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浙江科学技术出版社

中国水生贝类原色图鉴

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● COLOURED ILLUSTRATIONS OF AQUATIC MOLLUSKS IN CHINA

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PUBLISHER

ZHEJIANG PUBLISHING HOUSE OF
SCIENCE AND TECHNOLOGY

PRINTER

ZHEJIANG XINHUA PRINTING FACTORY

DISTRIBUTOR

ZHEJIANG XINHUA BOOKSTORE

JANUARY, 1988 IN HANGZHOU

序 言

《中國水生貝類原色圖鑒》是我國出版的第一部大型彩色貝類圖鑒。

貝類也稱為軟體動物，是動物界中種類繁多的一個門類。我國位於亞洲東部，東臨太平洋西海岸，西至帕米爾高原，北起黑龍江漠河以北，南達南沙群島的曾母暗砂，東西相距5000多公里，南北相隔5500多公里，地跨熱帶、亞熱帶和溫帶3個氣候地帶，有大小島嶼5000多個。複雜而廣袤的自然環境，為貝類提供了廣闊的生存區域，幾萬萬年來形成了品種極其複雜多樣的貝類和我國特有的貝類。我國已知的海水貝類、淡水貝類、陸生貝類和貝類化石約有4000餘種，其中以水生貝類佔絕大多數。這本《中國水生貝類原色圖鑒》的出版，為貝類分類提供了準確的依據，對貝類的科研、教學、開發利用(海淡水養殖)有實際意義和參考價值，貝類的形態各異，外表絢麗多彩，歷來為人們所喜愛和收藏。

本書圖文並茂，內容廣泛，圖片色彩的真實和自然，分類特徵的明顯都達到了一定水平。

希望我國貝類學工作者繼續努力，出版水生貝類原色圖鑒的續集和陸生貝類原色圖鑒。

齊鍾彥

前 言

我國海域遼闊，淺海灘涂平展廣袤，內陸水域星羅棋佈，分佈着品種繁多的水生貝類。爲反映我國絢麗多彩的水生貝類資源狀況，適應科研、教學和生產的需要，由農業部水產司組織並委托青島海洋大學、湛江水產學院和上海水產大學協作編寫了我國第一部《中國水生貝類原色圖鑑》。

圖鑑收集了我國水生貝類 697 種，分別隸屬於 5 綱 125 科，拍攝各種貝類的原色照片 800 幅，描述了各種類的分類地位、形態特徵和分佈。

圖鑑文字編寫分工：青島海洋大學撰寫腹足綱、掘足綱、瓣鰓綱中的 382 種；湛江水產學院撰寫了多板綱、腹足綱中的 204 種；上海水產大學撰寫了腹足綱、瓣鰓綱、頭足綱中的 94 種；青島海洋大學和上海水產大學共同撰寫了腹足綱中的 17 種。

圖鑑的全部原色照片拍攝和文字定稿由青島海洋大學承擔。

圖鑑初稿承蒙貝類學家齊鐘彥、馬綉同、王禎瑞、劉月英，以及尹左芬、董正之、李鳳蘭、繆國榮等專家教授審閱，提出了許多寶貴意見。謝蓮珍、李冠國教授和張建中同志幫助翻譯和文字整理。在編寫中，曾得到山東、海南、雲南等省有關單位和科技人員的大力支持和幫助，對此，謹表衷心感謝，並熱誠希望廣大讀者提出寶貴意見。

編者謹識

一九八八年元月

ABSTRACTS

The mollusks may be classified according to their body structures into seven classes: Aplacophora, Polyplacophora, Monoplacophora, Gastropoda, Scaphopoda, Lamellibranchia and Cephalopoda. In this manual a total of 697 species are presented under five classes and 125 families. Among the five classes the Polyplacophora is presented in five families & six species; the Gastropoda in 69 families and 377 species; the Scaphopoda in one family and two species; the Lamellibranchia in 44 families and 302 species; the Cephalopoda in six families and ten species.

In this manual the mollusks may be classified into the following types according to their habits and habitats:

1. The swimming type:

Mollusks of this type can swim freely against currents. Examples are squids, loliginids etc. of the cephalopods.

2. The creeping type:

Mollusks of this type can use their well-developed foot to creep on the rocks, mud flats or sandy beaches. Most of the gastropods and the polyplacophores belong to this type.

3. The permanently fixed type:

Mollusks of this type have part of their shells fused to the rock or other objects. Examples are vermetids, ostrids, spondylids and chamids.

4. The attached type:

Mollusks belonging to this type are attached to the rocks or other objects by means of horny byssal threads secreted by a gland in the reduced foot. Examples are some species of mitilids, pectinids and pteriids.

5. The burrowing type:

Mollusks of this type live by burrowing into the mud or the sand. Examples are *Sinonovacula constricta*, *Tegillarca granosa*, and some other species among the unionids, venerids and mactrids.

6. The floating type:

Mollusks which belong to this type lack the power of free swimming, they just float along with the winds and the currents. Examples are some of the species of Opisthobranchia.

7. The boring type:

This type of mollusks can bore and burrow into rocks, corals, other shells or wood. Examples are

some of the species of Pholadidae, Theredinidae, and Magilidae.

China has an enormous littoral area with different types of shores and diverse hydrological and meteorological conditions. And in addition to the sea, there are also great rivers and lakes. These waters and shores provide a great variety of environment for mollusks, giving china rich resources of different mollusks and favourable grounds for culturing mollusks of many species.

The Mollusks are of great economic importance to men. Its shell is usually very beautiful, and its flesh tender, delicious and nutritious. It is known that in the early history of human life, our ancestors learnt to catch mollusks for food. Among the mollusks there are a few species which are harmful to some of our industries and constructions as well as to men's health. However, most mollusks are harmless and have become very popular and delicious seafoods. In the following we can see in how many different ways the mollusks may be utilized:

1. Used as food:

Except for the scaphods and most of the aplacophores, polyplacophores and monoplacophores, almost all mollusks are edible. The more popular ones are: abalones, arcids, mussels, scallops, pen shells, oysters, cockle, venerids, clams, cuttle fishes, squids, octopuses etc.. In fresh water the main edible species are: mud snails, fresh water clams (Unionidae), etc.. All these mollusks contain rich protein, fat, sugar, mineral salts and all sorts of vitamins; some even contain large amount of animal starch.

The parts of the body that can be eaten and its utilization vary with different species. In pen shells and scallops, the well developed adductor muscle is the most valuable part of the body because of its delicious taste. These adductor muscles can also be processed and dried, commonly known as "jiang yao zu" and "ganbei" respectively. The soft body of oysters, mussels and solenids, besides being eaten fresh, can also be dried or canned. By a concentrating process they can also be made into oyster oil, mussel oil or razor-clam oil. The squid's spermatophoric organ, locally called squid's egg, is also a renowned seafood.

2. Industrial use:

The main ingredient of the mollusks shell is carbonate of lime, which is good material for manufacturing lime. In China's southeastern coast, there are numerous local lime kilns which produce lime from shells of oysters, mussels, clams, conenails, etc. in a traditional way. These species with a thick pearl layer, such as river clam, trochids, pteriids etc., can be used to make buttons or beautiful handicraft articles. The powder obtained by grinding the shells of trochids and turbinids can be used as additive of paint to give more luster. Byssus of mussels and penshells also have been used as material in textile industry. Some species of the Muricidae possess a purple color gland, which was used for extracting dye in the past. The ink secreted by the cephalopods can be made into China Black, well known both in China and abroad. The eyeballs of squids can be used to make sizing material; the oil extracted from its visceral mass can be added to the coating paint in the tanning industry, and its internal shell can be used in making tooth paste or in making active carbon of superior quality.

3. Medical use:

The shells of mollusks such as *Tegillarca granosa*, *Scapharca subcrenata*, *Placuna placenta*, *Meretrix meretrix*, ostreids, abalones, cypraeids, pteriids, and squids can all be used for medicine. The shell of abalone is called "Shijueming" in Chinese medicine and can cure eye diseases. The shell of cypraeids is called "Haiba" which can improve sight and has detoxification effect. Pearl is a valuable Chinese medicine, which has the effect of clearing away heat, detoxification, calming the liver and releasing tension. The internal shell of squid is called 'Haipiao xiao' which can cure external wound and tinea, stop bleeding, relieve heart disease and gastric diseases. Recently our country has made great progress in extracting medicine from mollusks. Sixteen well-known medicines have been produced from the pearl and the mollusk's nacreous layer.

4. Used in making handicraft articles:

The shells of mollusks have their individual special shapes and sculptures, many of them being so richly colored & shiny. Mollusks such as cypaeids, olivids, conids, harps, muricids, pectinids, pteriids etc. are all attractive ornaments loved by all. The handicraft of shell carving is now prospering in China. At present there are about 60 or more

species of mollusks that can be used for shell-carving, among which the most popularly used are: abalone, penshells, pteriids, mytilids, pectinids, anomiids, strombids, neritids, olivids, etc.. Shell inlay products, such as table lamps, cigarette sets, etc. are nice and practical, and have received great favour. Pearls are valuable ornaments and were rare in the past. But now our country has succeeded in pearl-culturing by making use of river clams and pearl oyster sea shells. Necklaces made of pearls are both attractive and graceful.

5. Feed and bait:

Many small size mollusks like *Aloidis spp.*, *Musculus senhousei*, *Modiolus atrata* can be used directly as feed for poultry. Shells of oysters and other mollusks can be ground into powder to feed poultry and livestock so that the poultry will lay more eggs and the livestock will produce more milk. This feed-powder can also strengthen the poultry's power of resistance to diseases and promote the growth of the livestock's skeleton. Many floating and benthic mollusks are natural bait for marine fishes. Especially the small bivalves and the cephalopods have a fairly important position among the baits for fishing. In artificial culture of marine fishes, shrimps and prawns, the feeds may be mussels, *Macra veneriformis*, *Musculus senhousei*, *Aloidis sp.* etc.. As to fresh water fish culture, mud snails and river clams are excellent feeds.

6. Used as fertilizer:

Numerous small-sized mollusks such as *Musculus senhousei* *Aloidis sp.* etc. occur in such large quantities that they can be used as farm fertilizer.

Mollusks are beneficial to humans. But there are a few of them which are harmful.

1. Harmful to construction and to transportation:

Some of the mollusks like teredinids, pholadids, etc. can bore holes on wood or rock in the sea, thus causing great damage to ships and to the wood and stone structure of harbors. Many of them can seriously affect the speed of ships or cause the buoys to sink by attaching or fixing themselves on the bottom of ships or on buoys.

2. Harmful to the cooling-pipe systems of the coastal factories:

Seaside factories often use sea water for cooling. When sea water is pumped in, it may carry with it the larvae of mollusks which go on to live by attaching themselves on the inner wall of the pipe. As time goes, these larvae will grow and

expand until the pipe is entirely blocked. Then the factory will have to shut up for cleaning.

3. Damage to aquaculture of other seashells and algae:

Many carnivorous mollusks such as *Thais* spp., *Rapana bezoar*, philinids, and some species in the Naticidae can kill in great quantity the seeds of oysters, clams, etc. causing great loss to their cultures. Mollusks like *Chlorostoma rustium* of the Trochidae and many other species are herbivorous, and are pests of algal culture. Some species such as *Musculus senhousi* often join together by means of their byssal threads to form a giant mass which causes the cultured *Tegillarca granosa* or other shells unable to come to the surface to breathe or to find food and causes them to die of suffocation. Pine rods used for culturing mussels can also be damaged by teredinids, causing the mussels to drop off from the rods.

4. Harmful to man:

The shells of *Conus* are beautiful, but these mollusks possess poisonous gland and arrow-shaped radula in its buccal cavity. Once a man is stung, he will feel painful and paralyzed. In more serious cases, he may be poisoned to death. In some cases, it has been found that the poison is not originated from the mollusks, but from poisonous dinoflagellates, which, after being eaten by the mollusks, deposit the poison in them. Some fresh water gastropods are the intermediate host of parasites of man and livestock.

With the drive for modernization of trawling, the natural resources of mollusks fall far short of the needs of our people. To solve this problem, artificial culture of mollusks flourishes quickly. Now our country has started with more than 30 species of mollusks for artificial culture, among which the major marine species are as follows: *Ostrea* (*Crassostrea*) *rivularis* Gould, *Ostrea plicatula* Gmelin, *Ostrea* (*Crassostrea*) *gigas* Thunberg, *Ostrea* (*Crassostrea*) *talienuhanensis* Crosse, *Mytilus edulis* (Linnaeus), *Perna viridis* (Linnaeus), *Chlamys* (*Azumapecten*) *farreri* (Jones et Preston), *Argopecten irradians* Lamarck, *Patinopecten* (*Mizuhopecten*) *yessoensis* (Jay), *Pinctada martensi* (Dunker), *Pinctada margaritifera* (Linnaeus), *Pteria* (*Magnavacula*) *penguin* (Röding), *Sinonovacula constricta* (Lamarck), *Tegillarca granosa* (Linnaeus), *Ruditapes philippinarum* (Adams et Reeve), *Ruditapes variegatus* (Sowerby), *Meretrix meretrix* (Linnaeus), *Mactra veneriformis* Reeve, *Mactra chinensis* Philippi, *Mactra antiquata* Spengler, *Notarchus*

(*Bursatella*) *leachii cirrosus* Stimpson, *Haliotis diversicolor* Reeve, *Haliotis discus hannai* Ino. The fresh water species are as follows: *Cristaria plicata* (Leach), *Hyriopsis cumingii* (Lea). All the species listed above are to be included in the aquaculture-worker's programs for artificial culture; they generally fall into four types: the permanently fixed, the attached, the burrowing and the creeping types. The key for developing aquaculture, as is generally believed, is to promote the breeding of larvae. In China, the technique of artificial and semiartificial spat-culture, and semi-artificial larvae-collecting have been given full attention to, and have obtained rapid popularization and progress. All these will certainly lay a good foundation for supplying spats for culture in large quantities and good quality as well as in a quick and economical way.

There are many kinds of mollusks living in different ways. So methods for culturing them can not be the same. The burrowing type is generally cultured in the intertidal zone, using the procedure of levelling the beaches and retaining water. Species such as *Tegillarca granosa*, *Sinonovacula constricta*, *Ruditapes philippinarum*, *Meretrix meretrix* are cultured in this way. The attached type of mollusks are cultured by attaching them on rafts suspended in water at depth from several to dozens of meters, eg. suspending cages for scallops, suspending ropes for mussels etc. Mollusks of the permanently fixed type can be cultured either in intertidal zone or in shallow water. When they are cultured in intertidal zone, it is common practice to drop stones or to implant poles and cement slabs for spat-collecting. When mollusks of the fixed type are cultured in shallow water, the method of raft-culturing is used, generally with rafts suspended at a depth from several to dozens of meters and using shells as substratum for the mollusks to attach. The creeping type of mollusks can either be cultured in shallow sea by adopting the raft-type cage such as the abalone, or be cultured in the intertidal zone enclosed with screens such as the sea rabbit. In addition to the culturing methods mentioned above, our country is taking measures to protect and develop natural resources of mollusks to ensure increasing productivity. For the culture of fresh-water mollusks such as *Cristaria plicata*, *Hyriopsis cumingii* etc. the raft suspension type and the cage type are generally adopted.

贝类分类术语

多板纲分类术语

1. 头板、尾板和中间板

多板类壳板共8块,按照壳板的形状和排列的前后分为3类,即头板(cephalic plate) 尾板(tail plate) 和中间板(intermediate plate)。头板位于身体的最前端的1块,呈半月形,尾板位于身体的最后的1块,呈元宝状;位于头板和尾板中间的6块除大小略有差别外,基本形态和构造相似,统称为中间板。

2. 缝合片

除头板外,在每一壳板的前面两侧有1片白色、薄而光滑的物质,称为缝合片(sutural lamina)。缝合片被前面1块壳板覆盖着,它插在表皮中而不与表皮相连。有的种类在左右两缝合片中间还有小齿或小片。

3. 嵌入片

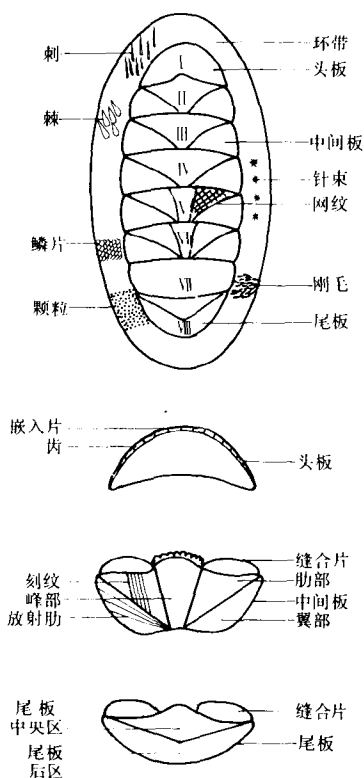


图1 多板纲外形模式图

在头板腹面前方,中间板的腹面后方两侧和尾板的后部,有嵌入片(insertional lamina)。嵌入片常有齿裂(slot)。

4. 峰部、肋部和翼部

每一块壳板按外形可分为3部分:中央隆起部称峰部,壳板前侧方为肋部,壳板后侧方为翼部。

5. 环带

身体背面,贝壳的四周有1圈外套膜称为环带。环带上生有各种类型的小鳞、小棘和针束等附属物。

6. 齿舌

齿舌(radula)位于口腔底部舌突起(odontophore)的表面,由许多横列的角质齿板组成,形似刀。每一横列由17个齿片组成。虽然每一横列齿数较固定,但齿片形状,特别第一侧齿的形状常因种类不同而异。

7. 鳃和微眼

鳃为羽状,位于身体的腹面的外套沟内。鳃的数目随种类而不同。微眼(aesthetes)是贝壳表面装有一种特殊的感光器官。在微眼中角膜、晶体、色素层、虹彩和网膜,虽然有的微眼缺乏晶体,但其基本构造与眼近似。

腹足纲分类术语

1. 螺旋部和体螺层

螺旋部(spire)是内脏块盘曲的地方,它可分为许多螺层。体螺层(body whorl)是贝壳的最后一层,一般最大,容纳动物的头部和足部。

2. 螺层和缝合线

贝壳每旋转一周称为一个螺层(spiral whorl)。两螺层之间相连接处称为缝合线(suture)。螺层数目、形态以及缝合线的深浅常随种类不同而异。计算螺层的数目时,通常以壳口(aperture)向下,从背面向下数缝合线的数目,然后加1即是。

3. 壳顶

壳顶(apex)是螺旋部最上的一层,也就是动物最早的胚壳,有的尖,有的呈乳头状,有的种类壳顶常常磨损。

4. 螺轴

贝壳旋转的中轴。

5. 壳口

体螺层的开口谓之壳口。它可分为壳口不完全(或称不完全壳口)和壳口完全(或称完全壳口)。壳口不完全就是指壳口有缺刻或沟而言,在壳口前部的沟称前沟(anterior canal),在后部的沟称为后沟(posterior canal);壳口完全是指壳口大体圆滑而无缺刻或沟。

6. 内唇和外唇

壳口的内面即靠近螺轴的一侧为内唇(inner lip);内唇相对的一侧称为外唇(outer lip)。内唇的边缘常向外翻,贴于体螺层上,外唇光滑或具齿。

7. 脐和假脐

螺轴旋转时在基部遗留下的小窝称为脐(umbilicus)。脐的大小、深浅常随种类而不同。也有的种类脐被内唇的边缘所掩盖。假脐就是由于内唇向外卷曲在基部形成的小窝。

8. 纵肋和螺肋

在壳面上有与螺轴平行的条状突起称纵肋(axial costae);在壳面上有与螺层平行的条状突起称螺肋(spiral costae)。

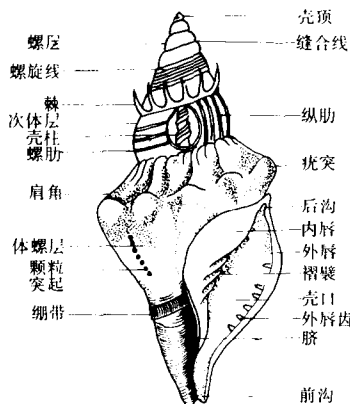


图2 腹足纲贝壳各部分名称模式图

9. 螺脊和螺沟

螺脊(spiral ridge)是与螺层平行的脊状突起;螺沟(spiral groove)是螺肋之间的凹沟。

10. 纵脊

纵脊(axial ridge)是与螺轴平行的脊状突起。

11. 棘

棘(spines)是壳面上尖刺状突起。

12. 肩角

肩角(nodules)为螺层高起或膨胀形成的突起面。

13. 细带

细带(selenizone)位于体螺层近前端靠近脐孔上方。

14. 贝壳的左旋和右旋

贝壳(shell)顺时针旋转的称右旋。反时针旋转的称为左旋。拿起贝壳,壳顶在上,壳口对着观察者,观看壳口开在螺轴的哪一侧。若壳口在螺轴的右侧。则为右旋,若在左侧,则为左旋。

15. 贝壳的方位

将壳口(腹面)向下,壳顶朝着观察者,这样,壳口的一端为前,壳顶的一端为后,位于左面的一边为左,右面的一边为右。

16. 壳的高度与宽度

由壳顶至基部的距离为高度,贝壳体螺层左右两侧最大的距离为宽度。

17. 唇

唇(operculum)是腹足类特有的保护器官,它是足部分泌的一种角质或石灰质的物质形成的。唇的形状一般与壳口相当,唇的上面有核心部和生长纹。

18. 颚片和齿舌

颚片(jaw)位于腹足类口腔内,几丁质。颚片的有无和数量因种类不同而异。齿舌位于口腔底部,呈带状,是由许多分离的角质齿轮固定在一个基膜上构成。为了分类上的方便,一般采用数字和符号代表他们的齿式,如皱纹盘鲍齿式为:

$\infty \cdot 5 \cdot 1 \cdot 5 \cdot \infty / 108$ 或者写成 $\infty \cdot 5 \cdot 1 \cdot 5 \cdot \infty \times 108$ 说明每一横列1个中央齿(central tooth),每侧各5个侧齿(lateral teeth),每侧缘齿(marginal teeth)很多,共有108个横列。

19. 本鳃和次生鳃

本鳃(ctenidium)在发生过程中最初出现而在成体仍被保留下来,它是由外套腔内面的皮肤伸展而成的。次生鳃(secondary branchia)是由于扭转、反扭转或者由于生活环境的变化导致本鳃消失,在身体的其他部位重新生出鳃,该鳃就是次生鳃。

20. 盾鳃和栉鳃

盾鳃是每一片鳃在鳃轴的两侧生出的并列锯齿状小瓣鳃叶,使全鳃呈羽状;栉鳃仅在鳃轴的一侧生鳃叶。

21. 前足和后足

有的种类足的前部非常发达,呈犁头状称为前足;有的种类足的后部也向背后方延伸,并与其他部分分开称后足。

22. 侧足和上足

有的种类足的两侧特别发达,形成侧足,侧足可向背部卷曲与外套膜接合。上足是足部上端扩张而形成的褶皱物。

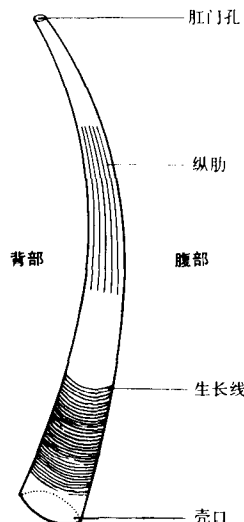


图3 角贝各部位名称模式图

掘足纲分类术语

贝壳

贝壳呈牛角或象牙状, 两端开口。粗端开口称壳口; 壳细端有小孔开口称肛门孔。壳形、壳口的直径大小, 贝壳断面形状、壳面光滑与否、壳面花纹和肛门孔的形状均因种类不同而异。

贝壳方位:

壳粗端为前端, 细端为后端; 壳侧凹面为背面, 凸面为腹面。

足

呈圆筒状, 末端两侧具翼, 有呈三分裂状或盘状是底。

齿舌

齿舌位于口球内, 一般齿式为 1·1·1·1·1, 但各种类的中央齿形状变化很大。

头丝

掘足类口吻的基部两侧具有触角叶, 叶上生有多数丝状附属物, 称为头丝。

瓣鳃纲分类术语

1. 壳顶

贝壳背面 1 个特别突出的小区称壳顶(beck or umbo), 它是贝壳中最老的部分。壳顶偏前者称前顶(prosogyrate), 壳顶偏后者称后顶(opisthogyrate), 壳顶位于壳的中央者称中顶(orthogyrate)。

2. 左右相称和左右不相称

左右相称(equivalve, 或 bilateral symmetry)即左右两壳的大小、形状相同; 左右不相称(inequivalve)即左右两壳的大小、形状不相同。

3. 等侧和不等侧

等侧又名两侧相等(equilateral), 即壳顶位于中央, 壳前后对称; 不等侧又名两侧不等(inequilateral)即壳顶不在中央, 壳前后不对称。

4. 小月面和盾面

壳顶前方有 1 个小凹陷, 一般为椭圆形或心脏形称为小月面(lunula)。壳顶后方与小月面对的一面也有 1 个浅凹陷, 称之为盾面(escutcheon)。

5. 生长线和放射肋

在壳外面有以壳顶为中心呈同心排列的纹线(concentric lines)称之为生长线(growth lines)。生长线有时突出, 伸出鳞片或棘刺状突起。放射肋(radial rib)是以壳顶为起点向腹缘伸出的许多放射状的肋, 肋上有的有鳞片、小结节或棘刺状突起。放射肋之间的沟称放射沟。

6. 铰合部

左右两壳相接合的部分称为铰合部(hinge)。铰合部位于背缘, 该部分较厚。铰合部的内方通常有齿和齿槽。当贝壳闭合时, 齿和齿槽在一定的位置上组合在一起。根据铰合齿的数量、形式可分为下列几种类型: 列齿型, 齿多成列; 异齿型, 齿形变化大, 典型种类有主齿和侧齿之分, 位于壳顶下方的齿称主齿(cardinal tooth), 主齿前方的齿称前侧齿(anterior lateral tooth), 主齿后方的齿称为后侧齿(posterior lateral tooth); 裂齿型, 铰合齿分裂或者形成位于壳顶的拟主齿(pseudocardinal teeth), 主齿呈

片状; 带齿型, 铰合部有 1 突起物与韧带相连, 不对称, 右壳有 1 窝, 左壳有 1 突起; 等齿型, 左右两壳铰合齿数相等; 贫齿型, 铰合齿不发达; 无齿型, 铰合部无齿。

7. 韧带

韧带(ligament)是铰合部连接两扇贝壳并且有开壳作用的褐色物质, 角质构造, 有弹性。由于韧带的部位和数量不同, 常有以下几个术语: 后韧带, 韧带位于壳顶的后方; 双韧带, 韧带在壳顶前后方均有; 多韧带, 由许多韧带

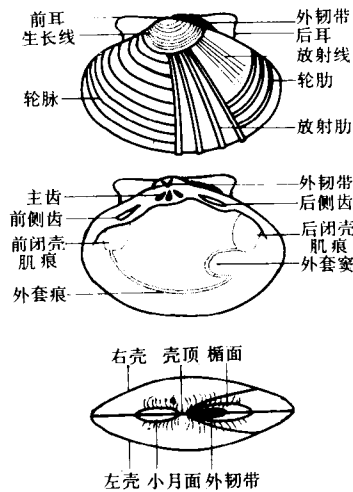


图 4 瓣鳃纲贝壳各部分名称模式图

构成; 无韧带, 没有韧带; 内韧带, 韧带在壳顶内部, 铰合部中央; 外韧带, 韧带只分布在壳的外面; 半内韧带, 一部分为内韧带, 一部分为外韧带。

8. 外套痕和外套窝

外套膜环肌在贝壳内面留下的痕迹称外套痕(pallial impression)。水管肌在贝壳内面留下的痕迹称为外套窝(pallial sinus)。

9. 闭壳肌痕和足肌痕

闭壳肌痕(adductor scar)是闭壳肌在贝壳内面留下的痕迹。等柱类(Isomyaria)即前后有 2 个等大闭壳肌的种类在贝壳内面留下 2 个等大的闭壳肌痕, 一个称前闭壳肌痕(anterior adductor scar), 位于口的前方背侧, 另一个称后闭壳肌痕(posterior adductor scar), 位于肛门的后方腹侧。异柱类(Anisomyaria)前闭壳肌痕小, 后闭壳肌痕大。单柱类(Monomyaria), 只有 1 个后闭壳肌痕, 前闭壳肌痕退化消失。足肌痕分前、后 2 种, 前足肌痕多在前闭壳肌附近, 后足肌痕多在后闭壳肌的背侧。

10. 前耳和后耳

壳顶前、后方突出的部分称为耳。位于壳顶前方的称前耳(anterior auricle), 位于壳顶后方的称后耳(posterior auricle)。

11. 栉孔

为扇贝类所特有。它是右壳前耳基部的 1 缺刻, 为足

丝伸出之孔称为足丝孔(hyssal opening),在缺刻的腹缘有梯状小齿,故名梯壳。

12. 副壳

某些两壳不能完全闭合,外套膜特别封闭而且有水舌的种类,它们常在壳外突出部分产生副壳。有的副壳不属于贝壳而独立存在,也有副壳与贝壳互相愈合而连成1个壳。

13. 贝壳的方位

壳顶尖端所向的一面通常为前方。多数瓣鳃纲由壳顶至贝壳两侧距离短的一面为前面;一般有1个韧带的一面或有外套窝的一面为后面。单柱类闭壳肌痕所在的一侧为后面。

14. 壳高、壳长和壳宽

一般由壳顶至腹缘的距离为高(贻贝背腹距离为高)。壳长为贝壳前端至后端的距离。壳宽是左右两壳间最大的距离。

15. 鳃原始型

这种类型鳃的构造与腹足类羽状本鳃一样,鳃轴两侧各有1行接近三角形的鳃,这种类型的鳃称为原始型(Protobranchia)。

16. 丝鳃型

鳃叶延长成丝状,每侧的鳃是由2列彼此分离的鳃丝或者依靠纤毛形成的丝间联结(inter filamental junctions)相连,均为丝鳃型(Filibranchia)。进步的种类各鳃瓣向上反折,形成上行板和下行板,板间联结(interlamellar junctions)由结缔组织或血管相连系。

17. 真瓣鳃型

该类型外鳃瓣上行板的游离缘与外套膜内面相愈合,内鳃瓣上行板的前部游离缘则与背隆起侧面相愈合,后部的游离缘通常为两侧鳃瓣上行板互相愈合。这种类型的鳃不仅板间联结是用血管相连系,而且同列鳃丝也以血管相连,称真瓣鳃型(Eulamellibranchia)。

18. 隔鳃型

这种类型的鳃是由身体每侧的2片鳃瓣互相愈合而且大大退化形成的。它在外套腔中形成1个肌肉性的有孔的隔膜,真正营呼吸作用的是外套膜的内表面,称隔鳃型(Septibranchia)。

19. 外套膜简单型

左右两外套膜仅在背缘互相愈合,在前缘、腹缘和侧缘完全游离。此种类型的外套膜称简单型。

20. 二孔型

左右两外套膜除在背部相愈合外,在外套膜后部尚有1点愈合形成鳃足孔和出水孔,称二孔型(bifora)。

21. 三孔型

在三孔型基础上,还有1点愈合,也就是在第一愈合点的腹前方还有第二愈合点,将鳃足孔分开,前面的为足孔,后面的1个为入水孔,称为三孔型(trifora)。

22. 四孔型

在三孔型基础上进一步又有1个愈合点,形成四孔型(quadrifora)。

头足纲分类术语

1. 腕

腕(arm)由足部特化而成,通常呈放射状排列在头的前方,口的周围。腕的数目随种类不同而异。二鳃类的腕都是左右对称的,除了十腕目中2个攫腕(触腕)外,其余8个腕自背面向腹面对称地排列。背面正中央2个为第一对,连接的为第二侧、第三侧,腹面的2个为第四对,分别称为

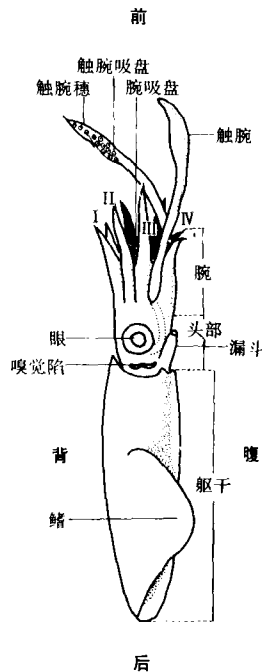


图5 头足纲身体各部分名称模式图

I—第一对腕足 II—第二对腕足

III—第三对腕足 IV—第四对腕足

背腕、侧腕(第一侧腕、第二侧腕)和腹腕。腕的长短随种类而不同,分类上常用1、2、3、4四个数字代表四对腕。4、1、2、3表示第四腕大于第一腕,第一腕大于第二腕,第二腕又大于第三腕;2=3>1=4表示第二和第三腕等长,第一和第四腕等长,第二、三腕大于第一和第四腕。

2. 茎化腕

在十腕目和八腕目中雄性种类有1个或1对腕茎化(hectocotylyzation)形成茎化腕(hectocotylyzed arm)。也称生殖腕或交接腕。茎化腕茎化形式有4种:①腕的长短缩小不对称;②腕的一侧膜加厚,引起皱褶,形成1个直通茎化腕顶端的精液沟;③腕的末端特别发达,形成1个舌状的端器;④腕上吸盘的大小和数量不对称。

3. 触腕

在十腕目中有2个专门用来捕捉食物的腕称触腕(tentacular arms)或称攫腕。它位于第三和第四对腕之间,比较细长。触腕基部有1个触腕囊,触腕可以部分地

或全部地缩进囊中。触腕通常有1个极长的柄,叫茎(stem),一般无吸盘。触腕顶端呈舌状,上面有吸盘或者钩,称其为触腕穗(tentacular club)。

4. 吸盘

腕的内面有吸盘(sucker)。吸盘的构造不一,是分类上重要依据。八腕目的吸盘结构简单,是1个杯状肌肉质的盘,无角质环和柄。十腕目吸盘构造较复杂,吸盘本身成球状或半球状,称吸盘球。吸盘周围有放射状的肌肉,腔内有角质环,环上具齿,齿的形态和数量是区分种类的特征之一。

5. 腕间膜

在腕之间,由皮肤伸展形成的膜叫腕间膜(inter-branchial membrane)或称伞膜(umbrella)。腕间膜弧三角的深度(由口至膜弧的垂直距离)在同种内比较恒定,可作为分类的根据。各腕间膜深度可以用A、B、C、D、E5个符号代表。A为第一对腕之间腕间膜垂直深度;B为第一和第二对腕之间腕间膜垂直深度;C为第二和第三对腕之间腕间膜垂直深度;D为第三和第四对腕之间腕间膜垂直深度;E为第四对腕之间腕间膜垂直深度。A=B=C=D=E表示各腕间膜深度相等。A、B、C、D、E表示由背面至腹面腕间膜深度次第减少。

6. 漏斗

漏斗(funnel)是头足类的1个很特殊的运动器官,它是由足部特化而来。原始种类的漏斗是由左右2个侧片构成的,不形成完整的管子。在二鳃类形成1个完整的管子。二鳃类的漏斗主要由水管(siphon)、闭锁器(locking apparatus)、附着器(adhering apparatus)和漏斗下掣肌3部分组成。水管呈锥形,前端游离。在水管内面背部有1个半圆形或三角形的舌瓣(valve),舌瓣向内有腺质片(glandular lamella)或漏斗器(funnel organ)。腺质片通常包括1个背片和2个对称的腹片;闭锁器使漏斗基部与外套膜相衔接,它由闭锁槽(钮穴)(adhering groove)和闭锁突

(钮突)(adhering ridge)两部分构成。闭锁槽位于漏斗外侧基部,为1凹槽,左右各一。闭锁突恰好嵌入闭锁槽中,它位于外套膜的内面,左右各一。漏斗下掣肌是漏斗基部向后,在身体背部两侧各有1束控制漏斗活动的肌肉。

7. 眼

二鳃类头部两侧各有1个发达的眼睛。眼的外方有透明的假角膜。眼可分封闭式和开孔式2种,前者眼与外界不通,后者假角膜上有小孔,眼与外界相通。

8. 口膜

口膜(buccal membrane)是口周围的薄膜。口膜发达程度因种类不一。十腕目的口膜常分裂成叶状,各叶的尖端与腕的基部相连。但是相连的部位因种类而不同,有的在腕的背面,有的在腕的腹面,是分类上的依据。

9. 贝壳

四鳃类鹦鹉螺具有分室的外壳,并且在1个平面上旋转。它主要由隔壁(septa)、初室(initial chamber)、住室、气室、隔颈(septal neck)和串管或叫室管(siphuncle)构成。隔壁顺着螺旋把内腔分成若干小室。贝壳最早一室叫初室,最后一室容纳全部体躯称住室。除住室以外其他各室充以空气(近来有人提出并非有气体而是真空)称气室。隔颈为每一隔壁中央的1个漏斗状的管。串管是1个膜质小管自住室到初室将其连贯起来。二鳃类的贝壳成为石灰质或角质的内壳,也有的退化或完全消失。箭石(化石种类)贝壳由闭锥(phramocone)、背盾(prostracum)和顶鞘(rostrum)3部分构成。现在生活的十腕目,有的种类闭锥更加发达,有的背盾更加发达。

10. 鳍

十腕目胴部的两侧或后部皮肤扩张形成肉鳍,有3种类型:周鳍型,鳍位于胴部左右两侧全缘,末端稍有分离;中鳍型,鳍位于胴部中段两侧,形如两耳;端鳍型,鳍位于胴部的后半部,左右两鳍在末端相连,彼此合并呈菱形。

目 录

前言

英文简介 ABSTRACTS

贝类分类术语

多板纲 Polyplacophora [1]

毛石鳖目 Acanthoida

槲毛石鳖科 Mopaliidae

1. 日本宽板石鳖 *Placiphorella japonica* (Dall) [2]

隐板石鳖科 Cryptoplacidae

2. 红条毛肤石鳖 *Acanthochiton rubrolineatus* (Lischke) [2]3. 眼形隐板石鳖 *Cryptoplax oculata* (Quoy et Gaimard) [2]

石鳖目 Chitonida

甲石鳖科 Loricidae

4. 朝鲜鳞带石鳖 *Lepidozona coreanica* (Reeve) [2]

棘刺石鳖科 Acanthopleuridae

5. 日本花棘石鳖 *Liolophura japonica* (Lischke) [2]

云斑石鳖科 Tonicidae

6. 平濊锦石鳖 *Onithochiton hirasei* Pilsbry [2]

腹足纲 Gastropoda [5]

前腮亚纲 Prosobranchia

原始腹足目 Archaeogastropoda

鲍科 Haliotidae

7. 杂色鲍 *Haliotis diversicolor* Reeve [6]8. 耳鲍 *Haliotis asinina* Linnaeus [6]9. 多变鲍 *Haliotis varia* Linnaeus [6]10. 格鲍 *Haliotis clathrata* Reeve [6]11. 羊鲍 *Haliotis ovina* Gmelin [6]12. 皱纹盘鲍 *Haliotis discus hannai* Ino [6]

钥孔螺科 Fissurellidae

13. 鼠眼孔螺 *Diodora mus* (Reeve) [8]14. 中华盾螺 *Scutus sinensis* (Blainville) [8]

帽贝科 Patellidae

15. 星状帽贝 *Patella stellaeformis* Reeve [8]16. 龟甲螺 *Cellana testudinaria* (Linnaeus) [8]17. 螺螺 *Cellana toreuma* (Reeve) [8]

笠贝科 Acmaeidae

18. 史氏背尖贝 *Notoacmea schrencki* (Lischke) [8]19. 矮拟帽贝 *Patelloida pygmaea* (Dunker) [10]20. 背肋拟帽贝 *Patelloida dorsuosa* (Gould) [10]21. 鸟爪拟帽贝 *Patelloida saccharina lanx* (Reeve) [10]

马蹄螺科 Trochidae

22. 古琴拟口螺 *Stomatella lyrata* Pilsbry [10]23. 丽口螺 *Calliostoma unicum* (Dunker) [10]24. 奇异金口螺 *Chrysostoma paradoxum* (Born) [10]25. 黑凹螺 *Chlorostoma nigerima* (Gmelin) [12]26. 锈凹螺 *Chlorostoma rusticum* (Gmelin) [12]27. 银口凹螺 *Chlorostoma argyrostoma* (Gmelin) [12]28. 镶珠隐螺 *Clanculus margaritarius* (Philippi) [12]29. 塔形马蹄螺 *Trochus (Tectus) pyramis* Born [12]30. 大马蹄螺 *Trochus (Tectus) niloticus maximus* Koch [12]31. 斑马蹄螺 *Trochus (Trochus) maculatus* Linnaeus [14]32. 单齿螺 *Monodonta labio* (Linnaeus) [14]33. 中国小铃螺 *Minolia chinensis* Sowerby [14]34. 美丽项链螺 *Monilea calliferus* (Lamarck) [14]35. 蛞蝓 *Umbonium vestiarium* (Linnaeus) [14]36. 肋蛞蝓 *Umbonium costatum* (Kiener) [14]37. 托氏蛞蝓 *Umbonium thomasi* (Crosse) [16]38. 镶边海豚螺 *Angaria laciniata* (Lamarck) [16]

螺科 Turbinidae

39. 夜光螺 *Turbo marmoratus* Linnaeus [16]40. 螺螺 *Turbo cornutus* Solander [16]41. 节螺螺 *Turbo articulatus* Reeve [16]42. 金口螺螺 *Turbo chrysostomus* Linnaeus [16]43. 带螺螺 *Turbo petholatus* Linnaeus [18]44. 朝鲜花冠小月螺 *Lunella coronata coreensis* (Récluz) [18]45. 粒花冠小月螺 *Lunella coronata granulata* (Gmelin) [18]46. 胜利长刺螺 *Guildfordia triumphans* (Philippi) [18]47. 红底星螺 *Astraea haematraga* (Menke) [18]

螺科 Neritidae

48. 锦蛞螺 *Nerita (Amphinerita) polita* Linnaeus [18]49. 渔舟螺 *Nerita (Theliostyla) albicilla* Linnaeus [20]50. 条螺螺 *Nerita (Ritena) striata* Burrow [20]51. 褶螺螺 *Nerita (Ritena) plicata* Linnaeus [20]52. 肋螺螺 *Nerita (Ritena) costata* Gmelin [20]53. 齿纹螺螺 *Nerita (Ritena) yoldi* Récluz [20]54. 紫游螺 *Neritina (Dostia) violacea* (Gmelin) [20]55. 奥莱彩螺 *Clithon oualaniensis* (Lesson) [22]

拟螺螺科 Neritopsidae

56. 齿舌拟螺螺 *Neritopsis radula* (Linnaeus) [22]

中腹足目 Mesogastropoda

田螺科 Viviparidae

57. 中国圆田螺 *Cipangopaludina chinensis* (Gray) [22]58. 中华圆田螺 *Cipangopaludina cathayensis* (Heude) [22]

59. 梨形环棱螺 *Bellamya purificata* (Heude) [22]
 60. 绘环棱螺 *Bellamya limnophila* (Mabille) [22]
 61. 双旋环棱螺 *Bellamya dispiralis* (Heude) [24]
 62. 螺蛳 *Margarya melanoides* Nevill [24]
 63. 多棱角螺 *Angulyagra polyzonata* (Frauenfeld) [24]
瓶螺科 Ampullariidae
 64. 大瓶螺 *Ampullaria gigas* Spix [24]
滨螺科 Littorinidae
 65. 短滨螺 *Littorina brevicula* (Philippi) [24]
 66. 红果滨螺 *Littorina coccinea* (Gmelin) [24]
 67. 黑口滨螺 *Littorina melanostoma* Gray [26]
 68. 中间拟滨螺 *Littorinopsis intermedia* (Philippi) [26]
 69. 粗糙拟滨螺 *Littorinopsis scabra* (Linnaeus) [26]
 70. 粒屋顶螺 *Tectarius granularis* (Gray) [26]
 71. 平凡屋顶螺 *Tectarius vilis* (Menke) [26]
鼈螺科 Hydrobiidae
 72. 长角涵螺 *Alocinma longicornis* (Benson) [26]
 73. 纹沼螺 *Parafossarulus striatulus* (Benson) [28]
 74. 大沼螺 *Parafossarulus eximius* (Frauenfeld) [28]
 75. 湖北钉螺 *Oncomelania hupensis* Gredler [28]
 76. 光滑狭口螺 *Stenothyra glabra* A. Adams [28]
拟沼螺科 Assimineidae
 77. 绯拟沼螺 *Assiminea latericera* H. & A. Adams [28]
锥螺科 Turritellidae
 78. 笋锥螺 *Turritella terebra* (Linnaeus) [28]
 79. 棒锥螺 *Turritella bacillum* Kiener [30]
 80. 强肋锥螺 *Turritella fortilirata* Sowerby [30]
轮螺科 Architectonicidae
 81. 配景轮螺 *Architectonica perspectiva* (Linnaeus) [30]
 82. 大轮螺 *Architectonica maxima* (Philippi) [30]
 83. 滑车轮螺 *Architectonica trochlearis* (Hinds) [30]
 84. 鹧鸪轮螺 *Architectonica perdix* (Hinds) [30]
 85. 杂色太阳螺 *Helicacis variegatus* (Gmelin) [32]
蛇螺科 Vermetidae
 86. 覆瓦小蛇螺 *Serpulorbis imbricata* (Dunker) [32]
 87. 紧卷蛇螺 *Vermetus renisectus* (Carpenter) [32]
黑螺科 Melanidae
 88. 方格短沟蜷 *Semisulcospira cancellata* (Benson) [32]
 89. 放逸短沟蜷 *Semisulcospira libertina* (Gould) [32]
平轴螺科 Planaxidae
 90. 平轴螺 *Planaxis sulcatus* (Born) [32]
汇螺科 Potamididae
 91. 古氏滩栖螺 *Batillaria cumingi* (Crosse) [34]
 92. 纵带滩栖螺 *Batillaria zonalis* (Bruguère) [34]
 93. 中华拟蟹守螺 *Cerithidea sinensis* (Philippi) [34]
 94. 珠带拟蟹守螺 *Cerithidea cingulata* (Gmelin) [34]
 95. 小翼拟蟹守螺 *Cerithidea microptera* (Kiener) [34]
 96. 彩拟蟹守螺 *Cerithidea ornata* (A. Adams) [34]
 97. 沟纹笋光螺 *Terebralia sulcata* (Born) [36]
蟹守螺科 Cerithiidae
 98. 中华蟹守螺 *Cerithium sinense* (Gmelin) [36]
 99. 普通蟹守螺 *Cerithium vertagus* (Linnaeus) [36]
 100. 结节蟹守螺 *Cerithium nodulosum* Bruguière [36]
 101. 棘刺蟹守螺 *Cerithium echinatum* Lamarck [36]
 102. 特氏盾桑棋螺 *Clypeomorus traili* (Sowerby) [36]
 103. 双带盾桑棋螺 *Clypeomorus bifasciatus* (Sowerby) [38]
 104. 克氏盾桑棋螺 *Clypeomorus chemnitzianus* (Pilsbry) [38]
梯螺科 Epitonidae
 105. 梯螺 *Epitonium scalare* (Linnaeus) [38]
 106. 耳梯螺 *Epitonium auritum* (Sowerby) [38]
 107. 迷乱环肋螺 *Cirsotrema perplexum* (Pease) [38]
 108. 纵环肋螺 *Cirsotrema varicosum* (Lamarck) [38]
 109. 尖高旋螺 *Acrilla acuminata* (Sowerby) [40]
海蜗牛科 Janthinidae
 110. 海蜗牛 *Janthina janthina* (Linnaeus) [40]
 111. 长海蜗牛 *Janthina prolongata* Blainville [40]
光螺科 Melanellidae
 112. 马氏光螺 *Melanella martinii* A. Adams [40]
小塔螺科 Pyramidellidae
 113. 胖小塔螺 *Pyramidella (Milda) ventricosa* Guérin [40]
马掌螺科 Amaltheidae
 114. 圆锥马掌螺 *Amalthea conica* Schumacher [40]
 115. 毛螺 *Pilosabia pilosa* (Deshayes) [42]
 116. 三肋愚螺 *Amathina tricarinata* (Linnaeus) [42]
尖帽螺科 Capulidae
 117. 乌嘴尖帽螺 *Capulus dilatatus* A. Adams [42]
帆螺科 Calyptraeidae
 118. 马唇螺 *Cheilea equestris* (Linnaeus) [42]
 119. 透明唇螺 *Cheilea diaphana* (Reeve) [42]
 120. 笠帆螺 *Calyptraea morbida* (Reeve) [42]
 121. 扁平管帽螺 *Siphopatella walshi* (Reeve) [44]
衣笠螺科 Xenophoridae
 122. 光衣笠螺 *Onustus exuta* (Reeve) [44]
 123. 太阳衣笠螺 *Stellaria solaris* (Linnaeus) [44]
 124. 砾壳衣笠螺 *Xenophora calculifera* (Reeve) [44]
凤螺科 Strombidae
 125. 水晶凤螺 *Strombus canarium* Linnaeus [44]
 126. 铁斑凤螺 *Strombus urceus* Linnaeus [44]
 127. 篱凤螺 *Strombus luhuanus* Linnaeus [46]
 128. 斑凤螺 *Strombus lentiginosus* Linnaeus [46]
 129. 带凤螺 *Strombus vittatus* Linnaeus [46]
 130. 强缘凤螺 *Strombus marginatus robustus* Sowerby [46]
 131. 黑口凤螺 *Strombus aratum* (Röding) [46]
 132. 驼背凤螺 *Strombus gibberulus gibbosus* (Röding) [46]

133. 水字螺 *Lambis chiragra* (Linnaeus) [48]
134. 蜘蛛螺 *Lambis lambis* Linnaeus [48]
135. 瘤平顶蜘蛛螺 *Lambis truncata sebae* (Kiener)
..... [48]
136. 长笛螺 *Tibia fusus* (Linnaeus) [48]
137. 钻螺 *Terebellum terebellum* (Linnaeus) [48]
- 玉螺科 Naticidae**
138. 广大扁玉螺 *Neverita ampla* (Philippi) [48]
139. 扁玉螺 *Neverita didyma* (Röding) [50]
140. 褐玉螺 *Natica spadicea* (Gmelin) [50]
141. 蛛网玉螺 *Natica arachnoidea* (Gmelin) [50]
142. 斑马玉螺 *Natica zebra* Lamarck [50]
143. 拟紫口玉螺 *Natica janthostomoides* Kuroda et
Habe [50]
144. 线纹玉螺 *Natica lineata* (Röding) [50]
145. 方斑玉螺 *Natica onca* (Röding) [52]
146. 蝶翅玉螺 *Natica alapapilionis* (Röding) [52]
147. 斑玉螺 *Natica tigrina* (Röding) [52]
148. 福氏乳玉螺 *Polynices fortunei* (Reeve) [52]
149. 乳玉螺 *Polynices mammata* (Röding) [52]
150. 梨形乳玉螺 *Polynices pyriformis* (Recluz) [52]
151. 蛋白乳玉螺 *Polynices albumen* (Linnaeus) [54]
152. 大口乳玉螺 *Polynices macrostoma* (Philippi) [54]
153. 扁平窦螺 *Sinum planulatum* (Recluz) [54]
154. 爪哇窦螺 *Sinum javanicum* (Griffith et Pidgeon)
..... [54]
155. 乳头真玉螺 *Eunaticina papilla* (Gmelin) [54]
- 爱神螺科 Eratoidae**
156. 硬结原爱神螺 *Proterato callosa* (Adams et Reeve)
..... [54]
- 梭螺科 Amphiperaidae**
157. 卵梭螺 *Ovula ovum* (Linnaeus) [56]
158. 钝梭螺 *Volva volva* (Linnaeus) [56]
159. 双喙梭螺 *Volva birostris* (Linnaeus) [56]
160. 玫瑰原梭螺 *Primovolva rhodia* (A. Adams) [56]
- 宝贝科 Cypraeidae**
161. 葡萄贝 *Staphylaea staphylaea* (Linnaeus) [56]
162. 疣葡萄贝 *Staphylaea nucleus* (Linnaeus) [56]
163. 眼球贝 *Erosaria erosa* (Linnaeus) [58]
164. 紫眼球贝 *Erosaria poraria* (Linnaeus) [58]
165. 蛇首眼球贝 *Erosaria caputserpentis* (Linnaeus)
..... [58]
166. 枣红眼球贝 *Erosaria helvola* (Linnaeus) [58]
167. 黍斑眼球贝 *Erosaria miliaris* (Gmelin) [58]
168. 货贝 *Monetaria moneta* (Linnaeus) [58]
169. 环纹货贝 *Monetaria annulus* (Linnaeus) [60]
170. 拟枣贝 *Erronea erronea* (Linnaeus) [60]
171. 秀丽拟枣贝 *Erronea pulchella* (Swainson) [60]
172. 条纹玛瑙拟枣贝 *Erronea onyx* (Linnaeus) [60]
173. 厚缘拟枣贝 *Erronea caurica* (Linnaeus) [60]
174. 鼯贝 *Talparia talpa* (Linnaeus) [60]
175. 阿文绶贝 *Mauritia arabica* (Linnaeus) [62]
176. 虎斑宝贝 *Cypraea tigris* Linnaeus [62]
177. 山猫眼宝贝 *Cypraea lynx* (Linnaeus) [62]
178. 卵黄宝贝 *Cypraea vitellus* (Linnaeus) [62]
179. 肉色宝贝 *Cypraea carneola* (Linnaeus) [62]
180. 日本细焦掌贝 *Palmadusta gracilis japonica*
Schilder [62]
181. 棕带焦掌贝 *Palmadusta asellus* (Linnaeus) [64]
182. 隐居焦掌贝 *Palmadusta clandestina* (Linnaeus)
..... [64]
183. 断带呆足贝 *Blasicrura interrupta* (Gray) [64]
184. 灰呆足贝 *Blasicrura. hirundo neglecta* (Sowerby)
..... [64]
185. 四斑呆足贝 *Blasicrura quadrimaculata* (Gray)
..... [64]
- 冠螺科 Cassididae**
186. 带鬚螺 *Phalium (Phalium) bandatum bandatum*
(Perry) [64]
187. 短沟纹鬚螺 *Phalium (Phalium) strigatum*
breviculum Tsi & Ma [66]
188. 沟纹鬚螺 *Phalium (Phalium) strigatum strigatum*
(Gmelin) [66]
189. 双沟鬚螺 *Phalium (Semicassis) bisulcatum*
(Schubert & Wagner) [66]
190. 布纹鬚螺 *Phalium (Phalium) decussatum*
(Linnaeus) [66]
191. 鬚螺 *Phalium (Phalium) glaucum* (Linnaeus)
..... [66]
192. 尤饰鬚螺 *Phalium (Xenophalium) inornatum*
(Pilsbry) [66]
193. 冠螺(唐冠螺) *Cassis (Cassis) cornuta* (Linnaeus)
..... [68]
194. 笨甲胃螺 *Casmaria panderosa panderosa*
(Gmelin) [68]
195. 日本笨甲胃螺 *Casmaria panderosa nipponensis*
Abbott [68]
196. 甲胃螺 *Casmaria erinaceus* (Linnaeus) [68]
197. 方格桑椹螺 *Morum (Onimusiro) cancellatum*
Sowerby [68]
- 嵌线螺科 Cymatiidae**
198. 法螺 *Charonia tritonis* (Linnaeus) [68]
199. 毛嵌线螺 *Cymatium pileare* (Linnaeus) [70]
200. 中华嵌线螺 *Cymatium sinense* (Reeve) [70]
201. 尾嵌线螺 *Cymatium caudatum* (Gmelin) [70]
202. 环沟嵌线螺 *Cymatium cingulatum* (Lamarck)
..... [70]
203. 隐蔽嵌线螺 *Cymatium clandestinum* (Lamarck)
..... [70]
204. 梨形嵌线螺 *Cymatium pyrum* (Linnaeus) [70]
205. 纯洁嵌线螺 *Cymatium parthenopus* (v. Salis)
..... [72]
206. 罗塔嵌线螺 *Cymatium lotarium* (Linnaeus)
..... [72]

207. 金口嵌线螺 *Cymatium nichobaricum* (Röding) [72]
208. 鼓槌嵌线螺 *Cymatium gutturium* (Röding) [72]
209. 粒神螺 *Apollon olivator rubustus* (Fulton) [72]
210. 网纹扭螺 *Distorsio reticulata* (Röding) [72]
- 蛙螺科 Bursidae**
211. 文雅蛙螺 *Bursa (Gyrineum) elegans* (Sowerby) [74]
212. 习见蛙螺 *Bursa (Gyrineum) rana* (Linnaeus) [74]
213. 红口土发螺 *Tutufa rubeta* (Linnaeus) [74]
- 鹑螺科 Tonnidae**
214. 中国鹑螺 *Tonna chinensis* (Dillwyn) [74]
215. 沟鹑螺 *Tonna sulcosa* (Born) [74]
216. 带鹑螺 *Tonna olearium* (Linnaeus) [74]
217. 鹑鸪螺 *Tonna perdix* (Linnaeus) [76]
218. 丽鹑螺 *Tonna magnifica* (Sowerby) [76]
219. 斑鹑螺 *Tonna lischkeana* (Küster) [76]
220. 黄口鹑螺 *Tonna luteostoma* (Küster) [76]
221. 苹果螺 *Malea pomum* (Linnaeus) [76]
- 琵琶螺科 Ficidae**
222. 琵琶螺 *Ficus ficus* (Linnaeus) [76]
223. 长琵琶螺 *Ficus gracilis* (Sowerby) [78]
224. 白带琵琶螺 *Ficus subintermedius* (d'Orbigny) [78]
225. 线形琵琶螺 *Ficus filus* (Sowerby) [78]
- 新腹足目 Neogastropoda**
- 骨螺科 Muricidae**
226. 脉红螺 *Rapana venosa* (Valenciennes) [78]
227. 红螺 *Rapana bezoar* (Linnaeus) [78]
228. 梨形红螺 *Rapana rapiformis* (Born) [78]
229. 直吻骨螺 *Murex rectirostris* Sowerby [80]
230. 浅缝骨螺 *Murex trapa* Röding [80]
231. 栉棘骨螺 *Murex pecten* (Lightfoot) [80]
232. 棘螺 *Chicoreus ramosus* (Linnaeus) [80]
233. 亚洲棘螺 *Chicoreus asianus* Kuroda [80]
234. 褐棘螺 *Chicoreus brunneus* (Link) [80]
235. 焦棘螺 *Chicoreus torrefactus* (Sowerby) [82]
236. 黄斑核果螺 *Drupa ricina* (Linnaeus) [82]
237. 核果螺 *Drupa morum* Röding [82]
238. 葡萄核果螺 *Drupa uva* (Röding) [82]
239. 环珠核果螺 *Drupa concatenata* (Lamarck) [82]
240. 珠母核果螺 *Drupa margaritcola* (Broderip) [82]
241. 粒核果螺 *Drupa granulata* (Duclos) [84]
242. 刺荔枝螺 *Thais echinata* Blainville [84]
243. 蚰敌荔枝螺 *Thais gradata* Jonas [84]
244. 疣荔枝螺 *Thais clavigera* Küster [84]
245. 黄口荔枝螺 *Thais luteostoma* (Holten) [84]
246. 瘤荔枝螺 *Thais bronni* Dunker [84]
247. 可变荔枝螺 *Thais mutabilis* (Link) [86]
248. 红痘荔枝螺 *Thais alouina* (Röding) [86]
249. 多角荔枝螺 *Thais hippocastanum* (Linnaeus) [86]
250. 角瘤荔枝螺 *Thais tuberosa* (Röding) [86]
251. 蟾蜍荔枝螺 *Thais bufo* Lamarck [86]
252. 武装荔枝螺 *Thais armigera* (Link) [86]
253. 日本乌林螺 *Ocenebra japonica* (Dunker) [88]
254. 白斑荔枝螺 *Purpura rudolphi* Lamarck [88]
255. 桃荔枝螺 *Purpura persica* (Linnaeus) [88]
256. 鹑鸪篮螺 *Nassa francolinus* (Bruguère) [88]
257. 三棱骨螺 *Tritonalia emarginatus* (Sowerby) [88]
258. 翼螺 *Pterynotus alatus* (Röding) [88]
- 延管螺科 Magilidae**
259. 延管螺 *Magilus antiquus* Montfort [90]
260. 紫栖珊瑚螺 *Coralliobia violacea* (Kiener) [90]
261. 细腰肩棘螺 *Latiaxis mawae* (Griffith et Pidgeon) [90]
262. 唇珊瑚螺 *Rhizochilus mareporarum* (Sowerby) [90]
- 核螺科 Pyrenidae**
263. 丽核螺 *Pyrene bella* (Reeve) [90]
264. 奈氏龟核螺 *Pyrene testudinaria tylerai* (Griffith et Pidgeon) [90]
- 蛾螺科 Buccinidae**
265. 皮氏蛾螺 *Volutharpa ampullacea perryi* (Jay) [92]
266. 香螺 *Neptunea cumingi* Crosse [92]
267. 侧平肩螺 *Japellion latus* (Dall) [92]
268. 褐管蛾螺 *Siphonalia spadicea* (Reeve) [92]
269. 方斑东风螺 *Babylonia areolata* (Link) [92]
270. 泥东风螺 *Babylonia lutosus* (Lamarck) [92]
271. 亮螺 *Phos senticosus* (Linnaeus) [94]
272. 缝合海因螺 *Hindsia suturalis* (A. Adams) [94]
273. 甲虫螺 *Cantharus cecillei* (Philippi) [94]
274. 波纹甲虫螺 *Cantharus undosus* (Linnaeus) [94]
275. 美丽唇齿螺 *Engina pulchra* (Reeve) [94]
276. 火红土产螺 *Pisania ignea* (Gmelin) [94]
- 盔螺科 Galeodidae**
277. 管角螺 *Hemifusus tuba* (Gmelin) [96]
278. 细角螺 *Hemifusus ternatanus* (Gmelin) [96]
279. 刺角螺 *Hemifusus kawamurai* Habe [96]
- 织纹螺科 Nassariidae**
280. 节织纹螺 *Nassarius hepaticus* (Pulteney) [96]
281. 疣织纹螺 *Nassarius papillosus* (Linnaeus) [96]
282. 梭子织纹螺 *Nassarius glans* (Linnaeus) [96]
283. 胆形织纹螺 *Nassarius thersites* (Bruguère) [98]
284. 纵肋织纹螺 *Nassarius variciferus* (A. Adams) [98]
285. 红带织纹螺 *Nassarius succinctus* (A. Adams) [98]
286. 光织纹螺 *Nassarius rutilans* (Reeve) [98]
287. 西格织纹螺 *Nassarius siquinjorensis* (A. Adams) [98]
288. 粒织纹螺 *Nassarius graniferus* Kiener [98]
289. 方格织纹螺 *Nassarius clathratus* (Lamarck) [98]

-[100]
290. 花冠织纹螺 *Nassarius conoratus* (Bruguère)
.....[100]
291. 习见织纹螺 *Nassarius dealbatus* (A. Adams)
.....[100]
- 细带螺科 Fascioliariidae**
292. 旋纹细带螺 *Fasciolaria filamentosa* (Röding)
.....[100]
293. 四角细带螺 *Fasciolaria trapezium* (Linnaeus)
.....[100]
294. 宝石山黛豆螺 *Latirus smaragdula* (Linnaeus)
.....[100]
295. 塔形纺锤螺 *Fusinus forceps* (Perry)[102]
296. 纺锤螺 *Fusinus perplexus ferrugineus* (Kuroda et Habe)[102]
- 榧螺科 Olividae**
297. 红口榧螺 *Oliva miniacea* (Röding)[102]
298. 彩榧螺 *Oliva ispidula* (Linnaeus)[102]
299. 伶仃榧螺 *Oliva mustelina* Lamarck[102]
300. 陷顶伶仃榧螺 *Oliva mustelina concavospira* (Sowerby)[102]
301. 肩榧螺 *Oliva emicator* (Meuschen)[104]
302. 平小榧螺 *Olivella plana* (Marrat)[104]
303. 红侍女螺 *Ancilla rubiginosa* (Swainson)[104]
- 笔螺科 Mitridae**
304. 圆点笔螺 *Mitra scutulata* (Gmelin)[104]
305. 沟纹笔螺 *Mitra proscissa* Reeve[104]
306. 淡黄笔螺 *Mitra isabella* Swainson
.....[104]
307. 笔螺 *Mitra mitra* (Linnaeus)[106]
308. 中国笔螺 *Mitra chinensis* Gray[106]
309. 金笔螺 *Mitra aurantia* (Gmelin)[106]
310. 杂色笔螺 *Mitra (Strigatella) litterata* Lamarck
.....[106]
311. 朱红苕蒲螺 *Vexillum ornatum coccineum* (Reeve)
.....[106]
312. 齿纹花生螺 *Pterygia crenulata* (Gmelin)[106]
- 犬齿螺科 Vasidae**
313. 角犬齿螺 *Vasum turbinellum* (Linnaeus)[108]
- 竖琴螺科 Harpidae**
314. 玲瓏竖琴螺 *Harpa amouretta* Röding[108]
315. 竖琴螺 *Harpa conoidalis* Lamarck[108]
- 涡螺科 Valutidae**
316. 电光螺 *Fulgoraria rupestris* (Gmelin)[108]
317. 瓜螺 *Cymbium melo* (Solander)[108]
- 纳螺科 Cancellariidae**
318. 金刚螺 *Sydaphera spengleriana* (Deshayes)[108]
319. 白带三角口螺 *Trigonaphera bocageana* (Crosse et Debeaux)[110]
320. 粗莫利加螺 *Merica asprella* (Lamarck)[110]
321. 中华莫利加螺 *Merica sinensis* (Reeve)[110]
- 缘螺科 Marginidae**

322. 三带缘螺 *Marginella tricineta* Hinds[110]
- 芋螺科 Conidae**[110]
323. 贞洁芋螺 *Conus virgo* Linnaeus[110]
324. 玛瑙芋螺 *Conus achatinus* Hwass[110]
325. 疣缟芋螺 *Conus lividus* Hwass[112]
326. 线纹芋螺 *Conus striatus* Linnaeus[112]
327. 象牙芋螺 *Conus eburneus* Hwass[112]
328. 斑疹芋螺 *Conus pulicarius* Hwass[112]
329. 堂皇芋螺 *Conus imperialis* Linnaeus[112]
330. 织锦芋螺 *Conus textile* Linnaeus[112]
331. 黑芋螺 *Conus marmoreus* Linnaeus[114]
332. 地纹芋螺 *Conus geographus* Linnaeus[114]
333. 信号芋螺 *Conus litteratus* Linnaeus[114]
334. 大尉芋螺 *Conus capitaneus* Linnaeus[114]
335. 加勒底芋螺 *Conus chaldaeus* (Röding)[114]
336. 希伯来芋螺 *Conus ebraeus* Linnaeus[114]
337. 将军芋螺 *Conus generalis* Linnaeus[116]
338. 马兰芋螺 *Conus tulipa* Linnaeus[116]
339. 苕蒲芋螺 *Conus vexillum* Gmelin[116]
340. 沟芋螺 *Conus sulcatus* Hwass[116]
341. 南方芋螺 *Conus australis* Holten[116]
342. 花冠芋螺 *Conus coronatus* Gmelin[116]
343. 乐谱芋螺 *Conus musicus* Hwass[118]
344. 勇士芋螺 *Conus miles* Linnaeus[118]
345. 棱纹芋螺 *Conus vitulinus* Hwass[118]
346. 单色芋螺 *Conus concolor* Sowerby[118]
347. 桶形芋螺 *Conus betulinus* Linnaeus[118]
348. 偏芋螺 *Conus sponsalis* Hwass[118]
349. 棱形芋螺 *Conus orbigny* Audouin[120]
- 塔螺科 Turridae**
350. 美丽塔螺 *Gemmula speciosa* (Reeve)[120]
351. 凯塔螺 *Gemmula kieneri* (Doumet)[120]
352. 细肋塔螺 *Gemmula deshayesi* (Doumet)[120]
353. 波纹塔螺 *Turris crispa* (Lamarck)[120]
354. 爪哇拟塔螺 *Turricula javana* (Linnaeus)[120]
355. 假奈拟塔螺 *Turricula nelliae spurius* (Hedley)
.....[122]
356. 黄短口螺 *Brachytoma flavidulus* (Lamarck)[122]
357. 白龙骨乐飞螺 *Lophiotoma leucotropis* (Adams et Reeve)[122]
358. 南方尼奥螺 *Nihonia australis* (Roissy)[122]
359. 假主棒螺 *Clavatula pseudopriciplis* (Yokoyama)
.....[122]
- 笋螺科 Terebridae**
360. 白带笋螺 *Terebra dussumieri* Kiener[122]
361. 珍笋螺 *Terebra pretiosa* Reeve[124]
362. 三列笋螺 *Terebra triseriata* Gray[124]
363. 斑纹笋螺 *Terebra maculata* (Linnaeus)[124]
364. 锯齿笋螺 *Terebra crenulata* (Linnaeus)[124]
365. 锥笋螺 *Terebra subulata* (Linnaeus)[124]
366. 双层笋螺 *Diplomeriza duplicata* (Linnaeus)[124]