans.* v. pl. 1. f. 22 to 24.

Shell horn-color, beautifully glossed, with two volutions, very finely striate transversely.

Pembrokeshire coast : minute.

37. *Helix bicolor*. *Linn. Trans.* v. pl. 1. f. 25 to 27.

Shell horn-color, opake, white within, quite smooth, with two volutions, and slightly perforated.

Pembrokeshire coast : minute.

These ten last species are very obscure and indistinct ; some of them probably the young of other species.

C. *With the volutions rounded ; imperforate at the base.*  
38 to 42.

38. *Helix ianthina*. *Blue Snail-shell*.

*Lister*, pl. 572. f. 24.

Shell somewhat orbicular, obtuse, thin, brittle, transparent, of a whitish color more or less tinged with violet blue or pale purple : spires four, a little rounded and well defined by the line of separation, slightly striate longitudinally in an oblique direction ; the first very large, slightly carinate at the base which is of a deeper violet color, and striate both circularly and longitudinally ; inside pale violet : aperture dilated ; the outer-lip very thin ; pillar-lip extending in a straight direction beyond the body from the base, so as to give the aperture a somewhat triangular appearance on that side, and a little curled back so as to form an incipient perforation ; breadth half an inch ; height about as much.

The following observations, extracted from Cook's Voyages, p. 14, will satisfactorily account for their occasional appearance, wafted by waves and tides, and driven by storms, on the British shores. " We also took several of the shell-fishes, or testaceous animals, which are always found floating upon the water, particularly the *Helix ianthina* and *violacea* ; they are about the size of a snail, and are supported upon the surface of the water by a small cluster of bubbles which are filled with air, and consist of a tenacious slimy substance that will not easily part with its contents : the animal is oviparous, and these bubbles seem also as a nidus for the eggs. It is probable that it never

goes



*Janthina vulgaris*

Isle of Wight. v. with five bands

goes down to the bottom, nor willingly approaches any shore; for the shell is exceedingly brittle, and that of few freshwater snails is so thin: every shell contains about a tea-spoonful of liquor which is easily discharged upon being touched, and which is of the most beautiful red-purple that can be conceived: it dyes linen cloth, and it may perhaps be worth enquiry, as the shell is certainly found in the Mediterranean, whether it be not the *Purpura* of the ancients."

North of Ireland; Bantry bay; Le Hinch in the county of Clare; Portrush; near Kenmare harbour in the county of Kerry; Dunmore; Waterford; Barnstaple; the warren between Dawlish and Exmouth; and Oxwich bay, near Swansea. *v. v.*

39. *Helix vivipara*. *Viviparous Snail-shell*.

*Lister*, pl. 1055. f. 6, and *Anat.* pl. 6. f. 5—*Pennant*, pl. 87. f. 2, and pl. 88. f. 1, the young—*Da Costa*, pl. 6. f. 2—*Donovan*, pl. 87—*Dorset Cat.* pl. 17. f. 2.

The young, before and after exclusion. *Lister*, pl. 1054. f. 30.

Shell thin, transparent, somewhat oval, tapering to a point, slightly striate longitudinally, and generally more strongly wrinkled near the lip: spires five or six, much rounded and separated by a deep line: color olive green, with three dark brown bands on the larger volution, and two on the rest, which grow fainter and become obliterated towards the point: aperture round-oval, contracted a little at the upper part, reflected at the pillar, with sometimes a small perforation behind it; outer lip thin, projecting and rounded in the middle; inside smooth, greenish-white, banded like the outside: length nearly an inch and a half; breadth an inch.

Still waters, and slow rivers. *v. v.*

40. *Helix nemoralis*. *Girdled Snail-shell*.

*Lister*, pl. 57. f. 54—*Da Costa*, pl. 5. f. 1 to 5; and 8, 14, 19—*Dorset Cat.* pl. 21. f. 1 to 5; 8, 14, and 19—*Donovan*, pl. 13.

Shell somewhat globular, semitransparent, glossy, finely wrinkled, with five rounded volutions, ending rather obtusely: color and markings extremely various; yellow, greenish,

greenish, purple of various shades, pale pink, whitish, rarely clear white, like the *H. Cartusiana*; sometimes without bands, or with from one to five broader or narrower ones: aperture roundish crescent-shaped, produced on the front part, slightly reflected, with the margin on the inside brown or clear white, and rarely with intermediate shades or furnished with an elevated rim round it: diameter hardly an inch; height about three quarters.

Those which have the white inside margin are usually smaller: and when young there are only three volutions which are placed quite flat upon the larger one, distinguishable only by the circular line, as in the *Nerita littoralis*. In this very young state we think Mr. Brown has figured it in the *Wernerian Transactions*, pl. 24. f. 8, under the name of *H. elliptica*.

Much confusion has been spread in the careless quotations of Da Costa's figures of this shell. Maton and Rackett, in attempting to arrange the varieties, have included that with the white lip among those which are banded and have a brown lip, omitting it in its proper place. Mr. Rackett, in his *Dorset Catalogue*, has omitted some of the figures in his own plate, substituting the fig. 6. of Da Costa, which is the *Bulla fontinalis*. Mr. Dillwyn has omitted the figure of Da Costa with the white lip, and copied Mr. Rackett's error in the reference to the plates of the *Dorset Catalogue*, including also the *Bulla fontinalis*.

Common in hedges and gardens. v. v.

41. *Helix hortensis*. *Garden Snail-shell*.

*Lister*, pl. 49. f. 47—*Pennant*, pl. 87. f. 3—*Da Costa*, pl. 4. f. 1—*Dorset Cat.* pl. 20. f. 1—*Donovan*, pl. 131.

Shell somewhat globular, semitransparent, covered with an irregularly creased and wrinkled skin: spires four, the upper-one placed a little on one side, more or less distinctly but obscurely striate circularly: color dirty white or yellowish with generally four tawny bands, often variously interrupted and presenting a marbled appearance: aperture roundish crescent-shaped, produced in front, with a clear white slightly reflected margin extending over the pillar, where it sometimes forms a small perforation: diameter more than an inch.

Variety,





*Variety*, dull yellowish-brown, of a more oval form, and without bands.

Before the lip is fully formed, the shell is very light and brittle, with the margin extremely thin and membranaceous, not protruding in front, but perfectly crescent-shaped, and without any appearance of the white edge; and there is generally a deep perforation behind the pillar-lip, which gradually closes as the shell arrives at maturity.

A variety was found by Dr. Latham, at Dartford, with the spires reversed; and another by Mr. Swainson, with the volutions much extended and detached from each other, like the worm of a corkscrew.

Common in gardens and hedges. *v. v.*

#### 42. *Helix fusca*. *Brown Snail-shell*.

*Montagu*, pl. 13. f. 1.

Shell thin, transparent, rufous horn-color, very faintly wrinkled, with five or six rather raised and well defined volutions; the first very large: aperture crescent-shaped; the lip thin and reflected a little at the lower margin only, where it forms a small depression or incipient perforation: diameter three eighths of an inch, and hardly a quarter of an inch high.

*Variety*, clear white, transparent, and highly polished.

The neighbourhood of London; woods in Dublin; and the variety from Scotland. *v. v.*

#### 43. *Helix variegata*. *Linn. Trans.* iii. p. 67.

Shell semitransparent, smooth, with red lines: spires four, the first more tumid: margin of the aperture very much spread.

Pembrokeshire: minute.

D. *Shell tapering to a point*. 44 to 51.

#### 44. *Helix disjuncta*. *Disjointed Snail-shell*. Fig. 63.

*Helix elegans*. *Brown, Wern. Soc.* pl. 24. f. 9.

Shell transparent, with seven much rounded volutions, loosely set together, but very deeply divided so as to appear almost detached from each other, slightly striate or

wrinkled across, and ending in an obtuse point: color pale horny, with five brownish bands, the four first close together and narrow; the fifth very narrow and surrounding the bottom of the volution; the four upper-ones are marbled with white, with a white band round the middle, giving them a slightly carinated appearance; aperture large, oval, attached to the body at the narrow or pointed end only; the margin very thin, slightly reflected at the inner angle, behind which is a deep perforation: length something more than half an inch; breadth not quite half an inch.

This very beautiful and curious shell was found in the neighbourhood of Dublin, by Mr. Stephens; and in its general contour has much the resemblance of the *Turbo scalaris*, or *Wentletrap*, both in the compactness, and the deeply rounded divisions of the volutions. From the similarity of its markings, we should have been almost persuaded to have considered it as a much produced variety of *H. Arbustorum*; but the number of volutions is seven; the aperture is oval; and it has a large and deep perforation. *v. m.*

45. *Helix Terebra*. *Screw Snail-shell*. Fig. 55.

*Helix Cochlea*. *Brown, Wern. Soc. pl. 24. f. 10.*

Shell blackish horn-color, covered with a greenish skin, pyramidal, deeply perforated: spires seven, rather rounded and well defined; the larger volution with a prominent keel-like ridge at the base, which continuing round the two next forms a strong separating line; the other volutions are without this ridge, which gives them the appearance of being much more rounded; the smaller or terminal spire appears detached or separated from its junction with the next, like the turn of a corkscrew, and ends rather obtusely: aperture oval, with a thin margin, attached at the pointed end to the body volution, and slightly angulated by the keel or rib: length somewhat more than half an inch; breadth three eighths of an inch.

Found by Mr. Stephens, in the botanic garden of Trinity College, Dublin. It has something the appearance of *H. complanata*, both in the mouth and the raised terminal rib, supposing that shell to have been accidentally produced  
into





into a pyramidal form; but its diameter is much less, and there are seven volutions.

Although we can hardly venture to offer these two last extraordinary shells as distinct and permanent species, their singular excentricity, nevertheless, deserves a determinate record. In the number of volutions, and in many other respects, they both differ from the *H. scalaris* of Muller and other authors. *v. m.*

46. *Helix bifasciata*. *Double-banded Snail-shell*.

*Lister*, pl. 19. f. 14—*Dorset Cat.* pl. 18. f. 8 and 10—*Pennant*, pl. 85. f. 5.

*Turbo fasciatus*. *Donovan*, pl. 18. f. 1—*Montagu*, pl. 22. f. 1.

Shell taper, thin, semitransparent, coarse, wrinkled longitudinally, greenish-white, with longitudinal brown or chesnut stripes, which are generally broken so as to appear like interrupted bands, and are often confluent on the larger volution, forming a band or two, and sometimes they are almost entirely obliterated: spires nine, a little rounded, and terminating in a rather acute point: aperture nearly oval, the margin thin, reflected a little on the pillar and forming a small hollow behind it: length nearly three quarters of an inch; breadth not two lines.

Sandy maritime pastures. *v. v.*

47. *Helix octona*. *Taper Snail-shell*.

*Lister*, pl. 20. f. 15—*Linn. Trans.* viii. pl. 5. f. 10.

Shell very slender, ending in an obtuse point, glossy white or very light horn-color: spires eight, a little rounded and well defined, smooth or very obscurely striate longitudinally: aperture somewhat orbicular, thin and not reflected; the pillar-lip a little reflected and producing a very obscure and hardly perceptible hollow behind it: length five eighths of an inch; breadth about one eighth.

From the next it differs in color, in being of a more taper form and ending more obtusely, in the form of the aperture and slight reflexion of the pillar-lip. From *H. Lackhamensis* it is immediately discriminated, by having no trace of a reflected or margined aperture.

Supposed, by Dr. Pulteney, to have been found in Dorsetshire.

48. *Helix octanfracta.* *Eight-spined Snail-shell.*

*Pennant*, pl. 89. f. 5, not sufficiently taper nor elongated.  
—*Montagu*, pl. 11. f. 8—*Dorset Cat.* pl. 18. f. 11.

Shell finely tapering to a point, semitransparent, covered with a tenacious blackish skin, under which it is whitish horn-color and polished: spires eight or nine, rather flat but well defined, obscurely striate or wrinkled longitudinally; the larger volution with a few transverse ridges: aperture narrow-oval, contracted to a point at top; the outer-lip very thin; inner-lip forming a ridge-like projection near the base, without the least trace of reflexion or perforation: length five eighths of an inch; breadth barely two eighths.

Cornwall and Devonshire, in still waters: rare. *v. m.*

49. *Helix Lackhamensis.* *Wiltshire Snail-shell.*

*Montagu*, pl. 11. f. 3.

Shell oval-oblong, semitransparent, dull rusty-brown, varying to horn-color and grey: spires seven, nearly flat, but well defined, the first three or four of which are tumid, the rest suddenly tapering to an obtuse point, longitudinally wrinkled: aperture whitish or with a purple tinge, somewhat oval, margined and reflected; the inner-lip turned back so as to form a linear cavity behind it: length five eighths of an inch; breadth a quarter.

Lackham and Bow woods, Wiltshire: rare. *v. m.*

50. *Helix obscura.* *Dusky Snail-shell.*

*Montagu*, pl. 22. f. 5—*Linn. Trans.* viii. pl. 5. f. 11—*Walker*, f. 41—*Dorset Cat.* pl. 19. f. 27.

Shell oval-oblong, rather obtuse, opaque, brown horn-color: spires from five to seven, a little rounded and very well defined, obliquely wrinkled: aperture nearly oval, with a white polished reflected margin, forming a groove behind the pillar: length half an inch; breadth about a third of its length.

Woods, and under stones. *v. v.*

51. *Helix lubrica.* *Varnished Snail-shell.*

*Pennant*, pl. 85. f. 4—*Da Costa*, pl. 5. f. 18—*Montagu*, pl. 22. f. 6—*Linn. Trans.* viii. pl. 5. f. 12—*Dorset Cat.* pl. 21. f. 18.

## 48. Helix obtusata. Light-colored Snail-shell.

Found at 22.5. Not infrequently seen on elevated  
 -Mountains, pl. 11. 5. -Dover Co. pl. 12. 11.  
 Shell only opening to a point, somewhat covered  
 with a reddish-brown stain, under which it is whitish  
 horn-color and polished; apex edge as above; rather flat  
 but well defined, especially at base or without opening.  
 Nally; the larger rounded with a low transverse ridge;  
 aperture narrow, somewhat to a point at top; the  
 color, in very thin, inner lip forming a ridge-like projec-  
 tion near the base, without the least trace of reflexion or  
 perforation; length five eighths of an inch, breadth barely  
 two eighths.

Cornwall and Vermont, in still waters; rare. 2. m.

## 49. Helix lachrymans. White Snail-shell.

Mountains, pl. 11. 5. 2.  
 Shell oval-oblong, semitransparent, dull rusty-brown,  
 varying to horn-color and grey; apex even, nearly flat,  
 but well defined, the first three or four of which are tu-  
 mid, the rest gradually tapering to an obtuse point, length  
 dimly marked; aperture whitish or with a purple tinge,  
 somewhat oval, margined and reflected; the inner lip  
 turned back so as to form a deep cavity behind it; length  
 five eighths of an inch, breadth a quarter.

Lachman and Box woods, White Mt. rare. 2. m.

## 50. Helix obtusa. Light Snail-shell.

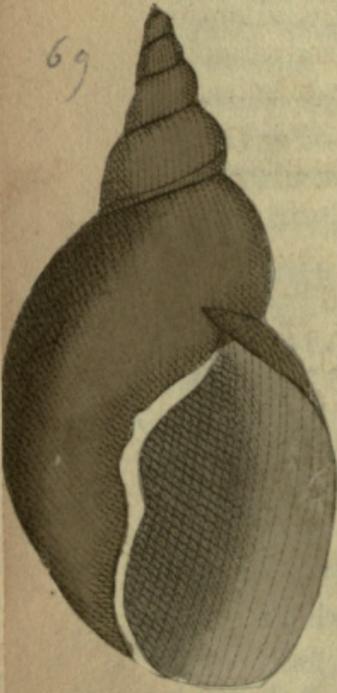
Mountains, pl. 22. 5. -Dover Co. pl. 12. 11.  
 -Mountains, pl. 11. 5. 2.  
 Shell oval-oblong, rather flat, brown horn-co-  
 lor; apex from five to seven eighths rounded and very well  
 defined, obliquely rounded; aperture nearly oval, with a  
 white polished reflected margin, forming a groove behind  
 the pillar; length half an inch, breadth about a third of  
 its length.

Woods, and under stones. 2. m.

## 51. Helix lachrymans. White Snail-shell.

Found at 22.5. -Dover Co. pl. 12. 11. -Mountains,  
 pl. 22. 5. -Dover Co. pl. 12. 11. -Mountains,  
 pl. 21. 11.

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Shell dark horn-color, with often a yellowish or reddish tinge, smooth, finely polished, transparent: spires six, a little taper and rounded, ending somewhat obtusely: aperture oval, with a thick margin, not reflected nor forming any perforation: length about a quarter of an inch; breadth the third of its length.

We cannot agree with Mr. Dillwyn, that this shell and the *H. subcylindrica* are individually the same. In ditches or watery places we have never found them, nor, according to our own experiments, will they live longer in fresh water than other similar inhabitants of dry situations. Their favourite habitats are at the roots of trees which are generally carpeted with fine moss; under stones, where they retire for shelter in the autumn; but more especially in dry elevated pastures above the sea, where we have collected them in abundance after the hay has been carried off the fields, and whence they are washed down into the sands. When first gathered they are of a blackish horn-color, with a reddish gloss about the lip; but after much exposure to the weather, when dead, they become dull white and opaque. v. v.

E. Shell oval, without perforation, 52 to 65.

52. *Helix stagnalis*. Lake Snail-shell. Fig. 69.

*Lister*, pl. 123. f. 21—*Pennant*, pl. 89. f. 1—*Da Costa*, pl. 5. f. 11—*Montagu*, pl. 16. f. 8—*Donovan*, pl. 51. f. 2—*Dorset Cat.* pl. 21. f. 11. *Stagnicola vulgaris* Leach

Shell very thin and brittle, transparent, horn-color, often covered with a rough greenish coat, and varying to whitish or dusky, tapering to a fine point: spires six or seven; the first very large and tumid, striate longitudinally, and crossed by a few faint distant transverse ribs, giving it a rather angular appearance, or as if pieces here and there had been lightly shorn off; the other volutions rounded but suddenly tapering: aperture very large, oval; the inner-lip folding and forming a kind of rib down the pillar on the inside: length nearly two inches; breadth about one.

Stagnant waters. v. v.

53. *Helix fragilis*. Brittle Snail-shell.

*Montagu*, pl. 16. f. 7.

Shell horn-color, extremely thin brittle and transparent, very much resembling the last, but is of a more regularly slender form in consequence of the larger volution not being so much larger in proportion to the others, and the line of separation runs more obliquely; the aperture is also smaller and more oblong; about a fourth less.

In the Kennet and Avon Canal, Wiltshire; and the Grand Canal, near Dublin. *v. v.*

54. *Helix palustris.* *Marsh Snail-shell.*

*Pennant*, pl. 89. f. 2. A. B.—*Montagu*, pl. 16. f. 10—*Linn. Trans.* viii. pl. 5. f. 8—*Donovan*, pl. 175. f. 1, 2—*Dorset Cat.* pl. 18. f. 18.

Shell brown horn-color, semitransparent, sometimes covered with a greyish or brown skin, oftentimes almost black with the inside glossy and dark chocolate brown: spires six, tapering to a fine point, rather rounded, wrinkled longitudinally, and often crossed with a few faint ridges; aperture oval, nearly half as long as the shell; the inner-lip a little reflected, so as to form a slight cavity behind it: length more than half an inch; breadth one third of its length.

Watery places: not common. *v. v.*

55. *Helix fossaria.* *Ditch Snail-shell.*

*Montagu*, pl. 16. f. 9—*Linn. Trans.* viii. pl. 5. f. 9—*Dorset Cat.* pl. 18. f. 17.

Shell horn-color, thin, brittle, transparent, very finely striate longitudinally, but rarely with any transverse lines: spires five or six, tapering to a fine point, much rounded and deeply divided: aperture oval; the inner-lip hardly reflected, and not forming a cavity behind it. Differs from the last, in not being above half the size, in the volutions being more tumid and deeply divided, and in the aperture being more regularly oval, without the reflexion of the inner-lip.

Wet and muddy places. *v. v.*

56. *Helix detrita.* *Three-banded Snail-shell.*

*Lister*, pl. 108. f. 1—*Montagu*, pl. 11. f. 1—*Dorset Cat.* pl. 19. f. 26.

Shell

Shell horn-color, extremely thin brittle and transparent  
 very much resembling the last, but is of a more regularly  
 slender form in consequence of the larger volutions not be-  
 ing so much later in proportion to the others, and the  
 line of separation runs more obliquely; the aperture is  
 also smaller and more oblong; about a fourth less  
 in the Acute and Avian Canal, Whistlers; and the  
 Grand Canal, near Dublin.

Helix palustris. Small Shell.

Fontenay, pl. 52, f. 2. A. H.—Montagu, pl. 16, f. 10—  
 Linn. Trans. viii. pl. 5, f. 2.—Lamarck, pl. 17, f. 1, 2—  
 Lamarck, Cat. pl. 18, f. 18.

Shell lower horn-color, semitransparent, sometimes re-  
 ceives with a gloss of brown skin, otherwise almost  
 black with the inside glossy and dark chocolate brown;  
 spires six, tapering to a fine point, later rounded, wrinkled  
 longitudinally, and often crossed with a few faint ridges;  
 aperture oval, nearly half as long as the shell; the inner  
 lip a little reflected, so as to form a slight cavity behind it;  
 length more than half an inch, breadth one third of its  
 height.

Wet places; not common. v. v.

Helix lussana. Small Shell.

Montagu, pl. 16, f. 3.—Linn. Trans. viii. pl. 5, f. 2.—Dor-  
 set Cat. pl. 5, f. 17.

Shell horn-color, thin, brittle, transparent, very finely  
 striate longitudinally, but rarely with any transverse lines;  
 spires five or six, tapering to a fine point, much rounded  
 and deeply divided; aperture oval; the inner lip hardly  
 reflected, and not forming a cavity behind it. Differs from  
 the last, in not being above half the size, in the volutions  
 being more round and deeply divided, and in the aperture  
 being more regularly oval, without the reflexion of the  
 lip.

Wet and muddy places. v. v.

Helix detrita. Three-banded Shell.

Linn. Trans. viii. pl. 5, f. 1.—Montagu, pl. 11, f. 1.—Dorset  
 Cat. pl. 5, f. 28.

Shell conic-oval, semi-transparent, somewhat yellowish  
 slightly wrinkled longitudinally; spines six or seven  
 continuous various spiral bands round the shell, the  
 outer rotation, which commences round the base of the  
 shell, but growing fainter and becoming indistinct  
 with volutions; sometimes there are three faint  
 middle one narrowest with one or two on the second or  
 third, the rest being covered over with the base of the  
 junction; and in some the bands are broken into  
 irregular streaks; but in British specimens all the  
 bands are generally wanting; aperture oval, the  
 liplets reflected over the palis and forming a shallow  
 behind it: length three quarters; breadth half an inch.  
 Weymouth and Dublin, in fresh water.

57. Helix succinea. Linn. Syst. Nat.

Dover Cat. pl. 18. f. 19.

Helix succinea. Montagu pl. 18. f. 4—Dover, 1785.

Shell extremely thin and brittle, transparent, glaucous  
 long, pointed, amber-color or reddish yellow; aperture  
 the first very large, oblong but not tumid, covering  
 lips of the shell, and the next much larger than the  
 usual one which is rather obtuse; spines six or  
 seven, each down two-thirds of the shell, the inner  
 one and rounded, but not reflected nor forming the  
 rotation; the outer lip extremely thin, often wanting  
 above and elastic; length about half an inch, and a  
 few quarts plants.

58. Helix succinea. Pallas Shell. Russ.

Est. 7. 124. 53—Pallas, pl. 53. f. 3—La Caille.

18. f. 13—Dover Cat. pl. 21. f. 13.

Helix succinea. Montagu, pl. 18. f. 3.

Shell thin, semi-transparent, oval, rather obtuse, long  
 irregularly wrinkled, yellowish or horn-color, often covered  
 with a whitest stain; spines four, rounded, the first  
 very large and tumid; aperture very large, oval, reaching  
 over the liplets of the shell; outer lip thin; inner lip  
 thickened.

Shell conic-oval, semitransparent, somewhat glossy, slightly wrinkled longitudinally: spires six, whitish, with sometimes a rufous spiral band round the middle of the larger volution, which continues round the edge of the other, but growing fainter and becoming indistinct in the fourth volution; sometimes there are three bands, the middle one narrower, with one or two on the second volution, the rest being covered over with the band, except at the junction; and in some the bands are broken into longitudinal streaks; but in British specimens all these markings are generally wanting: aperture oval; the inner-lip a little reflected over the pillar and forming a slight hollow behind it: length three quarters; breadth half an inch.

Weymouth and Dublin, in fresh water; rare. v. v.

57. *Helix succinea*. *Amber Snail-shell*.

*Dorset Cat.* pl. 18. f. 19.

*Helix putris*. *Montagu*, pl. 16. f. 4—*Donovan*, pl. 168. f. 1.

Shell extremely thin and brittle, transparent, glossy, oblong, pointed, amber-color or reddish-yellow: spires three, the first very large, oblong but not tumid, covering four fifths of the shell, and the next much larger than the terminal one which is rather obtuse: aperture wide oval, reaching down two-thirds of the shell, the inner-lip thickened and rounded, but not reflected nor forming the least perforation; the outer-lip extremely thin, often membranaceous and elastic: length about half an inch, and a quarter wide.

On aquatic plants. v. v.

58. *Helix putris*. *Puddle Snail-shell*.

*Lister*, pl. 123. f. 23—*Pennant*, pl. 89. f. 3—*Da Costa*, pl. 5. f. 13—*Dorset Cat.* pl. 21. f. 13.

*Helix peregra*. *Montagu*, pl. 16. f. 3.

Shell thin, semitransparent, oval, rather obtuse, longitudinally wrinkled, yellowish or horn-color, often covered with a dark-brown skin: spires four, rounded, the first very large and tumid: aperture very large, oval, reaching down three-fourths of the shell; outer-lip thin; inner-lip thickened,

thickened, often with a kind of silvery cast, not the least reflected: length usually an inch; breadth five-eighths.

*Variety*, with the lip white and somewhat expanded.

*Linn. Trans.* viii. pl. 5. f. 8\*—*Dorset Cat.* pl. 19. f. 30.

Muddy places and ditches. v. v.

59. *Helix auricularia*. *Wide-mouthed Snail-shell*.

*Lister*, pl. 123. f. 22—*Pennant*, pl. 89. f. 4—*Da Costa*, pl. 5. f. 17—*Montagu*, pl. 16. f. 2—*Donovan*, pl. 51. f. 1—*Dorset Cat.* pl. 21. f. 17.

Shell thin, brittle, semitransparent, rather conic and obtuse, light yellow, often covered with a darkish or rust-color skin: spires four, the first extremely large and covering nearly the whole of the shell, a little wrinkled longitudinally, and often marked with a single deep impression: aperture somewhat oval, vastly large; the outer-lip much expanded; pillar-lip folded back and forming a slight hollow behind it: length about an inch; breadth three-quarters of an inch.

Stagnant waters. v. v.

60. *Helix limosa*. *Mud Snail-shell*.

*Montagu*, pl. 16. f. 1—*Brown, Wern. Soc.* pl. 24. f. 11.

Shell thin, transparent, glossy, reddish-brown or horn-color: spires four, the first very large. In appearance it so much resembles the last, as to be considered a mere variety, or the young shell: but it is of a more oblong and tapering form, the first volution not so much swelling over the next at the junction, the volutions all more prominent and rounded, and deeply defined by the line of separation, and the aperture is narrower.

Ditches, and muddy places. v. v.

61. *Helix tentaculata*. *Coverlid Snail-shell*.

*Lister*, pl. 132. f. 32—*Pennant*, pl. 89. f. 6—*Da Costa*, pl. 5. f. 12—*Donovan*, pl. 93—*Dorset Cat.* pl. 21. f. 12.

The young shell. *Walker*, f. 33.

Shell somewhat conic, rather obtuse, semitransparent, yellowish-white, often covered with a dark skin, nearly smooth: spires five or six, rounded and deeply divided, closed when alive with a strong concentrically striate lid:

aperture



negative towards oval, the outer lip rather more  
 is reflected and forming a slight groove behind it.  
 all an inch; beneath a quarter  
 ponds and stagnant waters. &c.

62 Helix later. Yellow Snail-shell.

Blotchy, pl. 18. f. 6

Shell somewhat oval, semitransparent, strong, smooth,  
 full orange-yellow, dense at the point; apices thin, the  
 first very large; aperture oval, very wide, the outer lip  
 rather thick; inner-up a little thickened, but not extended  
 forming a hollow. It much resembles *H. succinea*, but  
 is less, not so tumid, thicker and stronger, and an inch  
 tant of the ocean; length nearly half an inch; breadth a  
 most a quarter

Sea coasts of South Devon. &c.

63 Helix githiosa. Whitish Snail-shell.

Blotchy, pl. 18. f. 5

Shell nearly orbicular, transparent, extremely thin and  
 brittle, and finely glossed, smooth or very faintly  
 often covered with a glutinous skin; apices thin, the  
 one very large, occupying almost the whole of the shell,  
 so as nearly to conceal the rest when it is lying with its  
 mouth upwards; aperture oval, extremely large, the outer  
 almost to the very tip; the inner lip not reflected, but  
 forming any kind of cavity; length more than half an inch,  
 breadth three eighths

In ponds still waters. &c.

64 Helix involuta. Various Snail-shell.

Ferussac, pl. 83. f. 8—Lamarck, pl. 105—Dowson, pl. 18. f. 9

Shell very orbicular, very thin and brittle, transparent,  
 very opaque, faintly but regularly striate longitudinally,  
 often covered with a brownish wrinkled skin, under which  
 it is pale flesh-color; apices four, the first very large and  
 wide, the others minute, obtuse, and placed nearly flat on  
 the larger volution, inside light purplish-brown or yellow;  
 aperture nearly orbicular, vastly extended; the margin  
 thin, not reflected at the pillar nor forming a cavity; length  
 all an inch or more; breadth something less

&c.

aperture roundish oval; the outer-lip rather strong; inner-lip reflected and forming a slight groove behind it: length half an inch; breadth a quarter.

Ponds and stagnant waters. *v. v.*

62. *Helix lutea*. *Yellow Snail-shell.*

*Montagu*, pl. 16. f. 6.

Shell somewhat oval, semitransparent, strong, smooth, dull orange-yellow, obtuse at the point: spires three, the first very large: aperture oval, very wide; the outer-lip rather thick; inner-lip a little thickened, but not reflected or forming a hollow. It much resembles *H. succinea*, but is less, not so tumid, thicker and stronger, and an inhabitant of the ocean: length nearly half an inch; breadth almost a quarter.

Sea coasts of South Devon. *v. v.*

63. *Helix glutinosa*. *Glutinous Snail-shell.*

*Montagu*, pl. 16. f. 5.

Shell nearly orbicular, transparent, extremely thin and brittle, and finely glossed, smooth or very faintly wrinkled, often covered with a glutinous skin: spires three, the body one vastly large, occupying almost the whole of the shell, so as nearly to conceal the rest when it is lying with its mouth upwards: aperture oval, extremely large, reaching almost to the very tip; the inner-lip not reflected nor forming any kind of cavity: length more than half an inch; breadth three eighths.

In quite still waters. *v. v.*

64. *Helix lævigata*. *Ventricose Snail-shell.*

*Pennant*, pl. 89. f. 8—*Donovan*, pl. 105—*Dorset Cat.* pl. 18. f. 9.

Shell nearly orbicular, very thin and brittle, transparent, very obtuse, faintly but regularly striate longitudinally, often covered with a brownish wrinkled skin, under which it is pale flesh-color: spires four, the first very large and wide, the others minute, obtuse, and placed nearly flat on the larger volution; inside light purplish-brown or whitish: aperture nearly orbicular, vastly extended; the margin thin, not reflected at the pillar nor forming a cavity: length half an inch or more; breadth something less.

*Variety,*

*Variety*, much stronger and thicker, of a deeper red color, with the second volution much protruded and well rounded, without the longitudinal striæ, and a full inch in diameter.

Sandy coves of the southern and western coasts, and various parts of Ireland. *v. v.*

65. *Helix Otis. Ear-shaped Snail-shell.*

*Walker, fig. 17.*

Shell oblong, very convex, ear-shaped, semitransparent, pale horn-color or covered with a dark purplish-brown skin, smooth or very faintly wrinkled transversely, somewhat glossy: spires three, the first roundish-oblong, very large and covering nearly the whole shell, the others spirally turning on one side, like the crown of the *Turbo pallidulus*, well defined by the line of separation, but rather flat and obtuse; inside glossy, horn-color or purplish: aperture very large, extending over nearly the whole shell, roundish-oblong; outer-lip thin; pillar-lip a little thickened and flattish, but without any groove or cavity: length hardly a line; breadth somewhat less.

This minute and elegant species, for the first knowledge of which we are indebted to the Rev. Dr. Goodall, is found among the interstices of rocks which are covered at high water, on the Devonshire coast. It has something the contour of the *Turbo pallidulus*; but the primary volution is more convex, and the lateral ones not so closely pressed to the body; the aperture is of a more regularly oblong shape; the pillar-lip is not placed so transversely, and it has no groove nor perforation.

We have been informed that it was known to the late Mr. Montagu, who had intended to denominate it *H. Auricula*; but as this name approaches too near to *auricularia*, we have called it *Otis*. Walker's figure is a very good representation, who justly remarks, that it differs from the *H. lævigata*, in not being striate. *v. v.*

LEPAS.

Shell of several erect unequal valves, firmly attached to other substances.

*A. With*





A. *With the valves connected by a cartilage, and attached to a fleshy stalk.* Barnacle, 1 to 7.

B. *Firmly fixed, without stalk, conical, with an internal lid.* Acorn-shell, 8 to 20.

1. *Lepas anatifera.* Duck Barnacle.

*Pennant*, pl. 41, upper figures—*Da Costa*, pl. 17. f. 3—*Donovan*, pl. 7—*Wood*, pl. 11—*Dorset Cat.* pl. 2. f. 3.

Shell flattish, with five blueish valves connected by a yellow membrane; the two lower-ones large, somewhat triangular, slightly wrinkled longitudinally, and obscurely striate in a radiate manner from the lower angle on the anterior side; the two top ones not half the size, long and tapering down to a rather obtuse point, angular on each side towards the upper part, and longitudinally striate; the back-valve long, narrow, rounded on the back, tapering towards the ends, curved, striate longitudinally, and terminating towards the bottom in a kind of ridge: stalk long, transparent, horn-color, growing darker and more opaque and wrinkled towards the shell, rarely red: length above an inch and a half; breadth an inch.

*Variety A.* The back valve appearing as if separated into several distinct joints.

*Variety B.* The back valve strongly ribbed longitudinally at the sides on the lower part, and the ribs closely tubercled.

*Variety C.* The back valve, with a longitudinal row of obtuse tubercular denticles.

*Lister*, pl. 439. f. 282, left hand figure.

*Variety D.* The back valve deeply and sharply serrated.  
Fig. 22.

*Lepas dentata.* *Wood*, p. 67—*Dillwyn*, p. 32.

Theseseveral varieties presented themselves to us among the vast mass which floated into the river Ex, in Devonshire, in the summer of 1817. And as the other parts of the shell and its appendages were in every respect similar to *L. anatifera*, we cannot consider any of them as entitled to specific distinction.

On drifted timber, and the bottoms of ships.

2. *Lepas anserifera*. *Striated Barnacle*.

*Lister*, pl. 440. f. 283—*Donovan*, pl. 166. f. 2—*Wood*, pl. 10. f. 5.

Shell flat, of five valves, much resembling the former species; but is strongly striate in a radiate manner from the lower angle, and crossed by very fine lines; the angles and points of the valves are more sharp; and the back valve is flattened on the sides, and brought all the way down to a sharp keel-like edge: it is also smaller, and much more flattened on the upper part, giving the lower end a rather tumid appearance: stalk short, orange red.

Drifted timber, and the bottoms of ships. v. v.

3. *Lepas sulcata*. *Furrowed Barnacle*.

*Montagu*, pl. 1. f. 6—*Wood*, pl. 12. f. 1.

Shell flattish, dirty white or brownish, with five valves; the lower-ones with fifteen strong ribs radiating from the lower front angle, that which runs along the front larger than the rest and forming a margin; the two upper valves forming an oblique parallelogram, being pointed at both ends, like a card placed sideways, and furnished with seven or eight ribs besides intermediate smaller ones; the back valve flattish, strongly striate longitudinally, with a smooth and rather acute edge: stalk very short and dusky: length nearly a quarter of an inch; breadth nearly as much.

Found by Montagu, near Portland Island, on the *Gorgonia flabelliformis*; and by Mr. O'Kelly, near Kenmare harbour, in Ireland, on a piece of oak bark: we have also taken it on floating timber: very rare. v. v.

4. *Lepas fascicularis*. *Bladder Barnacle*.

*Lister*, pl. 439. f. 280. *Wood*, pl. 10. f. 4.

*Lepas dilatata*. *Donovan*, pl. 164.

Shell flat, extremely thin and membranaceous, transparent, of a light horn-color, exactly resembling thin scales of isinglass, strongly wrinkled in an undulate or somewhat angular manner: valves five, the two upper ones narrow and of a long triangular form, a little reflected or slightly hooked at the points; the two lower-ones obtusely triangular, with the margins at the base rounded and reflected; the front margin is also, in common with that of the upper-ones, reflected.





flected; back valve strongly carinate or ribbed longitudinally at the sides, and rather rounded in the middle, forming an obtuse angle towards the bottom, the outer point of which is produced and blunt, whence it becomes gradually dilated to the end, which extends to the termination of the other valves and is rounded and a little reflected, the upper end or point reaching a little more than half way up the shell: stalk very short, and almost entirely covered with the reflected ends of the lower valves: length three quarters of an inch; breadth more than half an inch.

Coast of Devonshire; very rare. *v. m.*

5. *Lepas cornuta*. *Horned Barnacle*.

*Linn. Trans.* xi. pl. 12. f. 1.

Shell oval, fleshy, very slightly compressed, rounded at top, with five small testaceous white valves; a linear-one on each side below the mouth or aperture, two small approximate linear curved ones above the mouth, and a very minute dorsal one: on the top are seated two large erect tubular projections, convex and mottled with brown in front, and channelled behind: stalk longer than the body, enlarging towards the base: color white, irregularly marked or clouded with three purplish-brown broken longitudinal stripes on each side, and which extend down a part of the stalk: length of the body three quarters of an inch; of the tubular processes, three eighths; of the stalk, an inch and a quarter.

From the bottom of a transport stranded on the Devon coast.

6. *Lepas membranacea*. *Membranous Barnacle*.

*Linn. Trans.* xi. pl. 12. f. 2.

*Lepas vittata*. *Wood*, pl. 12. f. 2, 3.

Shell somewhat oblong, gradually sloping into the stalk, obliquely truncate at top, fleshy, flattish, with five small white testaceous valves; the two upper ones linear, running rather obliquely; the two lower ones linear, with a strong hook-like process in the middle of each, projecting inwardly, and curving a little upwards to a point; the back valve linear, gibbous in the middle, extending at top to the termination of the upper-pair, where they meet and form a

projecting angle, and reaching below nearly to the commencement of the stalk, which is as long as the body: color pale blue, with three broad dark-blue stripes each side reaching all the way down: length of the body nearly an inch; breadth about half as much.

*Variety.* Of a dark horn-color, without stripes, not gradually sloping into the stalk, but terminating abruptly and somewhat angularly at the bottom: it is about half the size. When dry, these fleshy species become flat, wrinkled, horny, and transparent.

On the bottom of a transport stranded on the Devon coast. A cluster of the variety was dredged up at Exmouth, and is in the cabinet of Mrs. W. C. Loscombe. *v. m.*

6\*. *Lepas Scalpellum. Penknife Barnacle.*

*Montagu*, pl. 1. f. 3—*Wood*, pl. 10. f. 3—*Donovan*, pl. 166. f. 1—*Dorset Cat.* pl. 2. f. 8.

Shell flat, thin, light brown, rather rough and wrinkled in some parts but without distinct striæ, and covered with short hairs, obliquely truncate at top: valves thirteen; the three next the stalk on each side small; the next two pair longer; the uppermost pair largest, placed a little obliquely, with the points slightly recurved; the back valve with transverse rows of short hairs, longer than the rest, flat, diverging into a sharp beak half way up, and thence turning back to cover the edge of the two upper valves: stalk rather large, light brown, annulate and hairy: length five eighths of an inch; breadth three eighths.

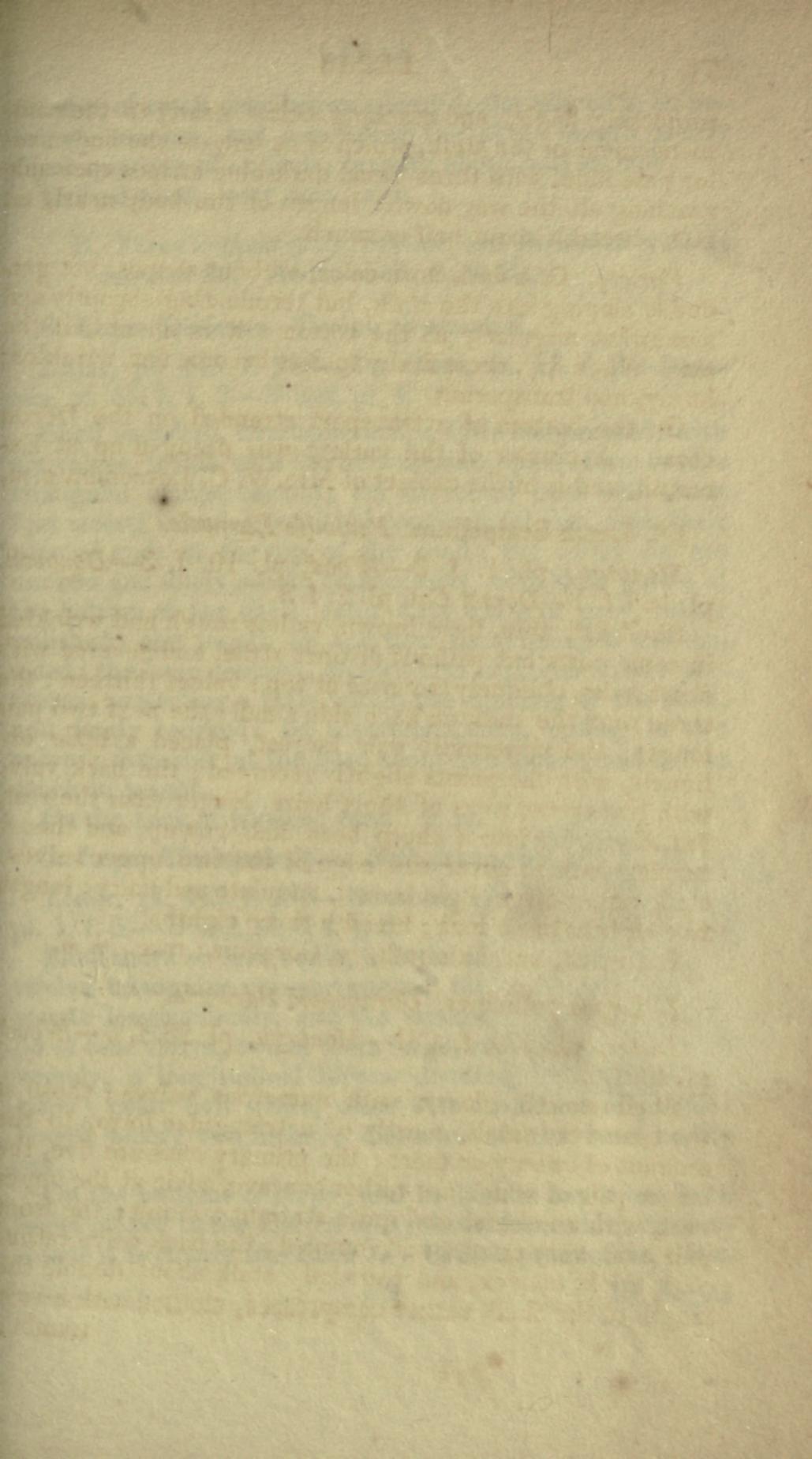
Sandwich, and Exmouth, on *Gorgonia*: rare. *v. m.*

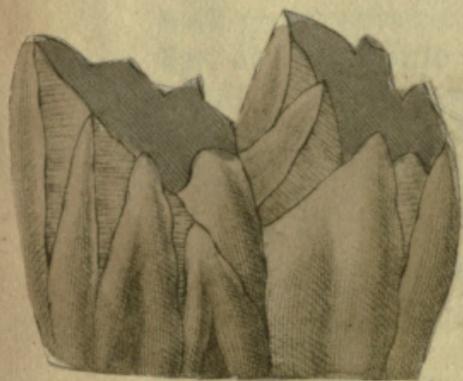
7. *Lepas pollicipes. Cornucopia Barnacle.*

*Lister*, pl. 439. f. 281—*Montagu*, pl. 28. f. 5—*Wood*, pl. 10. f. 2.

Shell smooth, glossy, with numerous valves; those at the base very small, mostly of a triangular form, to the amount of twenty or more; the primary ones are five, the larger pair of which are rather concave, conic at the upper part, with an obtuse and quite straight summit; the front pair oval, very convex and rounded; the back valve rather oval, thick, convex, and rounded: stalk about double the length of the shell, rather compressed, clothed with a vast

number





number of small grey-brown glossy scales placed in an imbricate manner, and concealing the skin: length nearly three quarters of an inch; breadth about half an inch.

Drifted wood: very rare. *v. v.*

*B. Fixed without stalk, conical, and furnished with an internal lid. Acorn-shell. 8, to 20.*

8. *Lepas Diadema. Turban Acorn-shell.*

*Lister, pl. 445. f. 288—Da Costa, pl. 17. f. 2—Donovan, pl. 56. f. 1, 2—Wood, pl. 4.*

Shell roundish, hemispherical, a little compressed, with six valves, which with the intermediate spaces form twelve triangular compartments; the six raised ones with about four strong rounded wrinkled longitudinal ribs, with their pointed ends at the top of the shell; the other six are sunken and finely striate transversely, with their points at the bottom of the shell: color dirty white or grey, rather polished: the mouth or aperture funnel-shaped and six-sided: the base concave, divided into eighteen striate partitions, projecting a little within the opening of the shell, and finely toothed: lid membranaceous, ending in two valves: diameter at the base about two inches, and half as much in height.

On the back of whales: rare. *v. m.*

9. *Lepas Tintinnabulum. Bell Acorn-shell. Fig. 31.*

*Lister, pl. 443. f. 285—Donovan, pl. 148—Dorset Cat. pl. 1. f. 5.—Wood, pl. 6. f. 1, 2.*

Shell more or less conic, a little angular, divided into twelve triangular compartments; the raised ones finely striate longitudinally, and the sunken ones transversely: lid of four valves, two of them large, strongly striate transversely, a longitudinal furrow dividing them from each other: color dull white, often with a mixture of purple: length nearly two inches; diameter of the base hardly one.

On the bottoms of ships; and in Dublin bay it has been found affixed to the *Ostrea opercularis*, from which circumstance it is clearly identified as a British production. *v. v.*

10. *Lepas Scotica*. *Scotch Acorn-shell*.

*Wood*, pl. 6. f. 3.

Shell with six raised unequal triangular valves, ribbed longitudinally and striate transversely at the base: color dirty white, with a greenish tinge: lid like that of the last: hardly an inch long, and half as much broad.

Scotland, on the *Mytilus Modiolus*: rare.

11. *Lepas rugosa*. *Wrinkled Acorn-shell*.

*Linn. Trans.* viii. pl. 1. f. 5—*Dorset Cat.* pl. 2. f. 10—*Wood*, pl. 6. f. 4.

*Lepas borealis*. *Donovan*, pl. 160.

Shell somewhat rhombic, with six triangular valves, the hinder ones broader than the rest, smooth or ribbed and wrinkled longitudinally, with strong longitudinal grooves within, of a whitish or pale purple color: aperture large, oval, often nearly as wide as the base, and a little angular, the upper part of the inside ribbed transversely: lid of four rough valves, not striated, angular, and terminating in four distinct sharp points which are a little reflected: length above half an inch; breadth a quarter.

In Dublin bay they are found fixed to the *Ostrea opercularis*, often ribbed across in an oblique or undulate manner, as if they had taken by reflexion the markings of the shells on which they grew: the sunken triangles are also finely striate transversely, and crossed by a few longitudinal ribs. *v. v.*

12. *Lepas Alcyonii*. *Sea-mat Acorn-shell*.

Shell somewhat conic; white or brownish white, with six valves of very unequal and irregular size, terminating in rather sharp points: aperture large, oval or roundish: lid of four valves, the two uppermost smooth, pointed, gaping a little at top, and protruding in the middle into a kind of keel: diameter and height about the eighth of an inch.

For the discovery of this species we are indebted to Dr. Leach, as we are informed. On the Devonshire coast it is dredged up, attached to the *Alcyonium* and *Flustra*; *v. v.*

13. *Lepas*





13. *Lepas conoides*. *Conic Acorn-shell*.

*Donovan*, pl. 30. f. 3—*Dorset Cat.* pl. 2. f. 9.

Shell conic, with the aperture very narrow, of six unequal valves, surrounded with numerous nearly equidistant thin raised striæ from the bottom to the top; the tip of the valves rather flat and rounded: aperture narrow; the lid of four valves: color purplish-white: diameter not half an inch.

Western coasts, on shells and stones. v. v.

14. *Lepas Balanus*. *Common Acorn-shell*.

*Lister*, pl. 443. f. 286—*Pennant*, pl. 40. f. 1—*Donovan*, pl. 30. f. 1—*Wood*, pl. 7. f. 3—*Dorset Cat.* pl. 2. f. 12.

Shell of six raised valves, rugged at their edges, more or less ribbed longitudinally, spreading at the base, of a greyish-brown or purplish color; the depressed triangles striate or rugged transversely: aperture moderately large: lid of four valves, all of them striate transversely; the shorter or front pair often smooth at the top, and serrate or tubercled by the striæ down the outer margin; the back pair longer, curving over the others, with a longitudinal groove down the middle of each: length nearly an inch; breadth at the base about half as much.

Rocks, piles, and other substances. v. v.

15. *Lepas balanoides*. *Smooth Acorn-shell*.

*Lister*, pl. 444. f. 287—*Pennant*, pl. 40. f. 2—*Donovan*, pl. 36. f. 2—*Da Costa*, pl. 17. f. 7—*Wood*, pl. 7. f. 1—*Dorset Cat.* pl. 2. f. 7.

Shell white, smooth, often deeply grooved at the base: valves six, mostly directed one way and ending in a beak, divided by a longitudinal furrow: lid of four valves; the two upper ones slightly striate transversely; the others quite smooth: about half the size of the former, and often much spread at the base.

Rocks, and other substances. v. v.

16. *Lepas elongata*. *Club-shaped Acorn-shell*.

*Pennant*, pl. 40. f. 4—*Donovan*, pl. 36. f. 3—*Dorset Cat.* pl. 1. f. 6.

*Lepas clavata*. *Wood*, pl. 7. f. 2.

Shell tubular, elongated, slender at the base and growing thicker towards the top but a little contracted at the aperture, striate longitudinally, rough and sometimes tubercled: valves six, three wide and three narrow, wrinkled longitudinally and faintly striate transversely: aperture wide and gaping; lid obtuse, of four valves, obliquely striate: color white, with more or less of a greenish cast: length from one to two inches; diameter at the base not a quarter of an inch.

Weymouth, Tenby, and the West of Ireland: rare. *v. v.*

17. *Lepas punctata*. *Punctured Acorn-shell*.

*Montagu*, pl. 1. f. 5—*Dorset Cat.* pl. 1. f. 10.

*Lepas cornubiensis*. *Pennant*, pl. 40. f. 3.

Shell very rugged, dull brown, with obtuse longitudinal and somewhat undulate ribs, a little spread at the base, generally covered with minute black punctures: lid of four valves, mostly punctured all over; the upper-ones with a few longitudinal ridges, and near the top on the outer edge of each is a deep notch or groove, giving them a cruciate appearance: length about a quarter of an inch; breadth more than half as much.

*Lepas convexula*. *Pennant*, pl. 38, middle fig. The young shell.

We have examined this shell in all its stages of growth, and perceive that in its very young state it exactly answers to the description given by Mr. Pennant. *v. v.*

18. *Lepas costata*. *Ribbed Acorn-shell*.

*Donovan*, pl. 30. f. 2. *Balanus*.

Shell white, somewhat conic, nearly closed at the top and rather spreading at the base, with numerous nearly equidistant strong rounded ribs radiating from the top to the base: diameter about half an inch.

Western coasts of England, Wales, and Ireland: on shells. *v. v.*

19. *Lepas spongiosa*. *Sponge Acorn-shell*.

*Montagu*, pl. 17. f. 4, 5, 6.

Shell oval, with six angular wrinkled valves, covered with small spines, the summits of the valves much raised and





and pointed; the three anterior ones broader and shorter; the base flat, concentrically wrinkled, seated in a kind of obconic hollow cup much resembling the *Patella Mitrula* reversed, to which the shell is connected by a ligament, but with which it has no internal communication: lid of four valves; the front pair rough with decussate striæ; the hinder pair longer, and a little hooked forwards: color livid brown, purplish towards the pointed ends: length half an inch; diameter rather less.

Devon and Dorset coasts, so imbedded in a blackish reticulate kind of sponge, that only the points of the valves are exposed, and in which they may be detected, by running the fingers over the sponge and feeling the prickly points: rare. v. u.

20. *Lepas Verruca*. *Wart-shaped Acorn-shell*.

*Lepas Verruca*. *Wood*, pl. 9. f. 5—*Walker*, f. 87.

*Lepas intertexta*. *Pennant*, pl. 41, lower figures.

*Balanus intertextus*. *Donovan*, pl. 36. f. 1—*Dorset Cat.* pl. 1. f. 9.

Shell white or brown, flat or compressed, with four valves; two of them larger, interlacing with each other like the fingers of the hands when pectinated, and strongly ribbed in a direction obliquely to each other; two of them very minute: aperture oblique, closed by the lid, which has two very obscure valves; the base irregularly serrate at the margin: length at the base hardly a quarter of an inch.

On shells and stones, and in the roots of *Fuci*. v. v.

21. *Lepas radiata*. *Radiated Acorn-shell*.

*Wood*, pl. 7. f. 7.

Shell thick, smooth, marked with longitudinal violet rays: valves six, triangular, with the rays close together at the points, but more open at the base; the intermediate spaces highly polished, and very finely striate transversely: length a quarter of an inch; breadth at the base five eighths.

Found by Mr. Sowerby fixed to the bottom of a ship.

MACTRA.

Shell with two equal valves, unequal at the sides: hinge with the middle tooth complicated or angular,

angular, and a small cavity each side; the lateral teeth remote, and locking into the opposite valves.

1. *Mactra dealbata*. *Pellucid Mactra*.

*Montagu*, pl. 5. f. 1—*Linn. Trans.* viii. pl. 1. f. 10—*Dorset Cat.* pl. 7. f. 7.

Shell oval, thin, brittle, transparent, white, very finely striate transversely, with a few coarser wrinkles, gaping and very slightly produced at the smaller end, but well rounded at both; within glossy-white, a little concave, with a plain sharp margin: beaks a little oblique, not quite central; the middle tooth in one valve broad, forked, angular close to the beak: length an inch and a half; breadth nearly two.

At the mouths of rivers: rare. *v. m.*

2. *Mactra glauca*. *Glaucous Mactra*.

*Donovan*, pl. 125.

Shell oval, dirty white, thin, semitransparent, finely striate transversely and wrinkled at the anterior end, marked with broad and narrow longitudinal glaucous rays: beaks reflecting backwards, with a narrow gape between them: length nearly two inches and a half; breadth three and a half.

Found by Miss Pocock, in Cornwall: very rare.

3. *Mactra radiata*. *Radiated Mactra*.

*Donovan*, pl. 161.

*Cardium edentulum*. *Montagu*, *Suppl.* p. 29.

Shell thin, brittle, somewhat triangular and produced at one end, ash-color, paler and with a light flesh-color tinge beneath the skin, very faintly and obscurely striate longitudinally, with a few broad faint distant transverse wrinkles, and marked with numerous equidistant narrow pale testaceous longitudinal rays; inside smooth, white, with a plain margin, the outer striæ being visible in the thin part: beaks pointed, nearly central; turning a little to one side; primary teeth none, but immediately under the beaks is a small depression, with the rudiment of a small denticle, and a little remote on each side is a small laminar tooth: length two inches and a half; breadth three inches.

Found by Captain Laskey, at Portsmouth: very rare.

4. *Mactra*



Wastings, both white and  
brown. I believe this fish lives  
in the sand; it is generally partly  
buried, & sometimes on the approach  
of footsteps, sinks into it en-  
tirely, first ejecting water like  
the Soleus -

4. *Mactra Stultorum*. *Simpleton's Mactra*.

*Lister*, pl. 251. f. 85—*Pennant*, pl. 52. f. 1—*Da Costa*, pl. 12. f. 3—*Donovan*, pl. 106—*Dorset Cat.* pl. 8. f. 3.

Shell somewhat triangular, very thin, brittle, and semi-transparent; covered with a thin skin, very convex, faintly striate transversely, grey or pale rufous brown, more or less distinctly radiate longitudinally with broader and narrower whitish stripes; the posterior slope produced in the middle into an acute keel-like ridge: beaks central, large, prominent, frequently of a purplish hue; the lateral teeth of one valve double: length an inch and a half; breadth an inch and three quarters.

*Variety*. Of a greyish color, more or less tinged with purple both inside and out, rather wider in proportion to its length, without the longitudinal rays, but very roughly wrinkled and brown on the anterior slope, not so large, and of a more glossy appearance.

*Mactra cinerea*. *Montagu*, *Suppl.* p. 35.

On most sandy shores: the variety very common in the north of Devon. *v. v.*

5. *Mactra solida*. *Solid Mactra*.

*Pennant*, pl. 55. f. 2—*Da Costa*, pl. 15. f. 1—*Donovan*, pl. 61—*Dorset Cat.* pl. 12. f. 1.

Shell strong and solid, opaque, convex, roundish, equal at the sides, nearly smooth, with a few antiquated transverse ridges; yellowish-white, with often yellowish or blueish transverse bands; within glossy white: beaks central; primary teeth small; lateral-teeth strong, striate within, in one valve a deep groove behind the lateral ones, but not distinctly double as in the last: length an inch and a half; breadth two inches.

Sandy and gravelly shores. *v. v.*

6. *Mactra truncata*. *Wedge-shaped Mactra*.

*Lister*, pl. 253. f. 87—*Da Costa*, pl. 14. f. 6—*Dorset Cat.* pl. 6. f. 6.

*Mactra subtruncata*. *Donovan*, pl. 126.

Shell strong, thick, opaque, very convex, triangular, nearly smooth, but mostly marked with a few faint distant transverse

transverse furrows, yellowish-white: beaks large, prominent, quite central; the sides equal, much flattened and truncate, and the front margin rounded: beaks very prominent and strong, quite central; teeth as in the last: length an inch and a half; breadth a little more.

It is difficult to appropriate accurately the figures to this species and the last: so difficult that Mr. Dillwyn has referred to Da Costa's figure of *M. solida* for *M. truncata*, and to the copy of the same figure in the Dorset Catalogue for *M. solida*.

Northern and western coasts, and Dublin bay. v. v.

7. *Mactra subtruncata*. *Oval Mactra*.

*Pennant*, pl. 55. f. 1—*Montagu*, pl. 27. f. 1—*Linn. Trans.* viii. pl. 1. f. 11—*Dorset Cat.* pl. 5. f. 10—*Lister*, pl. 252. f. 86?

Shell convex, thin, semitransparent, yellowish horn-color covered with a pale brown skin, rather glossy, very rough and brown at the anterior side, a little truncate both sides, one of which is rounded, the other elongated and rather angular at the end, the edges of both of them prominent and much turned inwards, particularly on the shorter side where a heart-shaped depression is formed, faintly but regularly striate transversely, and more strongly so towards the rounded end: beaks not central, pointed and very prominent; inside glossy, white or with a yellowish cast; lateral teeth large and prominent, double in one valve, the double ones strongly striate internally only, the single ones striate on both sides: length three quarters of an inch; breadth an inch.

*Variety*. Stronger, opaque, more convex, of a more triangular shape, and not so much produced at one end, regularly and strongly striate transversely.

Western coasts, Dublin bay, and North Britain. v. v.

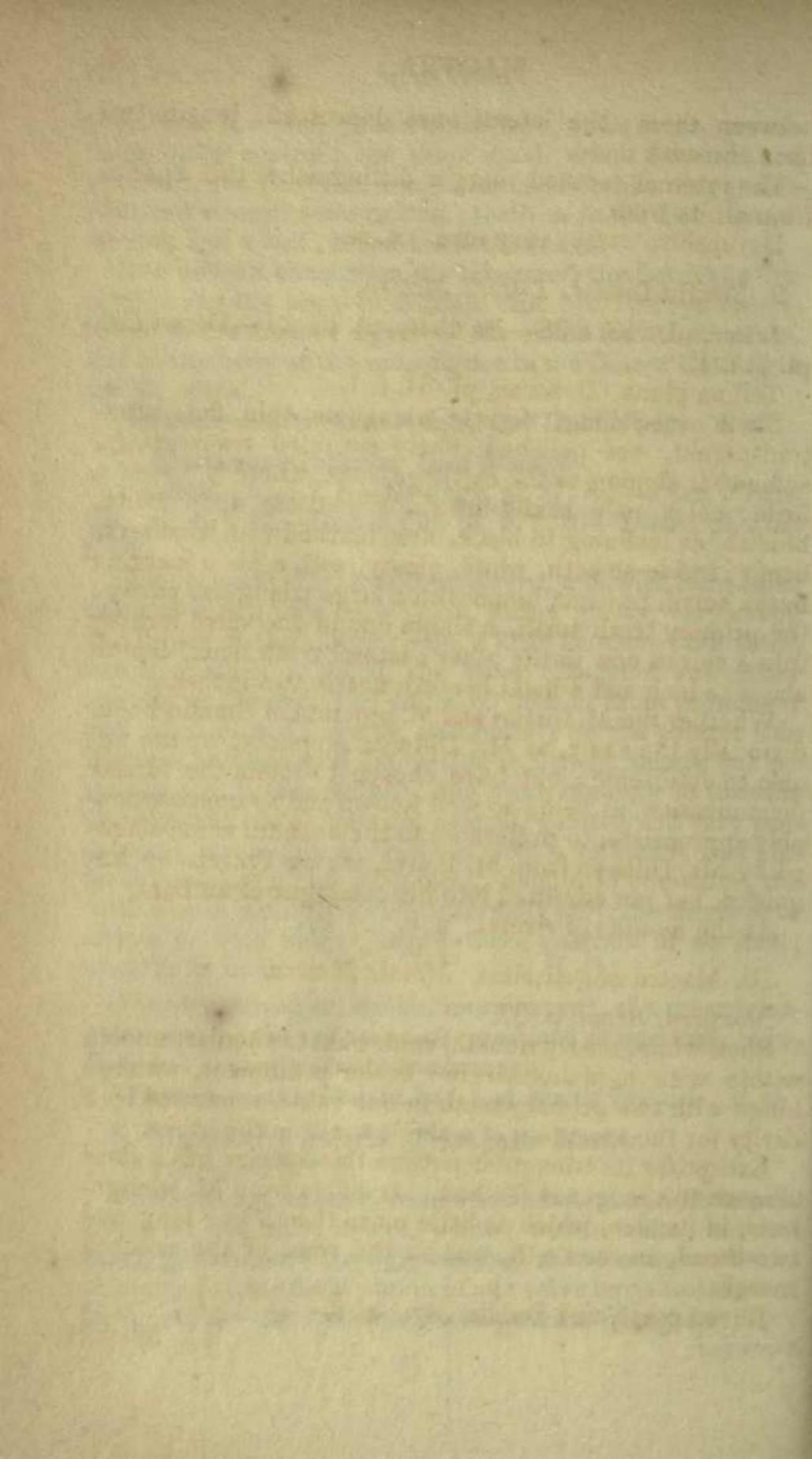
8. *Mactra triangularis*. *Triangular Mactra*.

*Montagu*, pl. 3. f. 5.

Shell strong, smooth, somewhat triangular, a little produced on one side, opaque, white; within white, but not much glossed, and strongly notched at the margin: beaks prominent; the primary tooth in one valve large and cloven; in the other valve two small teeth, with a triangular cavity

between





between them; the lateral ones depressed: length two lines; breadth three.

The internal toothed margin distinguishes this species from all its tribe.

Devonshire coast: very rare. *v. m.*

9. *Mactra Listeri*. *Lister's Mactra*.

*Lister*, pl. 253. f. 88—*Da Costa*, pl. 13. f. 1—*Dorset Cat.* pl. 7. f. 1.

*Tellina plana*. *Donovan*, pl. 64. f. 1.

Shell oval-oblong, slightly triangular, thin, flat, semi-transparent, not polished, finely wrinkled transversely, somewhat sloping to the cartilage edge where it gapes a little: color pale russet-brown, sometimes dirty white, blueish, or inclining to black, often marked with transverse bands; inside smooth, white, glossy, with a plain margin: beaks small, central; hinge with a large triangular cavity; the primary teeth small, a single one in one valve locking into a cloven one in the other; lateral teeth none: length about an inch and a half; breadth nearly two inches.

Whether the *M. Listeri* and *M. piperata* of Gmelin be individually the same, as Mr. Dillwyn supposes, we are unable to determine; but have chosen to retain the former denomination, as being so well known and so unexceptionably appropriate, in preference to the uncouth name adopted by Mr. Dillwyn from *M. Poiret*, whose Travels he has quoted, but not admitted into his catalogue of authors.

At the mouths of rivers. *v. v.*

10. *Mactra minutissima*. *Minute Mactra*.

*Montagu*, *Suppl.* p. 37.

Shell white, nearly smooth, somewhat triangular, smooth within with a plain margin: beaks prominent, strong; hinge with two primary teeth in one valve, separated by a cavity for the reception of a single tooth in the other.

Except for its triangular outline this species has a close alliance to the genus *Tellina*. It differs from *M. triangularis*, in its size, which is little more than a line long and two broad, in the teeth, and in the want of the notched margin.

Devon coast, and Dublin bay. *v. v.*

11. *Mactra tenuis*. *Thin Mactra*.

*Montagu*, pl. 17. f. 7.

Shell thin, flattish, somewhat triangular, semitransparent, white, transversely wrinkled: beaks small, central, straight; in one valve a forked tooth and a narrow cavity, with a single remote lateral one on each side; in the other a plain tooth and corresponding cavity, but no lateral ones: length a quarter of an inch; breadth rather more.

It resembles the young of *M. Listeri*; but is distinguished by the lateral laminar teeth in one of its valves.

Western coast: rare. v. v.

12. *Mactra Boysii*. *Boyse's Mactra*.

*Montagu*, pl. 3. f. 7—*Linn. Trans.* viii. pl. 1. f. 12—*Dorset Cat.* pl. 12. f. 7.

*Mactra alba*. *Linn. Trans.* vi. pl. 18. f. 9 to 12.

Shell oval, rounded at both ends, thin, rather flat, transparent, glossy white, nearly smooth or with a few distant transverse striæ; inside smooth, glossy white; with a plain margin: beaks small, a little turned at the points, placed nearer to the smaller end: hinge with a single small tooth in each valve, and a broad cavity; and broad lateral teeth in one valve only: length more than half an inch; breadth three quarters.

A very good figure of this shell is given in the plates which accompany Maton and Rackett's descriptive catalogue; but as they have omitted to refer to it, Mr. Dillwyn has also neglected it.

Western coasts, and Dublin bay. v. v.

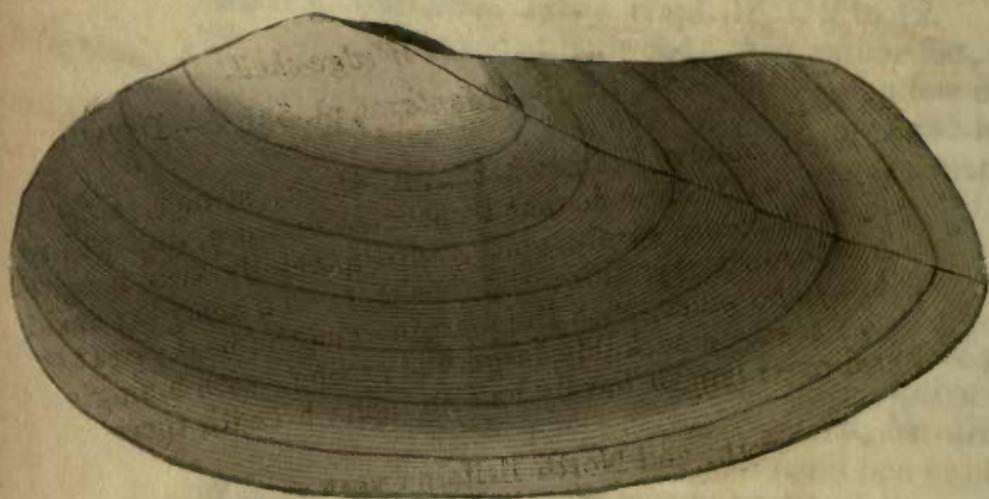
13. *Mactra Lutraria*. *Otter's Mactra*.

*Lister*, pl. 415. f. 259—*Pennant*, pl. 55. f. 3—*Linn. Trans.* vi. pl. 16. f. 3, 4—*Donovan*, pl. 58—*Dorset Cat.* pl. 5. f. 11.

Shell oblong, thin, brittle, semitransparent, gaping and nearly equally rounded at both ends, whitish with a reddish tinge towards the beaks, covered with a thin glossy greenish or dusky wrinkled skin which often extends beyond the margin, faintly and irregularly wrinkled transversely: beaks pointed, incurved, nearer one end, without slope or groove along the anterior edge; inside glossy white, with

the





the front margin thin and plain, the upper edges on each side the hinge thick and flattened, and gradually curving on both sides: hinge with a spoon-shaped cavity in one valve, and a thin oblique tooth each side; in the other a similar cavity, with a triangular tooth on one side, and a thin oblique one on the other, without lateral ones: in young shells are two prominent sharp transverse teeth in one valve, receiving the triangular tooth of the other between them: length two inches and a half; breadth four and a half.

*Variety.* Of a more oblong shape, being three times as wide as it is long, with the margins forming nearly a straight line, and about half the size. The specimen under our examination was dredged up at Cove, near Cork, and in the teeth and general appearance exactly resembles a more produced variety of this species.

At the mouths of rivers. *v. v.*

14. *Macra hyans*. *Oblong Macra*. Fig. 41.

*Da Costa*, pl. 17. f. 4—*Donovan*, pl. 140—*Dorset Cat.* pl. 2. f. 4—*Linn. Trans.* vi. pl. 16. f. 5, 6.

Shell oblong-oval, thick, strong, nearly opaque, rounded and somewhat gaping at the larger end; the anterior side elongated, a little contracting and curving in a somewhat scymetar-shaped form, the end considerably gaping, with a slight angular tendency: color dull white, with a reddish yellow tinge towards the hinge: beaks near one end, pointed and incurved, from which there is a considerable slope or indenture towards the smaller end, and a strong groove which runs along the margin on the outside; from the beaks is also a depressed line on the outside extending to the lower end of the front margin; inside dull white, with a ferruginous patch under the hinge on the broader side, the margin plain and thin: hinge with a spoon-shaped cavity and two plain lamina teeth behind it in one valve; in the other two teeth behind the cavity, one of which is thick and cloven, the other thin and plain; lateral teeth none: length, of the specimen before us, two inches and three quarters; breadth five inches and a half.

This elegant shell is readily distinguished from *M. Lutraria*, by its elongated and rather scymetar-shaped form;

by the curvature and groove along the upper and anterior margin ; by the diagonal depressed line from the hinge to the anterior front margin ; by its coarse and thick texture ; and by the teeth.

Da Costa's figure, from which that in the Dorset Catalogue is copied and most descriptions drawn, is a very incorrect one ; and his text and all his references apply only to *M. Lutraria*. Mr. Dillwyn, in his careless manner, gives the length as about two inches, and the breadth rather more than half as much.

At the mouths of rivers : very rare. *v. m.*

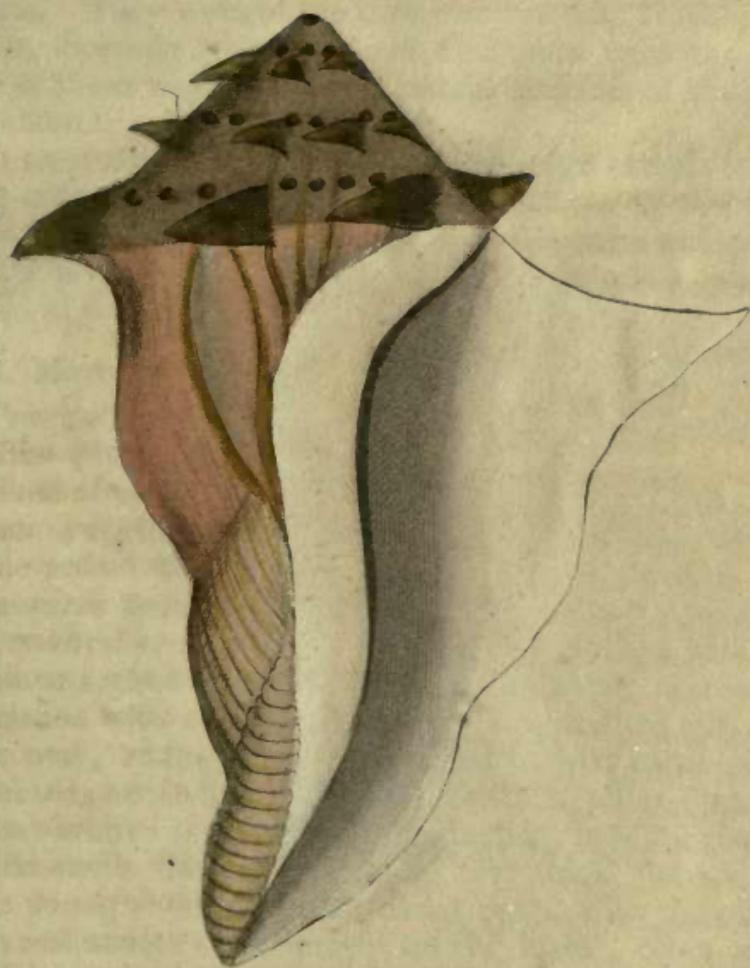
### MUREX. ROCK-SHELL.

Shell with a single valve, spiral, often rough with membranaceous folds or protuberances : aperture oval, ending in a straight entire canal, which is sometimes a little reflected.

1. *Murex Carica*. *Date Rock-shell*. Fig. 26.

*Lister*, pl. 880. f. 3. b.

Shell pyramidal, coarse, thick, dull reddish-grey with a few chocolate-brown longitudinal marks near the inner-lip, irregularly striate and somewhat scaly lengthways ; about the canal are a few transverse striæ, on which there is a broad raised rounded protuberance running a little obliquely : spires six, hardly raised, with a row of seven or eight pointed protuberances round the top of the two first volutions, which on the body-one are concave and triangular, and about half an inch long ; these, however, become gradually closed and smaller, decreasing at length into raised tubercles which become indistinct towards the point ; the lesser volutions are finely striate circularly : aperture triangular, large, extending to four-fifths of the shell, and reaching to the second row of protuberances : inside white, polished ; the outer-lip broad and thin, with a few faint striæ near the smaller end, which give the margin a slightly toothed appearance ; near the larger end the margin protrudes into an angular hollow, in consequence of its junction with one of the concave protuberances : pil-  
lar





lar polished, with a keel-like ridge along the canal, and rugged on the outside: length six inches; breadth, including the protuberances, four inches.

We had frequently heard it remarked, that the fishermen of the northern coasts of Ireland occasionally saw, what they called the great rock-shell, in calm weather, and deep in the water. Our attention was naturally awakened by this relation, not however being able to ascertain what degree of credit was due to it. At length we were favoured with a pair of these magnificent shells, which were thrown up on the sands at Warren's-point, after a severe thunder storm. They were at the time covered with the *Lepas Balanus*, *Serpula triquetra*, and *Cellepora spinosa*; and in one of them were found the putrid remains of the animal inhabitant.

It may also be observed, that no foreign vessels touch on that coast, that no collector of shells lives in that part of Ireland, and that the person who found them and presented them to us knew not one shell from another, and wondered at our exact examination into their history. *v. m.*

## 2. *Murex Erinaceus*. *Hedge-hog Rock-shell*.

*Pennant*, pl. 79. f. 1—*Da Costa*, pl. 8. f. 7—*Donovan*, pl. 35—*Dorset Cat.* pl. 14. f. 7.

Shell strong, rough, angular, brown or whitish: spires seven or eight, abruptly sloping at the junctions, ending in a fine point; the primary volution with numerous raised transverse lines; the rest with generally two strong raised warty circular ribs; all of them mostly clothed with small concave arched scales placed in an imbricate manner, and furnished with about seven strong longitudinal ribs: aperture oval, ending in a short closed tubular canal which is reflected; outer-lip thick, toothed within; pillar-lip smooth, glossy-white: length nearly two inches; breadth about one.

Old shells have the outer-lip very thick, flat and angular: young shells have the canal open, with the outer-lip thin and striate transversely on the inside, often marked with transverse brown bands: they may be distinguished from the young of *Buccinum Lapillus*, by the longitudinal ribs, and the abrupt sloping of the volutions to the line of

junction. A variety is sometimes found with ferruginous marks or zones.

On most rocky shores. *v. v.*

### 3. *Murex carinatus*. *Carinated Rock-shell*.

*Pennant*, pl. 80, and frontispiece to vol. iv.—*Donovan*, pl. 109—*Laskey*, *Wern. Soc.* i. pl. 8. f. 9.

Shell strong, oval, dull yellowish white: spires seven, the first very much inflated and covering more than half the shell, faintly striate transversely, with a few irregular longitudinal lines, giving them an imperfectly reticulate appearance; the upper part of each rather suddenly sloping to the next, causing them to be very distinctly defined by the line of separation; the four first with two distinct elevated ridges winding round the middle, and which gradually disappear in the smaller volutions: aperture wide oval, ending in a slightly reflected open canal; inside pale yellowish-white; the outer-lip very thin and slightly notched by the striæ on the back; inner-lip smooth, folding back on the body volution, rugged on the outside: length nearly three inches; breadth one and a half.

The description was taken from a fine specimen, in the cabinet of Mr. O'Kelly of Dublin, who found it at Portmarnock, in Dublin bay. *v. m.*

### 4. *Murex subantiquatus*. *Lesser smooth Rock-shell*.

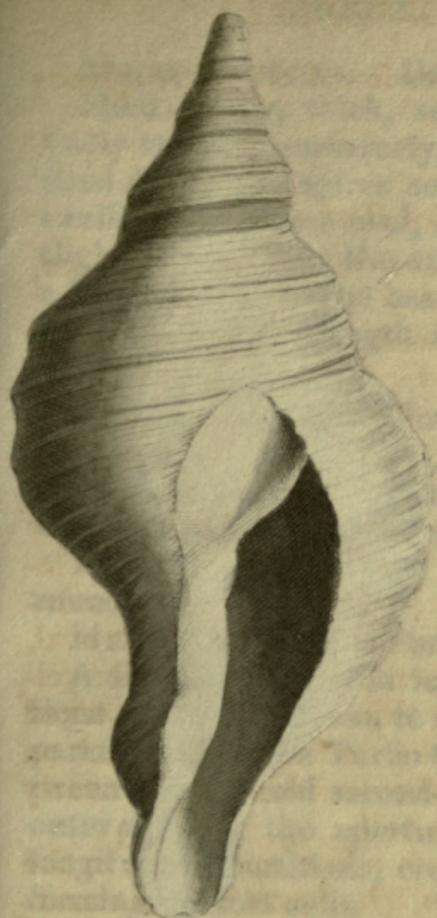
*Murex antiquus*. *Donovan*, pl. 119.

Shell oblong, pale brown, coarse, rugged and somewhat angular: spires eight, strongly striate transversely, and faintly in a longitudinal direction, with one or two strong undulate or slightly tubercled transverse ridges, which disappear on the terminal volutions: aperture oval; the outer-lip dilated; pillar-lip a little reflected; inside livid white; the canal elongated: length nearly four inches; breadth about two.

In Scotland: very rare.

### 5. *Murex antiquus*. *Greater smooth Rock-shell*.

*Lister*, pl. 913. f. 4—*Da Costa*, pl. 6. f. 4—*Pennant*, pl. 81—*Dorset Cat.* pl. 17. f. 4.



SCARBO' - LENGTH TWO INCHES

Scarbro' - length two inches

*Murex despectus.* *Donovan*, pl. 31.

Shell strong, thick, semitransparent, yellowish-white, finely striate transversely, and very faintly so in a longitudinal direction: spires seven or eight, much rounded and swelling: aperture oval, dilated; the outer lip thin, often slightly notched by the outward striæ; pillar rugged, and a little twisted at the base; canal reflected, open; inside yellowish-white: length sometimes six inches, and three broad.

*Variety.* With the volutions reversed.

*Lister*, pl. 950. f. 44. b, and c.

*Lister* marks this variety as English, observing that it was found on the sea shore at Harwich, by Dr. Dale.

The young shell, with the small end very abrupt and rounded.

*Murex decollatus.* *Pennant*, pl. 82. f. 3.

A singular variety is in our cabinet, in which the volutions are divided down to the very pillar by the line of separation, as in the Turbo Clathrus: and at the junction between the first and second volutions, commencing from the outer angle of the aperture, are three or four thin raised longitudinal partitions, crossing the line of separation, and forming distinct cells.

In another variety the shell is strongly reticulated, of a more taper shape, and furnished with six or seven much raised and rounded longitudinal ribs, giving it a somewhat angular appearance: probably the *M. fornicatus* of Gmelin. *v. v.*

6. *Murex corneus.* *Horny Rock-shell.*

*Lister*, pl. 913. f. 5—*Pennant*, pl. 79. f. 2—*Da Costa*, pl. 6. f. 5—*Dorset Cat.* pl. 17. f. 5—*Donovan*, pl. 38.

Shell strong, elegantly taper, semitransparent, white, mostly covered with a brown skin: spires eight or nine, flat and hardly raised, separated by a fine line; finely and regularly striate in a spiral direction, with a few obscure longitudinal wrinkles on the body volution, and ending in a fine point: aperture oblong-oval, terminating in a long reflected canal, which together occupy about half the shell; outer lip thin; inner lip spread on the pillar: length nearly three inches; breadth one and a quarter.

The young are very obtuse at the point, as if broken off; and are known from the young of *M. antiquus*, by the elongated beak, and the more regular transverse striæ.

On most sandy shores. *v. v.*

7. *Murex gracilis*. *Slender Rock-shell.*

*Montagu*, pl. 15. f. 5.

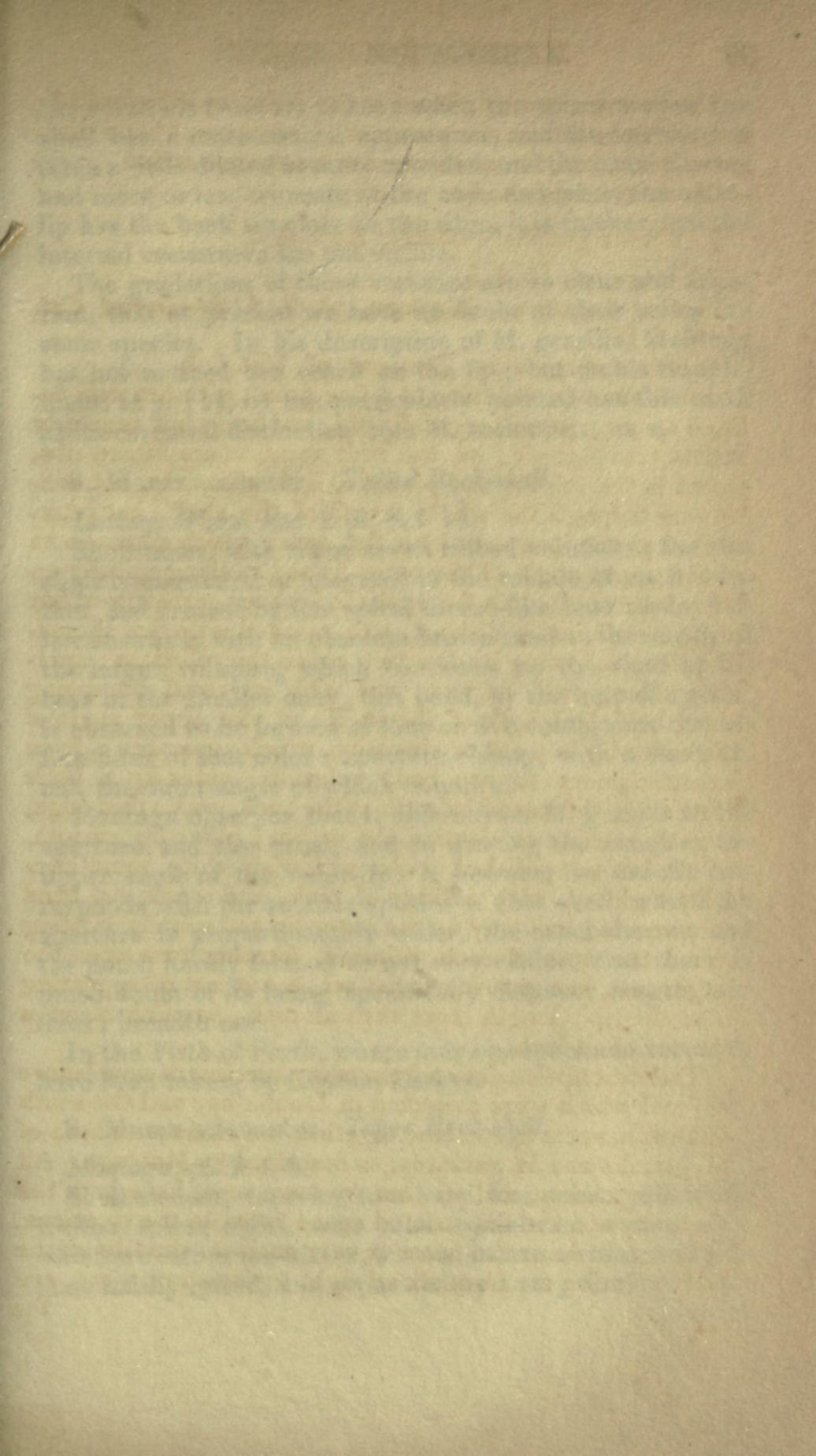
*Murex sinuosus*. *Montagu*, pl. 9. f. 8—*Dorset Cat.* pl. 14. f. 18.

*Murex emarginatus*. *Donovan*, pl. 169. f. 2.

Shell slender, tapering to a fine point, with ten well defined spires, ribbed longitudinally, and finely but regularly striate transversely: on the body volution are fifteen ribs, tumid in the middle and placed a little obliquely, not continuing through the whole length of the shell, but interrupted at the junctures by a flat space which commences at the upper angle of the outer-lip and running spirally up the whole shell; this flat space is broader or narrower, but always sufficiently distinct, and marked with fine thread-like lines following its direction round the volutions: aperture oblong-oval, narrow, and with its canal occupying about half the length of the shell; at the upper angle of the outer-lip is a cut or sinuosity, which separates it from its attachment to the body volution; outer-lip a little spreading, thickened by a rib at the back, with a thin edge, slightly crenate or denticulate within; pillar-lip smooth, white, but not polished: color yellowish-white, sometimes a little glossy, with a tinge of pink, and a pale red band commencing half-way up the outer-lip and spirally winding round the base of each volution, forming two upon the larger one, but growing indistinct, and at last disappearing near the tip: length more than an inch; breadth about a quarter of an inch.

This description drawn from many specimens now before us, and which were collected in Dublin bay and the south of Devon, seem to combine together the characters both of *M. gracilis* and *M. sinuatus*, as described by *Montagu*. All that we possess, and all that we have seen, have both the sinuosity and the flat striated space between the volutions, although in some the latter is very narrow: the ribs on the body volution are from six or eight to fifteen or more, and

the





the volutions from six to ten; when the spires are few the shell has a more conical appearance, and the aperture is often a little dilated or more rounded, and the canal shorter and more or less truncate at the end; and when the outer-lip has the back rib close to the edge, it is thicker, and the internal crenatures are not visible.

The gradations of these varieties are so clear and apparent, that at present we have no doubt of their being the same species. In his description of *M. gracilis*, Montagu has not noticed the notch on the lip; but in his Supplement, at p. 114, he has particularly pointed out this mark as its essential distinction from *M. accinctus*. v. v.

#### 8. *Murex accinctus*. *Girdled Rock-shell*.

*Laskey, Wern. Soc. i. pl. 8. f. 14.*

Shell taper, with six or seven ribbed volutions; the ribs slightly angulated or elevated in the middle of each volution, and crossed by fine spiral thread-like lines: color yellowish-white, with an obsolete brown band on the middle of the larger volution, which continues up the shell at the base of the smaller ones; this band, by the help of a glass, is observed to be formed of four or five contiguous thread-like lines of that color: aperture oblong, with a short canal, the outer-angle of which is entire.

Montagu observes that it differs from *M. gracilis* in the aperture and the canal, and in wanting the notch at the upper angle of the outer-lip: it however so exactly corresponds with the smaller species of that shell, where the aperture is proportionately wider, the canal shorter, and the notch hardly formed or not very visible, that there is much doubt of its being specifically distinct: length four lines; breadth one.

In the Firth of Forth, where only one specimen seems to have been taken, by Captain Laskey.

#### 9. *Murex attenuatus*. *Taper Rock-shell*.

*Montagu, pl. 9. f. 6.*

Shell slender, tapering to a very fine point, yellowish-white: spires eight, with nine equidistant strong ribs, which are rather undulated, but not striate across; the volutions hardly raised, and separated by a very fine line only: aperture

aperture narrow-oblong, contracting a little at the canal, which is moderately long and nearly straight; outer-lip thickened by a rib at the back; inner-lip plain: length half an inch; breadth an eighth or more.

Western coasts, and Dublin bay. *v. m.*

10. *Murex Nebula. Gauze Rock-shell.*

*Montagu*, pl. 15. f. 6—*Pennant*, pl. 82. f. 7—*Dorset Cat.* pl. 14. f. 16.

Shell slender, tapering to a fine point: spires eight or nine, scarcely raised, and separated by a very fine line, with eight or nine longitudinal ribs, and crossed transversely in the interstices by very fine faint lines: color yellowish-white or brownish, sometimes pale rose-color, with the transverse striæ white: aperture oval-oblong, narrow; outer-lip thin and plain; inner-lip a little rugged on the outside; canal rather short, turning a little to one side: length half an inch; breadth two tenths.

On many fine sandy shores. *v. v.*

11. *Murex septangularis. Septangular Rock-shell.*

*Montagu*, pl. 9. f. 5—*Donovan*, pl. 179. f. 4.

Shell strong, taper, pale brown, rather glossy: spires seven or eight, with seven longitudinal ribs which are scarcely interrupted by the line of separation, the spaces between the ribs smooth and but slightly concave, giving the shell a septangular appearance; outer-lip thin, contracted to an angle at the upper part, where the margin is a little indented; pillar-lip a little folded back: length half an inch, or rather more; breadth a quarter.

Western coasts, and Dublin bay: rare. *v. m.*

12. *Murex costatus. Ribbed Rock-shell.*

*Pennant*, pl. 82. f. 2—*Da Costa*, pl. 8. f. 4—*Donovan*, pl. 91—*Dorset Cat.* pl. 14. f. 4.

Shell oblong, taper, rather glossy: spires six, flat and divided by the line of separation only, with seven or eight elevated ribs, placed rather remotely, and not striate transversely: color chocolate-brown, with often white bands, or entirely white at the base; sometimes yellowish-white with a dark brown band or two: aperture very narrow, not  
much





much contracted at the canal, which is short; the outer-lip thickened by a rib, with the margin thin: length about a quarter of an inch; breadth hardly an eighth.

Western coasts, and Dublin bay, on Fuci. *v. v.*

13. *Murex proximus. Proximate Rock-shell.*

*Montagu*, pl. 30. f. 8.

Shell thick, white, moderately pointed: spires six, rather abrupt at the tops, rounded and well defined, with about eleven strong ribs, not striate transversely: aperture oval-oblong; the canal short and rather spreading at the end; outer-lip extremely broad and reflected: length nearly half an inch.

Near Dunbar: very rare.

14. *Murex Turricula. Turret Rock-shell.*

*Montagu*, pl. 9. f. 1—*Dorset Cat.* pl. 14. f. 15.

*Murex angulatus. Donovan*, pl. 156.

Shell tapering to a very fine point, clear white, yellowish, or with a rosy tinge, and rather glossy: spires eight or nine, with numerous longitudinal ribs, crossed by very fine transverse striæ; the volutions strongly defined, and flattened at their junctures on the top, giving them a remarkably turreted appearance: aperture oblong, ending in a broad canal: the outer-lip a little angular on the upper part; pillar-lip smooth: length three quarters of an inch; breadth a quarter.

Western coasts, and Dublin bay. *v. v.*

15. *Murex rufus. Rufous Rock-shell,*

*Montagu*, pl. 263.

Shell oblong, taper, rufous-brown or chesnut: spires six or seven, with about twelve longitudinal ribs, prominent in the middle, and very faintly striate across: aperture oblong, narrow, ending in a short canal; the outer-lip thickened by a rib; inner-lip smooth, much turned back, and forming a very small indenture at the end of the canal: length three tenths of an inch; breadth an eighth.

In old shells the transverse striæ are obliterated, so as to make the interstices of the ribs appear quite smooth.

Western coasts, and Dublin bay. *v. m.*

16. *Murex Chordula*. *Twine Rock-shell*.

Shell conic, a little tapering to a rather obtuse point, pale chesnut-brown: spires five, rounded and well defined, the first occupying more than half the length, with about fifteen raised rounded wire-like ribs of equal diameter throughout, which continue over the junctions of the volutions, and curve in the middle towards the outer-lip; they are also crossed by very fine spiral striæ: aperture narrow oval, ending in a short canal; the outer-lip thickened by a rib on the back; inner-lip a little spread: length not two lines; breadth the third of its length.

This delicate species differs from *M. rufus*, in having fewer volutions, in the ribs not being protuberant in the middle, and in their curvature in the middle of each volution; it is also never half the size.

Drifted sand, in Dublin bay. *v. m.*

17. *Murex linearis*. *Linear Rock-shell*.

*Montagu*, pl. 9. f. 4.

*Murex elegans*. *Donovan*, pl. 179. f. 3.

Shell rugged, taper, glossy, light brown with generally a purple tip: spires seven or eight, with about ten strong ribs, crossed by numerous thread-like raised spiral lines, the summits of which are often purple: aperture oval, ending in a straight short, very open canal; the outer-lip thickened by a rib, the margin crenate by the incurvations of the spiral lines, and toothed within; pillar-lip smooth: length a quarter of an inch or more; breadth about a line.

Western coasts, and Dublin bay. *v. v.*

18. *Murex purpureus*. *Purple Rock-shell*.

*Montagu*, pl. 9. f. 3.

Shell very rugged, tapering to a very fine point, dark purple with often white blotches: spires nine or ten, rounded, with about twenty ribs running a little obliquely to the right, and crossed by numerous sharp raised transverse ridges, which rise into angles on the ribs, and give the shell a very rough or cancelled appearance: aperture oval, ending in a short straight canal; the outer-lip thin with a white margin, crenate by the outward striæ; inside purple,





purple, marked by the outer-ribs; pillar striate transversely in an oblique direction, to the end of the canal: length five-eighths of an inch; breadth a quarter.

Salcombe bay, and Dublin bay: rare. *v. m.*

*Variety*, with a notch on the upper angle of the outer-lip, like that on *M. gracilis*.

19. *Murex muricatus*. *Prickly Rock-shell*.

*Montagu*, pl. 9. f. 2.

Shell strong, rough, taper, white with a reddish or greenish tinge, often covered with an orange-red skin: spires six or seven, swelling and deeply defined, rather flattened at their tops, with about ten prominent ribs, and crossed by very strong raised lines, giving it a tubercled appearance: aperture roundish, ending in a long straight narrow canal, which is nearly smooth, and with the aperture almost as long as the rest of the shell; outer-lip spread, toothed at the edge, and slightly crenate within; pillar smooth: length more than half an inch; breadth not a quarter.

Western coasts, and Dublin bay. *v. m.*

20. *Murex Bamffius*. *Scotch Rock-shell*.

*Donovan*, pl. 169. f. 1—*Pennant*, pl. 82. f. 5.

Shell conic, tapering to a fine point, yellowish-white: spires six, swelling and rounded, with from twelve to twenty much raised ribs, which are sometimes spread into thin sharp longitudinal foliations, sometimes flat and irregular, and often curved towards the aperture, not striate transversely: aperture roundish, suddenly sloping at the outer and lower angle into a rather straight and elongated canal; the outer-lip thin: pillar rugged, with an indentation near the canal: length three-quarters of an inch; breadth more than a quarter. The young shells are often rufous-brown.

Scotch and western coasts, Dublin bay: rare. *v. m.*

21. *Murex Gyrius*. *Screw Rock-shell*.

*Laskey*, *Wern. Soc.* i. pl. 8. f. 10.

Shell strong, conic, short, tumid, brown: spires four, regularly covered with dark chesnut tubercles, eight rows on the larger volutions, including the canal, and three

rows

rows on the next : length hardly a quarter of an inch ; breadth one eighth.

On the Scotch coast : very rare.

22. *Murex reticulatus*. *Reticulated Rock-shell*.

*Da Costa*, pl. 8. f. 13—*Dorset Cat.* pl. 14. f. 13.

Shell long, slender, tapering to a very fine point, rufous-brown : spires eleven or twelve, hardly raised, reticulate by longitudinal and transverse striæ, giving them a tubercled appearance ; each volution with four rows, and the body volution four other strong transverse lines at the base which are not cut across by longitudinal ones : aperture roundish-oval, ending in a very slight canal : outer-lip a little crenate by the spiral ridges : length about half an inch ; breadth hardly an eighth.

Dredged and drifted sand. *v. v.*

23. *Murex tubercularis*. *Tubercled Rock-shell*.

*Montagu*, p. 270.

Shell slender, taper, pointed, chesnut-brown : spires nine or ten, hardly raised, each with three rows of tubercles, which are equal in size throughout the shell : aperture small, oval, ending in a canal, somewhat closed by the pillar turning inwards : length a quarter of an inch.

*Variety*. Quite white and semitransparent.

Drifted sand : rare. *v. m.*

24. *Murex subulatus*. *Needle Rock-shell*.

*Montagu*, pl. 30. f. 6.

Shell very slender, white : spires about fifteen, hardly raised, defined by a purplish-brown line, each marked with two rows of bead-like tubercles divided by a depressed line, in which are observed minute raised lines in a contrary direction : aperture small, with a short canal turning to the left ; the base without tubercles and dark-brown : length three-eighths of an inch.

In the sound of Mull : very rare.

25. *Murex fuscatus*. *Brown Rock-shell*.

*Pennant*, pl. 85. f. 1—*Linn. Trans.* viii. pl. 4. f. 6.

Shell tapering to a fine point, yellowish-brown : spires  
ten





ten or twelve, very short, wrought with tubercled spiral ridges, between which are three or four series of crenate striæ; the base spirally striate: aperture small, oval, ending in a slight canal: length an inch and a half; breadth half an inch.

In large shells the tubercles extend into long conic spines on the larger volution, and sometimes run together into a sharp spiral screw-like ridge.

Weymouth, and northern coasts: very rare.

26. *Murex adversus*. *Reversed Rock-shell*.

*Turbo reticulatus*. *Donovan*, pl. 159.

*Turbo punctatus*. *Walker*, f. 48.

Shell reversed, tapering to a fine point, opaque, light-brown: spires ten or eleven, scarcely defined by the line of separation, with three rows of tubercles on each, the middle row of which is smaller than the rest: aperture oval, ending in a straight canal; the base with two or three smooth spiral ridges: length nearly half an inch; breadth hardly the eighth.

Western and Scotch coasts: very rare.

27. *Murex minutissimus*. *Linn. Trans.* iii. p. 65.

Shell taper, transparent; spires five, with remote ribs, and spirally striate; canal closed.

Pembrokeshire coast: minute.

MYA. GAPER.

Shell with two valves, generally open at one end: hinge with mostly a single broad thick spoon-shaped tooth, generally not inserted into the opposite valve.

A. *The teeth not inserted into the opposite valve*, 1 to 17.

B. *The teeth locking into the opposite valve*, 18 to 24.

1. *Mya truncata*. *Abrupt Gaper*.

*Lister*, pl. 428. f. 269—*Pennant*, pl. 44—*Da Costa*, pl. 16. f. 1—*Linn. Trans.* vi. pl. 14. f. 1, 2—*Donovan*, pl. 92—*Dorset Cat.* pl. 3. f. 1—*Wood*, pl. 17. f. 1, 2.

Shell oblong-oval, strong, broad, abruptly cut off at the smaller

smaller end where it gapes very much, strongly wrinkled transversely, covered with a tough ochraceous skin, which extends beyond the margin at the open end and forms a thin membranaceous wrinkled tube, sometimes from six to nine inches in length, dead white under the skin; the valves convex, and turning a little back at the open end; inside white: hinge with a broad thick obtuse erect tooth projecting forwards: length sometimes two inches and a half, and three and a half broad.

At the mouths of rivers. *v. v.*

2. *Mya arenaria*. *Sand Gaper*.

*Lister*, pl. 418. f. 262, and pl. 419. f. 263—*Pennant*, pl. 45—*Donovan*, pl. 85—*Linn. Trans.* vi. pl. 14. f. 3, 4—*Dorset Cat.* pl. 4. f. 2—*Wood*, pl. 17. f. 3.

Shell strong, oval, gaping and rounded at both ends, but elongated and narrowed on one side, covered with a thin yellowish or reddish-brown skin, sometimes marked with dark patches, irregularly striate concentrically, with often a faint appearance of longitudinal lines, sometimes a little distorted or indented at the margin; the narrow end turning a little back, with a few hairs attached to the outer skin; inside white, glossy; hinge near the larger end; the tooth thick, erect, and spoon-shaped, with a small lateral tooth-like projection from the anterior side: length sometimes two inches and a half, and five in breadth.

The younger shells are whitish, with an orange-yellow band round the margin; and when not more than half an inch in length, are clear white and transparent.

Under sand and gravel. *v. v.*

3. *Mya declivis*. *Sloping Gaper*.

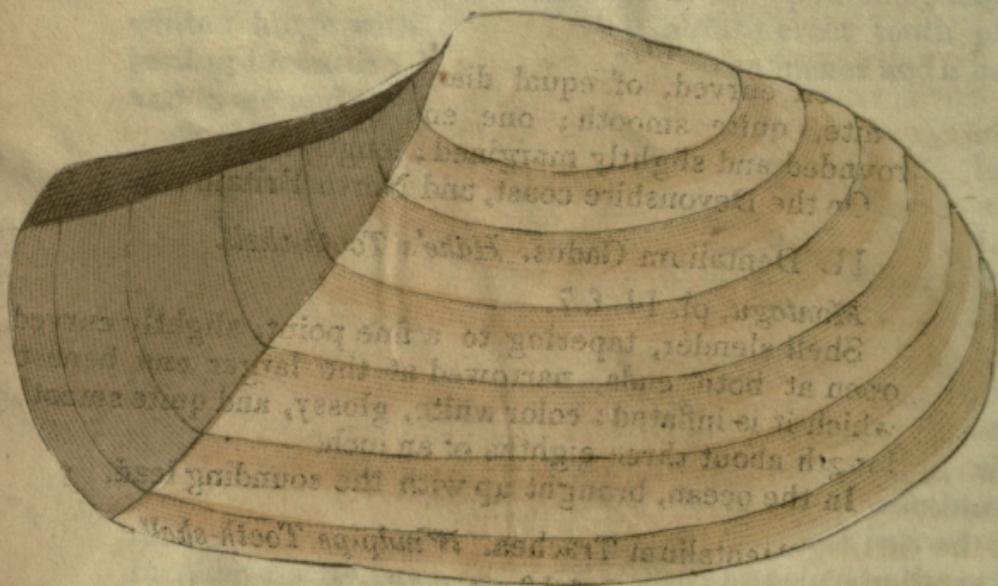
*Wood*, pl. 18. f. 3.

*Mya prætenuis*. *Pennant*, pl. 50. f. 1.

Shell oval, rather convex, very thin and brittle, semi-transparent, white, smooth and somewhat polished, except at the cartilage end which is a little roughened, rounded at one end, somewhat truncate and angular and a little gaping at the other, often a little contracted at the front margin towards the truncated side, irregularly striate transversely: beaks nearly central, forming a roughened and somewhat angular slope down the cartilage margin; inside

white





white and somewhat polished: hinge with a projecting hollow tooth in each valve, with a cavity on the cartilage side: length three-quarters of an inch; breadth an inch and a quarter.

Western coasts, and Dublin bay. *v. v.*

4. *Mya pubescens*. *Rough Gaper*. Fig. 35.

*Mya declivis*. *Wood*, pl. 18. f. 2—*Darset Cat.* pl. 4. f. 6.

Shell oblong-oval, thin, semitransparent, yellowish-white, roughened all over like shagreen, rounded at one end, slightly truncate and angular, and a little gaping at the other, irregularly striate transversely; one valve deeper and larger than the other, so as in some measure to inclose it; the front margin often a little contracted near the middle: beaks prominent, incurved, the points not placed quite opposite, but crossing each other, and forming an angular slope down the cartilage edge; inside white, but not glossy: hinge with a strong projecting hollow tooth in each valve, with a deep cavity on the posterior side, the opposite side projecting into a strong rib which runs along the middle of the cartilage edge forming a deep groove; besides this is another rib which runs rather obliquely from the tooth towards the truncated end: length of the specimen before us two inches and a half; breadth three and a half; but it is seldom found so large.

In the belief that these two shells are quite distinct, we are supported by the opinion of some highly respectable conchologists. Although they are sufficiently abundant on the Western coasts, no intermediate size has been yet discovered. One is roughened all over; the other is quite smooth, except at the cartilage slope. The beaks of *M. pubescens* cross each other, like the mandibles of the *Loxia curvirostra*, or Cross-beak: but the most striking and material difference is the strong rib and groove along the cartilage edge: there is also some difference in the teeth. For the present, therefore, we are inclined to offer them as distinct species, suggesting at the same time a close attention to their natural history.

In the *Memoirs of the Wern. Soc.* p. 505. pl. 24. f. 4, Mr. Brown has described and figured a shell under the name of *M. pellucida*, from the cabinet of Dr. Taylor of Dublin,

which we have very little doubt is this species of a smaller size, but which it has not been our good fortune to examine. We consider it however as an interesting subject, which may serve to establish or annul our suspicions as to the distinctions we have made between this species and the last. *v. v.*

5. *Mya Norwegica.* *Norway Gaper.*

*Wood*, pl. 18. f. 4, 5.

Shell thin, brittle, transparent, convex, oblong-oval, white but not glossy, and covered when fresh with a fine brownish white skin, marked with numerous fine regular raised longitudinal striæ, and a few transverse wrinkles; one valve rather smaller than the other, and as it were received within it; the larger side rounded, the other or anterior side sloping from the beaks, and running in nearly a straight direction to the end, where it is truncated, very rugged, with the valves gaping and a little reflected; the front margin produced and rounded: beaks prominent, pointed, nearly central: inside richly nacred: hinge with a rather oblique triangular striated cavity in each valve: length three-quarters of an inch; breadth more than one and a quarter.

A fresh and perfect specimen of this rare shell was dredged up off Exmouth, in the present summer, and is now in the possession of Mr. Leasathorp, who obligingly suffered us minutely to examine and describe it. It had no decortication about the beaks, as mentioned in the specific character of Gmelin and Dillwyn, and which might have originated in an accidental abrasion of the fine epidermis or pellicle. The longitudinal striæ appear to be formed by regular corrugations of its outer skin, which at the smaller and gaping end enlarge into rough membranaceous folds. From the *Mya striata* it is distinguished by its greater convexity, the teeth, the produced and rounded outline of the front margin, and the narrowed truncated and which resembles that of the *M. declivis.* *v. m.*

6. *Mya convexa.* *Convex Gaper.*

*Wood*, pl. 18. f. 1.

*Mya declivis.* *Donovan*, pl. 82,





Shell very light and brittle, remarkably convex, strongly angular at the anterior side, covered with an ochraceous skin, under which it is clear white, rather rough on the angular side; inside yellowish white: hinge with a small oval tooth projecting horizontally: length about an inch; breadth an inch and a half.

Mr. Wood observes that it is certainly distinct from both the last, in its great convexity, and comparative lightness.

Devonshire, and Dublin bay: very rare. *v. m.*

7. *Mya prætenuis*. *Spoon-hinge Gaper*.

*Montagu*, pl. 1. f. 2—*Donovan*, pl. 176—*Wood*, pl. 24. f. 7 to 9—*Dorset Cat.* pl. 4. f. 7.

Shell oval, flat, thin, brittle, semitransparent, slightly and irregularly striate transversely, rounded at both ends, narrowed and rather pointed at one end, a little depressed at the front margin near the smaller end, in consequence of that part being somewhat turned up to form a small gape: color whitish, a little roughened and inclining to brown at the smaller end: beaks small, pointed, nearly central, inclining to one side; inside white but not polished, with two small ribs which run obliquely from the hinge half way down the cartilage side, leaving between them a long triangular glossy iridescent space: hinge with a broad projecting hollow spoon-shaped tooth in each valve, strongly striate concentrically: length an inch; breadth an inch and a half.

*Montagu*, in his figure, has represented the truncated side of *Mya declivis*, but the tooth is that of *M. prætenuis*. The outline of this shell much resembles that of the *Mya arenaria*. The figure in the *Dorset Catalogue* is an exact and beautiful representation; all the others quoted are indifferent.

Western coasts, and Dublin bay. *v. v.*

8. *Mya distorta*. *Deformed Gaper*.

*Montagu*, pl. 1. f. 1.

Shell somewhat oval, thin, brittle, semitransparent, white; the valves convex, of a rugged and variously distorted appearance, and more or less indented at the margin; inside white: hinge with a broad somewhat triangular

lar tooth in each valve, hollow in the middle, and projecting inwards horizontally : length three-quarters of an inch ; breadth an inch.

It differs from *Mya prætenuis*, in having the margin always irregularly waved.

Burrowed in limestone. *v. v.*

9. *Mya bidentata*. *Double-toothed Gaper*,

*Montagu*, pl. 26. f. 5.

Shell thin, flattish, somewhat oval, quite smooth, white but not glossy, often covered with a roughish extraneous coat, smooth within : hinge with two broad erect laminar teeth in one valve, which diverge outwards from each other, and are not very close together, with a slight cavity between them ; in the other valve no teeth : length the eighth of an inch ; breadth rather more.

Imbedded in the convex valves of old thick oyster-shells, just beneath the surface. *v. v.*

10. *Mya decussata*. *Decussate Gaper*.

*Montagu*, pl. 23. f. 1.

Shell oval, white, waved at the margin, with irregular concentric ridges, crossed by regular longitudinal striæ, which form tubercles at the anterior end ; inside smooth, white : beaks obtuse, recurved, placed near to one end : hinge with a broad erect tooth in one valve ; in the other a projecting plate, with a small indentation : length nearly half an inch ; breadth rather more.

In the Firth of Forth : rare.

11. *Mya purpurea*. *Purple Gaper*.

*Montagu*, *Suppl.* p. 21.

Shell oval, whitish, growing purple towards the beaks, slightly wrinkled transversely ; inside paler, with a plain margin : beaks placed considerably on one side, and turning towards the shorter end : hinge with a slightly notched erect tooth in each valve : length hardly a line ; breadth rather more.

Devon coast, among Corallines : rare. *v. v.*

12. *Mya ferruginosa*. *Rusty Gaper*.

*Montagu*, pl. 26. f. 2.





Shell somewhat oval, rather convex, white, but mostly covered with a thick tough rust-colored skin, obscurely wrinkled transversely; inside white, glossy: the front margin nearly straight: beaks obtuse, placed nearer to one end: hinge with two projecting teeth separated by a large triangular cavity, one of them erect, the other turning inwards and sloping downwards: length about a quarter of an inch; breadth nearly half an inch.

Belton sands, Scotland; and Dublin bay. *v. m.*

13. *Mya nitens*. *Glossy Gaper*.

*Laskey, Wern. Soc. i. pl. 8. f. 4.*

Shell oval, glossy white, growing pink towards the beaks, with regular concentric striæ; inside colored in like manner, but not so glossy: beaks rather prominent, but not quite central: hinge with a single tooth in one valve, locking into a deep cleft between two slight elevations in the other: length nearly a quarter of an inch; breadth something more.

Dunbar, and Dublin bay: rare. *v. m.*

14. *Mya prismatica*. *Prismatic Gaper*,

*Montagu, pl. 26. f. 3.*

Shell oblong-oval, flat, thin, glossy white reflecting prismatic colors in various positions of light, rounded at one end and sloping to a point at the other, obscurely striate concentrically; inside smooth, glossy: beaks small, nearer to and pointing towards the elongated end: hinge with a broad horizontal tooth, and an erect one, and a somewhat triangular depression in both valves; in one valve is also a small lateral plate which is wanting in the other: length three eighths of an inch; breadth as much again.

On the Scotch coasts, and at Exmouth. *v. v.*

15. *Mya substriata*. *Substriated Gaper*.

*Montagu, Suppl. p. 25.*

Shell somewhat oval, semitransparent, white, with obscure distant raised longitudinal lines; inside smooth, with a plain margin: beaks prominent, straight: hinge with a single projection inwards, margined so as to make it concave: diameter the tenth of an inch.

Devon coast, among Corallines: rare.

16. *Mya*

16. *Mya dubia*. *Doubtful Gaper*.

*Pennant*, pl. 47—*Donovan*, pl. 108—*Wood*, pl. 25. f. 2, 3—*Dorset Cat.* pl. 1. f. 11.

Shell oval, thin, brittle, opaque, light brown, white within, irregularly wrinkled or rugged transversely, with a very large open gape in front, commencing near the hinge, becoming narrower towards the smaller end, and exposing the interior of the hinge and the rudiments of teeth: beaks small, prominent, placed at the larger end: hinge with a small plate or rudiment of a tooth in both valves, projecting inwards: length not half an inch; breadth about three quarters.

Imbedded in the hardest rocks. v. v.

17. *Mya arctica*. *Arctic Gaper*.

Shell oblong-oval, rather convex, coarse, greyish-white, truncate at the hinge end, and something rounded at the other, where it gapes a little, roughly striate transversely, with the striæ approaching to membranaceous ridges towards the back, a little inflected on the front margin: beaks prominent, pointed, close to the truncated end, from which run two raised ridges, one along the back margin, the other obliquely to the outer angle of the front margin, both of which are rough or somewhat spinous by the sharp duplication of the transverse folds; under the beaks also, on the truncated slope, is an oblong striate depression; inside glossy white, with the margin plain: hinge with a strong projecting spoon-shaped cavity in each valve, the edge of which next the flattened side is a little raised so as to resemble a small tooth; from this cavity along the cartilage margin runs a small hollow groove in each valve, and below the hinge on the truncated margin withinside is a flattened space in both valves, in the middle of which there is an oblong cavity: length half an inch; breadth more than three quarters.

A living specimen of this very desirable shell we took from a mass of *Sertularia*, on the strand at Portmarnock, in Dublin bay. It had for some time been undistinguished in our cabinet, among a parcel of the *Solen minutus*; and it is probable that it may in this manner have been overlooked by other collectors.

Fabricius,





Fabricius, in his *Fauna Groenlandica*, describes the *Mya arctica* as having two somewhat spinous ridges, which are mostly obsolete, and with the hinge obscurely toothed, a character sufficiently answering to our shell.

This species, the *Mytilus rugosus*, and many specimens of the *Solen minutus* where the spines are obliterated, so much resemble each other, that it is frequently very difficult to distinguish them without a close examination of the hinge. It may however be remarked, that the *Mya arctica* and the *Solen minutus* both slope abruptly immediately from the hinge, and are each furnished with a depression on the slope under the hinge; but that the oblique dorsal ridge of the *Mya arctica* extends to the front angle of the opposite side, whilst in the *Solen minutus* this ridge usually reaches about half way down the margin of the opposite side, dividing as it were that side into two compartments, and giving it an angular appearance, as is well represented in Montagu's figure of his *Mytilus præcisus*. The *Mytilus rugosus* differs from both, in not having the hinge close to the end, and in having that side rounded. *v. v.*

B. *The teeth locking into the opposite valve.* 18 to 24.

18. *Mya striata.* *Striated Gaper.*

*Linn. Trans.* xi. pl. 13. f. 1—A.

Shell oblong, with the back margin running nearly straight, very thin, semitransparent, finely striate longitudinally; the anterior end truncate, with the valves reflecting and forming a gape when the shell is closed; the posterior end rounded: beaks small, placed nearer the rounded end; inside white, with a slight metallic lustre: hinge with a single broad erect tooth in one valve, locking into a correspondent cavity in the other: length half an inch; breadth an inch.

Found by Mr. Lyons, in Tenby bay: rare.

19. *Mya Batava.* *Dutch Gaper.*

*Lister*, pl. 146. f. 1—*Wood*, pl. 19. f. 1, 2.

*Mya Pictorum.* *Donovan*, pl. 174.

Shell oblong-oval, rounded at both ends, olive green inclining to brown, darker at the longer end, transversely striate,

striate, perlaceous within: beaks nearer one end: hinge with a broad notched tooth in both valves, and two lateral plates in one valve and one in the other, all locking into one another: length sometimes nearly two inches, and four in breadth.

It differs from the next, in having both the ends rounded, and the beaks less prominent.

In the river Kennet: rare. v. v.

20. *Mya Pictorum*. *Painter's Gaper*.

*Lister*, pl. 147. f. 3—*Da Costa*, pl. 15. f. 4—*Pennant*, pl. 46. f. 1—*Wood*, pl. 19. f. 3, 4—*Dorset Cat.* pl. 12. f. 4.

*Mya ovalis*. *Donovan*, pl. 89.

Shell oblong-oval, produced and narrower at one end, covered with a dark green skin, which in old shells becomes nearly black, irregularly striate transversely, perlaceous within; when shut the valves are closed in front, but a little open at both ends: teeth as in the last species, and of about the same size.

Rapid rivers: rare. v. v.

21. *Mya ovata*. *Oval Gaper*.

*Lister*, pl. 147. f. 2—*Wood*, pl. 19. f. 5—*Donovan*, pl. 101, and 122.

Shell oval, very convex, thick and brittle, much rounded at one end, produced and very narrow at the other, irregularly and coarsely wrinkled transversely, with sometimes faint longitudinal rays, covered with a green skin which varies more or less to a dark-brown towards the margin, under which it is of a fine opalaceous white color; inside perlaceous: beaks rather prominent; teeth as in the two last, and nearly the same size; but it is narrower than *M. Batava*, and broader than *M. Pictorum*.

In rapid rivers. v. v.

22. *Mya margaritifera*. *Pearl Gaper*, Fig. 47.

*Lister*, pl. 149. f. 4—*Pennant*, pl. 46. f. 2—*Da Costa*, pl. 15. f. 3—*Donovan*, pl. 73—*Wood*, pl. 23. f. 1 to 3.

Shell oblong-oval, thick, strong, covered with a black-brown skin, rounded at one end and a little angular at the other where it is sloping and depressed from the beaks to the





the margin, irregularly striate transversely, a little contracted or indented opposite the hinge on the front margin: beaks much worn and rugged, appearing as if worm-eaten; inside perlaceous mixed with green, and often rough with pearly excrescences: hinge with a strong erect tooth in one valve, locking between a widely cloven one in the other: length nearly two inches, and four in breadth.

In rapid rivers. *v. v.*

23. *Mya inæqualis*. *Unequal Gaper.*

*Montagn*, pl. 26. f. 7—*Linn. Trans.* viii. pl. 1. f. 6—*Walker*, f. 85.

Shell somewhat triangular, produced on one side, strong, convex, opaque, covered with a brown skin, under which it is white with frequently a flesh-colored skin, the younger ones marked with pale or flesh-colored rays; one of the valves much larger, regularly striate transversely with a few deeper grooves, and folding over so as to receive the smaller one; the lesser valve obscurely striate transversely, with a few longitudinal raised lines: beaks prominent, gibbous; that of the larger valve turning over and meeting the other: hinge with a strong pointed recurved tooth in the larger valve, and a cavity; in the lesser valve is a spoon-shaped tooth projecting inwards, having a raised denticle at the posterior side, and a cavity, all locking into each other; inside smooth, polished at the edge: length about a quarter of an inch; breadth not half an inch.

Western coasts, Scotland, Dublin bay. *v. v.*

24. *Mya Glycymeris*. *Great Gaper.*

*Lister*, pl. 414. f. 258—*Donovan*, pl. 142—*Wood*, pl. 25. f. 1.

Shell large, coarse, lamellar, oblong-oval, irregular at the margin, open at both ends, with regular waved transverse ridges disposed like bands, and marked with fine striæ, obliquely truncate at the anterior end: color yellowish or ochraceous, whitish within: beaks nearly central, slightly indented both sides: hinge with a large thick tooth in one valve, besides a lesser one and a series of wrinkles, closing into a cavity in the other valve: length four or five inches; breadth eight or nine.

Mr.

Mr. Wood observes, that as this species seems to connect the Myæ with the Solenes, it is more properly placed at the end of the genus.

An imperfect specimen of this extremely rare shell was thrown up on the beach, at Teignmouth in Devonshire, in the summer of 1817. *v. m.*

## MYTILUS. MUSSEL.

Shell with two valves, generally fixed by a beard of silky filaments: hinge without teeth, but marked by a longitudinal groove which is sometimes finely notched.

1. *Mytilus Hirundo*. *Swallow-tail Mussel*. Fig. 7.

*Lister*, pl. 220. f. 55, and pl. 224. f. 59—*Barbut*, pl. 11. f. 8.

Shell flat, with two unequal lobes reaching obliquely on each side from the hinge; the posterior lobe smaller, somewhat triangular and ending in a point, and irregularly wrinkled longitudinally; the anterior lobe as long as the shell, transversely wrinkled towards the end, which is rather rounded, and at its junction with the shell marked with semicircular wrinkles: color glossy chesnut-brown with whitish longitudinal rays or stripes, deeper brown towards the margin, which is rounded and strongly wrinkled transversely; inside silvery white: hinge a very long straight groove, in consequence of the great extension of one of the lobes, and a minute obtuse tooth-like projection within opposite the beak, which is rather tumid and pointed but not extending beyond the margin: length five eighths of an inch; breadth nearly an inch, including the wings or lobes, which run parallel with each other in an oblique direction.

This very interesting addition to the British Conchology, we found on the sand bank between the Pigeon-house and the light-house, in Dublin bay, in the summer of 1815. *v. m.*

2. *Mytilus Morio*. *Black Mussel*.

*Avicula Morio*. *Leach*, *Zool. Miscell.* pl. 38. f. 2.

Shell resembling *M. Hirundo* in shape, but is of a black color



The following description is taken from the original report of the author, and is given in full to show the nature of the specimen, and to indicate the position of the object in the rock.

The object is a small, dark, irregularly shaped mass, about 1/2 inch in length, and 1/4 inch in width. It is composed of a material which is very hard, and which does not scratch with a steel pen-knife. The surface is smooth, and has a slight gloss. The color is a dark, almost black, and is uniform throughout. The object is embedded in a light-colored, fine-grained matrix, which is composed of a material which is very hard, and which does not scratch with a steel pen-knife. The matrix is composed of a material which is very hard, and which does not scratch with a steel pen-knife. The object is embedded in a light-colored, fine-grained matrix, which is composed of a material which is very hard, and which does not scratch with a steel pen-knife.

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color, more strongly striate transversely, and covered with a black-brown skin which folds into raised undulations radiating from the beak to the margin.

A specimen of this extremely rare shell was dredged up by Mr. Prideaux, in Plymouth-sound, among some coral-lines.

### 3. *Mytilus Crista Galli*. *Cockscomb Mussel*.

*Barbut*, pl. 11. f. 1, 2.

Shell compressed, rugged, varying in shape, armed with flat concave spines, and striate with raised dots, so as to be transversely rugged and strongly plaited longitudinally; the margin undulately plaited, with the convexities of one valve shutting into the concavities of the other: color ferruginous or dull purple, opaque; inside smooth, horn-color: lips both rough: hinge simple, linear, without teeth: length about two inches; breadth two and a quarter.

On the bottoms of ships. *v. v.*

### 4. *Mytilus edulis*. *Common Mussel*.

*Lister*, pl. 362. f. 200—*Pennant*, pl. 66. f. 2—*Da Costa*, pl. 15. f. 5, left hand fig.—*Linn. Trans.* vi. pl. 18. f. 13, 14—*Donovan*, pl. 128—*Dorset Cat.* pl. 12. f. 5, left hand fig.

Shell oblong, very convex, somewhat falcate or incurved at the thicker or posterior margin, produced into a small angle at the anterior side, and rounded at the front margin, nearly smooth, covered with a dark and rather polished skin, under which it is rich blue or radiate with blue and white: beaks pointed, close together, with the appearance of a prominent ridge on each side the margin down the posterior slope; inside whitish with a blue margin, and under the beak are several small tooth-like crenulations on the margin: length three inches; breadth one and a half.

Common, in vast beds. *v. v.*

### 5. *Mytilus incurvatus*. *Incurved Mussel*.

*Lister*, pl. 362. f. 201, 202—*Pennant*, pl. 67. f. 1—*Linn. Trans.* viii. pl. 3. f. 7.

Shell oblong-oval, convex, opaque, nearly smooth, of an unpolished greyish-blue color growing darker towards the sides and front margin, much incurved on the posterior side,

side, rounded or very slightly angular on the anterior margin, giving it a much more elongated appearance than the common Mussel, often variously distorted, with the front margin sometimes quite blunt or truncated : beaks pointed, slightly curved outwards, very remote from each other, and having the appearance of being each of them a little cloven at their tips ; inside glossy blueish-white with a broad dark blue margin, and without the crenate denticulations under the beaks : length an inch and a half ; breadth not an inch.

White, transparent. The very young shell.

*Mytilus striatus.* Walker, f. 75.

The natural history of this species, besides the marks already mentioned, leads us to consider it as very distinct from the last. They clothe, in prodigious masses, the sand-stone rocks in the south of Devon, and the schistose rocks in the west of Ireland, at low water, in which last place they are the food of Seals, Pelicans, and Gannets ; but we have never observed them attached to limestone. In the early stage of growth they are covered with a dark skin, and are more or less angular on the anterior side ; and it is not till they arrive at maturity that they put on the coarse grey appearance and incurvature by which they are so remarkably distinguished : they are also much more elongated in proportion to the breadth, and we have never been able to discover any traces of denticulation under the hinge. From the vast numbers which are so closely crowded together they seldom arrive at their full size : but at the point which separates the beach at Dawlish from the Warren, they may be gathered at low water in every stage of growth. v. v.

6. *Mytilus pellucidus.* *Transparent Mussel.*

*Pennant*, pl. 66. f. 3—*Donovan*, pl. 81.

Shell oval, thin, smooth, glossy, transparent, whitish or blueish covered with a yellow skin, radiate with deep blue or purple, not much incurved at the posterior side, but a little projecting at the other, broad and much rounded at the front margin ; inside glossy blueish-white, with dark blue rays : beaks pointed, with very small denticulations under them : length hardly two inches ; breadth about one.

Western coasts, and Dublin bay. v. v.

7. *Mytilus*





7. *Mytilus unguatus*. *Hoof Mussel*.

*Lister*, pl. 360. f. 199—*Donovan*, pl. 128. f. 2.

Shell oblong-oval, very convex thin and brittle, wrinkled transversely, of a greenish or blueish-black color, incurved at the posterior side and much produced at the anterior margin: beaks pointed, incurved, and diverging: hinge with from two to six teeth at the point, besides numerous crenulations on the groove: length four inches; breadth two or more.

Full-grown shells are very rarely found: but the young ones are covered with a pale oil-green skin, with longitudinal or transverse reddish zigzag lines or blotches, especially on the angular side, and sometimes there is a narrow straight black or brown stripe or two from the beak down the anterior side; the posterior margin is also straight, with a gibbosity in the middle: these are not uncommon on the Devonshire coasts. *v. v.*

8. *Mytilus Modiolus*. *Smooth Mussel*.

*Lister*, pl. 359. f. 198, and pl. 1057. f. 5—*Donovan*, pl. 23—*Da Costa*, pl. 15. f. 5, right hand fig.—*Dorset Cat.* pl. 12. fig. 5, right hand fig.

Shell oblong-oval, thick, very convex towards the hinge, covered with a purplish black skin, under which it is white often mixed with flesh-color, strongly wrinkled transversely, nearly straight on the posterior side, and very little angular on the other, perlaceous within: beaks very obtuse, a little turned to one side, placed laterally, in consequence of which there is a gibbosity formed by the protrusion of the posterior margin, and a slight notch, as in those of the *M. incurvatus*: hinge without teeth or denticulations: length from four to six inches; breadth half as much.

Maton and Rackett, and consequently Mr. Dillwyn, have quoted the two figures 5, in *Da Costa's* fifteenth plate, indiscriminately both for this species and the *M. edulis*, although *Da Costa* has pointed out their distinct references. And Mr. Rackett, in his *Dorset Catalogue*, supposing them to be the same, has omitted the reference to this species from his own plate.

*Variety A.* Contracted into a deep intorted rugged cavity below the hinge on the posterior side.

*Mytilus umbilicatus.* Pennant, pl. 68—Donovan, pl. 40.

Plentifully on the beach at Cove, in Ireland, always solitary, and under rocks and stones, never found in beds nor attached by a beard. *v. v.*

*Variety B.* Covered with a rusty yellow glossy skin, very thin, clothed with a thick beard about the lower margin, especially on the anterior side, the foliations of which are plain or not serrate on either side. *v. v.*

*Mytilus barbatus.* Pennant, pl. 67. f. 2—Donovan, pl. 70.

*Variety C.* Flatter and more angular on the anterior side, covered with a chesnut-brown skin, clothed almost entirely with a viscid beard, the foliations of which are ensiform and regularly serrate down one side only. *v. v.*

*Mytilus Gibsii.* Leach, *Nat. Miscell.* pl. 72. f. 2.

9. *Mytilus discors.* *Pectinated Mussel.*

*Da Costa*, pl. 17. f. 1—*Donovan*, pl. 25—*Linn. Trans.* viii. pl. 3. f. 3—*Dorset Cat.* pl. 2. f. 1.

Shell oblong-oval, very convex, transparent, covered with a light-brown skin, under which it is whitish stained with pale pink, produced and narrower at the anterior end, faintly wrinkled transversely, with regular longitudinal ribs on both sides, leaving the middle space with only the faint transverse striæ: beaks large, prominent, much turned to one side; inside perlaceous with the ribs visible; the margin slightly toothed by the ribs at the sides: length half an inch; breadth three eighths.

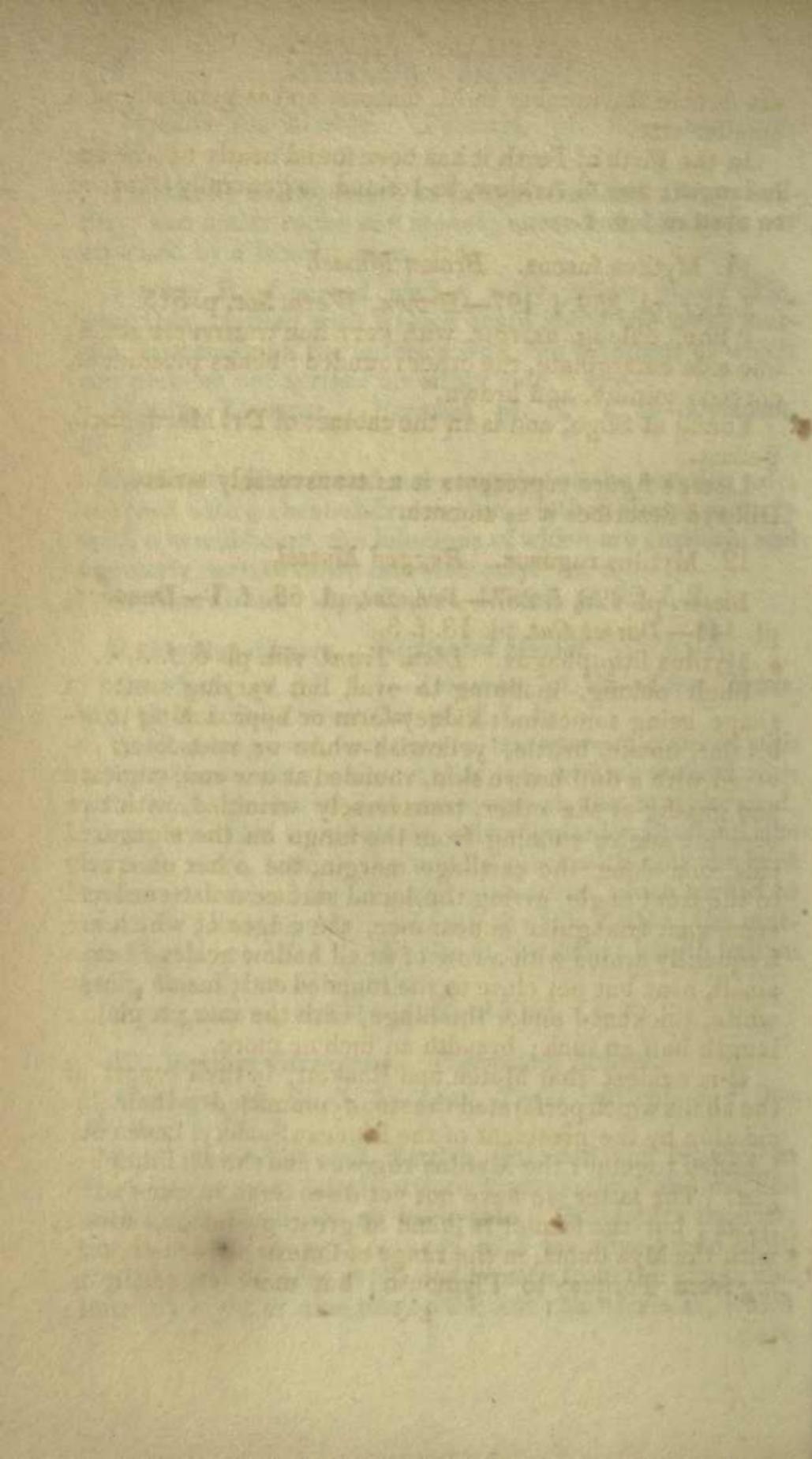
Sandy shores, and the stalks of Fuci. *v. v.*

10. *Mytilus discrepans.* *Discordant Mussel.*

*Montagu*, pl. 26. f. 4—*Linn. Trans.* viii. pl. 3. f. 9—*Walker*, f. 79.

Shell somewhat oval, flattish, rounded and broader at the anterior end, faintly striate transversely, and marked with longitudinal ribs on each side. Resembles the last, but is not so convex, covered with an olive-green skin, rounder and broader at the end remote from the hinge, and has only eight or nine ribs on the side near the beak, which are

Percussor Cove



are double the number in *M. discors*, and is generally of a smaller size.

In the Firth of Forth it has been found nearly two inches in length; and at Arklow, in Ireland, is generally attached to oysters. *v. v.*

11. *Mytilus fuscus*. *Brown Mussel*.

*Lister*, pl. 359. f. 197—*Brown, Wern. Soc.* p. 515.

“Shell oblong, narrow, with very fine transverse striæ; one side emarginate, the other rounded: beaks prominent, curved: minute, and brown.”

Found at Sligo, and is in the cabinet of Dr. Macdonnell, Belfast.

*Lister's* figure represents it as transversely striate, Mr. Dillwyn describes it as smooth.

12. *Mytilus rugosus*. *Rugged Mussel*.

*Lister*, pl. 426. f. 267—*Pennant*, pl. 66. f. 1—*Donovan*, pl. 141—*Dorset Cat.* pl. 13. f. 5.

*Mytilus lithophagus*. *Linn. Trans.* viii. pl. 6. f. 3, 4.

Shell oblong, inclining to oval, but varying much in shape, being sometimes kidney-form or approaching to orbicular, opaque, brittle, yellowish-white or rust-color, covered with a dull brown skin, rounded at one end, truncate and gaping at the other, transversely wrinkled, with two obsolete angles running from the hinge on the elongated side, one along the cartilage margin, the other obliquely to the front angle, giving the dorsal surface a flattened and somewhat triangular appearance, the ridges of which are frequently armed with a row of small hollow scales: beaks small, near but not close to the rounded end; inside glossy white, thickened under the hinge, with the margin plain: length half an inch; breadth an inch or more.

It is evident that Maton and Rackett, in their report of the shells which perforated the stone committed to their elucidation by the president of the Linnean Society, have confounded together the *Mytilus rugosus* and the *M. lithophagus*. The latter we have not yet discovered in our native rocks; but the former is found in great profusion, mixed with the *Mya dubia*, in the range of limestone rocks reaching from Torquay to Plymouth; but more especially in

those large detached masses which are scattered under the cliff at Torquay, near the entrance to the strand from the Tor-abbey fields. The *Mytilus lithophagus*, independently of the transverse striæ which cross the concentric ones on the cartilage side, is very convex and rounded on the back, giving the shell a somewhat cylindrical appearance when the valves are closed; the beaks are also terminal and somewhat pointed, like those of the *M. Modiolus*, with the opposite extremity rounded. Mr. Dillwyn has referred Lister's figure (which is an excellent one, and marked as English,) to the *Solen minutus*, which is truncate at the hinge end. Those which we have collected from among the roots of *Fuci* and *Sertulariæ*, are much more irregular in their figure, but all sufficiently retaining their specific marks. *v. v.*

13. *Mytilus plicatus*. *Plaited Mussel*.

*Chemn. Conch.* viii. pl. 82. f. 733. a, b.

Shell oblong, very thin, transparent, dirty white, uneven on the surface, slightly plaited and irregularly wrinkled transversely, rounded on the side next the hinge, angular and dilated on the other, causing it to be a little larger, where it gapes; inside glossy, rather perlaceous: hinge near the rounded and smaller end: beaks small, a little incurved: length not half an inch; breadth double its length.

Isle of Sky, and Dublin bay: rare. *v. m.*

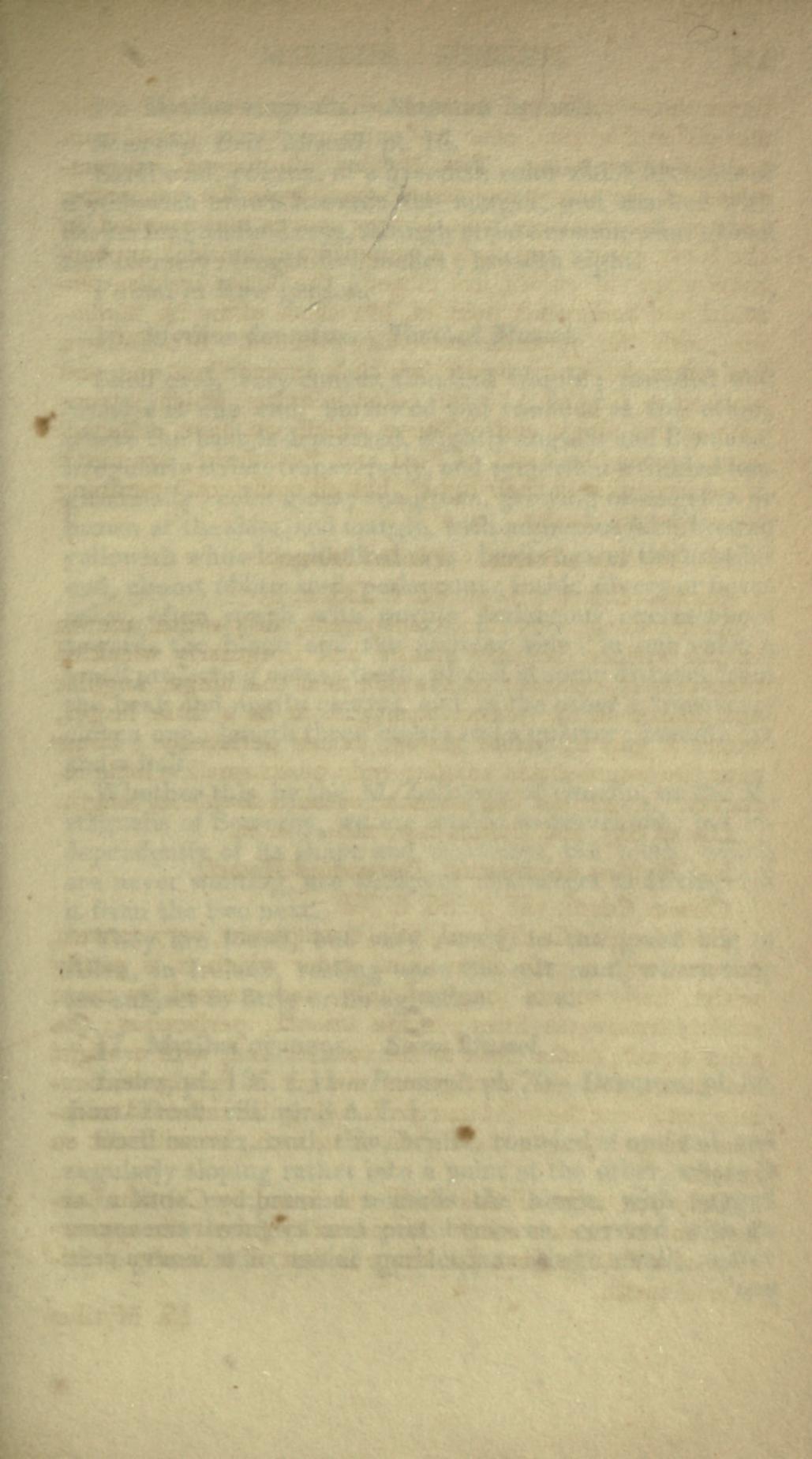
14. *Mytilus decussatus*. *Decussated Mussel*.

*Chemn. Conch.* viii. pl. 85. f. 761.

Shell longitudinally oval, thin, transparent, very convex, covered with a pale olive skin, under which it is pearly white, finely striate longitudinally, and crossed by more minute transverse lines; inside smooth, perlaceous; the sides equal; beaks close to the smaller end, with a slight indenture, and the contiguous margin is faintly denticulate; and near the front margin is a singular reflected transverse ridge: length the eighth of an inch; breadth not so much.

Only one valve of this shell was found by Captain Laskey, on the Scotch coast: its convexity gave it the appearance of a *Patella*; but the hinge is that of a bivalve destitute of teeth.

15. *Mytilus*





15. *Mytilus stagnalis*. *Stagnant Mussel*.

*Sowerby, Brit. Miscell.* pl. 16.

Shell oval, convex, of a greenish color which becomes of a yellowish brown towards the margin, and marked with darker longitudinal rays, strongly striate or somewhat ribbed transversely: length five inches; breadth eight.

Found in Kew garden.

16. *Mytilus dentatus*. *Toothed Mussel*.

Shell oval, very convex thin and fragile; rounded and broader at one end, narrowed and rounded at the other, where the back is depressed, slightly angular and flexuous, irregularly striate transversely, and somewhat wrinkled longitudinally: color glossy sea-green, growing olive-green or brown at the sides and margin, with numerous faint broken yellowish white longitudinal rays: beaks nearer the broader end, almost obliterated, perlaceous; inside silvery or fawn-color, often rough with purple perlaceous excrescences towards the hinge and the angular side: in one valve a small projecting obtuse tooth, placed at some distance from the beak and nearly central, and in the other a transverse cloven one: length three inches and a quarter; breadth six and a half.

Whether this be the *M. Zellensis* of Gmelin, or the *M. stagnalis* of Sowerby, we are unable to determine: but independently of its shape and markings, the teeth, which are never wanting, are sufficient characters to distinguish it from the two next.

They are found, but very rarely, in the great bog of Allen, in Ireland, resting upon the soft mud, where they are subject to little or no agitation. *v. v.*

17. *Mytilus cygneus*. *Swan Mussel*.

*Lister*, pl. 156. f. 11—*Pennant*, pl. 70—*Donovan*, pl. 55. *Linn. Trans.* viii. pl. 3 A. f. 1.

Shell convex, oval, thin, brittle, rounded at one end, and regularly sloping rather into a point at the other, where it is a little compressed towards the hinge, with rugged transverse wrinkles and protuberances, covered with an olive-green skin; inside perlaceous: hinge small, nearer

one end : length two inches and a half ; breadth five or six.

In deep rivers and ponds. *v. v.*

18. *Mytilus anatinus*. *Duck Mussel*.

*Lister*, pl. 153. f. 8—*Pennant*, pl. 71—*Da Costa*, pl. 15. f. 2—*Donovan*, pl. 113—*Linn. Trans.* viii. pl. 3 A. f. 2—*Dorset Cat.* pl. 12. f. 2, and pl. 13. f. 6.

Shell oval, thin, deep green or blackish ; the cartilage margin running straight, and then sloping suddenly and obliquely, forming a pointed angle about half way down ; inside perlaceous : beaks more or less decorticated, and the front margin terminating in a membranaceous skin : length two inches ; breadth hardly three.

It differs from the last, in size, in the projecting angle on one side, and in the beaks, which are more or less decorticated.

*Variety*. Thicker, more ponderous and rough, more angular on the cartilage side, and a little contracted in front.

*Linn. Trans.* viii. pl. 3 A. f. 3.

It is evident that Maton and Rackett have misunderstood these two species, by inverting the references to their own plates. *Da Costa* properly observes that this last species differs "in being only about half the size, rather more compressed and oblong, and that the cartilage or lengthened side extends or runs in a straight line to an acute angle, like a fin, and thence continues down the side in an oblique line, till near the bottom, where it is rounded."

*Pennant* and *Dillwyn*, in copying from them, have fallen into the same error.

In ponds and deep rivers. *v. v.*

19. *Mytilus Avonensis*. *Avon Mussel*.

*Linn. Trans.* viii. pl. 3 A. f. 4—*Lister*, pl. 154. f. 9?

Shell somewhat oval, thin, olive-brown, with transverse wrinkles. Resembles the last, but is broader in proportion to its length, not so much produced at the hinge, the cartilage side more rounded and less angular, and the front margin runs nearly straight or is very slightly arched, particularly towards the smaller end.

In the Avon, Wiltshire : rare. *v. m.*

NAUTILUS.





## NAUTILUS.

Shell with a single valve, consisting of compartments or cells, communicating with each other by means of a small perforation or tube.

A. *With the spires detached.* 1.

B. *With the spires connected.* 2 to 12.

C. *Elongated, and more or less straight.* 13 to 24.

1. *Nautilus Spirula.* *Crosier Nautilus.* Fig. 77.

*Lister*, pl. 550. f. 2.

Shell spiral, extremely thin and brittle, transparent, white or cream-color: spires five, cylindrical, detached from each other, divided into numerous chambers at nearly equal distances, which are distinguished by a depressed circular line on the outside; the primary volution running nearly straight and very remote from the next; the remaining ones growing gradually less and closely involuted but not touching each other; the line of junction also becomes gradually deeper towards the smaller end, giving the different divisions a more rounded appearance, till the terminal ones appear somewhat globular: aperture orbicular, perlaceous within, the chambers separated by thin pearly plates, with a small tube of communication which is placed near one side: diameter nearly an inch; of the larger volution nearly a quarter of an inch.

Two specimens of this interesting addition to our native stock, were found on the strand between Kenmare harbour and Ballyskelligs bay, in the county of Kerry, Ireland, by our intelligent and much respected friend, Mr. O'Kelly of Dublin, in the summer of 1817; where, as he observes, the waves of the Atlantic come unbroken from the shores of America; and where he also found at the same time, the *Helix ianthina* with the animal in it, and the rare *Lepas sulcata*. *v. m.*

B. *With the spires connected.* 2 to 12.

2. *Nautilus lacustris.* *Fresh-water Nautilus.*

*Montagu*, pl. 6. f. 3—*Wulker*, f. 28.

Shell horn-color or rufous-brown, smooth, glossy, transparent,

parent, flattish, convex on the upper-side, concave and deeply perforated underneath, with a slight keel-like ridge: spires four, bordered on the outside with a whitish opaque stripe running spirally to the centre: on the first volution are three compartments, nearly at equal distances from each other, the lines of junction appearing like white curved stripes radiating from the centre, the first of them placed distant from the aperture, which is narrow, somewhat heart-shaped, and clasping the spire on both sides: diameter hardly a quarter of an inch.

On aquatic plants. *v. v.*

### 3. *Nautilus rotatus.* *Star Nautilus.*

*Nautilus Calcar.* *Montagu*, pl. 15. f. 4—*Walker*, f. 66.

Shell smooth, equally convex on both sides, rather more raised in the middle, with a strong ridge on the back, which is entire: joints six, marked by elevated flexuous lines radiating from the centre like a star, but not quite reaching to the outer margin: aperture half heart-shaped, clasping the body equally on both sides, furnished with a small perforation: minute.

On shells, corallines, and other substances. *v. v.*

### 4. *Nautilus lævigatulus.* *Smooth Nautilus.*

*Montagu*, pl. 18. f. 7, 8—*Walker*, f. 67.

Shell smooth, opaque, pale rusty-brown, considerably and equally convex on both sides, declining to a rounded margined edge, but not perfectly forming a keel-like ridge: joints about ten, marked by flexuous rather raised lines, which emanate from the margin and are rather of a deeper color: aperture surrounded by a rim, forming a triangle, and not attached to the body: minute.

In fine and drifted sand. *v. m.*

### 5. *Nautilus depressulus.* *Depressed Nautilus.*

*Montagu*, pl. 18. f. 9—*Walker*, f. 68.

Shell glossy-white, semitransparent, flat, equal on both sides and without any prominent ridge: joints about nine, marked by opaque curved lines radiating from the centre, where there is a small transparent spot, and the curved lines





lines are not visibly raised : aperture half heart-shaped, very little clasping the body at the sides : minute.

In fine and drifted sand : *v. m.*

6. *Nautilus umbilicatus*. *Perforated Nautilus*.

*Montagu*, pl. 18. f. 1—*Walker*, f. 69.

Shell white, semitransparent, flat, perforated on both sides : joints nine or ten, raised and rather rounded, marked by radiating lines which are depressed : aperture clasping the body nearly equally on both sides : minute.

In fine and drifted sand. *v. m.*

7. *Nautilus crassulus*. *Thick Nautilus*.

*Montagu*, pl. 18. f. 2—*Walker*, f. 70.

Shell strong, flat, opaque, pale brown, with a deep perforation on both sides : joints numerous, close together, and raised above the line of separation : aperture a little oblique, hardly clasping the body, furnished with a syphon : minute.

In fine sand. *v. m.*

8. *Nautilus crispus*. *Crimpled Nautilus*.

*Montagu*, pl. 18. f. 5—*Dorset Cat.* pl. 19. f. 29—*Walker*, f. 65.

Shell white, opaque, perforated both sides, with a keel-like ridge on the outer edge : joints about twenty on the larger volution, flexuous and crenate, and marked by raised lines : aperture half heart-shaped, clasping the body, furnished with a small central syphon.

In fine sand. *v. m.*

9. *Nautilus Beccarii*. *Twisted Nautilus*.

*Montagu*, pl. 18. f. 4—*Dorset Cat.* pl. 19. f. 28—*Walker*, f. 63.

Shell transparent, white or covered with a brown skin, crimson when the inhabitant is alive, convex on one side and flat on the other : spires four or five, twisted, with ten joints in the first which are deeply grooved : aperture oval : minute.

*Variety*. With the spires reversed.

*Montagu*, pl. 18. f. 6—*Walker*, f. 64.

On oysters, and sea weeds. *v. v.*

10. *Nautilus*

10. *Nautilus inflatus*. *Inflated Nautilus*.*Montagu*, pl. 18. f. 3.

Shell brown, opaque, with three volutions; in the first are five joints which are exceedingly tumid and rounded, and so deeply divided as to appear like lobes; the anterior end or aperture somewhat globular: minute.

In fine sand. *v. m.*11. *Nautilus lobatulus*. *Lobed Nautilus*.

*Serpula lobata*. *Montagu*, p. 515, and *Suppl.* p. 160—*Walker*, f. 71.

Shell compressed, white or yellowish, with a frosted appearance when much magnified, roundish or inclining to oblong, convex above and flat beneath: on the first volution are six or seven lobed joints, separated by faint crescent-shaped lines: aperture extremely small: minute.

Attached to Zoophytes. *v. m.*12. *Nautilus dissimilis*. *Discordant Nautilus*.*Serpula concamerata*. *Montagu*, *Suppl.* p. 160.

Shell white, semitransparent, a little convex above and flat beneath: spires three, irregular, with numerous dissimilar joints; on the outer volution are about nine, which are glossy and tumid, of unequal size, but generally alternately a larger and a smaller one. It differs from the last in possessing much more numerous and infinitely more minute joints, which are smooth and glossy but not of that frosted appearance which always accompanies the last: minute.

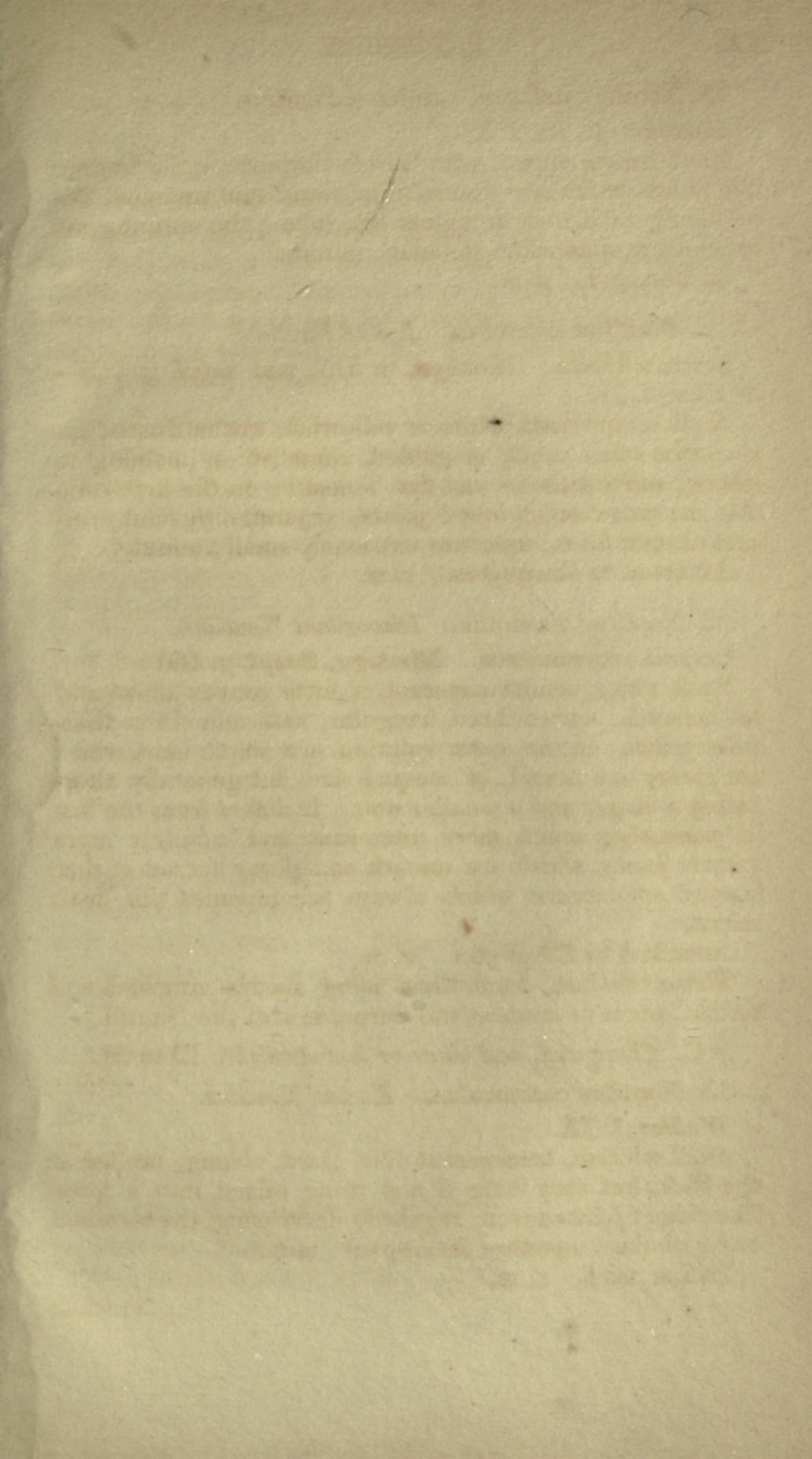
Attached to Zoophytes. *v. m.*

These two last, from their being always attached and sessile, seem to connect the *Serpulæ* with the *Nautili*.

C. *Elongated, and more or less straight.* 13 to 24.13. *Nautilus carinatulus*. *Keeled Nautilus*.*Walker*, f. 72.

Shell whitish, transparent like glass, oblong, arched at the back, but very little if any thing raised into a keel-like ridge: joints seven, regularly decreasing, the terminal one globular: aperture linear-oval: minute.

In fine sand. *v. m.*14. *Nautilus*











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