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FRESHWATER SHELLS.

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ARTHUR G. STUBBS.

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ARTHUR G. STUBBS.

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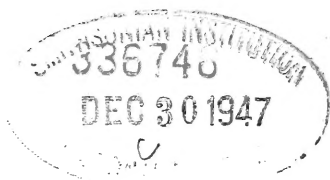
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SPECIES, AND AN ENUMERATION AND  
DESCRIPTION OF THEIR  
VARIETIES.



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TAYLOR BROTHERS,  
SOVEREIGN STREET, LEEDS.

1907.



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moll.

## INTRODUCTION.

THE author hopes that this index may prove a real help to the student of Conchology in identifying the British freshwater shells.

His idea is to present, at a moderate price, a plate of figures, carefully drawn from nature, that will expose the whole group at once, and thus allow a shell to be readily compared with the illustrations.

By means of a three-fold plate this has been accomplished, and by folding either of the side plates over the middle one the remaining exposed plate has the 'Key' to it opposite. The 'Key' to the middle plate is easily referred to by raising the left-hand plate.

The drawings are, for the most part, of natural size, but where the smaller species have been enlarged, a 'size-line' has been added.

In the descriptions of the plates, a colour-column is given, but it should be noted that it refers to the ground-colour of the cleaned shell, and not to the accidental covering of mud, of various hues, found on many shells. Moreover, as even the ground-colour varies in shells of the same species from different localities, too much reliance must not be placed on that alone.

In the adjoining column some of the main features that distinguish the species from others, somewhat similar, are pointed out.

With regard to 'habitat,' a great many of the species *may* be found wherever there is water, but they undoubtedly show a preference for still or running, shallow or deep, as the case may be. The usual 'habitat' is therefore given.

In the 'Frequency' column it may be as well to explain that 'local' means the species is confined to certain limited areas, though it may be abundant where it does occur. 'Frequent' means that the species is not common, but may turn up anywhere, and is pretty well distributed over the country.

With the exception of some of the chief forms of the variable *Limnæa peregra*, varieties have not been figured, but a descriptive list of them, together with monstrosities, will be found at the end of the book. They have been taken for the most part from Mr. L. E. Adams' "Manual of British Land and Freshwater Shells," to which delightful little book the reader is referred for hints on collecting, cleaning, mounting, and arranging in cabinets these most interesting objects of natural history.

**PLATE II.**—(UNIVALVES).

<i>Fig.</i>	<i>Species &amp; Authority</i>	<i>Colouring.</i>	<i>Chief Characteristics.</i>	<i>Habitat</i>	<i>Frequency</i>
17	<i>Amphipeplea glutinosa</i> (Brug.).	Pale horn colour	Extreme thinness, glossiness, mantle covers young shells	Lakes and ponds	Local
18	<i>Limnæa involuta</i> (Thompson)	Pale amber ...	Intorted spire. Only one habitat known	Lake on Cromaglaun Mountain near Killarney	Very rare
19	— <i>truncatula</i> (Müller)	Greyish horn color	Small size, turreted spire	Shallow water, on mud	Common
20	— <i>glabra</i> (Müller)	Ditto	Long tapering spire, glossiness	Ditches and ponds	Local
21	<i>Physa fontinalis</i> (Linné)	Horn colour ...	Sinistral, short blunt spire	Streams, canals, etc.	Common
22	<i>Aplexa hypnorum</i> (Linné)	Dark reddish horn colour	Sinistral, spindle shape	Ditches, streams, etc.	Local
23	<i>Physa heterostropha</i> (Say)	Reddish horn colour	Globoseness, sinistral (introduced)	Canals and reservoirs	Rare
24	— <i>acuta</i> (Drap.).	Pale horn colour	Pointed spire, sinistral (introduced)	Water tanks, Kew, etc.	Rare
25	<i>Ancylus fluviatilis</i> (Müller)	Yellowish grey	Limpet shape	Running water on stones	Common
26	<i>Velletia lacustris</i> (Linné)	Greyish horn colour	Long shape, twisted apex	Ditches, marshes, on water plants	Frequent
27	<i>Neritina fluviatilis</i> (Linné)	Mottled, often banded	Solidity, orange colored hinged operculum	Running or still water, on stones	Frequent
28	<i>Paludestrina similis</i> (Draparnaud)	Horn colour ..	Operculum. Short spire, swollen whorls	Thames marshes near Woolwich	Very rare
29	— <i>ventrosa</i> (Montagu)	Pale horn colour	Operculum. Long tapering spire	Brackish marshes	Local
30	— <i>taylori</i> (Smith)	Yellowish horn colour	Operculum. Blunt spire, rounded whorls	Canals and marshy lands	Rare
31	— <i>jenkinsi</i> (Smith)	Pale horn colour	Operculum. Tapering spire, often keeled	Ditches, streams, etc.	Frequent
32	— <i>stagnalis</i> (Baster)	Yellowish or reddish	Operculum. Cone shape, solidity	Brackish marshes close to sea	Common
33	<i>Valvata cristata</i> (Müller)	Pale horn colour	Operculum. Planorbis shape	Ditches, canals, etc.	Frequent
34	— <i>piscinalis</i> (Müller)	Brownish yellow	Operculum. Circular mouth, rounded whorls	Ditto	Common
35	<i>Bithynia tentaculata</i> (Linné)	Horn colour, often golden	Operculum. Glossiness, transparency	Ditches, rivers, canals, etc.	Common
36	— <i>leachii</i> (Shepp.)	Horn colour ...	Operculum. Deep suture, roundish mouth, size	Ditches, canals, etc.	Local
37	<i>Vivipara vivipara</i> (Linné)	Pale green with dark bands	Operculum. Blunt apex, no umbilicus	Canals, lakes, etc.	Common
38	— <i>contacta</i> (Millet)	Dark green with dark bands	Operculum. Sharp apex, deep suture, umbilicus	Canals, deep ditches, etc.	Frequent
39	<i>Succinea putris</i> (Linné)	Amber colour ...	Large body whorl, short spire, thinness	Amphibious, on water plants	Common
40	— <i>oblonga</i> (Drap.)	Greenish or yellowish	Small size, deep suture, long spire	Marshes, near sea coast	Rare
41	— <i>elegans</i> (Risso)	Deep amber colour	Narrow mouth, slender shape	Amphibious, on water plants	Common

**PLATE III.—(BIVALVES).**

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<i>Fig.</i>	<i>Species &amp; Authority</i>	<i>Colouring</i>	<i>Chief Characteristics</i>	<i>Habitat</i>	<i>Frequency</i>
42	<i>Pisidium fontinale</i> (Draparnaud)	Grey ... ..	Prominent beaks, triangular shape	Ditches, ponds, etc.	Common
43	— <i>amicum</i> (Müll.)	Greyish or yellowish	Large size, ridges, triangular shape	Ditto	Frequent
44	— <i>milium</i> (Held)	Grey ... ..	Prominent beaks, oblong shape	Ditto	Frequent
45	— <i>pusillum</i> (Gmel.)	Greyish or yellowish	Beaks nearly central, oval shape	Ditto	Common
46	— <i>nitidum</i> (Jenyns)	Grey ... ..	Glossiness, beaks central, round shape	Ditto	Local
47	<i>Sphærium corneum</i> (Linné)	Yellowish horn-colour	Globular form, oval shape	Ditto	Common
48	— <i>lacustre</i> (Mull.)	Grey ... ..	Capped beaks, sharp edges, squarish shape	Ditto	Frequent
49	— <i>rivicola</i> (Leach)	Reddish or olive-brown	Large size, colour	Canals and slow rivers	Frequent
50	— <i>pallidum</i> (Gray)	Greyish or yellowish	Oblong shape, sharp shoulders	Canals and ponds	Local
51	<i>Unio pictorum</i> (Linné)	Yellowish green	Narrow oblong shape	Canals, lakes, etc.	Common
52	— <i>tumidus</i> (Philippsson)	Dark brown ...	Oval shape, weight, and solidity	Ditto	Common
53	— <i>margaritifer</i> (Linné)	Dull black ...	Colour, eroded beaks	Rivers ... ..	Local
54	<i>Anodonta cygnea</i> (Linné)	Yellowish green or brown	Large size, parallel upper and lower margins	Canals, lakes, etc.	Common
55	— <i>anatina</i> (Linné)	Ditto	Raised hinge-line forming angle with lower margin	Ditto	Common
56	<i>Dreissensia polymorpha</i> (Pallas)	Yellowish, zig-zag markings	Boat shape, marking, byssus attachment	Canals, rivers, lakes	Common

PLATE I.



FIG. 1.



FIG. 2.



FIG. 3.



FIG. 4.



FIG. 5.

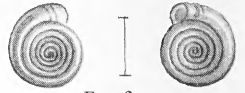


FIG. 6.

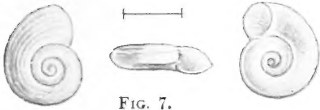


FIG. 7.



FIG. 8.



FIG. 9.

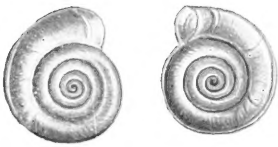


FIG. 10.

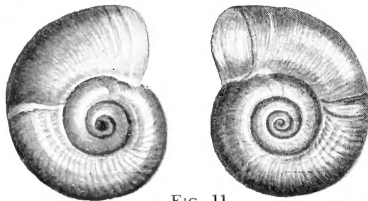


FIG. 11.



FIG. 12.

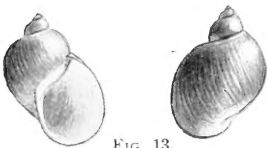


FIG. 13.



FIG. 13 a.



FIG. 13 b.



FIG. 13 c.



FIG. 13 d.



FIG. 13 e.



FIG. 13 f.



FIG. 13 g.



FIG. 14.

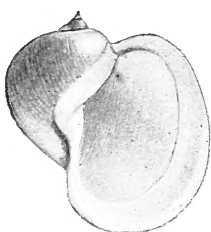


FIG. 15.

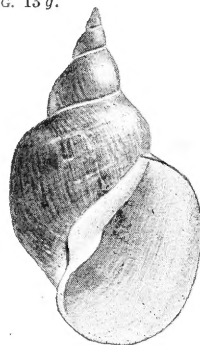
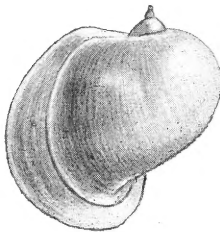


FIG. 16.

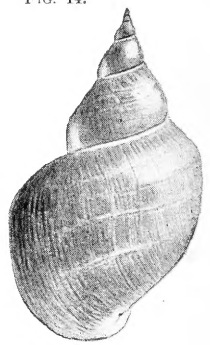




PLATE III.

FIG.

- 42 *Pisidium fontinale* v. *henslowana* (Shepp.) With ridge near the beaks.  
 — — — var. *pulchella* (Jenyns) Glossy, strongly grooved.  
 — — — var. *cinerea* (Alder) Larger and flatter.  
 — — — var. *pallida* (Gassies) More ventricose, with rays from beaks to margin
- 43 — *amicum* var. *læviuscula* (Moq.) Larger, fainter striae.  
 — — — var. *flavescens* (Moq.) Pale yellow all over.
- 44 — *miliun* var. *alpestris* (Clessin) Very globose, strongly striated.
- 45 — *pusillum* var. *obtusalis* (Lamarek) Smaller, more tumid.  
 — — — var. *grandis* (Adams) Much larger, 5 mm. × 6 mm.
- 46 — *nitidum* var. *splendens* (Moq.) Larger, lemon coloured.  
 — — — var. *globosa* (Adams) Sphæroidal.
- 47 *Sphærium corneum* var. *psidioides* (Gray) Triangular, striae coarser.  
 — — — var. *scaldiana* (Normand) Ovate, paler than type.  
 — — — var. *nucleus* (Studer) Smaller, nearly spherical.  
 — — — var. *flavescens* (Macgill) Pale yellow.
- 48 — *lacustre* var. *ryckholti* (Normand) Small, beaks prominent, shoulders rounded.  
 — — — var. *rotunda* (Jeffreys) Rounder and flatter.  
 — — — var. *brochoniana* (Bourg.) Larger and flatter.  
 — — — var. *ovalis* (Férussac) Somewhat oval, with indistinct calculation.
- 49 — *rivicola* var. *flavescens* (Moq.) Yellow.
- 51 *Unio pictorum* var. *curvirostris* (Norm.) Smaller, shorter, flatter.  
 — — — var. *latior* (Jeffreys) Broader, shorter, yellow-brown.  
 — — — var. *compressa* (Jeffreys) Very broad and flat.  
 — — — var. *radiata* (Moq.) With greenish rays.  
 — — — var. *platyrinchoidea* (Dup.) With posterior margin produced.
- 52 — *tumidus* var. *mülleri* (Rossm.) More oval.  
 — — — var. *ovalis* (Mont.) Wedge-shaped.  
 — — — var. *ponderosa* (Pascal) Larger and very solid.  
 — — — var. *radiata* (Colb.) With greenish or yellowish rays.
- 53 — *margaritifer* var. *sinuata* (Lam.) Broader, lower margin incurved.  
 — — — var. *roissyi* (Mich.) Longer, lower margin rounded outwards.
- 54 *Anodonta cygnea* var. *arenaria* (Schröter) Broader, upper and lower margins parallel.  
 — — — var. *rostrata* (Rossm.) Ovate, crested upper margin.  
 — — — var. *stagnalis* (Sowerby) Thin, inflated, anterior end rounded, olive-green  
 — — — var. *incrassata* (Shepp.) More swollen and solid.  
 — — — var. *radiata* (Müller) Streaked yellowish-green.  
 — — — var. *pallida* (Jeffreys) Wedge-shaped, light yellow.
- 55 — *anatina* var. *ventricosa* (C. Pfr.) Larger, more solid.  
 — — — var. *complanata* (Rossm.) Oval, compressed, beaks close to the anterior margin.  
 — — — var. *radiata* (Jeffreys) With green and yellow rays.
- 56 *Dreissensia polymorpha* v. *angusta* (Colb.) Narrower.  
 — — — var. *dilatata* (Colb.) Broad and flat, beaks protruding beyond hinge



## PLATE I. (continued).

14	<i>Limnæa palustris</i> var. <i>corva</i> (Guelin)	Larger, more tumid, dark purple.
—	— var. <i>obesa</i> (Taylor)	Very tumid.
—	— var. <i>elongata</i> (Moq.)	Spire more produced.
—	— var. <i>conica</i> (Jeffreys)	Conical, suture deep, with an umbilical cleft.
—	— var. <i>minor</i> (Taylor)	Smaller, 8 mm. × $4\frac{1}{2}$ mm.
—	— var. <i>tincta</i> (Jeffreys)	Shorter and broader, mouth purplish.
—	— var. <i>lacunosa</i> (Zgl.)	With rows of malleations.
—	— var. <i>fasciata</i> (Nelson)	With three spiral dark bands on body whorl.
—	— var. <i>roseolabiata</i> (Jeff.)	With rose-coloured rib.
—	— var. <i>albida</i> (Nelson)	White.
—	— m. <i>decollatum</i> (Jeffreys)	Spire truncate.
15	— <i>auricularia</i> var. <i>acuta</i> (Jeffreys)	Smaller, oblong, mouth narrower.
—	— var. <i>ampla</i> (Hartmann)	Aperture extending beyond apex.
—	— var. <i>reflexa</i> (Nelson)	Outer lip much reflected.
—	— var. <i>magna</i> (Colb.)	Larger, mouth narrower.
—	— var. <i>albida</i> (Jeffrey.)	White.
16	— <i>stagnalis</i> var. <i>fragilis</i> (Linné)	Smaller, thinner, more slender.
—	— var. <i>bottnica</i> (Clessin)	Smaller, dark, suture deep.
—	— var. <i>lacustris</i> (Studer)	Spire short, body whorl large.
—	— var. <i>labiata</i> (Jeffreys)	Outer lip enlarged.
—	— var. <i>variegata</i> (Hazay)	With variegated white markings.
—	— var. <i>albida</i> (Jeffreys)	White.
—	— m. <i>sinistrorsum</i> (Jeffreys)	Sini-stral.
—	— var. <i>scalariforme</i>	Whorls disconnected.

## PLATE II.

FIG.		
17	<i>Amphipelea glutinosa</i> v. <i>mucronata</i> (Jeff.)	Spire more produced.
—	— var. <i>albida</i> (Williams)	White.
19	<i>Limnæa truncatula</i> var. <i>ventricosa</i> (Moq.)	Tumid, spire short.
—	— var. <i>elegans</i> (Jeffreys)	Larger, tapering spire.
—	— var. <i>microstoma</i> (Drouet)	Mouth contracted.
—	— var. <i>albida</i> (Nelson)	White.
—	— m. <i>scalariforme</i> (Jeffreys)	Whorls disunited.
20	— <i>glabra</i> var. <i>elongata</i> (Jeffreys)	Spire produced.
21	<i>Physa fontinalis</i> var. <i>inflata</i> (Moq.)	Much larger, more ventricose.
—	— var. <i>curta</i> (Jeffreys)	Spire very short.
—	— var. <i>oblonga</i> (Jeffreys)	Spire produced.
—	— var. <i>albina</i> (Jeffreys)	White.
22	<i>Aplexa hypnorum</i> var. <i>rubra</i> (Tryon)	Dark reddish.
25	<i>Ancylus fluviatilis</i> var. <i>capuloides</i> (Jan.)	Larger, apex near the centre.
—	— var. <i>gibbosa</i> (Bourguignat)	Small, with apex overhanging posterior margin
—	— var. <i>stricta</i> (Morel)	Much elevated, sides compressed.
—	— var. <i>albida</i> (Jeffreys)	White.
26	<i>Velletia lacustris</i> var. <i>compressa</i> (Jeffreys)	Broader and flatter.
—	— var. <i>moquiniana</i> (Bourg.)	Elevated, compressed at sides.
—	— var. <i>albida</i> (Jeffreys)	White.
27	<i>Neritina fluviatilis</i> var. <i>cerina</i> (Colb.)	Lemon-coloured.
—	— var. <i>trifasciata</i> (Colb.)	With three spiral dark bands.
—	— var. <i>undulata</i> (Colb.)	Transversely banded.
—	— var. <i>nigrescens</i> (Colb.)	Uniformly dark coloured.

## PLATE II. (continued).

20	<i>Paludestrina ventrosa</i> var. <i>ovata</i> (Jeffreys)	Spire shorter, whorls four, more tumid.
—	— var. <i>elongata</i> (Jeffreys)	Spire longer.
—	— var. <i>pellucida</i> (Jeffreys)	White, transparent.
31	— <i>jenkinsi</i> var. <i>carinata</i> (Smith)	Kegeled.
32	— <i>stagnalis</i> var. <i>tumida</i> (Marshall)	More tumid.
—	— var. <i>barlesi</i> (Jeffreys)	Smaller, spindle-shaped, mouth smaller.
—	— var. <i>octona</i> (Linné)	Smaller, thinner, suture deeper.
—	— var. <i>albida</i> (Jeffreys)	Whitish.
33	<i>Valvata cristata</i> var. <i>alba</i> (Rowe)	White.
34	— <i>piscinalis</i> var. <i>depressa</i> (C. Pir.)	Flatter, umbilicus larger.
—	— var. <i>antiqua</i> (Sowerby)	Spire more raised.
—	— var. <i>acuminata</i> (Jeffreys)	Spire more produced, apex sharper.
—	— var. <i>pusilla</i> (Müller)	Smaller, striae stronger, whorls 43.
—	— m. <i>sinistrorsum</i> (Jeffreys)	Sini-stral.
35	<i>Bythinia tentaculata</i> var. <i>producta</i> (Menke)	Larger, spire produced.
—	— var. <i>ventricosa</i> (Menke)	Shorter, more tumid.
—	— var. <i>excavata</i> (Jeffreys)	Suture deeper, whorls more rounded.
—	— var. <i>albida</i> (Rimmer)	White.
36	— <i>leachi</i> var. <i>elongata</i> (Jeffreys)	Spire produced.
—	— var. <i>albida</i> (Rimmer)	White.
37	<i>Vivipara vivipara</i> v. <i>efasciata</i> (Fickering)	Without bands.
—	— var. <i>atro-purpurea</i> (Lloyd)	Dark purple all over.
—	— var. <i>albida</i> (Nels. & Tayl.)	White.
—	— m. <i>sinistrorsum</i>	Sini-stral.
38	— <i>contacta</i> var. <i>virescens</i> (Jeffreys)	Without bands.
39	<i>Succinea putris</i> var. <i>subglobosa</i> (Jeffreys)	Shorter, broader, more solid.
—	— var. <i>stagnalis</i> (Gassies)	Smaller, straighter front margin.
—	— var. <i>solidula</i> (Jeffreys)	Thicker and deeper coloured.
—	— var. <i>vitrea</i> (Moq.)	Thinner and paler.
—	— var. <i>albida</i> (Morel)	White.
40	— <i>oblonga</i> var. <i>alba</i> (Wright)	White.
—	— m. <i>sinistrorsum</i> (Taylor)	Sini-stral.
41	— <i>elegans</i> var. <i>longiscata</i> (Morel)	Shell longer, mouth compressed.
—	— var. <i>peifferi</i> (Rossin.)	Shorter, not so much drawn out.
—	— var. <i>virescens</i> (Morel)	Thin, greenish yellow.
—	— var. <i>ochracea</i> (Betts)	Smaller, thicker, spire longer, mouth small.
—	— var. <i>albida</i> (Taylor)	White.
—	— m. <i>sinistrorsum</i> (Bandon)	Sini-stral.



VARIETIES AND MONSTROSITIES.

PLATE I.

PLATE I.—(UNIVALVES).

Fig.	Species & Authority	Colouring.	Chief Characteristics	Habitat	Frequency
1	<i>Segmentina nitida</i> (Müller)	Reddish horn colour	Nautilus like, internal septa visible outside	Ditches and slow streams	Local
2	<i>Planorbis fontanus</i> (Lightfoot)	Pale horn colour	Flatness, thinness, sharp keel	Ditches and ponds	Frequent
3	— <i>nautilus</i> (Linné)	Greyish white ...	Small size, nautilus-shape, ridges	Ditto	Frequent
4	— <i>dilatatus</i> (Gould)	Horn colour ...	Expanded mouth (introduced)	Canals in Lancashire	Rare
5	— <i>parvus</i> (Say)	Greyish horn colour	Smoothness, glossiness, absence of keel	Marshes, ditches, and ponds	Local
6	— <i>spirorbis</i> (Müll.)	Dark horn colour	Faint keel, roundish mouth	Ditches, streams, etc.	Common
7	— <i>albus</i> (Müller)	White ...	Spiral striations	Ditches, canals, and ponds	Common
8	— <i>contortus</i> (Linné)	Dull brown, opaque	Solidity, compactness, crescent-shaped mouth	Ditches and ponds	Frequent
9	— <i>vortex</i> (Linné)	Pale horn colour	Sharp keel, oval mouth	Ditches, streams, etc.	Common
10	— <i>umbilicatus</i> (Müller)	Brown, nearly opaque	Solidity, blunt keel at base of whorl	Ditto	Common
11	— <i>corneus</i> (Linné)	Dark horn colour	Large size; young shells hispid	Ditches, canals, etc.	Common
12	— <i>carinatus</i> (Müller)	Yellowish horn colour	Thinness, sharp keel in centre of whorl	Ditches, streams, etc.	Local
13	<i>Limnæa peregra</i> (Müller)	Variable ...	Variation in shape and size	Everywhere	Abundant
a	— var. <i>burnetti</i>	Yellowish horn colour	Extremely short spire	Loch Skene, Dumfriesshire	Rare
b	— var. <i>acuminata</i>	Variable ...	Produced spire	Ditches, ponds, etc.	Frequent
c	— var. <i>lutea</i> ...	Yellowish horn colour	Solidity, short spire	Near sea-coast	Local
d	— var. <i>lacustris</i> ...	Ditto	Transverse grooves, glossiness, short spire	Lakes in the north	Frequent
e	— var. <i>obtusa</i> ...	Ditto	Large size, expanded mouth	Ditches, ponds, etc.	Local
f	— var. <i>oblonga</i> ...	Ditto	Oblong shape, compressed in front	Ditches, streams, etc.	Local
g	— var. <i>ovata</i> ...	Variable ...	Thinness, convex whorls, oblong mouth	Ditches, ponds, etc.	Frequent
14	<i>Limnæa palustris</i> (Müller)	Dull brown or purplish	Tapering spire, smallish mouth	Ditches, marshes, ponds, etc.	Common
15	— <i>auricularia</i> (Linné)	Yellowish horn colour	Very expanded mouth, short and sharp pointed spire	Lakes, canals, and rivers	Frequent
16	— <i>stagnalis</i> (Linné)	Greyish horn colour	Large size, tapering spire	Canals, ponds, rivers, etc.	Common

FIG.

1	<i>Segmentina nitida</i> var. <i>albina</i> (Taylor)	White.
2	<i>Planorbis fontanus</i> var. <i>albida</i> (Nelson)	White.
3	— <i>nautilus</i> var. <i>laevigata</i> (Adami)	Without ridges.
5	— <i>parvus</i> var. <i>compressa</i> (Lloyd)	More concave below, whorls rounder.
6	— <i>spirorbis</i> var. <i>albida</i> (Jeffreys)	Whitish.
—	— <i>ecarinata</i> (Jeffreys)	No keel.
—	— <i>albida</i> (Nelson)	White.
—	— m. <i>scalariforme</i> (N. & T.)	Whorls disunited.
7	— <i>albus</i> var. <i>draparnaldi</i> (Shepp.)	Carinated, without spiral striae.
—	— var. <i>sulcata</i> (Taylor)	With strong curved cross ridges and furrows.
—	— m. <i>scalariforme</i>	Whorls twisted or disunited.
9	— <i>vortex</i> var. <i>compressa</i> (Mich.)	Thinner, flatter, more sharply keeled.
10	— <i>umbilicatus</i> var. <i>rhombea</i> (Turton)	Smaller, more solid, more concave below.
—	— var. <i>albina</i> (Jeffreys)	White.
—	— m. <i>sinistrorsum</i> (Taylor)	Sinistral.
11	— <i>corneus</i> var. <i>albina</i> (Moq.)	White.
12	— <i>carinatus</i> var. <i>disciformis</i> (Jeffreys)	Flatter and thinner.
—	— var. <i>albida</i> (Hudson)	White.
13 a	<i>Limnæa peregra</i> var. <i>burnetti</i> (Alder)	Globose, rather solid, spire scarcely elevated, apex intorted. (Figured).
—	— m. <i>scalariforme</i> (Jeffreys)	Whorls disjointed.
—	— m. <i>sinistrorsum</i> (Jeffreys)	Sinistral.
—	— m. <i>decollatum</i> (Jeffreys).	Spire truncate.
b	— var. <i>acuminata</i> (Jeffreys)	Produced spire, smallish mouth. (Figured).
—	— var. <i>intermedia</i> (Ferrussac)	Thin, compressed towards front margin, spire produced, mouth expanded.
c	— var. <i>lutea</i> (Montagu)	Very solid, short spire. (Figured).
—	— var. <i>diaphana</i> (Parreyss)	Very thin and transparent.
—	— var. <i>picta</i> (Jeffreys)	Shell spirally banded brown and white
—	— var. <i>candida</i> (Porro)	White.
—	— var. <i>lineata</i> (Bean)	Shell having strong spiral ridges.
—	— var. <i>labiosa</i> (Jeffreys)	Outer lip expanded and reflected.
d	— var. <i>lacustris</i> (Leach)	Shell small, glossy, with transverse grooves. (Figured).
—	— var. <i>inflata</i> (Kobelt)	Shell large, spire small, whorls not very convex, mouth pear shaped.
—	— var. <i>patula</i> (Da Costa)	Shell large, spire short, whorls very convex, mouth ample.
e	— var. <i>obtusa</i> (Kobelt)	Shell large, spire small, mouth ample. (Figd.).
f	— var. <i>oblonga</i> (Jeffreys)	Oblong, compressed in front. (Figured).
—	— var. <i>boissyi</i> (Dupuy)	Small, globose, whorls convex, spire produced.
—	— var. <i>vulgaris</i> (Pfeiffer)	Small, spire not very prominent, whorls and aperture less convex than type.
—	— var. <i>pulchella</i> (Rottfian)	Small, lines of growth pronounced, slight margin to aperture.
—	— var. <i>succineiformis</i> (Jeff.)	Very thin, shaped like a <i>Succinea</i> .
—	— var. <i>maritima</i> (Jeffreys)	Dwarfed, solid, spire produced, suture deep.
—	— var. <i>microstoma</i> (Kobelt)	Long and slender spire, like <i>L. palustris</i> .
g	— var. <i>ovata</i> (Draparnaud)	Shell large, rather thin, spire short, mouth oblong. (Figured).
—	— v. <i>stagnalisformis</i> (Taylor)	Somewhat fusiform or spindle shaped.



PLATE II.



FIG. 17.



FIG. 18.



FIG. 19.



FIG. 20.



FIG. 21.



FIG. 22.



FIG. 23.



FIG. 24.



FIG. 25.



FIG. 26.



FIG. 27.



FIG. 28.



FIG. 29.



FIG. 30.



FIG. 31.



FIG. 32.



FIG. 33.



FIG. 34.



FIG. 35.



FIG. 36.



FIG. 37.



FIG. 38.



FIG. 39.



FIG. 40.



FIG. 41.



FIG. 42.



FIG. 43.



PLATE III.



FIG. 45.



FIG. 46.



FIG. 47.



FIG. 48.



FIG. 49.



FIG. 50.



FIG. 51.



FIG. 52.



FIG. 53.



FIG. 54.

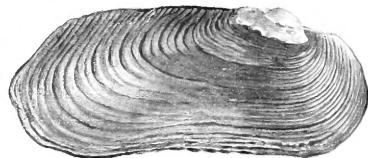


FIG. 55.

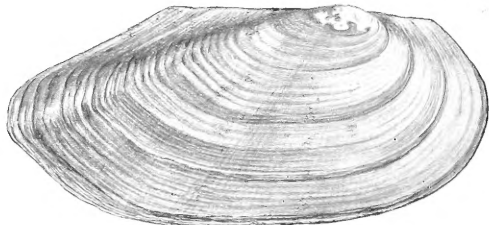


FIG. 56.



FIG. 57.



FIG. 58.



FIG. 59.

