

A key for the identification of West African marine
Gastropoda (excluding the nudibranch sea-slugs)
and Bivalvia.

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(Translated and modified from Maurice Nickles's 1950 work)

Introduction

Continued efforts in the setting up of a reference collection of marine mollusca of Sierra Leone (see Chaytor and Aleem; Bull. I.M.S.O., 1(1)) necessitate frequent perusal of Maurice Nickles's excellent work on the West African marine mollusca. In order to remove the barrier of an unfamiliar language, Nickles's work is in the process of being translated into English. Here, his key is presented in English with restructured format. The key is only for the gastropoda (excluding the nudibranch sea-slugs) and bivalves and it only runs down to generic level. It is hoped that in a future work, another detailed and illustrated guide will be published with specific identifications.

Gastropoda

1	Shell spiral	2
-	Shell not spiral; in the form of a chinese hat, a bowl, a saucer or a tube	3
2	Shell width > shell length	4
-	Shell length > shell width	5
5	Outer lip sinuous towards the top	6
-	Outer lip without bends towards the top	7
7	Shell aperture as high as the shell itself	8
-	Aperture length less than the shell length but > 1/2 the shell length	9
-	Aperture length about half the shell length	10
-	Aperture length < 1/2 the shell length	11
9	Shell smooth or almost smooth	12
-	Shell sculptured	13
12	Aperture rounded at the base	14
-	Aperture sinuous at the base	15
10	Shell smooth or almost smooth	16
-	Shell sculptured	17
17	Aperture rounded at the base	18
-	Aperture not rounded at the base	19
11	Shell > 12mm length	20
-	Shell < 12mm length	21
20	More than 10 whorls in the spire	22
-	Less than 10 whorls in the spire	23
21	Aperture not rounded at the base	24
-	Aperture rounded at the base	25
25	Shell apex of regular turns	26
-	Shell apex of irregular turns	27
4	Shell diameter > 8mm	4.1
-	Shell diameter < 8mm	4.2
4.1	Shell in the form of a Chinese cap with a thin internal spire	<u>Calyptraea</u>
-	Shell ear-shaped or with a wide aperture	4.3
-	Shell conical, flat or globular	4.4

- 4.3 Shell pierced with a range of holes; interior
nacreous Haliotis 4.5
- Shell without holes
- 4.5 Periostracum hyaline, smooth and translucent
..... Lamellaria
- Periostracum opaque, finely striated Sigaretus
- 4.4 Shell smooth, thin, globular and violet (pelagic) ..
..... Janthina
- Shell sculptured 4.6
- 4.6 Sculpturing on the shell regular 4.7
- Sculpturing coarse, body strangely adhering to the
shell (offshore benthic) Xenophora
- 4.7 Shell with umbilicus 4.8
- Shell globular without umbilic Modulus
- 4.8 Umbilicus very wide; shell flat Solarium
- Umbilicus average; shell globular Gibbula
- 4.2 Shell coloured, granular 4.9
- Shell slightly coloured, hyaline or horny 4.91
- 4.9 Whorls somewhat rounded Torinia
- Whorls convex, interior nacreous Gibbula
- 4.91 Shell distinctly concave below 4.92
- Shell plane or convex below 4.93
- 4.92 Aperture small, squarish. Spiral ridge along
each surface Pseudomalaxis
- Aperture wide, very oblique. A single spiral
toothed ridge Cochliolepis
- 4.93 Umbilicus more or less covered by a callosity ...
..... Teinostoma
- Umbilicus without callosity 4.94
- 4.94 Last whorl flattened below; shell sculptured
..... Adeorbis
- Last whorl convex below; shell smooth or slightly
sculptured 4.95
- 4.95 Spire slightly projecting Cyclostrema
- Spire not projecting Vitrinella
- 6 Shell small (< 15mm) 6.1
- Shell much larger 6.2

- 6.1 Shell with transverse ribs 6.3
 - Shell with transverse and spiral ribs forming a lattice Philbertia
 - Shell with fine grooves; sinus slightly pronounced.. Asthenotoma
- 6.3 Ribs on the whorls rise to the sutures .. Cythara
 - Ribs on the whorls stop below the sutures .. Turris
- 6.2 Sinus indistinct, wide and shallow; surface smooth or slightly sculptured Clavatula
 - Sinus quite distinct 6.4
- 6.4 Aperture height $> 1/2$ the height of the shell 6.5
 - Aperture height $< 1/2$ the height of the shell 6.6
- 6.5 Shell spindle-shaped, the two ends drawn out Turris
 - Shell form variable Clavatula
- 6.6 Collumellar callosity with a tubercle towards the top Turris
 - Collumellar callosity without tubercle Clavatula; Drillia
- 8 Shell solid or fairly solid, often coloured 8.1
 - Shell thin and fragile, translucent or horny 8.2
- 8.1 Lip thick, winding towards the inside 8.3
 - Lip thick, often with inner teeth. Shell smooth and brilliant Persicula
 - Lip not thick 8.4
- 8.3 Aperture without teeth. Shell small and fusiform Simnia
 - Aperture toothed or plaited 8.5
- 8.5 Shell large or average, smooth and brilliant Cypraea
 - Shell small with spiral ridges Trivia
- 8.4 Shell smooth or almost smooth 8.6
 - Shell with spiral ridges; small, aperture wide Fossarus
- 8.6 Aperture narrow and elongated; shell cone-shaped Conus
 - Aperture large, more or less oval 8.7

- 8.7 Shell very large and sinuous at the base
 Cymbium
 - Shell of average size and without a sinus at the
 base 8.8
- 8.8 Shell ovoid and elongated; spire sunk .. Bullaria
 - Shell largely ovoid; spire practically flat
 Hydatina
- 8.2 Shell ovoid and round; spire not visible 8.9
 - Shell subcylindrical or ovoid-elongated 8.91
- 8.9 Aperture large; columella with a slight callus ...
 Haminea
 - Aperture very large; columella without callus ...
 Philine
- 8.91 Spire visible 8.93
 - Spire not visible 8.94
- 8.93 Shell apex with irregular turns; columella with
 a plait Acteocina
 - Apex normal; columella smooth Retusa
- 8.94 Shell with spiral striae at the top and at the
 base; columella plaited; Weinkauffia
 - Shell smooth; columella smooth 8.95
- 8.95 Apex pointed Volvula
 - Apex rounded Cylichna
- 14 Shell strong 14.1
 - Shell fragile 14.2
- 14.1 Umbilicus present. Aperture not toothed 14.3
 - Umbilicus absent. Aperture toothed 14.4
 - Umbilicus absent. Aperture not toothed, narrow
 towards the upper part. One plait on columella ..
 Acteon
- 14.3 White in colour; suture slightly marked
 Polynices
 - Colour variable; suture well marked Natica
- 14.4 Teeth on lip and on the columella 14.5
 - Teeth very fine; on the columella only 14.6
- 14.5 Some teeth very prominent. Shell small ... Pedipes
 - Numerous round teeth. Shell globular Nerita

- 14.6 Green in colour Smaragdia
 - Dark in colour Neritina
- 14.2 Translucent, hyaline. Aperture very wide
 Lamellaria
 - Colour more or less violet Janthina
- 15 Lip thick; columella plaited 15.1
 - Lip thin 15.2
- 15.1 Aperture elongated 15.3
 - Aperture rounded, toothed; shell small
 Ringicula
- 15.3 Aperture narrows towards the middle
Columbella
 - Aperture wide towards the middle; shell
 brilliant Marginella
- 15.2 Lip toothed or plaited; spire low; aperture
 rather narrow Melampus
 - Lip without teeth or plaits 15.4
- 15.4 Columella smooth 15.5
 - Columella with plaits Olivancillaria 15.6
- 15.5 Shell aperture narrow and long; shell conical
 Conus
 - Shell aperture oval or pear-shaped; strongly
 notched at the base 15.7
- 15.7 Spire short Pseudoliva
 - Spire elevated Fulmentum
- 15.6 Shell with bright colours and porcellanous, without
 horny periostracum Oliva; Olivella
 - Shell of uniform colour or with horny
 periostracum 15.8
- 15.8 Both the shell and its aperture very large
 Cymbium
 - Shell size average, aperture narrow and
 elongated Imbricaria
- 13 Shell with smooth ridges, nodules, leaf-like or
 spinous projections 13.1
 - Shell without projections 13.2
- 13.1 Shell with smooth ridges or fine striations 13.3
 - Shell projections nodular Cymatium
 - Shell projections foliaceous or spinous ... Murex
 - Shell projections foliaceous only ... Tritonalia

- 13.3 Shell large (40 to 200mm); siphonal canal twisted Cassis 13.7
 - Shell average (20 to 40mm); siphonal canal straight Bursa
- 13.2 Shell with conspicuous spiral ribs 13.4
 - Shell with spiral rows of nodules, transverse ridges or smooth ribs 13.5
 - Shell with tubercles, with or without spiral ribs. 13.6
- 13.4 Shell large (80 to 150mm), globular; aperture very wide Tonna
 - Shell small (3 to 5mm); aperture wide and funnel-shaped Fossarus
- 13.5 Shell large (40 to 70mm) 13.7
 - Shell average in size (10 to 35mm) 13.8
- 13.7 Shell with fine ridges; lip toothed Cassis
 - Shell with relatively sharp transverse ribs; lip smooth Harpa
- 13.8 Columella clearly plaited Marginella
 - Columella smooth or finely plaited Cyllene
- 13.6 Aperture and lip flaring 13.9
 - Aperture and lip not flared 13.91
- 13.9 Lip palmate; shell small (18-25mm) ... Aporrhais
 - Lip not palmate; shell strong and large (100 to 150mm) Strombus
- 13.91 Siphonal canal short; aperture shiny white or orange Thais
 - Siphonal canal long 13.92
- 13.92 Shell large (100 to 140mm); periostracum thick and horny Semifusus
 - Shell moderate (30 to 35mm); solid Tudicla
 - Shell small (10 to 12mm); thin Trophon
- 16 Aperture rounded towards the bottom 16.1
 - Aperture notched or prolonged towards the base ... 16.2
- 16.1 Columella smooth 16.3
 - Columella plaited 16.4
- 16.3 Interior of the shell nacreous 16.5
 - Interior without nacre 16.6

- 16.5 Operculum calcareous; umbilicus present ... Turbo
 - Operculum horny; umbilicus absent ... Monodonta
- 16.6 Colour when alive red; operculum calcareous
 Tricolia
 - Colour dull; operculum horny Littorina
- 16.4 One plait on the columella and another below,
 above the last whorl Ovatella
 - One plait on the columella and 2 to 5 below,
 above the last whorl Alexia
- 16.2 Shell fusiform 16.7
 - Shell pyriform 16.8
- 16.7 Aperture large; whorls convex Neptunea
 - Aperture narrow; whorls slightly convex .. Mitra
- 16.8 Shell small (8 to 10mm), with spiral striae
 Planaxis
 - Shell moderate (35 to 40mm), smooth ... Bullia
- 18 Umbilicus present 18.1
 - Umbilicus absent 18.2
- 18.1 Shell iridescent, lip continuous 18.3
 - Shell iridescent, lip with a deep spiral slit;
 shell very small Scissurella
- 18.3 Shell with spiral rays, granular Clanculus . . .
 - Shell with spiral rays; smooth, striated or
 with nodes 18.4
- 18.4 Shell very small (2 to 4mm), aperture oriented
 vertically Solariella
 - Shell a little larger (4 to 25mm), aperture
 oblique Gibbula
- 18.2 Shell small (10 to 15mm); surface granular
 Tectarius
 - Shell larger (40 to 50mm), with spines
 Astraea
- 19 Shell very drawn out towards the base 19.1
 - Shell moderately drawn out towards the base 19.2
 - Shell rounded or feebly slender towards the base .. 19.3
- 19.1 Shell with an open canal 19.4
 - Shell with a closed or almost closed canal
 Tritonalia

- 19.4 Spire with projections 19.5
 - Spire without projections 19.6
- 19.5 Aperture twisted, shell hunchbacked ... Distortrix
 - Aperture normal Cymatium
- 19.6 Columella smooth Fusus
 - Columella plaited Lathyrus
- 19.2 Spire with projections 19.7
 - Spire without projections 19.8
- 19.7 Two spire ridges placed opposite each other
 Bursa
 - Several ridges arranged without any order; shell
 large Charonia
- 19.8 Shell with round tubercles; colour dark ... Drupa
 - Shell with spiral rays, often with transverse
 ribs 19.9
- 19.9 Shell white; spiral rays with fine overlapping
 scales Coralliophila
 - Shell brown 19.91
- 19.91 Columellar callosity does not extend backwards ...
 Cantharus
 - Columellar callosity extending backwards with a
 thickened dent anteriorly Pisania
- 19.3 Whorls in storeys. Sculpture very marked
 Cancellaria
 - Whorls more or less convex 19.92
- 19.92 Surface with ribs or granulations. Siphonal
 canal curved Nassa
 - Surface latticed; no siphonal canal. Shell
 small (5mm) Alvania
- 22 Shell with striae or spiral ribs 22.1
 - Shell smooth, with striae or transverse plaits 22.2
 - Shell surface with tubercles, granulations, or
 a sharp carina 22.3
- 22.1 Aperture round or angular; lip slightly sinuous,
 not prominent Turritella
 - Aperture oval; lip prominent towards the base ...
 Mesalia
 - Aperture with a deep sinus at the base ... Protoma

- 22.2 Only one plait on the columella; umbilicus absent Terebra 22.5
 - 2 or 3 plaits on the columella; umbilicus present Pyramidella
- 22.3 Periostracum brown and persistent but often peeled at the apex 22.4
 - No persistent periostracum 22.5
- 22.4 Last whorl flat below Tympanotonus
 - Last whorl round below Pachymelania
- 22.5 Spire extremely sharp Terebra
 - Spire moderately sharp. Siphonal canal short
 Cerithium
- 23 Shell coiled abnormally, bottom whorl free from rest of shell Tenagodus
 - Shell coiling normal 23.1
- 23.1 Shell length almost equal to shell width 23.2
 - Shell length greater than width 23.3
- 23.2 Whorls flat, not granular Calliostoma
 - Whorls convex; granular Clanculus
- 23.3 Aperture without siphonal canal 23.4
 - Aperture with a siphonal canal 23.5
- 23.4 Shell without a groove at the base 23.6
 - Shell with a groove at the base; shell slightly sculptured Bullia
- 23.6 Shell entire and round 23.7
 - Shell oval, prominent towards the base
 Pachymelania
- 23.7 Shell whorls with transverse lamellae Scala
 - Shell whorls without transverse lamellae ... Opalia
- 23.5 Siphonal canal elongated 23.8
 - Siphonal canal moderately long 23.9
 - Siphonal canal short 23.9.1
- 23.8 Columella elongated Lathyrus
 - Columella smooth Fusus
- 23.9 Shell slightly sculptured; lip smooth and slightly sinuous towards the top Clavatula
 - Shell sculptured; lip plaited sinuous towards the base Phos

- 23.91 Shell globular or slightly elongated Nassa
 - Shell elongated Adinopsis
- 24 Aperture narrow and elongated 24.1
 - Aperture angular. Shell with transverse smooth ribs Cancellaria
 - Aperture more or less oval or round 24.2
- 24.1 Lip toothed and plaited interiorly Pyrene
 - Lip smooth and thin. 4 plaits on the columella
 Vexillum
- 24.2 Aperture height $> 1/3$ of the shell height ... Nassa
 - Aperture height $< 1/3$ of the shell height 24.3
- 24.3 Shell smooth, columella distinctly plaited
 Pyramidella
 - Shell with low spiral ridges Seila
 - Shell with granulations 24.4
- 24.4 Lip toothed Chauvetia
 - Lip without teeth 24.5
- 24.5 Shell with spiral ridges and rough; whorls rounded and sutures well-marked Bittium
 - Shell granular with 2 to 3 spiral rows of nodules per whorl 24.6
- 24.6 Shell spire right-handed Cerithiopsis
 - Shell spire left-handed Triphora
- 26 Shell smooth 26.1
 - Shell sculptured 26.2
- 26.1 Lip more or less thick Rissoa 26.9
 - Lip not thickened 26.3
- 26.3 Shell ovoid-elongated 26.4
 - Shell tower-like 26.5
- 26.4 Shell brilliantly coloured. Operculum calcareous Tricolia
 - Shell white or brown 26.6
- 26.6 Operculum with a lateral projection ... Barleeia
 - Operculum without a lateral projection ... Hydrobia
- 26.5 Aperture oval; no umbilicus Eulima
 - Aperture angular; umbilicus present Niso

- 26.2 Shell globular, nacreous internally 26.7
 - Shell elongated, without internal nacre 26.8
- 26.7 Shell conical with flat whorls; no umbilicus
 Calliostoma
 - Shell with convex whorls; umbilicus present
 Gibbula
- 26.8 Lip more or less thick 26.9
 - Lip not thickened 26.91
- 26.9 Aperture oval or round Rissoa
 - Aperture semi-circular Rissoina
- 26.91 Shell usually with rounded projections on the
 whorls Alaba
 - Shell without such projections Aclis
- 27 Columella not plaited 27.1
 Columella with a plait 27.2
- 27.1 Lip regularly rounded 27.3
 - Lip wavy; sculpturing marked Mathilda
- 27.3 Shell smooth or with feeble spiral sculpture
 Eulimella
 - Shell with transverse ridges and at times with
 spiral striae Turbonilla
- 27.2 Shell smooth Odostomia
 - Shell with spiral sculpture Menestho
 - Shell strongly sculptured, almost always in two
 directions 27.4
- 27.4 Size very small (1 to 4mm); apex rounded
 Chrysallida
 - Shell a little larger (5 to 8mm); apex pointed ...
 Kleinella
- 3 Shell tube-like 3.1
 - Shell Chinese-cap, bowl, saucer or shoe-shaped 3.2
- 3.1 Shell irregularly twisted Vermetus
 - Shell arched, closed at one end (very small size) ..
 Caecum
- 3.2 Shell with an internal septum 3.3
 - Shell smooth internally 3.4

- 3.3 Internal septum spiral Calyptraea
 - Internal septum not spiral Crepidula
- 3.4 Shell apex perforated 3.5
 - Shell apex entire 3.6
- 3.5 Shell with reticulate sculpturing, Shell apex
 elevated anteriorly. Apical orifice very small ...
 Diodora
 - Shell with radiating sculpture 3.7
- 3.7 Shell moderately elevated; apical orifice
 medium-sized Fissurella
 - Shell low; apical orifice very large Lucapina
- 3.6 Shell with a non-calcified periphery. Apex
 round Tylodina
 - Shell entirely calcified 3.8
- 3.8 Shell with concentric sculpturing ... Amalthea
 - Shell with radiating sculpturing 3.9
- 3.9 Muscle scar horse-shoe shaped, interrupted
 towards the front. Apex slightly to the
 anterior Patella
 - Muscle scar horse-shoe shaped, interrupted
 towards the front and also along the right side.
 Apex slightly to the posterior 3.91
- 3.91 Aperture oval, coloured internally Siphonaria
 - Aperture rounded, white internally Gadina

Bivalvia

(Pelecypoda; Lamellibranchia)

1	Pallial line entire or not visible	2
-	Pallial line with a sinus	6
2	Single muscle scar on each valve	7
-	Two muscle scars	3
3	Hinge without teeth	8
-	Hinge with teeth	4
4	Teeth numerous and more or less similar	9
-	One to several teeth dissimilar	5
5	Ligament external	10
-	Ligament marginal	11
-	Ligament internal	12
5	Two muscle scars	13
13	Hinge with teeth	14
-	Hinge without teeth, but a styloid process (often fragile) below the beaks	21
14*	Ligament external or marginal	15
-	Ligament internal	20
15	Shell smooth or almost smooth	16
-	Shell sculptured or partly sculptured	19
16	Shell gaping when the valves are retracted	17
-	Shell closed when valves retracted	18
7	Hinge of each valve with 2 large teeth. Ligament internal. Shell solid and fixed	<u>Spondylus</u>
-	Hinge without teeth	7.1
7.1	Shell more or less irregular and deformed by attachment (the oysters)	7.2
-	Shell not deformed, free or fixed by a byssus	7.3

*Presents difficulties if ligament is imperceptible

- 7.2 Hinge straight with multiple ligament in a series of parallel pits. Internally nacreous. General appearance of the shell like an oyster but both valves free Pedalion
 - Single internal ligament 7.4
- 7.4 Shell thin and nacreous internally. Lower valve closely applied to a substrate and has a notch for the passage of calcareous byssus coming from the upper valve Anomia
 - Shell generally thick. No notch; one valve free, the other fixed. No byssus Ostrea; (Crassostrea).
- 7.3 Shell with ear or wing-like projections 7.5
- 7.5 Shell with ear-like projections; otherwise, shell round, almost smooth or with radiating ribs. Often brilliantly coloured. Ligament internal Pecten
 - Shell with wing-like projections. Nacreous internally. Ligament marginal Pteria
 - Shell with very reduced ears; oblique, swollen, white, fragile. Ligament partly external, partly internal Lima
- 8 Ligament internal; shell 7-10mm, fragile, oblong, very gaping. Reticulated Galeomma
 - Ligament external or marginal 8.1
- 8.1 Periostracum thin or slight 8.2
 - Periostracum relatively thick 8.3
- 8.2 Shell small (10mm), white, round, swollen, without nacre Lucina
 - Shell large (100-450mm), triangular with a pointed anterior end Pinna
- 8.3 Pointed in front (like a mussel); fixed by a byssus 8.4
 - Rounded in front 8.5
- 8.4 A septum beneath the beaks; no nacre ... Dreissena
 - No septum. Internally more or less nacreous
 Mytilus
- 8.5 Shell without radiating continuous striae 8.6
 - Shell with radiating continuous striae 8.7

- 8.6 Shell subcylindrical, thin, nacreous internally.
(Boring bivalve) Lithophaga
- Shell elongated, slightly swollen, with the cuticle projecting from the shell Solenomya
 - Shell oblong, more or less swollen and nacreous internally. With byssus Modiolus
- 8.7 Striae on the shell localised in 1 or 2 series, at the front and back of the shell. With byssus Modiolaria
- Striae very fine, covering the whole shell. Shell small, oval, swollen, white and nacreous internally. Edge finely crenulate internally ...
..... Crenella
- 9 Ligament external and spread in the cardinal area (space between the beaks) 9.1
- Ligament internal 9.2
- 9.1 Shell inequilateral, with striae or radiating ribs or clearly latticed Arca
- Shell equilateral, round, solid, almost smooth ...
..... Glycymeris
- 9.2 Shell smooth, subtriangular, internally nacreous. Edge finely crenulate internally
..... Nucula
- Shell surface finely striated; beaks directed backwards. Without nacre and internal edge smooth Leda
- 10 Shell gaping, white, swollen, carenated
..... Anisodonta
- Shell closed or almost closed 10.1
- 10.1 Shell thick and fixed by one valve; deformed, scaly or foliaceous; two teeth of which one is very strong Chama
- Shell like a small mussel, fixed by byssus; with some small rounded teeth Brachyodontes
 - Shell not fixed 10.2
- 10.2 Shell with radiating sculpture. Size variable 10.3
- Shell with some oblique ridges cut by growth striae. Shell small and round Astarte
- 10.3 Teeth very oblique, strong, elongated. Radiating ribs smooth, granular or scaly 10.4
- Cardinal teeth and lateral teeth well-marked. Shell convex 10.5

- 10.4 Shell oval or round Cardita
 - Shell transverse or subquadrangular Begonia
- 10.5 Shell practically smooth Laevicardium
 - Shell with prominent radiating ribs Cardium
- 11 Lunule more or less clear; surface sculptured;
 hinge variable 11.1
 - Lunule absent; shell without surface
 sculpturing. Two teeth (one bifide) on each
 valve Diplodonta
- 11.1 Concentric sculpture formed of striae or
 lamellae. Lunule distinct. Cardinal and
 lateral teeth present. Shell globular, often
 very thick Phacoides
 - Shell with radiating sculpture 11.2
- 11.2 Surface rays often with dichotomous branching.
 Lunule and lateral teeth distinct Codokia
 - Surface sculpture of criss-cross or diverging
 rays. Lunule and lateral teeth slightly
 visible Divericella
- 12 Shell gaping 12.1
 - Shell closed 12.2
- 12.1 Shell equivalve, truncate, globular; the valves
 bowl-shaped Tugonia
 - Shell inequivalve; right valve flat, left
 valve convex. Nacreous Pandora
- 12.2 Shell equivalve 12.3
 - Shell inequivalve; right valve wider than the
 left. Shell solid, beaked posteriorly
 Aloidis
- 12.3 Shell solid and coloured, with sinuous or
 concentric rays. Hinge strong ... Crassatella
 - Shell sculpturing consisting of only lines of
 growth 12.4
- 12.4 Cardinal edge continuous. Ligament oblique 12.5
 - Cardinal edge interrupted below the beaks
 by the passage of ligament. Shell thin 12.6
- 12.5 Shell white, regular, internal margin smooth
 or pitted Loripes
 - Shell reddish or white, irregular. Internal
 margin always smooth Ungulina

- 12.6 Shell subequilateral; shell length > shell height Pythina
 - Shell inequilateral, very small 12.7
- 12.7 Colour red-purple Kellya
 - Shell white; two prominent divergent cardinal teeth Montacuta
- 18 Shell inequilateral 18.1
 - Shell subequilateral 18.2
- 18.1 Shell thick, subtriangular, swollen; 30-60mm
 Pitaria (18.3)
 - Shell slightly thick, triangular, swollen;
 15-30mm 18.3
- 18.3 Lateral teeth absent; 3 cardinal teeth
 Venerupis
 - 3 cardinal teeth in the right valve, 2 in the left. Lateral teeth more or less marked
 Pitaria
- 18.2 Shell rounded; very fine concentric striae; distinct lunule Dosinia
 - Shell triangular or subtriangular 18.4
- 18.4 Shell large (> 50mm) 18.5
 - Shell average (10-45mm) 18.6
- 18.5 Shell heavy; large teeth in the hinge; beaks projecting; periostracum thick Egeria
 - Shell quite strong; teeth relatively feeble; beaks projecting slightly; periostracum thin ..
 Iphigenia (18.6)
- 18.6 Ventral margin almost straight. Lateral teeth well marked anteriorly Tivela
 - Ventral margin convex. Lateral teeth absent
 Iphigenia
- 17 Shell very elongated (length > twice the height) 17.1
 - Shell moderately elongated (length < twice the height) 17.2
- 17.1 Beaks almost medially placed 17.3
 - Beaks more or less towards the anterior 17.4

- 17.3 Colour rose with white rays or pure white
 Solenocurtus
 - Colour dull white or yellowish Tagelus
- 17.4 Beaks located 1/3 of the length from the
 anterior end. Valves slightly convex.
 Periostracum only slightly persistent ... Pharus
 - Beaks located 1/6 to 1/4 of the length from
 the anterior end. Valves flat and fragile.
 Periostracum persistent Cultellus
 - Beaks close to the anterior end. Shell almost
 straight at the two ends; oval in section 17.5
- 17.5 Shell straight Solen
 - Shell arched Ensis
- 17.2 Shell subequivalve, without lateral teeth 17.6
 - Shell inequivalve 17.7
- 17.6 Shell large or very large (100 to 300mm);
 teeth very small Panopea
 - Mostly small (50 to 80mm) 17.8
- 17.8 Pallial sinus very deep. Shell inflated, thin,
 ovate and attenuated posteriorly ... Sanguinolaria
 - Ventrally the pallial sinus is confluent with
 the pallial line; shell with very fine concentric
 striae Tellina
- 17.7 Lateral teeth absent 17.9
 - Lateral teeth more or less marked; shell
 slightly gaping, often a rostrum posteriorly 17.91
- 17.9 Shell large (> 50mm), white, short, solid ...
 Apolymetis
 - Shell small (20 to 40mm), fragile, often rose-
 coloured near the beaks Macoma
- 17.91 Dorsal margin concave posteriorly and with
 lateral teeth on the left valve ... Quadrans
 - Posterior dorsal margin neither concave nor
 denticulate Tellina
- 19 Shell closed 19.1
 - Shell gaping 19.2
- 19.1 Sculpturing limited to a small part of the
 surface (posterior area); triangular or oval
 triangular. Shell often coloured ... Donax
 - Whole shell sculptured 19.3

- 19.3 Two teeth on each valve. Shell subtriangular, swollen, thin. Concentric lamellae Gastrana
- Three teeth on each valve 19.4
 - Two teeth on left valve, three on the right, of which some are prominent and oblique. Pallial sinus only slightly marked. Radiating ribs Cardita
- 19.4 Lunule quite visible; hinge strong 19.5
- Lunule slight or not visible; hinge slightly strong; shell oval-oblong, internal margin smooth 19.6
- 19.5 Shell oval, solid, with ribs, concentric lamellae or ridges. Internal margin crenulate ..
..... Venus
- Shell rounded, with fine concentric lines. Internal margin smooth Dosinia
- 19.6 Shell small (15-25mm) with concentric lamellae and radiating striae Irus
- Shell larger (25-60mm); ridges or concentric striae; occasionally radiating striae
..... Venerupis
- 19.2 Two lateral teeth in addition to cardinals. Shell subround, sculptured with fine striae often in three distinct zones ... Strigilla
- No lateral teeth 19.7
- 19.7 Shell subequilateral, oblong, coloured; sculptured with concentric striae or lines
..... Psammobia
- Shell inequilateral 19.8
- 19.8 Shell subrectangular, irregular, Saxicava
- Shell oval or elongated, swollen, white
..... Petricola
- 20 Shell smooth 20.1
- Shell sculptured 20.2
- 20.1 Shell equivalve or almost 20.3
- Shell inequivalve, fragile; right valve wider than left Thracia
- 20.3 Shell of average or large size (20 to 140mm) 20.4
- Shell small (4-15mm), oval or triangular, white, glossy, fragile Abra

- 20.4 Shell elongated (length at least twice the height); gaping at both ends Lutraria
 - Shell oval-triangular or oval-round 20.5
- 20.5 Lateral teeth quite distinct. Shell oval-triangular, often swollen; valves distinctly bowl-shaped 20.6
 - One lateral tooth posteriorly slightly marked; shell oval round Semele
- 20.6 Shell large (90 to 140mm); concentric plaits near the beaks Spisula
 - Shell average (30 to 80mm); entirely smooth
 Mactra
- 20.2 Shell large (40-90mm) 20.7
 - Shell small (15-25mm), very fragile with concentric ridges Standella
- 20.7 Shell solid and oval-oblong with radiating ribs ...
 Standella
 - Shell very fragile with some concentric ridges towards the posterior; heart-shaped ...
 Labioga
- 21 Shell small irregular in outline at the front end of a long naked worm-like body. Animal lives by burrowing in wood Teredo
 - Shell more or less elongated, swollen, rough particularly anteriorly 21.1
- 21.1 Hinge line of the shell with umbonal folds; animal (with shell) bores in wood, firm mud and rock 21.2
 - Hinge line flared, ending in front of the beaks Talona
- 21.2 Umbonal folds supported with vertical septa ...
 Pholas
 - Umbonal folds without septa Barnea