

The Conchological Society of Great Britain and Ireland

(Founded 1876)

Papers for Students No. 3 (revised 2nd edition)

KEY TO THE LAND SNAILS OF THE BRITISH ISLES

by

A. E. Ellis

INTRODUCTION

This Key is entirely artificial, taking no account of natural affinities or taxonomic classification, and being intended merely as an introductory guide to beginners is based on the shell, not on anatomical characters. The best aid to identification is good illustrations or access to named specimens in a museum or private collection. Experience is needed to distinguish some species with assurance, while for some, such as Succinea and Vitrina, examination of internal structures, such as the genitalia, is really necessary and requires considerable skill in dissection. This Key deals with normal adult shells, not with juvenile or abnormal forms. Dimensions in millimetres are of the height (length) or width of the shell, whichever is the greater, and refer to individuals of normal size. Living snails should be collected, as colour and texture deteriorate in dead shells exposed to weathering. Furthermore, it is only by studying living snails that a knowledge of their habitat can be acquired. For instance, in flood refuse land and freshwater species from a variety of habitats are indiscriminately intermingled (though sifting such deposits is a good method for collecting some minute shells).

A word about nomenclature: the scientific names used are those most familiar to students of British Mollusca, though it is recognised that in some instances other names are preferred by Continental authors. It is expected that a revised list of British non-marine Mollusca will be published in the near future.

This Key is restricted to land snails. Slugs are dealt with in Papers for Students No. 12; freshwater snails by T.T. Macan & R.D. Cooper, 1960, "Key to the British fresh- and brackish-water Gastropods", 2nd edition, Freshwater Biological Association Scientific Publication No. 13 (obtainable from the Librarian, F.B.A., Far Sawrey, Ambleside, Westmorland); and freshwater bivalves in Linnean Society Synopses No. 13 (sold at the Society's rooms in Burlington House, Piccadilly, London, W1V 0LQ).

SOME PRELIMINARY SORTING

Habitats

Though few species are rigidly confined to one type of habitat or environment, certain kinds are more likely to be found in particular habitats, such as woodland, marshes, downs, gardens, etc., than elsewhere. Species may be encountered in unusual situations where they would not be expected.

Wet places, marshes, fens, river and canal banks, lake shores, etc.: Succineidae, at least five species of Vertigo, Zonitoides nitidus, Carychium minimum; many other species also occur in wet places but are not restricted to them.

Woodland, especially old natural woods, ancient hedges, but usually not recent plantations: Acicula, Azeca, Acanthinula, Ena, Marpessa, Clausilia rolphi, Helicigona, Helicodonta, Vittrina major, Zonitoides excavatus (this last on non-calcareous soils); many other species may be found in woods but live also elsewhere.

Open grassy places, downs, sand dunes, fields, etc.: Truncatellina, Abida (sometimes in woods), Vallonia, Theba, Trichia subvirescens, Helicella, Cochlicella, Monacha cartusiana, M. cantiana; many of these have whitish, plain or banded shells.

Rocks and walls, sometimes tree-trunks: Pyramidula, Vertigo pusilla, V. alpestris, Balea, Clausilia dubia, Helicigona.

Maritime (mainly south and west coasts): Theba, Cochlicella (sometimes inland, especially in Ireland), Trichia subvirescens, Catinella, Truncatellina britannica.

Gardens: Helix aspersa, Trichia striolata, Oxychilus draparnaudi; other kinds less frequently. Churchyards are favourite habitats for some snails, e.g. Cepaea.

Subterranean: Cecilioides; many snails bury themselves in cold or dry weather.

Distribution

Most species are fairly widely distributed, but some are restricted to a few localities or to certain regions; they may be rare everywhere or locally common. The following are rare or local: Catinella, Succinea oblonga, S. elegans, Truncatellina, most species of Vertigo, Ena montana, Laciniaria, Fruticicola (Eulota), Helicodonta, Theba, Hygromia limbata, H. cinctella, Trichia subvirescens, Monacha cartusiana, Helicella elegans, Vittrina major, V. pyrenaica.

Size

Largest (35-45 mm.): Helix pomatia (largest British snail), H. aspersa.

Large (15+ mm.): Cepaea hortensis, C. nemoralis, Arianta, Helicigona, Monacha cantiana, Fruticicola, large Helicella virgata, H. itala, Laciniaria, Marpessa, Succinea putris.

Small (3-5 mm.): Pupilla, Lauria, Cecilioides, Retinella radiatula, R. pura, Vitrea, Euconulus.

Minute (3 mm. or less): Acicula, Carychium, Vertigo, Truncatellina, Columella, Pyramidula, Vallonia, Acanthinula, Punctum.

The rest, of moderate size, range between 5 and 15 mm. Though a few species vary widely in size, most do not depart much from the normal.

KEY TO THE SPECIES

OPERCULATE: mouth of the shell closed when the animal is retracted by a flat lid or operculum which is attached to the animal on its back behind the shell; two British species only.

Acicula fusca: under 3 mm., cylindrical, highly polished, operculum thin, horny; mainly in old woodland.

Pomatias elegans: about 15 mm., conical, whorls very rounded, spirally ridged, operculum thick, shelly; Chalk and limestone in England and Wales.

SINISTRAL: whorls coiled anticlockwise, so that when the shell is held spire upwards with the mouth towards the observer it is on the left (rarely sinistral freaks of dextral species are found, and also dextral abnormalities of sinistral species).

Minute (about 2 mm.):

Vertigo angustior: five teeth or denticles inside the narrow mouth; marshes, very rare.

Vertigo pusilla: with six apertural teeth; rocks and walls, very local.

Larger (8+ mm.): Clausiliidae.

Balea perversa: mouth simple, usually with a single tooth, no clausilium, shell widest at base, 8-9 mm.; walls, rocks and trees.

Mouth with internal folds or ridges; clausilium (spoon-shaped structure for closing the shell) present; shell widest at or below the middle; 12-18 mm.:

Marpessa laminata: smooth, glossy, 18mm.; mainly woodland.

Laciniaria biplicata: strongly striated, umbilicus wide, 17mm.; very local, now restricted to a few places by River Thames near London.

Less strongly striated than Laciniaria, umbilicus narrow, 12-16 mm.;

Clausilia:

C. bidentata: shell narrow, flecked or streaked with white; smallest and commonest.

C. dubia: more swollen, smoother, 16 mm.; rocks and walls in limestone districts of N. England and Scottish Border (old records from other parts).

C. rolphi: very swollen, reddish brown, unicolorous, mouth wide; woods and hedges from Lincolnshire southwards.

All the other British snails are normally dextral (coiled in a clockwise direction).

APERTURAL TEETH PRESENT: inside of mouth of shell furnished with one or more teeth, denticles, plaits or knobs.

Single tooth:

Pupilla muscorum (rarely 0, 2 or 3 teeth): 3-3.5 mm., cylindrical, mouth narrow with white external rib behind the rim.

Lauria cylindracea: 4 mm., lip broad, turned outwards or reflected, no external rib, glossy, less cylindrical; common. (L. sempronii, smaller, more cylindrical, without apertural denticle, is recorded from one locality in Glos.)

Two teeth:

Helicodonta obvoluta: unique in shape, like a flattened cheese, spire sunk below the level of the body-whorl, hairy, lip much thickened, width of shell 12 mm.; beech woods and old hedges in S. Hampshire and W. Sussex.

Three teeth:

2 mm., shaped like a miniature whelk, white or colourless; Carychium:

C. minimum: 5 whorls, nearly smooth; damp places.

C. tridentatum: 5½ whorls, finely striated, less swollen; drier habitats.

Azeca goodalli: 7 mm., spindle-shaped, very glossy, brown, resembles Cochlicopa except for the teeth.

Truncatellina britannica: under 2 mm., cylindrical, strongly striated, light brown, teeth not all visible from in front; dry grassy places on south coast, Devon to Isle of Wight.

Four teeth:

Vertigo alpestris: 2 mm., subcylindrical, pale brown, strongly striated; limestone rocks and walls, N. England, Dolgellau and Mull.

Vertigo lilljeborgi: 2 - 2.5 mm., like V. moulinsiana but less swollen, with a narrower umbilicus and weaker lip, teeth sometimes 5; lakeshores in north and west.

Vertigo geyeri: smaller, less smooth, darker and not so swollen; bogs in Ireland, rare.

Lauria anglica: under 4 mm., barrel-shaped, like L. cylindracea except for teeth; frequent in north and in Ireland, rare in south.

Five teeth (sometimes four):

Vertigo pygmaea: 2 mm., the commonest Vertigo.

Vertigo moulinsiana: 2.3 mm., the largest Vertigo, very swollen; fens and marshes, S. and E. England, Norfolk to Devon, Ireland, very local.

Six teeth:

Vertigo substriata: 2 mm. or less, strongly striated, whorls very convex; suture deep, yellowish brown, teeth sometimes 4 or 5; rare in S. England.

Six to Eight teeth:

Vertigo antivertigo: 2 mm., dark brown; wet places.

Eight or Nine teeth:

Abida secale: 7 mm., 8 whorls, strongly striated; dry grassy places on limestone and Chalk, practically confined to England.

SHELL HAIRY OR SPINY:

Single row of peripheral spines:

Acanthinula aculeata: 2 mm.; woodland.

Shell clothed with hairs (which may get rubbed off):

Helicodonta obvoluta: two apertural teeth, shell cheese-shaped, spire depressed.

No apertural teeth:

Umbilicus normally wide:

Trichia hispida: about 8 mm., hairs curved, easily rubbed off. (T. liberta, a doubtful species, has a narrow umbilicus.)

Umbilicus very narrow:

Trichia subvirescens: 6 mm., shell green; near sea in S.W. England, Pembrokeshire and Channel Islands.

Monacha (Ashfordia) granulata: 7.5 mm., rather fragile, pale straw colour, hairs straight, persistent.

(Young shells of Monacha cantiana and Trichia striolata are hairy.)

PERIPHERY (MARGIN) OF SHELL ANGLED OR KEELED:

Sharply keeled:

Helicigona lapicida: 17 mm., very flattened, lens-shaped, brown, umbilicus wide, lip white and conspicuous; woods, rocks and walls on calcareous soil.

Helicella (Trochoidea) elegans: 7.5 mm., conical, top-shaped, base flat (shape like a miniature Trochus); chalky white or grey, often banded, umbilicus very small; grassy places in Kent, E. Sussex and Surrey, very local.

Bluntly keeled or angled:

Discus rotundatus: 7.5 mm., flat, strongly striated, umbilicus very wide; very common.

Hygromia cinctella: about 12 mm., globose, Helix-like, umbilicus almost closed (distinguished from H. limbata by the angled periphery); S. Devon.

SHELL VERY THIN, SEMITRANSSPARENT:

Elongated, whorls increasing very rapidly, spire very short, body-whorl capacious, mouth at least half the height of the shell, into which the animal can barely withdraw; wet habitats: Succineidae.

Shell under 10 mm., thicker, whorls rounded, mouth almost circular, body-whorl not so large relatively as in the larger species; resembling the freshwater snail Lymnaea truncatula:

Catinella arenaria: toffee or amber coloured, with more convex whorls; rare and local.

Succinea oblonga: horn-coloured or greenish; rare and local.
(Both these species are clearly distinguishable by their genitalia.)

Height 10 - 17 mm. or more; three rather similar species:

Succinea putris: 17 mm. or more, whorls enlarging very rapidly so that the body-whorl and mouth are very large; less wet habitats than the next two.

Succinea pfeifferi: about 10 mm., paler, thinner, whorls increasing less rapidly, spire comparatively higher, mouth smaller, slanting or oblique; common.

Succinea elegans (sarsi): about 15 mm., more slender and elongated, not so thin, deep amber, more strongly striated, spire more produced, mouth sharply angled above, not oblique; S.E. England.

Flattened or depressed:

Umbilicus closed or narrow, shell greenish white or white, closely coiled, about 3 mm.: Vitrea.

Vitrea subrimata: umbilicus minute or obsolete; limestone in N. England.

Vitrea crystallina & V. contracta: umbilicus open, the former being the larger, with narrower and shallower umbilicus and broader mouth.

Umbilicus wide: most Zonitidae.

Umbilicus very wide and open: Zonitoides.

Z. excavatus: 6 - 7 mm., pale brown or greenish white; woods and hedges on non-calcareous soils.

Z. nitidus: 8 mm., deep brown, glossy, umbilicus less wide; wet places.
Umbilicus moderately wide:

Not glossy:

Retinella pura: 4 mm., white or pale brown, dull, smooth.

Retinella nitidula: 6.5 - 15 mm., dull, waxy, brown above, white below, umbilicus wide.

Glossy, strongly and regularly striated:

Retinella radiatula (= Nesovitrea hammonis): 4 mm., brownish.

Glossy, smooth: four species of Oxychilus, in order of increasing size:

O. alliaris: up to 6.5 mm., animal smelling of garlic.

O. helveticus: up to 10 mm., very glossy, deeper brown, umbilicus narrower, spire more raised, animal with black collar showing through the shell.

O. cellarius: the same size or slightly larger, pale straw-coloured, whitish underneath, more flattened, suture channelled.

O. draparnaudi: up to 15 mm., rather thick shelled, deep fawn, striation coarser, spire much depressed, mouth oblique; mostly in gardens, wild places in S.W.

Globose, very thin and fragile:

Spire slightly elevated:

Hygromia subrufescens: about 9 mm., colour light brown, umbilicus very narrow; woods and wild places, rare in S. and S.E.

Spire not raised, shell glass-like, greenish, whorls enlarging very rapidly, no umbilicus, animal incapable of withdrawing completely into the shell:

Vitrina:

V. pellucida, adult in winter, common, and V. major, adult in spring, rare and local in old woodland in England and Wales, differ in genitalia; V. major is more yellowish and fragile, with larger mouth and flatter spire.

V. pyrenaica: flattened, mouth of shell over two-thirds the total width; Ireland, very local.

SHAPE OF SHELL (exclusive of most of the species already mentioned):

Conical or top-shaped:

Euconulus fulvus: up to 3.5 mm., brown, very glossy, thin, base convex, no umbilicus. Var. alderi Gray, smaller and darker, is regarded as a distinct species by some authors.

Pyramidula rupestris: 3 mm., depressed, dark brown, striated, whorls rounded, umbilicus wide and deep; limestone rocks and walls.

Acanthinula lamellata: 2 mm. or more, more globose, yellowish brown, umbilicus narrow, strongly and regularly striated or ribbed; woodland, rare in south.

Elongated, height much greater than width:

Small (up to 5 mm.):

Columella: 3 mm., cylindrical, rather like a small Pupilla but without apertural tooth or rib; two closely similar species, C. edentula and C. aspera, the latter more strongly and regularly striated.

Truncatellina: under 2 mm., cylindrical, strongly and regularly striated; T. cylindrica, without apertural teeth, very local and T. britannica, 3 teeth (not all easily visible), south coast.

Cecilioides acicula: 5 mm., very slender, tapering at both ends, white or colourless, fragile; subterranean, often cast up in mole-hills and found in graves, not in Scotland.

Size medium (up to 15 mm.):

Cochlicopa: up to 7 mm., very glossy and slippery, no umbilicus, lip with an internal rib; two closely related species, C. lubrica, larger and stouter than C. lubricella which inhabits drier places.

Ena: oval conical; not polished, lip broad and turned outwards like the rim of a piedish, umbilicus a chink; two species, E. montana, 15 mm., old woods, hedgerows, on Chalk or limestone, S. England, rare and E. obscura, 9 mm., more cylindrical, often soil encrusted, common.

Large (more than 15 mm.):

Cochlicella acuta: elongate conical, white, variously striped or variegated with brown; usually maritime except in Ireland.

Flattened, width much greater than height:

Lip thickened and trumpet-like, mouth circular, umbilicus wide, shell whitish, up to 2.5 mm.: Vallonia:

V. costata: strongly ribbed.

V. pulchella and V. excentrica: smooth, the latter smaller, less circular, lip not abruptly turned outwards as in pulchella but expanding smoothly out of the body-whorl; drier habitats.

Lip not thickened:

Punctum pygmaeum: 1.5 mm. or less, light brown; the smallest British land snail.

Helicella itala: average 17 mm., opaque white, variously banded or variegated with brown; dry grassy places.

Globose, more or less typical 'snail-shaped' or Helix-like: species roughly in decreasing order of size:

Helix pomatia: our largest snail, thick and solid, light brown, indistinctly banded, spire somewhat raised, umbilicus narrow; Chalk and limestone, southern half of England (not S.W.), local.

Helix aspersa: second largest, spire depressed, shell variously banded or mottled, lip white, turned outwards, no umbilicus; the common garden snail, also in wild places, becoming sparse in the north.

Cepaea nemoralis: about 22 mm., usually some shade of yellow, red or brown, plain or with 1 to 5 brown bands, lip normally brown, no umbilicus; most variable; 'love-dart' (a dagger-shaped object extruded in mating) straight, with 4 simple blades.

Cepaea hortensis: slightly smaller, coloration similar but less variable, plain or 5-banded shells predominating, lip white; dart curved, with 4 forked blades, like a Maltese cross in cross section.

Arianta arbustorum: 20 mm. or more, similar in shape to C. nemoralis, umbilicus not quite closed, lip thick, white, sharply turned outwards, shell brown with pale flecks, often with a single dark band, less commonly yellowish.

Theba pisana: 18 mm., chalky white, often tinged with pink, plain or with numerous narrow bands and delicate markings, very variable, lip not turned outwards, pink inside, umbilicus narrow; maritime, Channel Islands, S. Wales, E. Ireland.

Fruticicola fruticum: white, resembles Monacha cantiana but more globose and finely striated, genitalia very different; Kent, very local, not found in recent years.

Monacha cantiana: about 19 mm., white, usually tinged with red, often with peripheral white stripe, otherwise unicolorous, rather thin, umbilicus narrow; almost confined to England.

Monacha cartusiana: 12 mm., thicker, white, strong apertural rib, more compact and solid than M. cantiana; grassy places, S.E. England.

Hygromia limbata: 12 mm., spire slightly depressed (but less so than in Trichia striolata), periphery faintly angled, umbilicus deep and narrow, lip turned outwards, reddish or pale brown with paler peripheral zone; S. Devon.

Hygromia cinctella: similar but with a sharply angled periphery.

Trichia striolata: about 13 mm., spire depressed or flattened, periphery faintly angled, umbilicus wide, rather coarsely striated, varying from white to reddish brown; frequent in gardens. A smaller form with higher spire occurs in N. & W.

Trichia hispida and Monacha granulata: see under 'Shell hairy'.

Helicella virgata: 8 - 25 mm. (average 16 mm.), chalky white or brownish, plain or variously banded or marked, very variable, spire rather raised, umbilicus deep, narrow.

Helicella caperata: 7 - 12 mm., thick and chalky, strongly striated or wrinkled, umbilicus moderately wide, spire more depressed, lip with strong, white internal rib, there is often a single peripheral band.

Helicella gigaxii: closely related but flatter, less coarsely striated, umbilicus wider, rib weaker; banding when present narrow and indistinct; north to Yorkshire and a few Irish localities.

LITERATURE

- BEEDHAM, G.E. 1972. Identification of the British Mollusca. Hulton
E Educational Publications Ltd., Amersham.
- ELLIS, A.E. 1969. British Snails, 2nd edition. Clarendon Press, Oxford.
(contains an extensive bibliography).
- JANUS, H. 1965. The Young Specialist Looks At Land and Freshwater Molluscs.
Burke Publishing Co., London.
- McMILLAN, N.F. 1968. British Shells. Frederick Warne, London.
-

Revised 2nd edition: 19th October, 1974.

© The Conchological Society of Great Britain and Ireland

"Papers for Students" edited and distributed by

Dr. A.J. Rundle,
29, Burlington Avenue,
Kew, Richmond,
Surrey, TW9 4DF.

(On behalf of the Society)