

THE
CABINET CYCLOPÆDIA.

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Natural History.

A
TREATISE ON MALACOLOGY,
OR
SHELLS AND SHELL-FISH.

BY
WILLIAM SWAINSON, A.C.G. F.R.S. & L.S.
HON. F.C.P.S. ETC., AND OF SEVERAL FOREIGN SOCIETIES.

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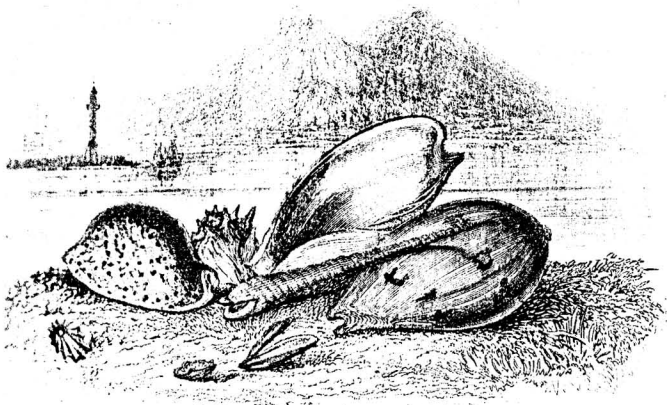
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LONGMAN, ORME, BROWN, GREEN, & LONGMANS,
PATERNOSTER-ROW;
AND JOHN TAYLOR,
UPPER GOWER STREET.

1840.

(A)
TREATISE
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OR THE NATURAL CLASSIFICATION
(OF SHELLS AND) SHELL-FISH.

By William Swainson, F.R.S. & F.L.S. &c. &c.



F. Swainson del.

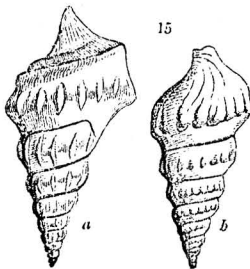
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rhais, and the only example yet known is the *pes-pellicani*, or pelican's-foot strombus. That it has a close affinity to *Rostellaria columbata* is evident from the outer lip being dilated; but then it has four lobes, or rather flattened and digitated processes, something similar to *Pteroceras chiragra*; and it deserves attention, that these are the only two in the family which have the basal channel assuming precisely the form, size, and structure of the other processes of the outer lip: on the other hand, it has no distinct lobe at the base, its margin is not inflected, and the upper part advances upon the first spiral whorls;—in all which it shows an affinity to *Rostellaria*. In its young state, however, (*fig. 15.a*) it



has quite a different appearance; for its form is then so much like that of a young *Cerithium* (*b*), that none but a scientific observer could detect the difference. Equally related in this manner to three different genera, we look upon this type as connected to *Rostellaria* on one side, *Pterocera* on another, and to the *Cerithinae* on a third.

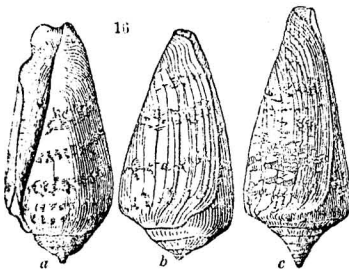
All these affinities are more peculiarly apparent in its three different stages of growth; so that, when quite young, it is a *Cerithium*; when the outer lip is half expanded, it is a *Rostellaria*; and, in adult age, it puts on the very aspect of a *Pterocera*. Here we close our evidence on the affinities and natural arrangement of this family.

(132.) Having now gone through the *affinities*, we turn to the *analogies* of the *Strombinae*. They are obviously the typical division of the whole family; and, as such, should represent within their own circle all the other divisions: this will be apparent in the following table:—

Analogies of the Genera of the STROMBINÆ.

Genera of STROMBINÆ.	Analogies.	Sub-families of the STROMBIDÆ.
<i>Pterocera.</i>	Outer lip greatly dilated, and lobed.	STROMBINÆ.
<i>Strombus.</i>	{ Outer lip detached above, and entire.	} CONINÆ.
<i>Strombidea.</i>	{ Outer lip not detached, but gibbous; the lips thickened, and generally striated.	} COLUMBELLINÆ.
<i>Rostellaria.</i>	Shell long, slender, fusiform.	PLEUROTOMINÆ.
<i>Aporrhais.</i>	{ Shell club-shaped when young; the channel very short, and twisted on one side.	} CERITHINÆ.

These variations take place in precisely the same order as that in which the relations of affinity occur; for each of these columns is a circular group,—the genus *Aporrhais* being as much connected to *Pterocera* as to *Rostellaria*. Turning to the other group, we perceive the very same affinity between *Cerithium* and *Strombus*, through the medium of *Aporrhais*, as between *Cerithium* and *Pleurotoma*. The resemblance between *Strombidea* and the typical *Columbellinæ*, again, cannot be mistaken; for the outer lip of both forms a sort of angle or gibbosity, altogether peculiar to these two groups. This remarkable thickening, in short, of the lips in *Strombidea*, renders the genus a prototype of the *Columbellinæ*, as



well as of the *Margarinellinæ*. *Rostellaria* and the *Pleurotominae* are the only fusiform groups in the whole family; while the likeness of a young *Aporrhais* to the *Cerithinæ* need not be dwelt upon. The

resemblance between such shells as *Strombus Luhuanus* (fig. 16. a), when young (b), and *Conus amadis* (c), and others, is so great, that an unpractised eye can hardly tell the difference.

(133.) Our next comparison will be between the types of form in the genus *Pterocera*, and the genera of the *Strombinae*.

Analogy of the Types of Form in the Genus PTEROCERA.

Types of PTEROCERA.	Analogic [^]	Genera of STROMBINÆ.
<i>Lambis.</i>	Basal canal greatly lengthened.	PTEROCERA.
<i>Millipeda.</i>	Basal canal short.	STROMBUS.
<i>Sinuata.</i>	{ Outer lip thickened, and inflected inwards; basal canal truncate. }	STROMBIDEA.
<i>Latissimus.</i>	{ Outer lip extending to the apex of the spire, and entire. }	ROSTELLARIA.
<i>Chiragra.</i>	{ Canal resembling the digitated processes of the lip, and turned on one side. }	APORRHAIIS.

In such small groups as these, we cannot expect the analogies to be very strong; a faint resemblance is all that exists—and all, indeed, that is necessary. Yet it is remarkable how perfectly *P. latissimus* corresponds to the *Rostellaria macroptera* in its excessively large outer lip, which, in both shells, runs up to the top, and even spreads far beyond the apex of the spire.

(134.) The analogies of the genus *Strombus* are numerous, and, in some measure, too complicated to be here introduced: it will be sufficient to remark, that, besides the five leading divisions or types of form, there may be discerned indications of another set of *secondary* types; so, that, if such groups were better understood (as no doubt they will be hereafter), some of them may be found to contain representations of the primary genera of the *Strombinae*, no less than of its leading divisions. The time, however, is not yet come for such an elaborate study of analogies as this implies; and we shall, therefore, merely place before our readers the five divisions of the genus, which, as already specified, seem to be represented by the five following shells:—*Strombus Auris-Dianæ*, *gigas*, *lentiginosus*, *gibberulus*, and *succinctus*. All these are among the most common species,

and, as such, may be readily procured by every student who feels interested in these inquiries.

Analogies of Types of the Genus STROMBUS.

Species of <i>Strombus.</i>	<i>Analogies.</i>	Divisions of the <i>Strombinae.</i>
<i>S. Auris-Dianæ.</i>	{ Channel bent ; inner lip spread- ing on the spire. }	APORRHAIIS.
<i>gigas.</i>	Outer lip reflected, entire.	STROMBUS.
<i>lentiginosus.</i>	{ Outer lip inflected, divided above ; basal lobe toothed. }	PTEROCERA.
<i>gibberulus.</i>	{ Outer lip slightly or not at all expanded. }	STROMBIDEA.
<i>succinctus.</i>	{ A long siphon running up the spire. }	ROSTELLARIA.

By arranging the intermediate species between each of these types, the whole would exhibit another set of relations, as well as a series of connecting links ; thus *Auris-Dianæ* is followed by a little group composed of *tricornis*, *gallus*, and *Peruvianus*, which connect the former shell with *S. gigas* : but the student, after these hints, will find no great difficulty in following up the theory himself.

(135.) The next genus, *Rostellaria*, is particularly interesting to the lover of analogies, inasmuch as all the types are not only existing, but are of that definite character which leaves no doubt of their true import.

Analogies of the ROSTELLARIE.

Species of <i>Rostellaria.</i>	<i>Analogies.</i>	Genera of <i>Strombinae.</i>
<i>Serrata Sw.*</i>	{ Outer lip reaching to the tip of the spire, and divided into pro- cesses. }	PTEROCERA.
<i>Macroptera.</i>	Outer lip very large, and entire.	STROMBUS.
<i>Columbata.</i>	{ Outer lip hardly attached to the spire, and dilated into a lobe. }	APORRHAIIS.
<i>Rectirostris.</i>	{ Outer lip not dilated at the top, and not extending on the spire. }	STROMBIDEA.
<i>Fissurella.</i>	{ Outer lip hardly dilated, but the siphon ascending to the apex of the spire ; the margin with- out teeth-like processes. }	ROSTELLARIA.

* Figured in Chemnitz, pl. 195 A. fig. 1869.

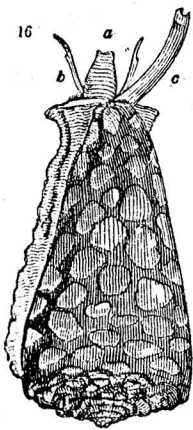
It thus appears that each type of the *Rostellariæ*, as arranged according to their *affinities*, turns out to be a representation of one of the genera of the *Strombinae*: and these analogies are so perfect, that it appears to us absolutely impossible they could be more complete—at least, in regard to the shells; although they would be even more beautiful, when accompanied by a corresponding relation in the animals. *R. rectirostris* is the fourth type, and not the common *curvirostris*; because this latter is intermediate in structure between the former and *R. fissurella*.

(136.) We feel persuaded, that if the concluding volumes of the elaborate work of Lamarck had not been finished “under the eyes of another,” because their celebrated author had become blind, we never should have seen our *Rostellaria cancellata* and *canalis* placed in his genus *Strombus*. No species, in fact, either of *Strombus* or of *Pterocera*, so far as we know, occur in a fossil state. It appears hardly necessary, in so limited a group, to impose sub-generic names of these types; for if one is named, all should be so. Such designations are not necessary to facilitate research, when the whole genus contains not more than, perhaps, a dozen species. With the mitres, the cones, and the land snails, &c., the case is very different: such groups contain hundreds of species; and by designating their sub-genera under patronymic names, most material help is afforded, in all ways, to minute research, or to general views.

(137.) The connection of the CONINÆ, or cones, with the *Strombinae*, is effected by our new genus *Strombidea* in the latter, and *Terebellum* in the former. The affinities of these two genera we pointed out many years ago, by the publication of a shell which actually unites the characters of both*; and Lamarck entertains no doubt of the close connection of *Terebellum* to *Conus*. *Terebellum*, in short, merely represents the olives in this circle, without having any real affinity with them; but

* *Strombus dubius*. See Taylor's Phil. Mag. 61. No. 301. May, 1823. This will now be our *Strombidea dubia*. Specimens are in the rich collection of Mr. Stanford.

of their animals, nothing, we believe, is yet known. The true cones, from their beauty, are the favourite shells of conchologists. Nearly all are natives of tropical climates, where they constitute one of the most extensive races of the carnivorous shell-fish. The mouth



is a short proboscis (*fig. 16. a*), which in one genus (*Coronaxis* Sw.) has the margin simply circular, while in the other (*Conus* Linn.) it is lacinated, or divided into a circular fringe of little points, analogous to the lips of the *Trochida*. In both these genera, the tentacula (*b*) are short, cylindrical, and nearly obtuse, with the eyes small, and but slightly developed, placed half way on their external side: the foot is small, rather broad, truncate in front, and rounded behind, where it bears a small oblong operculum, sufficient only to close the detached part of the top of the outer lip. The respiratory siphon (*c*) is well developed, but its form seems to vary in the sub-genera: in some, it is thickest at the base (as in *C. bandanus**); in others (*C. arenatus*), it is uniformly cylindrical.† Lamarck describes no less than 181 species, besides nine fossil; but we question if there are not more than 230, or perhaps 250, species already in collections. Such an immense assemblage of mere species, as they now stand, fully justifies us in giving patronymic names to the sub-genera, and arranging them in distinct groups; a plan long ago recommended ‡, but never yet acted upon. By separating the coronated from the smooth species, nothing material is gained; for although they constitute, in reality, two genera, the internal relations subsisting between them are passed over; and these, in our opinion,

* Voy. d'Astrolabe, pl. 52. fig. 7., here copied *fig. 16.*

† Ibid. pl. 52. fig. 8.

‡ Sow. Genera of Shells, article *Conus.*

are the most important object to be illustrated ; while the mere collector has no additional help to the nomenclature of the species, more than he now has. Long and procrastinated attention to these beautiful shells, together with the invaluable delineations of their animals by M. Quoy, has now enabled us to give the following exposition of the genera and sub-genera.*

Analogies and Characters of the Sub-genera of CONUS and CORONAXIS.

CONUS. Types of the Sub- genera. <i>Shell not coronated.</i>	<i>Characters of each.</i>	CORONAXIS. Types of the Sub- genera. <i>Shell coronated.</i>
<i>C. litteratus.</i> virgo. generales.	{ Shell ponderous ; basal whorl not contracted near the suture ; spire in general flattened. }	} <i>Bandanus</i> marmoratus.
<i>striatus.</i> stercus-muscarum. ammeralis.		
<i>bullata.</i> textile. auratus. aulicus.	{ Shell ponderous ; basal whorl contracted near the suture ; spire short, pointed. }	} <i>Arenatus</i> cedo-nulli.
<i>nussatella.</i> glans. terebra.		
<i>amadis.</i> grandis. duplicatus. australis.	{ Shell light ; basal whorl ventricose ; aperture effuse ; the base hardly notched ; spire short, pointed, concave. }	} <i>Tulipa.</i>
	{ Shell sub-conic, cylindrical, transversely grooved ; spire elevated, thick, convex, generally obtuse. }	} <i>Asper?</i>
	{ Shell conic, light, often transversely striated ; spire concave, elevated, and pointed ; outer lip deeply sinuated above. }	} <i>Antediluvianum.</i>

This, perhaps, is one of the most remarkable instances of analogy yet brought before the reader ; inasmuch as the characters used as analogies are those only by which the shells of each group, or sub-genus, of *Conus* and *Coronaxis*, can be defined. Nothing additional, in fact, can be added to separate, for instance, the sub-genus of *Conus*, whose type is *C. litteratus*, from its representative, *C. marmoratus*, in the genus *Coronaxis* : so perfect are these resemblances, that we do not actually know where the two groups join and unite. As to the circularity of each, there cannot, we apprehend, be the least doubt ; for the intervening shades of difference are so gentle, that we hardly know where one type ends,

* The names of the types are in *Italic* ; those of the annexant species in Roman.

and the next begins.* Such only are natural and perfect groups: they are the delight of the philosophic naturalist, and the torment of the mere nomenclator. As *Conus* is the most numerous in species, so it is the most perfect in these gradations, by which its five sub-genera are blended into one circle. The superior heaviness which belongs to the two typical divisions in each, is very singular, and may, probably, be owing to the internal volutions of their shells not being so much absorbed as in the other types: a simple section, however, will, no doubt, explain the cause.

(138.) Whether *Conus dormitor*, and other fossil species, really constitute the analogous genus in this circle to the *Pleurotomæ*, cannot be determined, as no recent species, that we know of, have been discovered: we shall, however, regard them in this light under the generic name of *Conorbis*. The only remaining genus is that of *Conella*, hitherto overlooked among the diversified shells placed in *Columbella* by Lamarck, where they continue to the present day. They are all very small, and perfectly resemble Cones in their shape; but they may be easily known by the outer lip, which advances upwards on the spire, and is marked internally by distinct elevated striæ. This is a most interesting group; for it not only connects this and the succeeding sub-family of *Columbellinæ* in the most satisfactory manner, but, at the same time, it preserves an affinity, on the other hand, to *Conorbis*.

(139.) The CONINÆ, thus arranged, form themselves into the five following genera, analogous to the primary divisions of the *Strombidæ*. The genus *Conella* (fig. 17. a.) connects this and the last sub-family.

* There is one rule, however, which we have found quite sufficient for this purpose. If, of three characters of a given type, a species possesses only one, and that but slightly developed, the probability is, that it really belongs to the next type; or the question may be decided by the law of representation. Every natural and perfect group, of whatsoever value, contains representations of all the other four groups of its own value in that circle which unites them all. Thus, it will not be difficult for the naturalist to discover, in that sub-genus which includes *Conus striatus*, representations (among the species) of all the other four.

Analogies of the CONINÆ, or Cones.

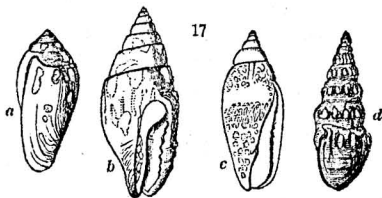
Genera of the CONINÆ.	<i>Analogies.</i>	Sub-families of STROMBINÆ.
CONUS.	Spire short, smooth. Typical.	CONINÆ.
CORONAXIS.	Spire coronated or nodulous.	STROMBINÆ.
TEREBELLUM.	?	CERITHINÆ.
CONORDIS.	{ A deep sinus or cleft at the top of the outer lip. }	PLEUROTOMINÆ.
CONELLA.		COLUMBELLINÆ.

The third analogy, not being apparent in the shells, probably may be traced in the animals. But this is not very material, since the whole arrangement is founded upon affinities, and all the other analogies are perfect.

(140.) The COLUMBELLINÆ, or dove-shells, although of a small size, rather smooth, and without any dilation of the outer lip, have, nevertheless, very much the aspect of little wing-shells; this impression originates in the thickened angle or hump on the upper part of the outer lip; a character which is seen in no other group but that of *Strombidea*, and in certain *Marginella*, — both which, in fact, are legitimate representatives of *Columbella*. According to Guilding, the animals of this group, like that of *Conus*, have the operculum so very small as often to escape detection.

(141.) The result of an attentive analysis leads us to arrange the whole of these shells under the five following genera: — 1. We retain the name of *Columbella* to the *C. mercatoria*, and the other European species, where the crenated teeth of the reflected inner lip extend its whole length, and are regularly graduated, those on the inner being but slightly developed. 2. In *Pusiostoma*, the teeth on both sides of the aperture are much more developed; those on the outer lip are crowded, very thick, and only occupy the *middle* portion. Both these, but particularly the last genus, have the top of the lip so gibbous, as to form a prominent and even projecting angle: they constitute the sub-typical and the typical groups; and consequently exhibit the

characters of the *Columbellinæ* in the highest perfection. The three aberrant genera are more diversified. Thus, *Conidea* (fig. 17. b) has the general form of a short fusi-form mitre (like *Mitra contracta**), or that of a cone with the spire as long, or longer, than the body-whorl, but still with the volutions thickened at the suture, and the aperture narrow: there are a few tooth-like striæ on the inner part of the outer lip; but it is not thickened in the middle: the inner lip forms an elevated ridge at the base; parallel to which is a longitudinal elevated



fold slightly crenated; but the tuberculated teeth on the pillar are entirely wanting. In some species the spire is rather lengthened, with the aperture widened: and this change brings us to the 4th genus, *Nitidella* (c), where the inner lip and its fold totally disappear; the upper part of the pillar, or rather that side of the whorl which forms the aperture, is flattened, as if pared down artificially (as in *Purpura*); the base is finely striated, as in *Ancillaria*, and is terminated by a distinct plait (sometimes two), such as is seen in *Volutilithes*. All these resemblances point to one type of structure, and intimate this to be the most aberrant sub-genus of the *Columbellinæ*. There are many species, but all small; the most common of which is the *Columbella nitida* of Lamarck †, a little West Indian shell, in almost every collection: the outer lip is either smooth or slightly striated within; but although the edge is slightly thickened, it is never contracted in the middle—nor is the margin, although inclining inwards, decidedly

* Zool. Ill. 1st Series.

† *Nitidella marmorata*. Sw. (fig. 17. c.)

STROMBUS *Linn.* (*fig. 76. b*) Outer lip entire; the margin not inflected, with a deep sinus near the base, and the upper part not ascending to the top of the spire; basal lobe rarely inflexed, and never toothed.

Pacificus Sw. Chem. f. 1485, tricornis. En. Méth. 401. f. 1.
1486. Ex. Conch. pl. 17. Gallus. Mart. f. 841, 842.
melanostomus Sw. Ib. f. Goliathus. Chem. 195. B.
1487-8. Ib. pl. 17. inermis *Sw.* Bligh, Cat.
Auris-Dianæ. Mart. f. 838-9. gigas. Mart. 80. f. 824.
Lamarckii. Gray? accipitrinus. Ib. 81. f. 829.

STROMBIDEA *Sw.* Outer lip angulated, but not dilated, or detached from the preceding whorl; upper sinus obsolete, or entirely wanting; the lower distinct.

urceus. Mart. 78. f. 803. tridentata. Chem. f. 1503.
plicata. En. M. 408. f. 2. erythrostoma. Ib. f. 1874.
mutabilis. Mart. 78. f. 807. *dubia Sw.* P. Mag. 61. p. 377.

ROSTELLARIA *Lam.* (*fig. 76. c, d, e.*) An ascending siphon, formed by a groove thickened on each side, which extends upwards on the spire; outer lip various, but not sinuated at the base.

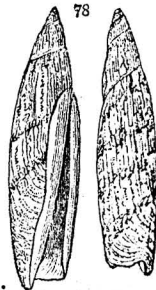
curvirostris. En. Méth. 411. columbata. En. Méth. 411.
f. 1. (*fig. 76. c.*) f. 2. (*fig. 76. e.*)
rectirostris. Nat. G. pl. 2. f. 2. fissurella. Ib. f. 3. (*fig. 76. d.*)
serrata Sw. Chem. 195. A. cancellata. Ib. 408. f. 5.
f. 1869. canalis. Ib. 409. f. 4.
macroptera. Brander, f. 76. decussata. Sow. Gen. f. 8.

SUB-FAM. 2. CONINÆ. *Cones.*

Shell coniform; the spire very short, pyramidical or truncate; outer lip slightly detached above, but without a basal sinus.

TEREBELLUM *Lam.* Cylindrical, smooth; aperture effuse at the base; outer lip with an obsolete sinus; spire either short or concealed.

T. subulatum. En. Méth. 360. *fig. 1.*
(*fig. 78.*)



CORONAXIS Sw. Shell conical; the summits of the whorls crowned with a single row of tubercles; mouth of the animal entire.

Coronaxis Sw. Spire truncate, scarcely raised above the margin of the body-whorl, which is not convex.

Bandanus *Lam.* Voy. d' Astrol. pl. 53. f. 7.

Puncticulis Sw. Spire slightly elevated; body-whorl convex near the upper margin; aperture linear; base deeply notched.

P. arenatus *Lam.* Voy. d' Astrol. pl. 52. f. 8.

Tuliparia Sw. Body-whorl ventricose; the aperture effuse.

nebulosa Sw. Ency. M. 322. f. 11. (*Conus tulipa* L.)

Cylindrella Sw. Conic-cylindrical; spire elevated, and only slightly coronated on the upper whorls; shell generally grooved.

Asper. Chem. 181. f. 1745-7.

Conilithes Sw. Conic; spire considerably elevated; the aperture linear.

C. antediluvianus. Sow. Gen. f. 1.

CONUS Linn. Shell conic; the summit of the whorls smooth; mouth of the animal lacinated.

Conus Linn. Spire generally truncate, or only pointed at the summit; margin of the body-whorl carinate.

C. millepunctatus. En. Méth. 323. f. 5.

litteratus. Ib. 323. f. 1. (*fig.* 79.)

eburneus. Ib. 324. f. 1, 2.

nobilis. Ib. 339. f. 7.

virgo. Ib. 326. f. 5.

miles. Ib. 329. f. 7.

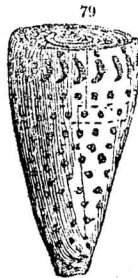
capitaneus. Ib. 327. f. 2.

vulpinus. Ib. 326. f. 6.

maldivus. Ib. 325. f. 6.

generalis. Ib. 325. f. 2. 4.

monile. Chem. 140. f. 1301—1303.



Dendroconus Sw. Shell heavy; spire lightly elevated;

body whorl convex near the margin; aperture linear.

- betulinus. En. Méth. 338. franciscanus. E. M. 337. f. 5.
 f. 7. striatus. Ib. 340. f. 1.
 figulinus. Ib. 332. f. 2. gubernator. Ib. 340. f. 5.
 quercinus. Ib. 332. f. 6. nimbosus. Ib. 341. f. 5.

Textilia Sw. Spire elevated, concave; body-whorl ventricose; the aperture effuse at the base; shell always smooth.

- communis. En. M. 346. f. 1—5. ammiralis. E. M. 325. f. 1—9.
 bullatus. Chem. f. 1315—6.
 auratus. Ib. 343. f. 1. pyramidalis. En. Méth. 347.
 rubiginosus. Ib. 344. f. 1, 2. f. 5.

Theliconus Sw. Shell narrow, nearly cylindrical, generally grooved transversely; spire elevated, thick, convex, obtuse; aperture linear.

- nussatella. Sow. Gen. f. 7. Terebra. Sow. Gen. f. 6.

Leptoconus Sw. Shell light, conic, sometimes striated; spire elevated, acute, concave; the basal whorl carinated, detached, and sinuated above, and contracted near the suture.

- grandis. Sow. Gen. f. 2. duplicatus. Sow. Gen. f. 5.
 amadis. Chem. f. 1322-3. Australis. Ib. f. 4.*

CONELLA Sw. Shell small, conic; spire elevated, smooth; the outer lip advancing a little up the spire; aperture linear; inner lip smooth; outer lip striated within.

picata Sw. (*fig. 17. a, p. 151.*)

CONORBIS Sw. Conic, but resembling a *Pleurotoma*: spire conic, considerably elevated; outer lip with a deep sinus above.

C. Dormiter. Sow. Gen. f. 8.

SUB-FAM. 3. COLUMBELLINÆ.

Shell small; outer lip considerably thickened within, where the margin is invariably either toothed or striated; the top gibbous, the margin generally inflexed; inner

* Passing into *Nussatella*.

lip doubly toothed, *i. e.* internally and externally; aperture narrow, generally ringent; operculum minute.

CONIDEA Sw. Mitra-shaped, fusiform; spire equal or longer than the aperture; the whorls tumid; outer lip slightly gibbous above, contracted below; margin not inflected; striated within; inner lip terminating in an elevated ridge, but with the teeth obsolete.

C. semipunctata. (*Columbella* Lam.) Mart. 44. f. 465, 466.

COLUMBELLA Lam. Subfusiform; spire shorter than the aperture; outer lip gibbous, inflected, sinuated, broad, and thickest in the middle, crenated or toothed its entire length; aperture contracted; inner lip with granular teeth.

C. mercatoria. Mart. pl. 44. 452—458.

PUSIOSTOMA Sw. General form of *Columbella*; but the outer lip is only toothed in the middle, where it is greatly thickened; inner lip convex between the granular teeth. (*fig. 72. g, h.*)

punctata. En. M. 374. f. 4. *fulgurans.* Lam.*

mendicaria. Ib. 375. f. 10. *turturina.* En. M. 384. f. 2.

CRASSISPIRA Sw. Small, subclavate, tuberculated: spire thick, lengthened; outer lip with a slight sinus above, and thickened internally at the top and bottom; top of the inner lip with a thick pad; basal channel but slightly defined. (*fig. 17. a.*)

Pleurotoma Bottæ *Auct.* *C. fasciata Sw.* (*fig. 17. d, p. 151.*)

NITIDELLA Sw. Bucciniform; small, ovate, smooth, glassy; aperture effuse; outer lip slightly thickened, faintly inflexed, and generally striated internally; inner lip somewhat flattened above; base of the pillar with one or two slight internal folds, or a single angular projection. (*fig. 17. e.*)

Columbella nitida Lam. (*fig. 17. c, p. 151.*)

* Lamarck erroneously cites the Ency. Méth. 574. fig. 7. for this species, as that represents one of his *Mitres*.