

## AN ANNOTATED LIST OF THE NON-MARINE MOLLUSCA OF BRITAIN AND IRELAND

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*Abstract* An updated nomenclatural list of the non-marine Mollusca of the Britain and Ireland is provided. This updates all previous lists and revises nomenclature and classification in the context of recent changes and of new European lists, including the Clecom List. Cases are made for the usage of names in the List by means of annotations. The List will provide a basis for the future census and cataloguing of the fauna of Britain and Ireland.

*Key words* Taxonomic, list, nomenclature, non-marine, Mollusca, Britain, Ireland, annotated.

### INTRODUCTION

There has been a need for some time to modernise the list of non-marine Mollusca for Britain and Ireland, a subject last visited in this journal in 1976 (Waldén 1976; Kerney 1976). Many of the changes that have appeared in the literature since then are contentious and Kerney (1999) chose not to incorporate many of these into the latest atlas of non-marine Mollusca of Britain and Ireland. A new European List, the Clecom List (Falkner *et al.* 2001) has now appeared and it seems appropriate to examine in more detail constituent changes which might affect the British and Irish faunas. This is given additional urgency by the inception of a new census of the molluscs of Britain and Ireland by the Conchological Society. Recorders in the Society are aware of many of the proposed changes but unable to implement them without general agreement. In addition, many field malacologists make use of the recording package RECORDER, a recent form of which has been developed jointly by JNCC and the National Biodiversity Network in the United Kingdom. The species lists for invertebrates in RECORDER 2002 and future editions of the software are not yet finalised but the contract for their assemblage is with staff in the Natural History Museum (NHM). An up-to-date mollusc list would inform mollusc recording through RECORDER and also through the National Biodiversity Network and assist the implementation of Biodiversity Action Plans within the UK. Recent developments, such as the publication of an Irish List derived directly from Clecom (Moorkens & Speight 2001) and the publication of an Aidgap Guide to molluscs (Cameron 2003), which differ significantly on many points, add further urgency to the need for a new list upon which all can agree.

Colleagues in the Natural History Museum have been consulted with the object of achieving a common position on as many of the more controversial proposed changes, as possible. The revised list for Great Britain and Ireland given below, has been developed from discussions not only with NHM staff but with others in the Conchological Society, and is an attempt to set a generally accepted standard for recorders and researchers. All lists inevitably date and this list is no exception. Necessary information on some of the problem groups is currently lacking, and is likely to come about only through detailed phylogenetic studies. As results from such studies become available more changes will be sought and justified. As far as is possible, where there is ambiguity or a lack of information to decide upon a particular name or status for an organism, the issues are stated in annotations after the List. Changes to the lists of Kerney (1976) and Waldén (1976) are indicated in synonymy so that the reader can follow the evolution in usage

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and be able to place names, which these authors used, in a current context.

The List updates all previous lists (Kerney 1976; Waldén 1976; Kerney 1999; Moorkens & Speight 2001, Cameron 2003) and enumerates those molluscan species known to have established persistent or permanent breeding populations in Great Britain and Ireland. The List includes a supplementary list of hothouse aliens, but not fossil species, nor temporary introductions. Hothouse aliens are included because of the number of species which have made the transition from artificially heated environments to outdoor environments in the past. This process of acclimatisation and naturalisation of alien fauna seems likely to continue in an era of climate warming. It has also led to some serious misunderstandings of the complement of native fauna in Europe, due to early or otherwise cryptic introductions, particularly from North America. The List includes peri-marine fauna as well as non-marine fauna. There has been little consensus in previous lists for Great Britain and Ireland on which species qualify as non-marine. The position taken here is a wide one and follows the Clecom List to include both estuarine species and upper shore species, but essentially those judged to be capable of breathing air or of surviving immersion in freshwater for substantial periods.

European taxonomists are split upon many proposed, particularly recent, changes in taxonomy and the phylogeny of the fauna. The List given here in the main follows the Clecom system but differs on points of detail relating partly to the validity of species to be included in a British and Irish List but mainly on the wider validity of recognised taxonomic units. In general a precautionary principle has been applied to changes which are not well established, differ from long-established precedent, or are not supported by appropriate phylogenetic analysis. Where opinion differs significantly from the Clecom List or practice elsewhere, this is elaborated in the Notes section. Among the many factors complicating interpretation of biological species is the very variable degree to which self-fertilisation occurs in different species and species-groups. This has been largely missed by traditional conchological ordination but it is becoming increasingly clear, from the many recent phylogenetic studies published, that self-fertilisation is relatively common. This leads to partial breeding isolation within sympatric populations making it difficult to interpret biological species on morphology alone. Wherever possible the present List draws upon phylogenetic evidence to justify names and placings of species. Another major difficulty has been with the higher classification adopted in Clecom, which differs significantly from previous systems and has been commented upon in a critical fashion by reviewers (Davis 2004). The present List is aimed primarily at the recording community in Britain and Ireland so the details of higher classification are largely irrelevant. The List is therefore presented, within orders, families and genera in alphabetical, rather than systematic, order. This avoids most of the problems relating to higher systematics at a time when molecular studies are changing fundamentally the thinking about these things.

The List comprises 213 native and naturalised taxa, and 14 hothouse aliens. Of the non-hothouse species 209 species have been recorded in Britain, though two are now considered extinct, and 163 in Ireland. The inclusion of each species is indicated by GB (Britain) and IRE (Ireland) to the right of the species names in the List. Species established in historical times but now considered extinct are included with an 'E' in brackets beside the relevant geographical designation. Subfossil occurrences are disregarded. So, largely, are subspecies. The use of the subspecies designation has been so widely confused, and in turn abused, in taxonomic literature that it should only be accepted with extreme reserve (Davis 2004). The term is here taken to indicate allopatric populations with incipient potential, because of geographical isolation, for producing a new species. Only two examples are included in the List, one, *Hydrobia acuta s. neglecta*, being justified on recent phylogenetic evidence (Wilke *et al.*, 2000).

**CLASS GASTROPODA CUVIER, 1795 \***

ORDER NERITOPSINA COX & KNIGHT, 1960

FAMILY NERITIDAE Lamarck, 1809

Genus *Theodoxus* Montfort, 1810

*Theodoxus fluviatilis* (Linnaeus, 1758) GB IRE

ORDER ARCHITAENIOGLOSSA HALLER, 1890

FAMILY ACICULIDAE Gray, 1850

Genus *Acicula* Hartmann, 1821

*Acicula fusca* (Montagu, 1803) GB IRE

FAMILY VIVIPARIDAE J. E. Gray, 1847

Genus *Viviparus* Montfort, 1810

*Viviparus contectus* (Millet, 1813) GB

*Viviparus viviparus* (Linnaeus, 1758) GB IRE

ORDER NEOTAENIOGLOSSA HALLER, 1892

FAMILY ASSIMINEIDAE H. & A. Adams, 1856

Genus *Assiminea* Fleming, 1828

*Assiminea grayana* Fleming, 1828 GB IRE

FAMILY BITHYNIIDAE Troschel, 1857

Genus *Bithynia* Leach, 1818

Subgenus *Bithynia* Leach, 1818

*Bit hynia tentaculata* (Linnaeus, 1758) GB IRE

Subgenus *Codiella* Locard, 1894

*Bithynia leachii* (Sheppard, 1823) GB IRE

FAMILY HYDROBIIDAE Troschel, 1857

Genus *Heleobia* Stimpson, 1865

*Heleobia stagnorum* (Gmelin, 1791) GB(?E)

Genus *Hydrobia* Hartmann, 1821

*Hydrobia acuta* (Draparnaud, 1805) GB IRE

s. *neglecta* (Muus, 1963) <sup>1</sup>

*ventrosa* auct. partim non Montagu, 1803

Genus *Marstoniopsis* van Regteren Altena, 1936

*Marstoniopsis insubrica* (Küster, 1853) <sup>2</sup> GB

*scholtzi* (A. Schmidt, 1856)

\* In the List, valid names of species are in italic type, subspecies names follow the names of the parent species preceded by an 's.', and synonyms are listed in an indent below the species name but in reduced italic type rather than in italic type.

Genus <i>Mercuria</i> Boeters, 1971	
<i>Pseudamnicola</i> Paulucci, 1878, partim	
<i>Mercuria cf. similis</i> (Draparnaud, 1805) <sup>3</sup>	GB IRE
<i>confusa</i> auct. non (Frauenfeld, 1863)	
Genus <i>Peringia</i> Paladilhe, 1874	
<i>Hydrobia</i> Hartmann, 1821 partim	
<i>Peringia ulvae</i> (Pennant, 1777) <sup>4</sup>	GB IRE
Genus <i>Potamopyrgus</i> Stimpson, 1865	
<i>Potamopyrgus antipodarum</i> (Gray, 1843)	GB IRE
<i>jenkinsi</i> (E. A. Smith, 1889)	
Genus <i>Ventrosia</i> Radoman, 1977	
<i>Hydrobia</i> Hartmann, 1821 partim	
<i>Ventrosia ventrosa</i> (Montagu, 1803) <sup>5</sup>	GB IRE
FAMILY POMATIIDAE Newton, 1891	
Pomatiasidae auct. partim	
Genus <i>Pomatias</i> Studer, 1789	
<i>Pomatias elegans</i> (Müller, 1774)	GB IRE
FAMILY TRUNCATELLIDAE Gray, 1840	
Genus <i>Paludinella</i> L. Pfeiffer, 1841	
<i>Paludinella littorina</i> (delle Chiaje, 1828)	GB
Genus <i>Truncatella</i> Risso, 1826	
<i>Truncatella subcylindrica</i> (Linnaeus, 1767)	GB IRE
ORDER ECTOBRANCHIA FISCHER, 1884	
FAMILY VALVATIDAE Thomson, 1840	
Genus <i>Valvata</i> Müller, 1773	
Subgenus <i>Cincinna</i> Férussac, 1821	
<i>Valvata piscinalis</i> (Müller, 1774)	GB IRE
Subgenus <i>Tropidina</i> H. & A. Adams, 1854	
<i>Valvata macrostoma</i> Mörch, 1864	GB
Subgenus <i>Valvata</i> Müller, 1773	
<i>Valvata cristata</i> Müller, 1774	GB IRE
ORDER PULMONATA CUVIER IN BLAINVILLE, 1814	
FAMILY ACROLOXIDAE Thiele, 1931	
Genus <i>Acroloxus</i> Beck, 1837	
<i>Acroloxus lacustris</i> (Linnaeus, 1758)	GB IRE
FAMILY AGRIOLIMACIDAE Wagner, 1935	
Genus <i>Deroceras</i> Rafinesque, 1820	
Subgenus <i>Deroceras</i> Rafinesque, 1820	
<i>Deroceras agreste</i> (Linnaeus, 1758)	GB

<i>Deroceras laeve</i> (Müller, 1774)	GB IRE
<i>Deroceras panormitanum</i> (Lesson & Pollonera, 1882)	GB IRE
<i>caruanae</i> (Pollonera, 1891)	
<i>Deroceras reticulatum</i> (Müller, 1774)	GB IRE
FAMILY ARIONIDAE Gray in Turton, 1840	
Genus <i>Arion</i> Férussac, 1819	
Subgenus <i>Arion</i> Férussac, 1819	
<i>Arion ater</i> (Linnaeus, 1758)	GB IRE
<i>Arion flagellus</i> Collinge, 1893	GB IRE
<i>lusitanicus</i> auct. Brit. non Mabilie, 1868	
<i>Arion rufus</i> (Linnaeus, 1758) 6	GB IRE
<i>Arion vulgaris</i> Moquin-Tandon, 1855 7	GB IRE
<i>lusitanicus</i> auct. non Mabilie, 1868	
Subgenus <i>Mesarion</i> Hesse, 1926	
<i>Arion fuscus</i> (Müller, 1774) 8	IRE GB
<i>Arion subfuscus</i> (Draparnaud, 1805)	IRE
Subgenus <i>Carinarion</i> Hesse, 1926	
<i>Arion circumscriptus</i> Johnston, 1828	GB IRE
<i>Arion fasciatus</i> (Nilsson, 1823)	GB IRE
<i>Arion silvaticus</i> Lohmander, 1937	GB IRE
Subgenus <i>Kobeltia</i> Seibert, 1873	
<i>Arion distinctus</i> Mabilie, 1868	GB IRE
<i>hortensis</i> auct. non Férussac, 1819	
<i>Arion hortensis</i> Férussac, 1819	GB IRE
<i>Arion intermedius</i> Normand, 1852	GB IRE
<i>Arion occultus</i> Anderson, 2004 9	IRE
<i>Arion owenii</i> Davies, 1979	GB IRE
<i>hortensis</i> auct. non Férussac, 1819	
Genus <i>Geomalacus</i> Allman, 1843	
<i>Geomalacus maculosus</i> Allman, 1843	IRE
FAMILY AZECIDAE Watson, 1920	
Genus <i>Azeca</i> Fleming, 1828	
<i>Azeca goodalli</i> (Férussac, 1821)	GB
FAMILY BOETTGERILLIDAE Van Goethem, 1972	
Genus <i>Boettgerilla</i> Simroth, 1910	
<i>Boettgerilla pallens</i> Simroth, 1912	GB IRE
FAMILY BRADYBAENIDAE Pilsbry, 1934	
Genus <i>Fruticicola</i> Held, 183	
<i>Frutici cola fruticum</i> (Müller, 1774)	GB(E)
FAMILY CARYCHIIDAE Jeffreys, 1830	
Genus <i>Carychium</i> Müller, 1773	
<i>Carychium minimum</i> Müller, 1774	GB IRE GB
<i>Carychium tridentatum</i> (Risso, 1826)	IRE

	FAMILY CHONDRINIDAE Steenberg, 1925	
	Genus <i>Abida</i> Turton, 1831	
<i>Abida secale</i> (Draparnaud, 1801)		GB IRE
	FAMILY CLAUSILIIDAE J. E.Gray, 1855	
	Genus <i>Balea</i> Gray, 1824	
	Subgenus <i>Alinda</i> H. & A. Adams, 1855	
<i>Balea biplicata</i> (Montagu, 1803)		GB
	Subgenus <i>Balea</i> Gray, 1824 <i>Balea</i>	
<i>perversa</i> (Linnaeus, 1758)		GB IRE
<i>Balea heydeni</i> Von Maltzan, 1881 <sup>10</sup>		GB IRE
	Genus <i>Clausilia</i> Draparnaud, 1805	
	Subgenus <i>Clausilia</i> Draparnaud, 1805	
<i>Clausilia bidentata</i> (Ström, 1765)		GB IRE
	Subgenus <i>Andraea</i> L. Pfeiffer, 1848	
<i>Clausilia dubia</i> Draparnaud, 1805		GB
	Genus <i>Cochlodina</i> Férussac, 1821	
	Subgenus <i>Cochlodina</i> Férussac, 1821	
<i>Cochlodina laminata</i> (Montagu, 1803)		GB IRE
	Genus <i>Macrogastra</i> Hartmann, 1841	
	Subgenus <i>Pseudovestia</i> Nordsieck, 1977	
<i>Macrogastra rolphii</i> (Turton, 1826)		GB
	FAMILY COCHLICELLIDAE Schileyko, 1972 <sup>11</sup>	
	Genus <i>Cochlicella</i> Férussac, 1821	
	Subgenus <i>Cochlicella</i> Férussac, 1821	
<i>Cochlicella acuta</i> (Müller, 1774)		GB IRE
	Subgenus <i>Priocella</i> Schileyko & Menkhorst, 1997 <sup>12</sup>	
<i>Cochlicella barbara</i> (Linnaeus, 1758)		GB
	FAMILY COCHLICOPIDAE Pilsbry, 1900 (1879)	
	Genus <i>Cochlicopa</i> Férussac, 1821 <sup>13</sup>	
<i>Cochlicopa</i> cf. <i>lubrica</i> (Müller, 1774)		GB IRE
<i>Cochlicopa</i> cf. <i>lubricella</i> (Rossmässler, 1834)		GB IRE
	FAMILY DISCIDAE Thiele, 1931	
	Genus <i>Discus</i> Fitzinger, 1833	
	Subgenus <i>Gonyodiscus</i> Fitzinger, 1833	
<i>Discus rotundatus</i> (Müller, 1774)		GB IRE
	FAMILY ELLOBIIDAE H. & A. Adams, 1854	
	Genus <i>Leucophytia</i> Winckworth, 1949	
<i>Leucophytia bidentata</i> (Montagu, 1808)		GB IRE
	Genus <i>Myosotella</i> Monterosato, 1906 <sup>14</sup>	
	<i>Ovatella</i> Bivona, 1832 partim	
<i>Myosotella denticulata</i> (Montagu, 1803) <sup>15</sup>		GB IRE
<i>Myosotella myosotis</i> (Draparnaud, 1801)		GB IRE

## FAMILY ENIDAE Woodward, 1903 (1880)

Genus *Ena* Turton, 1831*Ena montana* (Draparnaud, 1801) GBGenus *Merdigera* Held, 1838<sup>16</sup>*Ena* Turton, 1831 auct.*Merdigera obscura* (Müller, 1774) GB IRE

FAMILY EUCONULIDAE Baker, 1928

Genus *Euconulus* Reinhardt, 1883<sup>17</sup>Subgenus *Euconulus* Reinhardt, 1883*Euconulus* cf. *alderi* (Gray, 1840) GB IRE*Euconulus* cf. *fulvus* (Müller, 1774) GB IRE

FAMILY FERUSSACIIDAE Bourguignat, 1883

Genus *Cecilioides* Férussac, 1814Subgenus *Cecilioides* Férussac, 1814*Cecilioides acicula* (Müller, 1774) GB IRE

FAMILY GASTRODONTIDAE Tryon, 1866

Genus *Zonitoides* Lehmann, 1862Subgenus *Zonitoides* Lehmann, 1862*Zonitoides nitidus* (Müller, 1774) GB IRESubgenus *Zonitellus* Baker, 1928*Zonitoides excavatus* (Alder, 1830) GB IRE

FAMILY HELICIDAE Rafinesque, 1815

Genus *Arianta* Leach in Turton, 1831*Arianta arbustorum* (Linnaeus, 1758) GB IREGenus *Cepaea* Held, 1838Subgenus *Cepaea* Held, 1838*Cepaea nemoralis* (Linnaeus, 1758) GB IRE*Cepaea hortensis* (Müller, 1774) GB IREGenus *Cornu* Born, 1778*Helix* Linnaeus, 1758 partim*Cantareus* Risso, 1826*Cryptomphalus* Charpentier, 1837*Cornu aspersum* (Müller, 1774)<sup>18</sup> GB IREGenus *Helicigona* Férussac, 1821*Helicigona lapicida* (Linnaeus, 1758) GB IREGenus *Helix* Linnaeus, 1758Subgenus *Helix* Linnaeus, 1758*Helix pomatia* Linnaeus, 1758 GBGenus *Theba* Risso, 1826*Theba pisana* (Müller, 1774) GB IRE

FAMILY HELICODISCIDAE Baker, 1927		
Genus <i>Lucilla</i> Lowe, 1852		
<i>Helicodiscus</i> Morse, 1864 partim		
<i>Hebetodiscus</i> Baker, 1929		
<i>Lucilla singleyana</i> (Pilsbry, 1890) <sup>19</sup>		GB
FAMILY HELICODONTIDAE Kobelt, 1904		
Genus <i>Helicodonta</i> Férussac, 1821		
<i>Helicodonta obvoluta</i> (Müller, 1774)		GB
FAMILY HYGROMIIDAE Tryon, 1866		
Genus <i>Ashfordia</i> Taylor, 1917		
<i>Ashfordia granulata</i> (Alder, 1830)		GB IRE
Genus <i>Candidula</i> Kobelt, 1871		
<i>Candidula gigaxii</i> (L. Pfeiffer, 1850)		GB IRE
<i>Candidula intersecta</i> (Poiret, 1801)		GB IRE
Genus <i>Cernuella</i> Schlüter, 1838		
Subgenus <i>Cernuella</i> Schlüter, 1838		
<i>Cernuella aginnica</i> Locard, 1894 <sup>20</sup>		GB
<i>Cernuella virgata</i> (Da Costa, 1778)		GB IRE
Subgenus <i>Xerocincta</i> Monterosato, 1892		
<i>Cernuella neglecta</i> (Draparnaud, 1805)		GB(E)
Genus <i>Helicella</i> Férussac, 1821		
<i>Helicella itala</i> (Linnaeus, 1758)		GB IRE
Genus <i>Hygromia</i> Risso, 1826		
Subgenus <i>Hygromia</i> Risso, 1826		
<i>Hygromia cinctella</i> (Draparnaud, 1801)		GB IRE
Subgenus <i>Riedelia</i> Schileyko, 1972		
<i>Hygromia limbata</i> (Draparnaud, 1805)		GB
Genus <i>Monacha</i> Fitzinger, 1833		
Subgenus <i>Monacha</i> Fitzinger, 1833		
<i>Monacha cantiana</i> (Montagu, 1803)		GB
<i>Monacha cartusiana</i> (Müller, 1774)		GB
Genus <i>Ponentina</i> Hesse, 1921		
<i>Ponentina subvirescens</i> (Bellamy, 1839)		GB
Genus <i>Pseudotrichia</i> Likharev, 1949		
<i>Perforatella</i> Schlüter, 1838 partim		
<i>Pseudotrichia rubiginosa</i> (Rossmässler, 1838)		GB
Genus <i>Trochoidea</i> Brown, 1827		
Subgenus <i>Trochoidea</i> Brown, 1827		
<i>Trochoidea elegans</i> (Gmelin, 1791)		GB

Genus <i>Trochulus</i> Chemnitz, 1786 21	
<i>Trichia</i> Hartmann, 1840 non de Haan, 1839 [Crustacea, Brachyura] **	
Subgenus <i>Trochulus</i> Chemnitz, 1786	
<i>Trochulus hispidus</i> (Linnaeus, 1758)	GB IRE
<i>Trochulus sericeus</i> (Draparnaud, 1801) 22	GB
<i>plebeius</i> auct. non (Draparnaud, 1805)	
<i>Trochulus striolatus</i> (C. Pfeiffer, 1828)	GB IRE
Genus <i>Zenobiella</i> Gude & Woodward, 1921	
<i>Perforatella</i> Schlüter, 1838 partim 23	
<i>Zenobiella subrufescens</i> (Miller, 1822)	GB IRE
FAMILY LAURIIDAE Steenberg, 1925	
Genus <i>Lauria</i> Gray in Turton, 1840	
Subgenus <i>Lauria</i> Gray in Turton, 1840	
<i>Lauria cylindracea</i> (Da Costa, 1778)	GB IRE
<i>Lauria sempronii</i> (Charpentier, 1837)	GB
Genus <i>Leiostyla</i> Lowe, 1852	
Subgenus <i>Leiostyla</i> Lowe, 1852	
<i>Leiostyla anglica</i> (Férussac, 1821)	GB IRE
FAMILY LIMACIDAE Lamarck, 1801	
Genus <i>Lehmannia</i> Heynemann, 1863	
<i>Limax</i> L., 1758, partim	
<i>Lehmannia marginata</i> (Müller, 1774)	GB IRE
<i>Lehmannia nyctelia</i> (Bouguignat, 1861) 24	GB
<i>Lehmannia valentiana</i> (Férussac, 1822)	GB IRE
Genus <i>Limacus</i> Lehmann, 1864	
<i>Limax</i> L., 1758 partim	
<i>Limacus flavus</i> (Linnaeus, 1758)	GB IRE
<i>Limacus maculatus</i> (Kaleniczenko, 1851) 25	GB IRE
<i>pseudoflavus</i> (Evans, 1978)	
Genus <i>Limax</i> Linnaeus, 1758	
<i>Limax cinereoniger</i> Wolf, 1803	GB IRE
<i>Limax maximus</i> Linnaeus, 1758	GB IRE
Genus <i>Malacolimax</i> Malm, 1868	
<i>Malacolimax tenellus</i> (Müller, 1774)	GB
FAMILY LYMNAEIDAE Rafinesque, 1815	
Genus <i>Galba</i> Schrank, 1803	
<i>Lymnaea</i> Lamarck, 1799 partim	
<i>Galba truncatula</i> (Müller, 1774)	GB IRE
Genus <i>Lymnaea</i> Lamarck, 1799	
Subgenus <i>Lymnaea</i> s.s.	
<i>Lymnaea stagnalis</i> (Linnaeus, 1758)	GB IRE

\*\* Opinion 2079, ICZN: *Trichia* Hartmann, 1840 (Mollusca, Gastropoda): proposed conservation; not approved because of homonymy with *Trichia* de Haan, 1839 [Crustacea, Brachyura]; replaced by *Trochulus* Chemnitz, 1786.

- Subgenus ***Stagnicola*** Jeffreys, 1830 <sup>26</sup>
- Lymnaea fusca* (C. Pfeiffer, 1821) <sup>27</sup> GB IRE  
     *palustris* (Müller, 1774) auct. partim
- Lymnaea palustris* (Müller, 1774) GB
- Genus ***Myxas*** Sowerby, 1822
- Myxas glutinosa* (Müller, 1774) GB IRE
- Genus ***Omphiscola*** Beck, 1837
- Lymnaea* Lamarck, 1799 partim
- Omphiscola glabra* (Müller, 1774) GB IRE
- Genus ***Radix*** Montfort, 1810
- Lymnaea* Lamarck, 1799 partim
- Radix auricularia* (Linnaeus, 1758) GB IRE  
*Radix balthica* (Linnaeus, 1758) <sup>28</sup>  
     *peregra* (Müller, 1774)  
     *ovata* (Müller, 1774)
- FAMILY MILACIDAE Ellis, 1926
- Genus ***Milax*** Gray, 1855
- Milax gagates* (Draparnaud, 1801) GB IRE
- Genus ***Tandonia*** Lessona & Pollonera, 1882
- Milax* Gray, 1855 partim
- Tandonia budapestensis* (Hazay, 1881) GB IRE  
*Tandonia rustica* (Millet, 1843) GB IRE  
*Tandonia sowerbyi* (Férussac, 1823) GB IRE
- FAMILY ONCHIDIIDAE Rafinesque, 1815
- Genus ***Onchidella*** Gray, 1850
- Onchidella celtica* (Cuvier, 1817) GB
- FAMILY OTINIDAE H. & A. Adams, 1855
- Genus ***Otina*** Gray, 1847
- Otina ovata* (Brown, 1827) GB IRE
- FAMILY OXYCHILIDAE Hesse 1927 (1879)
- Genus ***Aegopinella*** Lindholm, 1927
- Aegopinella pura* (Alder, 1830) GB IRE  
*Aegopinella nitidula* (Draparnaud, 1805) GB IRE
- Genus ***Nesovitrea*** Cooke, 1921
- Subgenus ***Perpolita*** Baker, 1928
- Genus ***Oxychilus*** Fitzinger, 1833
- Subgenus ***Oxychilus*** Fitzinger, 1833
- Oxychilus alliaris* (Miller, 1822) <sup>29</sup> GB IRE  
*Oxychilus cellarius* (Müller, 1774) GB IRE  
*Oxychilus draparnaudi* (Beck, 1837) GB IRE

<i>Oxychilus navarricus</i> (Bouguignat, 1870) s. <i>helveticus</i> (Blum, 1881) <sup>30</sup>	GB IRE
FAMILY PHYSIDAE Fitzinger, 1833	
Genus <i>Aplexa</i> Fleming, 1828	
<i>Aplexa hypnorum</i> (Linnaeus, 1758)	GB IRE
Genus <i>Physa</i> Draparnaud, 1801	
<i>Physa fontinalis</i> (Linnaeus, 1758)	GB IRE
Genus <i>Physella</i> Haldeman, 1843 <sup>31</sup> <i>Physa</i> Draparnaud auct.	
<i>Physella acuta</i> (Draparnaud, 1805) <sup>32</sup>	GB IRE
<i>heterostropha</i> (Say, 1817)	
<i>Physella gyrina</i> (Say, 1821)	GB IRE
FAMILY PLANORBIDAE Rafinesque, 1815	
Genus <i>Ancylus</i> Müller, 1773	
<i>Ancylus fluviatilis</i> Müller, 1774	GB IRE
Genus <i>Anisus</i> Studer, 1820	
Subgenus <i>Anisus</i> Studer, 1820	
<i>Anisus leucostoma</i> (Millet, 1813)	GB IRE
<i>septemgyratus</i> sensu Falkner <i>et al.</i> (2001)	
<i>Anisus spirorbis</i> (L., 1758) <sup>33</sup>	GB IRE
Subgenus <i>Disculifer</i> Boettger, 1944	
<i>Anisus vortex</i> (Linnaeus, 1758)	GB IRE
<i>Anisus vorticulus</i> (Troschel, 1834)	GB
Genus <i>Bathyomphalus</i> Charpentier, 1837	
<i>Bathyomphalus contortus</i> (Linnaeus, 1758)	GB IRE
Genus <i>Ferrissia</i> Walker, 1903	
<i>Ferrissia wautieri</i> (Mirolli, 1960) <sup>34</sup>	GB
Genus <i>Gyraulus</i> Charpentier, 1837	
Subgenus <i>Armiger</i> Hartmann, 1840	
<i>Gyraulus crista</i> (Linnaeus, 1758)	GB IRE
Subgenus <i>Gyraulus</i> Charpentier, 1837	
<i>Gyraulus albus</i> (Müller, 1774)	GB IRE
Subgenus <i>Torquis</i> Dall, 1905	
<i>Gyraulus acronicus</i> (Férussac, 1807)	GB
<i>Gyraulus laevis</i> (Alder, 1838)	GB IRE
Genus <i>Hippeutis</i> Charpentier, 1837	
<i>Hippeutis complanatus</i> (Linnaeus, 1758)	GB IRE
Genus <i>Menetus</i> H. & A. Adams, 1855	
<i>Menetus dilatatus</i> (Gould, 1841)	GB

- Genus *Planorbarius* Duméril, 1806
- Planorbarius corneus* (Linnaeus, 1758) GB IRE
- Genus *Planorbis* Müller, 1773
- Planorbis planorbis* (Linnaeus, 1758) GB IRE
- Planorbis carinatus* Müller, 1774 GB IRE
- Genus *Segmentina* Fleming, 1818
- Segmentina nitida* (Müller, 1774) GB
- FAMILY PRISTILOMATIDAE Cockerell, 1891
- Genus *Vitrea* Fitzinger, 1833
- Vitrea contracta* (Westerlund, 1871) GB IRE
- Vitrea crystallina* (Müller, 1774) GB IRE
- Vitrea subrimata* (Reinhardt, 1871) GB
- FAMILY PUNCTIDAE Morse, 1864
- Genus *Paralaoma* Iredale, 1913
- Paralaoma servilis* (Shuttleworth, 1852)<sup>35</sup> GB
- caputspinulae* (Reeve, 1852)
- micropleuros* (Paget, 1854)
- pusilla* Lowe, 1831 non Vallot, 1801
- Genus *Punctum* Morse, 1864
- Subgenus *Punctum* Morse, 1864
- Punctum pygmaeum* (Draparnaud, 1801) GB IRE
- FAMILY PUPILLIDAE Turton, 1831
- Genus *Pupilla* Fleming, 1828
- Subgenus *Pupilla* Fleming, 1828
- Pupilla muscorum* (Linnaeus, 1758)<sup>36</sup> GB IRE
- FAMILY PYRAMIDULIDAE Kennard & Woodward, 1914
- Genus *Pyramidula* Fitzinger, 1833
- Pyramidula pusilla* (Vallot, 1801)<sup>37</sup> GB IRE
- rupestris* (Draparnaud, 1801) auct. partim
- FAMILY SUCCINEIDAE Beck, 1837
- Genus *Oxyloma* Westerlund, 1885
- Subgenus *Oxyloma* Westerlund, 1885
- Oxyloma elegans* (Risso, 1826)<sup>38</sup> GB IRE
- pfeifferi* (Rossmässler, 1835)
- Oxyloma sarsi* (Esmark, 1886) GB IRE
- elegans* auct. Brit. non (Risso, 1826)
- Genus *Quickella* Boettger, 1939
- Catinella* Odhner, 1950 partim
- Quickella arenaria* (Potiez & Michaud, 1835) GB IRE
- Genus *Succinea* Draparnaud, 1801
- Succinea putris* (Linnaeus, 1758) GB IRE

Genus <i>Succinella</i> Mabille, 1870		
<i>Succinea</i> Draparnaud, 1801 partim		
<i>Succinella oblonga</i> Draparnaud, 1801		GB IRE
FAMILY TESTACELLIDAE Gray, 1840		
Genus <i>Testacella</i> Cuvier, 1800		
Subgenus <i>Testacella</i> Cuvier, 1800		
<i>Testacella haliotidea</i> Draparnaud, 1801		GB IRE
<i>Testacella maugei</i> Férussac, 1819		GB IRE
<i>Testacella scutulium</i> Sowerby, 1820		GB IRE
FAMILY VALLONIIDAE Pilsbry, 1900		
Genus <i>Acanthinula</i> Beck, 1847		
<i>Acanthinula aculeata</i> (Müller, 1774)		GB IRE
Genus <i>Spermodea</i> Westerlund, 1903		
<i>Spermodea lamellata</i> (Jeffreys, 1830)		GB IRE
Genus <i>Vallonia</i> Risso, 1826		
<i>Vallonia costata</i> (Müller, 1774)		GB IRE
<i>Vallonia</i> cf. <i>excentrica</i> Sterki, 1893 <sup>39</sup>		GB IRE
<i>Vallonia pulchella</i> (Müller, 1774)		GB IRE
FAMILY VERTIGINIDAE Fitzinger, 1833		
Genus <i>Columella</i> Westerlund, 1878		
<i>Columella aspera</i> Waldén, 1966		GB IRE
<i>Columella edentula</i> (Draparnaud, 1805)		GB IRE
Genus <i>Truncatellina</i> Lowe, 1852		
<i>Truncatellina callicratis</i> (Scacchi, 1833)		GB GB
<i>Truncatellina cylindrica</i> (Férussac, 1807) <sup>40</sup>		
Genus <i>Vertigo</i> Müller, 1773		
Subgenus <i>Vertigo</i> Müller, 1773 <i>Vertigo alpestris</i> (Alder, 1838)		
<i>Vertigo antivertigo</i> (Draparnaud, 1801)		GB IRE
<i>Vertigo genesii</i> (Gredler, 1856)		GB
<i>Vertigo geyeri</i> Lindholm, 1925		GB IRE
<i>Vertigo lilljeborgi</i> (Westerlund, 1871)		GB IRE
<i>Vertigo modesta</i> (Say, 1824)		GB
<i>Vertigo moulinsiana</i> (Dupuy, 1849)		GB IRE
<i>Vertigo pusilla</i> Müller, 1774		GB IRE
<i>Vertigo pygmaea</i> (Draparnaud, 1801)		GB IRE
<i>Vertigo substriata</i> (Jeffreys, 1833)		GB IRE
Subgenus <i>Vertilla</i> Moquin-Tandon, 1856		
<i>Vertigo angustior</i> Jeffreys, 1830		GB IRE
FAMILY VITRINIDAE Fitzinger, 1833		
Genus <i>Phenacolimax</i> Stabile, 1859		
<i>Phenacolimax major</i> (Férussac, 1807)		GB

- Genus *Semilimax* Stabile, 1859  
*Semilimax pyrenaicus* (Férussac, 1821) IRE
- Genus *Vitrina* Draparnaud, 1801  
*Vitrina pellucida* (Müller, 1774) GB IRE

## CLASS BIVALVIA LINNAEUS, 1758

### ORDER UNIONOIDA STOLICZKA, 1870

#### FAMILY MARGARITIFERIDAE Henderson, 1929

- Genus *Margaritifera* Schumacher, 1816  
 Subgenus *Margaritifera* Schumacher, 1816  
*Margaritifera margaritifera* (Linnaeus, 1758) GB IRE

#### FAMILY UNIONIDAE Rafinesque, 1820

- Genus *Anodonta* Lamarck, 1799  
 Subgenus *Anodonta* Lamarck, 1799  
*Anodonta anatina* (Linnaeus, 1758) GB IRE  
*Anodonta cygnea* (Linnaeus, 1758) GB IRE

#### Genus *Pseudanodonta* Bourguignat, 1877

- Pseudanodonta complanata* (Rossmässler, 1835) GB

#### Genus *Unio* Philipsson, 1788

- Subgenus *Unio* Philipsson, 1788  
*Unio pictorum* (Linnaeus, 1758) GB  
*Unio tumidus* Philipsson, 1788 GB

### ORDER VENEROIDA H. & A. ADAMS, 1856

#### FAMILY CORBICULIDAE

- Genus *Corbicula* von Mühlfeld, 1811  
*Corbicula fluminea* (Müller, 1774) GB

#### FAMILY DREISSENIDAE Gray in Turton, 1840

- Genus *Dreissena* van Beneden, 1835  
 Subgenus *Dreissena* van Beneden, 1835  
*Dreissena polymorpha* (Pallas, 1771) GB IRE

#### Genus *Mytilopsis* Conrad, 1858

- Mytilopsis leucophaeta* (Conrad, 1831) GB

#### FAMILY SPHAERIIDAE DESHAYES, 1855 41

- Genus *Musculium* Link, 1807  
*Musculium lacustre* (Müller, 1774) GB IRE  
*Musculium transversum* (Say, 1829) GB

Genus ***Pisidium*** C. Pfeiffer, 1821

<i>Pisidium amnicum</i> (Müller, 1774)	GB IRE
<i>Pisidium casertanum</i> (Poli, 1791) <i>Pisidium</i>	GB IRE
<i>conventus</i> Clessin, 1877 <i>Pisidium</i>	GB IRE
<i>henslowanum</i> (Sheppard, 1823) <i>Pisidium</i>	GB IRE
<i>hibernicum</i> Westerlund, 1894 <i>Pisidium</i>	GB IRE
<i>lilljeborgii</i> Clessin, 1866 <i>Pisidium milium</i>	GB IRE
Held, 1836	GB IRE
<i>Pisidium moitessierianum</i> Paladilhe, 1866	GB IRE
<i>Pisidium nitidum</i> Jenyns, 1832 <i>Pisidium</i>	GB IRE
<i>obtusale</i> (Lamarck, 1818) <i>Pisidium</i>	GB IRE
<i>personatum</i> Malm, 1855 <i>Pisidium</i>	GB IRE
<i>pseudosphaerium</i> Schlesch, 1947 <i>Pisidium</i>	GB IRE
<i>pulchellum</i> Jenyns, 1832 <i>Pisidium</i>	GB IRE
<i>subtruncatum</i> Malm, 1855 <i>Pisidium</i>	GB IRE
<i>supinum</i> A. Schmidt, 1851 <i>Pisidium</i>	GB
<i>tenuilineatum</i> Stelfox, 1918	GB

Genus ***Sphaerium*** Scopoli, 1777

<i>Sphaerium corneum</i> (Linnaeus, 1758)	GB IRE
<i>Sphaerium nucleus</i> (Studer, 1820) <sup>42</sup>	GB IRE
<i>Sphaerium rivicola</i> (Lamarck, 1818)	GB
<i>Sphaerium solidum</i> (Normand, 1844)	GB

## HOTHOUSE ALIENS

## CLASS GASTROPODA CUVIER, 1795

## ORDER NEOTAENIOGLOSSA HALLER, 1892

## FAMILY THIARIDAE TROSCHER, 1857

Genus ***Melanoides*** Olivier, 1804

<i>Melanoides tuberculatus</i> (Müller, 1774)	GB IRE
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## ORDER PULMONATA CUVIER IN BLAINVILLE, 1814

## FAMILY GASTRODONTIDAE TRYON, 1866

Genus ***Zonitoides*** Lehmann, 1862Subgenus ***Zonitellus*** Baker, 1928

<i>Zonitoides arboreus</i> (Say, 1816)	GB IRE
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## FAMILY HELICODISCIDAE BAKER, 1927

Genus ***Helicodiscus*** Morse, 1864 *Helicodiscus*

<i>parallelus</i> (Say, 1821)	GB IRE
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## FAMILY LYMNAEIDAE RAFINESQUE, 1815

Genus ***Radix*** Montfort, 1810 *Radix rubiginosa*

(Michelin, 1831) <sup>43</sup>	GB IRE
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FAMILY PLANORBIDAE GRAY IN TURTON, 1840		
Genus <i>Gyraulus</i> Charpentier, 1837		
Subgenus <i>Torquis</i> Dall, 1905 <i>Gyraulus chinensis</i> (Dunker, 1848) <sup>44</sup>		GB IRE
Genus <i>Planorbella</i> Haldeman, 1842		
<i>Planorbella duryi</i> (Wetherby, 1879) <sup>45</sup>		GB IRE
FAMILY PLEURODISCIDAE WENZ, 1923		
Genus <i>Pleurodiscus</i> Wenz, 1919		
<i>Pleurodiscus balmei</i> (Potiez & Michaud, 1838)		GB IRE
FAMILY STREPTAXIDAE		
Genus <i>Gulella</i> Hutton, 1834		
<i>Gulella io</i> Verdcourt, 1974		GB
FAMILY SUBULINIDAE FISCHER & CROSSE, 1877		
Genus <i>Allopeas</i> Baker, 1935		
<i>Lamellaxis</i> Strebil & Pfeiffer, 1882 partim		
<i>Allopeas clavulinum</i> (Potiez & Michaud, 1838)		GB IRE
Genus <i>Opeas</i> Albers, 1850		
<i>Opeas hannensis</i> (Rang, 1831)		GB IRE
<i>pumilum</i> (L. Pfeiffer, 1840)		
Genus <i>Rumina</i> Risso, 1826		
<i>Rumina decollata</i> (Linnaeus, 1758) <sup>46</sup>		GB
Genus <i>Striosubulina</i> Thiele, 1933		
<i>Subulina</i> Beck, 1937 partim		
<i>Striosubulina</i> sp. <sup>†</sup>		GB
<i>striatella</i> auct. ?non (Rang, 1831)		
Genus <i>Subulina</i> Beck, 1837		
<i>Subulina octona</i> (Bruguière, 1789)		GB IRE
FAMILY ZONITIDAE MÖRCH, 1864		
Genus <i>Hawaiiia</i> Gude, 1911		
<i>Hawaiiia minuscula</i> (Binney, 1840)		GB IRE

### EXCLUDED SPECIES

Some of the species listed for Britain or Ireland in Clecom have had to be excluded from the present list for the reasons given below.

***Lymnaea corva*** (Gmelin, 1791)

Despite its inclusion on the Clecom List for both Britain and Ireland, there is no evidence that this species occurs in our area. See Note 7.

***Monachoides incarnatus*** (Müller, 1774)

This species is listed for Ireland by Falkner et al. (2001). I have seen immature shells belonging to this species said to have been collected near Clonmacnoise, Co. Offaly (fide Gerhard Falkner). Visits to the site in 2002, and subsequently, have failed to provide firm evidence for this species' occurrence in Ireland (pers. comm. of E. Moorkens). *Monachoides incarnatus* would not be expected in Ireland on biogeographical grounds as its range does not extend to either coastal north-west Europe or to Britain. It is excluded from the list until further evidence can be brought to bear.

***Milax nigricans*** (Philippi, 1836)

In Britain and Ireland very dark coloured Milax, superficially similar to this species are occasionally encountered. I have dissected a number but so far all have proved to be *M. gagates* on the structure of the genital stimulator which is relatively smooth in *gagates* but moderately to strongly papillate in *nigricans*. Quick (1960) refers to the capture of a specimen of *M. nigricans* (det. H. Watson) from a garden at Bexhill, Sussex in 1948. There is no evidence for its establishment in this area and no subsequent reports from elsewhere, so it is excluded from the List.

***Sphaerium ovale*** (Férusac, 1807)

See note 41.

***Valvata macrostoma*** Mörch, 1864

Regarding the exclusion of this species from the Irish part of the List, there is a reference in Ross (1984) to specimens collected by William Thompson and labelled "Lough Neagh". These are housed in the Ulster Museum Collection. A.W. Stelfox and A.S. Kennard made the determinations so the identity of the collection is not in question but, as the determiners state, "locality doubtful". The Clecom List (Falkner et al. 2001) and that of Moorkens & Speight (2001) include this species for Ireland based on specimens collected in the floodplain of the R. Shannon near Clonmacnoise (pers. comm. of E. Moorkens). Thus far, it has not been possible to verify these claims.

## NOTES

1 ***Hydrobia acuta neglecta***. Until recently this was regarded as a north-west European endemic, *Hydrobia neglecta* Muus (e.g. Kerney 1999). Giusti et al. (1995) suggested that it was very closely related to the Mediterranean taxon *H. acuta* and Hoeksema (1998) concluded that a Biscayan population was synonymous with *acuta*. In the Clecom List (Falkner et al. 2001) the specific epithet *neglecta* Muus was retained and the species placed in a separate genus *Obrovia* Radoman 1973. Wilke et al. (2000), however, found only small genetic differences between study populations in the western Mediterranean and north-west Europe and concluded that both should be referred to *Hydrobia acuta*, with the north-west populations distinguished only at the subspecific level i.e. as *Hydrobia acuta* s. *neglecta*. The generic name *Obrovia* was erected for Balkan material collected by Radoman (1973, 1977). Its use for *neglecta* has been justified in a rather pedantic way by Falkner et al. (2002) but has not been followed by Glöer (2002), and Davis (2004) has commented upon the tendency of authors of the Clecom List to ignore relevant molecular studies. Its use is certainly fundamentally at odds with current phylogenetic evidence and is disregarded here.

2 ***Marstoniopsis insubrica***. The name here is changed from the traditional usage, *M. scholtzi*, because of recent work by Falniowski & Wilke (2001). These authors compared

*M. scholtzi* with a south alpine taxon, *M. insubrica*, and could find no significant morphological or genetic differences. The name *insubrica* must be substituted on date priority.

3 ***Mercuria cf. similis***. The name for the British and Irish species of *Mercuria*, previously designated *M. confusa* (Frauenfeld, 1863), is uncertain. The types of *confusa* have locality data, *Gallia meridionalis*, which indicate that they refer to a Mediterranean taxon. Indeed, Boeters & Falkner (2000) have used the locality designation and similarity of the types to material from southern France (Camargue) to justify the use of *confusa* lectotypes as neotypes of the Mediterranean species from that area, namely *M. similis* (Draparnaud, 1805). This had hitherto lacked types. Falkner *et al.* (2002) further make a case for calling the N. European taxon *anatina* (Poiret, 1801). Phylogenetic analysis of *Mercuria* is clearly desirable, as some authors (e.g. Giusti (1979)) suggest that there is only one variable species of *Mercuria* in the Mediterranean, rather than the large number of putative taxa recognised by others (e.g. Falkner *et al.* 2002). Indeed the N. European species may be conspecific with the Mediterranean *similis*, differences being at the subspecies level only, as is the case with populations of *Hydrobia acuta* in Europe.

A real difficulty with the position of Falkner *et al.* (2001, 2002) is that the type locality of *anatina* is uncertain and that the type is teratological. Nor is there any certainty that the Mediterranean and N. European populations are genetically distinct. It is preferable to await the results of phylogenetic analysis and leave the name conditional, as *Mercuria cf. similis*.

4 ***Peringia ulvae***. Wilke *et al.* (2000), and the Clecom List are followed here, in placing *ulvae* within *Peringia* Paladilhe.

5 ***Ventrosia ventrosa***. The use of a separate genus to distinguish this species is contentious. Haase (1993) considered this to be unjustified on genetic distance criteria. However, Wilke *et al.* (2000), in an ongoing phylogenetic study of *Hydrobia* s. l. in Europe, demonstrated the existence of three distinct clades in European *Hydrobia* s.l. represented by the genera: *Hydrobia* s.s., *Peringia* Paladilhe and *Ventrosia* Radoman. Their conclusions are accepted here.

6 ***Arion rufus***. Quick (1960) gives a detailed account of the red *Arion* found in Britain which he referred to *Arion rufus* (L.). Altena (1963) confirmed this designation as Linnaeus had cited drawings of Yorkshire specimens described by Lister (1685) and these were clearly identifiable with Quick's slug. Altena had pursued this issue as Odhner (1951) had inferred that Linnaeus' species was synonymous with *Arion subfuscus* (Drap.) The name to be applied to Quick's species in that case would have been *Arion empiricorum* Férussac 1819. What neither Altena (1963) nor Quick (1960) realised, was that *empiricorum*, rather than a synonym of *rufus* (L.), is in all likelihood a distinct species in its own right (pers. comm. of S. M. Davies). The descriptions of Continental *rufus* by Chevallier (1981) should be compared with Quick's description of the Linnean species (1960). It appears that the Linnean taxon is confined to Britain, Ireland and Fennoscandia whereas a separate species occurs in continental areas of western Europe.

7 ***Arion vulgaris***. The name *Arion lusitanicus* can no longer be applied to this taxon. A recent re-description of *lusitanicus* sensu Mabilie, based on topotypes from Setúbal, Serra da Arrábida, Portugal (Castillejo 1997) has shown that Portuguese *lusitanicus* has a very different spermatophore and internal morphology from the central and west European species to which this name was applied, first by Altena (1956) and then by

subsequent authors. Falkner *et al.* (2002) have proposed that the north-west European species be called *vulgaris* Moquin-Tandon, 1855 as this is the first name which can be unambiguously applied. This argument is followed here.

British authors including Quick (1960) confused *vulgaris* with *Arion flagellus* Collinge. Some of Quick's drawings of *lusitanicus* (= *vulgaris*), particularly of the spermatophore, actually relate to *flagellus*. The reader is directed to Davies' (1987) paper which first resolved the confusion here and gives a detailed account of the distinguishing features and reproductive biology of both species.

8 ***Arion fuscus/subfuscus***. The name *Arion subfuscus* has been placed in synonymy with *Arion fuscus* by Falkner *et al.* (2001) for north European populations of this taxon. Draparnaud's species (*subfuscus*), with type locality in the Massif Central, was recently re-described by Garrido *et al.* (1995) from topotypic material and Falkner *et al.* (2001) claim that this is a southern species distinct from the common north European taxon. As a result the north European taxon requires a replacement name, now given as *A. fuscus* (Müller). However, Wiktor (1973) found great variability both internally and externally in Polish examples of *subfuscus s.l.*, and has re-iterated recently that in Europe only one variable species is involved (Wiktor 2001).

Pinceel *et al.* (2004) have recently entered the fray using genetic analysis. Their results confirm that at least two distinct taxa, within *A. subfuscus s.l.*, are present in north-west Europe. British Isles material was not examined directly by them but the results of Foltz *et al.* (1982) indicate that a form of *subfuscus s.s.* is present here. Most of the material collected by Pinceel *et al.* (2004) from the north-west seaboard of Europe (Scandinavia, north Holland, north Germany), however, is referable to the second species, *Arion fuscus*. This makes it highly probable that *A. fuscus* will occur at least in northern parts of the British Isles. I have reviewed some alcohol vouchers from both Britain and Ireland and find the *A. subfuscus* morphotype, identified on the ovotestis characters of Pinceel *et al.* (2004), to be dominant. Only a single specimen was unambiguously attributed to the *A. fuscus* morphotype, collected on Knockmore Mountain, Clare Island, Co. Galway in October 2002. *Arion fuscus* is therefore added to the List alongside *A. subfuscus s.s.* There appear to be no reliable external features distinguishing these taxa, but the ovotestis has a diagnostic morphology (Pinceel *et al.* 2004) and is relatively easy to examine.

9 ***Arion occultus***. This species was recently described from Ireland (Anderson 2004). *Arion occultus* is almost certainly an introduction but the country of origin is unknown and it is recorded from only a small area in Co. Down. It is placed within the *Arion hortensis* group of *Kobeltia*, and is closely allied to *Arion distinctus*.

10 ***Balea heydeni***. Preece & Gittenberger (2003) have introduced *Balea heydeni* as a valid species, distinct from *Balea perversa*, and occurring in the islands of the eastern Atlantic. It is clear that both *Balea heydeni* and *B. perversa* occur in Britain and Ireland (B. Colville, pers. comm.) but the issue needs to be more fully resolved by phylogenetic work. Such work is apparently in progress (pers. comm. of R. Preece).

11 **Cochlicellidae**. The molecular data of Steinke *et al.* (2004) suggest that *Cochlicella* is rather distantly related to other genera in the Hygromiidae and is closer to the Sphincterochilidae. This coincides with the conclusions of Schileyko & Menkhorst (1997) using anatomical data. *Cochlicella* is therefore placed in a separate family, the Cochlicellidae.

12 ***Cochlicella barbara***. Schileyko and Menkhorst (1997) have separated *barbara* (L.)

from the other two *Cochlicella* on the structure of the penial papilla. Their preferred ordination is the erection of a new genus *Prietocella*. However, Falkner *et al.* (2001) have introduced this name at the subgeneric level. Falkner *et al.* (2001) is followed here.

13 ***Cochlicopa lubrica/lubricella***. The taxonomy of *Cochlicopa* in Europe is difficult and confused. Falkner *et al.* (2001, 2002) recognise four taxa: *C. lubrica*; *C. lubricella*; *C. repentina*; *C. nitens*. Armbruster (2002) mentions a fifth, *C. lohmanderi* Waldén, 2001 from Sweden. *Cochlicopa lubrica*, *C. lubricella* and *C. repentina* are listed as British by Falkner *et al.* (2001). The inclusion of *C. repentina* is controversial and this species has not been recognised by British and Irish authors other than Moorkens & Speight (2001). The distinguishing features are primarily conchological (Waldén 1976), and analysis by Armbruster (2002) has indicated that *repentina* is synonymous with *C. lubrica*.

The reliable distinction of *C. lubrica* and *C. lubricella* in the field is also uncertain, as phylogenetic analysis (Armbruster 1997) has indicated that *lubrica* exists as two distinct ecotypes, one found in damp habitats, the other in dry, exposed places and that *lubricella* comprises two small-shelled paraphyletic taxa, distinguishable only on genetic characters. One of the *lubricella* taxa closely approaches *C. lubrica* and may be synonymous. It is likely that both *C. lubrica* and *C. lubricella* occur in Britain and Ireland, but the usual distinguishing features, shell size and habitat preference, are probably unreliable. For these reasons the species are listed as *Cochlicopa* cf. *lubrica* and *C. cf. lubricella* in recognition of the unreliable nature of the relationship between shell morphology and the biological species and the fact that British material has not been compared directly with topotypic Continental material to which these names apply.

14 ***Myosotella***. *Ovatella* is now split into two genera, *Ovatella* s.s. and *Myosotella*, the latter name applying to the British and Irish species (Martens 1999).

15 ***Myosotella denticulata***. *Myosotella denticulata* is recognised in the Clecom List as distinct from *M. myosotis* and as occurring in our area. An ecological distinction from *myosotis* is claimed, with *M. denticulata* occupying more fully marine environments. Intermediates between the two do occur, however, and I have seen such on the west coast of Ireland. Despite this, *denticulata* is included in the List, the contrary evidence being rather sparse and anecdotal. Its inclusion will also enable Conchological Society members to plot its distribution and help elucidate postulated ecological preferences.

16 ***Merdigera obscura***. This was formerly included within *Ena*, chiefly on shell characters. A re-evaluation of its affinities (Schileyko 1978) has concluded that it is not very closely related to the other British species, *Ena montana* (tribe *Enini*), and is now placed in *Merdigera* within a different tribe, the *Multidentulini*.

17 ***Euconulus* cf. *fulvus/alderi***. Falkner *et al.* (2001), in what they describe as the preliminary phase of a revision of European *Euconulus* (Falkner *et al.* 2002), list three taxa for Britain and Ireland: *E. fulvus*; *E. trochiformis* (Montagu, 1803); and *E. praticola* (Reinhardt, 1883). *Euconulus trochiformis* is claimed as a senior synonym of *E. alderi* and therefore replaces that name, and *E. praticola* represents a third taxon distinguished from the others on large shell size, dark shell colour, and very dark animal with a stenopic habit, being confined mainly to wetlands.

There are several problems with these proposals in respect of the fauna of Britain and Ireland. The current ordination for the British Isles fauna i.e. using *E. fulvus* and *E. alderi*, has a lot of data attached. Two forms are generally recognisable in the field i.e. a relatively large, dull form with pale animal occurring in shaded habitats (*E. fulvus*), and a smaller, more glossy form with darker animal (though varying in body colour) in open,

wet habitats (*E. cf. alderi*). It is difficult to see where the third taxon, *praticola*, fits in. A small, pale-bodied form is occasional in wetland biotopes but does not fit into Falkner's ordination, whereas there is little evidence for a larger, dark animal (*praticola*) such as he describes. The full details of the proposed revision of *Euconulus* are unavailable so I regard it as premature to accept an orthodoxy lacking published justification. In order to bridge the divide between the Clecom view and the view of field recorders in Britain I have chosen to retain the familiar names but apply a conditional stance [i.e. cf. fulvus](#) and cf. *alderi*.

18 ***Cornu aspersum***. The generic name for the common garden snail has been a source of controversy for some time. At least three alternatives are circulating in the literature, including *Cantareus* Risso and *Cryptomphalus* Charpentier, which are now generally applied to species in different helicid clades from *aspersa*. The name *Cornu* Born has been applied by Falkner *et al.* (2001), although the type is a scalariform (teratological) specimen. This makes *Cornu* unavailable according to ICZN Article 1B(2) (1985) but it has been argued that its validity is unaffected because it was described or designated in Born's protologue as teratological. Waldén (1976) appeared to accept this or a similar argument in an earlier list for Britain and Ireland, in placing the garden snail in *Helix* subgenus *Cornu*.

19 ***Lucilla single yana***. This taxon, listed by Kerney (1999) as *Helicodiscus singleyanus*, was placed in subgenus *Hebetodiscus* by Pilsbry (1948). Falkner *et al.* (2002) make a case for regarding *Hebetodiscus* as distinct at the generic level from *Helicodiscus*. Since *Lucilla* Lowe, 1852, applied to material of *singleyanus* from Madeira, has date priority over *Hebetodiscus* Baker, 1929, the generic name should be *Lucilla*, and the species name *singleyana*.

20 ***Cernuella aginnica***. Added to the British List by Carr (2002) from near Maidstone in Kent.

21 ***Trochulus***. A recent ICZN ruling, Opinion 2079 (2004), has resulted in the replacement of the name *Trichia* Hartmann, 1840 for the hairy snail and related species, to remove homonymy with *Trichia* de Haan, 1839 (Crustacea, Brachyura) relating to marine crabs. The replacement name is *Trochulus* Chemnitz, 1786. This is accordingly adopted.

22 ***Trochulus sericeus***. As Falkner *et al.* (2002) point out, the name *plebeius* has been wrongly applied to the taxon listed above as *Trochulus sericeus* (Draparnaud). Forcart (1965) originally proposed the replacement of the name *sericeus* by the younger name *plebeius* to sort out a difficult taxonomic problem relating to the validity of the name *sericeus* (Draparnaud, 1801) in contradistinction to *sericeus* (Müller, 1774). However, in so doing, he synonymised what have subsequently been regarded as two distinct species, one widespread in north-west Europe, the other confined to the alpine region. This error has insinuated itself into most recent British and European lists and, although the taxonomic difficulties involved in the use of the name *sericeus* (Draparnaud) are not yet resolved, the eventual validation of this name for the British species seems a likely outcome.

On the other hand, Naggs (1985) has exhaustively examined morphological variation of *sericeus* (= *plebeius*) in Britain and could find no consistent or distinctive differences from the very common *Trochulus hispidus*. Prockow (2000) likewise, could find no consistent diagnostic internal or external characters separating the two in Europe. The narrowly de-limited distribution of *sericeus* in Britain does, however, argue for some characteristic which recorders can recognise in a consistent way. Naggs (pers. comm.),

has now uncovered a consistent internal difference between the two. The spermatheca (gametolytic sac) of *sericeus* is consistently spherical (as long as broad) whereas that of other British *Trochulus* is consistently longer than broad i.e. ovate. The extent of overlap appears to be very small. This distinction applies also to populations of *sericeus* from central France. *Trochulus sericeus* is retained in the current List.

23 ***Zenobiella subrufescens***. Kerney (1999) placed this species in *Perforatella* following current European practice, but Falkner *et al.* (2001) subsequently elevated subgenus *Zenobiella* of *Perforatella* to generic status. So the species is once again *Zenobiella subrufescens* as in earlier British Lists (Waldén 1976, Kerney 1976b).

24 ***Lehmannia nyctelia***. Quick (1960) reported this species from an indoor heated environment in Edinburgh but it has recently been found naturalised in a garden at Crediton, Devon (pers. comm. of S. M. Davies). It is difficult if not impossible to reliably distinguish from *L. valentiana* on external characters and differs mainly in the longer penis and by the lack of a flagellum. Waldén (1976) thought that its internal characters were intermediate between *Lehmannia* and *Malacolimax* and that these subgenera were poorly differentiated. However, other *Lehmannia* such as *L. szigethyae* Wiktor also lack a flagellum and there are other good characters such as folding of the internal wall of the penis, separating *Lehmannia* and *Malacolimax*. The genitalia of *L. nyctelia* are figured by Quick (1960).

25 ***Limacus maculatus***. The phylogeny of this species is contentious. Forcart (1986) and Wiktor (2001) place it either in genus *Limacus* or in *Limax* subgenus *Limacus*. A contrary view is taken by Giusti (1973) and by Giusti *et al.* (1995) who place *maculatus* outwith *Limacus* and in *Limax* sensu stricto. The argument, though not heretofore expressed in such terms, is essentially about whether similar character states in *maculatus* are synapomorphic to those of *flavus* i.e. derived recently from common descent. It is certainly difficult to envisage such divergent features as egg shape, body colour, watery nature of the body mucus and integument and possession of a long caecum in the intestine, which these species share, as other than strong evidence for a close relationship i.e. synapomorphy. The peculiar placement of the spermathecal canal in *L. flavus* i.e. located in the wall of the penis rather than in the wall of the oviduct (as in *maculatus*), is often regarded as plesiomorphic i.e. indicating independent descent and a more distant relationship. However, this must be balanced against the much greater number of shared, potentially apomorphic, characters. While the penial conjunction of the spermatheca can be seen as a primitive character found otherwise only in a few Ponto-Caspian limacids, it may also be viewed as part and parcel of a more general variability in placement and size of organs within the reproductive system in *Limax* and allied genera. What then of the erection of a separate genus (*Limacus*) to accommodate *maculatus* and *flavus*? This can still be justified on the character states common to both and listed above, which also indicate that *Limacus* occupies a position intermediate between *Limax* sensu stricto and *Lehmannia*.

26 ***Lymnaea fusca/palustris***. In a phylogenetic analysis of the European Lymnaeidae Bargaes *et al.* (2001) judged the genetic distance between species in *Stagnicola* and *Lymnaea* sensu stricto to be too small to justify separation at the generic level, thereby placing *Stagnicola* as a subgenus of *Lymnaea*, rather than as a separate genus. As yet this conclusion has not been accepted or incorporated into the Clecom List or the online Fauna Europaea List of Bank and collaborators (2004). To be consistent with the aims of the present List, as stated in the Introduction, notice is taken of this development and *fusca* and *palustris* are included under *Lymnaea* subgenus *Stagnicola*.

27 *Lymnaea fusca*. Carr & Killeen (2003) introduced this species to the British list as *Stagnicola fusca*. It appears to be by far the commonest segregate of *Lymnaea palustris* agg. in Britain and Ireland. *Lymnaea palustris* seg., on the other hand, appears to be rare with only a small scatter of records for eastern Britain, not having been found in Ireland. Claims that a third segregate *Lymnaea corva* (Gmelin) occurs in Britain and Ireland (Falkner *et al.* 2001; Moorkens & Speight 2001) must be treated with caution as the determinations appear to have been made on conchological characters. A large sample of both British and Irish material has been dissected and only *L. palustris* and *L. fusca* verified so far. Falkner *et al.* (2001) do not record *L. fusca*, the commonest species, for the Britannic area.

28 *Radix balthica*. The complex synonymy of this species is discussed by the authors of the Clecom List (Falkner *et al.* 2001; Falkner *et al.* 2002). Historically, European authors have claimed that there are two closely allied species in northern Europe, a high-spined form identified (by them) as *Radix peregra* (Müller) and a very common low-spined form called *R. ovata* (Müller). Recent phylogenetic research (Bargues *et al.* 2001) has demonstrated, that there are indeed two closely related but distinct *Radix* in central Europe, but only one in northern Europe. The higher spined of these taxa is not the common, moderately high-spined N. European morphotype but a much rarer central or alpine species. It appears that this is absent from northern Europe including Müller's type locality for *peregra* in Denmark. The alpine taxon should be called *R. labiata* (Rossmässler). This leaves the much more widespread and common species, still with two forms (and two names), to be dealt with. The higher-spined morphotype (not as high spined as *labiata*) is traditionally called *R. peregra* (Müller) and the low-spined morphotype, *R. ovata* (Müller).

These two forms have achieved recognition partly through the misunderstanding outlined above, but mostly due to a difference in ecology. In effect, they are ecotypic. The low-spined form is common in slow or still waters and the higher-spined form in running waters. Since only one variable species is now recognised, Müller's names are synonyms. So far so good. Unfortunately, the name *ovata* is also now a synonym of an earlier Linnean name, *R. balthica* (L.) (Linnaeus designated what was subsequently perceived as a 'mixed' collection of high and low-spined forms for this name, but the acceptance of a single unifying taxon now releases the name). Therefore, three names are available.

The name *balthica* has priority over Müller's two names on date of publication and is used by Falkner *et al.* (2001, 2002). However, *peregra* (Müller) is listed as a conserved name under ICZN Opinion 336, so *balthica* should revert to the status of a synonym. Falkner *et al.* (2002) argue against this on the basis that it will clarify the identity of the northern species if it is re-named, distinguishing it from historically confused designations such as that of Hubendick (1951) which had a very broad compass and included species now considered distinct from *peregra* such as *ampla* (Hartmann) and *labiata*. This argument is accepted here.

29 *Oxychilus, Ortizius*. *Oxychilus alliarius* and *O. navarricus* are placed in subgenus *Ortizius* Forcart, 1957 in the Clecom List. Giusti & Manganelli (1999, 2002) argue against this ordination and place *Ortizius* in synonymy with subgenus *Oxychilus* s.s. *Ortizius* according to Giusti & Manganelli (1999, 2002) is not a natural group and members cannot be distinguished reliably from the members of subgenus *Oxychilus*. Species in subgenus *Oxychilus* possess, in common with those listed for *Ortizius*: penis with a flagellum; penial retractor inserted at the apex of the flagellum; penis ornamented internally with pleats; long epiphallus; epiphallus internally with slender longitudinal pleats; mucus gland mainly vaginal; central teeth on the radula with long mesocones. The synonymy of Giusti & Manganelli (1999) is followed here.

30 ***Oxychilus navarricus helveticus***. Falkner *et al.* (2001) have postulated that *Oxychilus helveticus* is conspecific with a Pyrenean taxon, *Oxychilus navarricus* (Bouguignat, 1870). The latter name has priority on date of publication, but because these are regarded as two geographical races of the species, the northern one, originating from the alpine region and widespread in the British Isles, they called *navarricus helveticus* (Blum). The validity of this hypothesis has not been adequately tested and there is no way of knowing if phylogenetic analysis will produce the same result. This creates a dilemma, because in the present List I have specifically resisted recognising subspecies without phylogenetic evidence, as the concept has traditionally been so disordered in application. I make an exception here because there is so little contrary evidence to go on, and accept the Clecom analysis for the time being.

31 ***Physella, Haitia***. Taylor (1988, 2003) has transferred *Physella acuta* to the genus *Haitia* Clench & Aguayo, this being the earliest available name (other than *Costatella* Dall), in a revision which involved, among other things, elevating former subgenera to genera. *Haitia* (which Taylor used in an earlier paper, Taylor (1988)) was validated by him following the erection of a separate genus for the type species of *Costatella*, *costata* Newcomb, which took *Costatella* out of contention as the earliest valid name for the *acuta* clade. These changes rest upon a raft of assumptions about the validity of the new taxonomic units which are difficult to test without relevant phylogenetic or breeding studies.

However, Remigio *et al.* (2001), in an examination of the evolutionary origins of *Physella* (*Physella*) *gyrina* and of two localised spring species *Physella* (*Physella*) *wrighti* Te & Clarke and *Physella* (*Costatella*) *johnsoni* (Clench), have come to interesting conclusions about the ordination of N. American Physidae. They concluded that *wrighti* is the ancestral form from which *gyrina* and *johnsoni* arose 10,000 years ago, after the last major glaciation. DNA analysis established that *gyrina* and *johnsoni* are very closely related (0.0 to 0.4% distance at 16S ribosomal RNA) despite being classified in different subgenera i.e. in *Physella* and *Costatella* respectively. They are in fact about as related as *gyrina* and *wrighti* to each other even though the latter are in the same nominal clade. The authors conclude that genetic distance, calculated from the DNA analysis, is insufficient to justify subgeneric partition for these species. This does not sit well with the revision being proposed by Taylor (2003). In the circumstances it seems wiser to retain *Physella* for both the *gyrina* and *acuta* clades until some of the issues raised by these findings can be further investigated. As an aside, comparison of a species of *Physa* with the above *Physella* species by Remigio *et al.* (2001) indicated a much more ancient divergence, justifying the widely accepted generic separation of *Physa* from *Physella*.

32 ***Physella acuta***. The taxonomic status of the putative British species *Physella acuta* and *Physella heterostropha* are discussed by Anderson (2003). *Physella heterostropha* is reduced to synonymy with *P. acuta* on the basis both of morphological homogeneity (Anderson 2003) and lack of breeding isolation in experiments conducted on N. American samples of the morphotypes (Dillon *et al.* 2002).

33 ***Anisus leucostoma/spirorbis***. Falkner *et al.* (2001) list two species of *Anisus* subgenus *Anisus* for the British Isles i.e. *spirorbis* (L.) and *leucostoma* (Millet) representing broad-whorled and narrow-whorled morphotypes respectively. They have also replaced the name *leucostoma* with *septemgyratus* (Rossmässler). The latter change is not followed by Glöer (2002).

The separation of *Anisus spirorbis* from *A. leucostoma* continues to be problematical. Glöer (2002) remarks that a population studied by Wawrczinek at St Georges-du-Bois varied in conchological characters, and therefore species assignment, between years

and that some specimens possessed internal characters intermediate between the two putative taxa. Reliable evidence of specific distinction for the broad-whorled form *spirorbis* is therefore in my view still not available. This issue will undoubtedly be examined phylogenetically at some future point, but in the meantime two species are retained (nomenclature of Glöer (2002)).

34 ***Ferrissia wautieri***. The name to be applied to this taxon is contentious. In the Clecom List it is considered synonymous with *F. clessiniana* (Jickeli, 1882), which was described from Alexandria in Egypt. Falkner *et al.* (2002) regard it as distinct from related N. American species as well as native to Europe. Glöer (2002) retains the name *F. wautieri* on the basis that its identity and internal morphology are well established whereas some of the alternative contenders are poorly characterised. Glöer (2002) is followed here.

*Ferrissia* was first recorded in Britain from a pond at Bishop's Waltham in Hampshire and from indoor aquaria (Brown 1977) the latter occurrence suggesting a potential mechanism for its introduction and spread. A North American origin seems likely, notwithstanding the contentions of Falkner *et al.* (2001, 2002), and the relationship with species in the N. American fauna needs to be more fully explored.

35 ***Paralaoma servilis***. The present species has had a long and complex taxonomic history which Falkner *et al.* (2002) have ingeniously disentangled. The correct name for the small shell called *Paralaoma caputspinulae* by Kerney (1999) is *P. servilis*.

36 ***Pupilla bigranata***. *Pupilla bigranata* is listed for Britain by Falkner *et al.* (2001). Barry Colville (pers. comm.) has commented on British populations containing individuals with *bigranata*-like shells. Where specimens with *bigranata*-like shells are present, normal *muscorum* also occur and specimens with characters intermediate between the typical forms are invariably present also. Communities with *bigranata*-like individuals appear scarce in Britain and have not been recorded in Ireland. This name is omitted from the List for lack of evidence of the occurrence of a distinct biological species.

37 ***Pyramidula pusilla***. *Pyramidula rupestris* s. l. comprises a range of morphotypes in Europe. The review of Gittenberger & Bank (1996) has reversed an early (19th century) lumping of taxa in European *Pyramidula* and recognises several species and subspecies. The common European species under this scheme is *P. pusilla* (= *rupestris* auct. non Draparnaud, 1801) of which the British and Irish form has been designated subspecies *umbilicata* (Montagu). The Clecom List (Falkner *et al.* 2001) has taken this a stage further by elevating *umbilicata* to species rank. As yet, apart from controversial conclusions based on shell morphology in the original review, little justification has been provided for the latter change. A middle view is taken here with the British species aligned with the common north-west European form *pusilla* (Vallot) until further evidence is available.

38 ***Oxyloma elegans/sarsi***. There has been a consistent difference in usage of the name *elegans* between British and Scandinavian authors on the one hand (Waldén 1976), and most Continental authors on the other. The latter have used this name for the most widespread of the European species of *Oxyloma* and the former for a different, much rarer, northern taxon. Falkner *et al.* (2002) have re-examined the types of *elegans* in MHNM and compared these with topotypes from Risso's locus typicus in the Camargue. This study has confirmed earlier European studies which identified Risso's *elegans* as the common European species. Accordingly, the name *pfeifferi* of British authors becomes a junior synonym of *elegans*, and *sarsi* is applied to the northern taxon previously called *elegans* by British and Scandinavian authors.

39 *Vallonia cf. excentrica*. A recent phylogenetic analysis by Korte & Armbruster (2003) indicates that *V. excentrica* comprises two paraphyletic taxa which are difficult or impossible to distinguish on shell morphology. The situation is therefore similar to that applying to *Cochlicopa lubricella* (see Note 15). As it is impossible to identify which of the paraphyletic taxa occur in Britain and Ireland, the *excentrica* complex is indicated in the list as *Vallonia cf. excentrica* pending further investigations.

In addition Korte & Armbruster (2003) found that *Vallonia pulchella* is closely allied to, and may be synonymous with, *Vallonia enniensis*. However, this does not affect use of the name *pulchella* for British material.

40 *Truncatellina cylindrica*. This species is included by Ross (1984) in an Irish List but inclusion rests upon a single shell collected by William Thompson at Groomsport, Co. Down in the mid 19th-century and discovered recently in Thompson's collection. As it is difficult to be sure of the age of the Groomsport specimen, and the site appears to have been unsuitable for this species during the modern era, a decision has been taken to remove it from the Irish part of the present List. Although subfossil shells are present in Quaternary dune deposits in north Antrim/Londonderry (Welch 1898) there is no indication that the species survived in Ireland into modern times.

41 **Sphaeriidae subgenera**. Killeen *et al.* (2004) are followed here, in that subgenera and subspecies are not recognised in the Sphaeriidae.

42 *Sphaerium nucleus*. Added to the List by Killeen *et al.* (2004) and so far known from three areas of grazing marsh in south-east England. It is since reported from two sites on the Royal Canal, Co. Longford, Ireland (Moorkens 2005). The Clecom List records *Sphaerium ovale* (Férussac, 1807) for Britain and Ireland but Killeen *et al.* (2004) note that there are no authenticated field records and that further work is needed to confirm its occurrence. It is excluded from the present list.

43 *Radix rubiginosa*. This small lymnaeid has been observed on several occasions in tropical aquaria in Ireland and there is a colony in the Victoria House at Kew Gardens, Richmond, Surrey (R. Anderson, unpublished observations). It is distinguished from related tropical lymnaeids by the heavily pigmented and spotted praeputium, by the strong development of the dual bundles of musculature inside the praeputium, by the way in which these taper proximally in the sarcobelum, and by the long (equal or subequal in length to the praeputium) and slender, penis and penis sheath (Hubendick 1951). The prostate has a single fold. The shell is similar in shape to another widespread Asiatic species *R. luteola* (Lamarck), but the sutures are much deeper and the shell is pale to deep horn colour, lacking the brown apex and striping often seen in *luteola*. *Radix rubiginosa* has been reported from heated aquaria in Israel (Mienis 1986). Its native range is Indo-China and Indonesia (Hubendick 1951) where it can be an important vector for helminthic parasites.

44 *Gyraulus chinensis*. *Gyraulus chinensis* is native to east Asia and is another common species of tropical aquaria (R. Anderson unpublished; McMillan 1998). It is naturalised in west and south Africa (Appleton 1996) and in rice fields of southern Spain, from whence it is distributed sporadically northwards, mainly in artificially heated environments, to Germany (Brown *et al.* 1999).

45 *Planorbella duryi*. This is the common ramshorn found in the tropical aquarium trade (R. Anderson unpublished). Fairly ubiquitous in aquaria and occasionally in greenhouses. There has been some confusion about the name to be applied but Horsak *et*

al (2004) conclude that in Austria and the Czech Republic at least, the aquarium species is *P. duryi*. Material collected from aquaria in Northern Ireland has been dissected and also corresponds to *P. duryi*. The occurrence of other species, notably *Planorbella trivolvis* (Say, 1817), cannot be ruled out.

46 *Rumina cf. decollata*. Reported in this journal (p. 714) from Caerphilly Garden Centre, South Wales, new to the British Isles

47 *Striosubulina* sp. Schileyko (1999) has revised the status of this species (formerly in *Subulina*) making it the type of a segregate genus *Striosubulina*. His justification is based upon a re-description of *Subulina striatella* using material collected in Kew Gardens. It has been noted (pers. comm. of F. Naggs) that Rang's original description of *S. striatella* (Rang 1831) contains a colour figure showing a dark animal. The Kew species has a pale yellow body. Some doubt therefore pertains to the name to be applied here!

#### DISCUSSION

The List presented here is intended to provide a way forward for the recording community within the Conchological Society at a time of unprecedented change in the taxonomy and nomenclature of molluscs.

One objective has been to ascertain the number of taxa currently recorded from Britain and Ireland and to assign names on the best evidence available. For a number of taxa this has been a particularly difficult task because of competing opinions and the complexity of the issues involved. Decisions have been made, as far as possible, using phylogenetic criteria where research evidence is available. Historically, a great many decisions have been based largely or entirely on conchological criteria which is unwise, as in many groups conchological characters are governed by environmental as well as genetic factors. There are several examples in the List for which phylogenetic analysis would be desirable to resolve long-standing difficulties of interpretation. Use of the structure of soft parts including the male genitalia can also be misinterpreted in deciding relatedness. An example has been cited in Note 8, dealing with British *Physella* spp. Overall, a balance has been sought between external and internal morphology, though in the end giving precedence to molecular studies.

This List, as with all lists, is not the last word on the subject and will undoubtedly require to be modified as further research evidence becomes available on the outstanding issues.

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