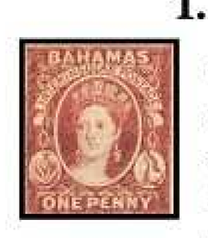
SHELLFISH PURSUITS

The study of mollusca is called Conchology or Malacology.
Not all molluscs produce shells and not all "shells" are molluscs.
This exhibit begins with the first stamp to depict a shell.
This is followed by a tribute to Linnaeus, the father of classification,
and an outline of the system and describes the uses and abuses of mollusca.
The exhibit is based on the exhibitor's research as published in
Classification of Mollusca: a classification of World-wide mollusca. (2019, 5th ed., 276p.)

1. The First Stamp

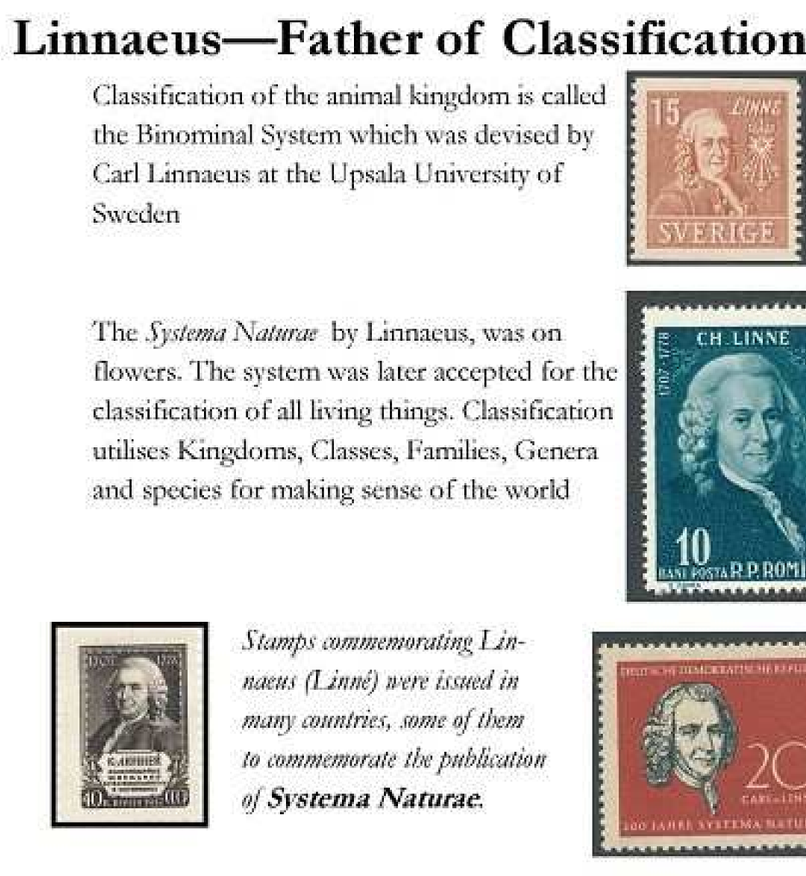


The first stamp issued depicting a mollusc was in 1859, only 10 years after the first stamp. It was printed in Bahamas. It depicts Queen Victoria with a Queen Conch bottom right.

2. Linnaeus—Father of Classification

Classification of the animal kingdom is called the Binominal System which was devised by Carl Linnaeus at the Upsala University of Sweden

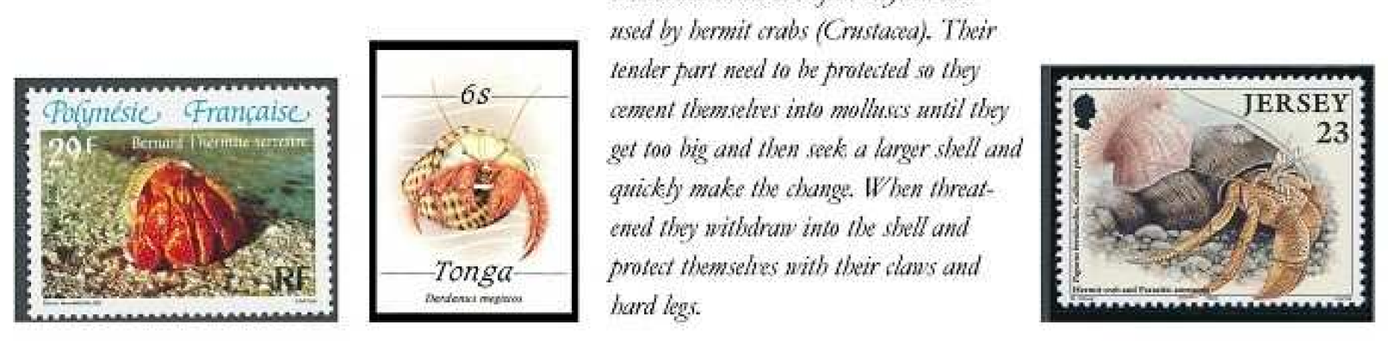
The *Systema Naturae* by Linnaeus, was on flowers. The system was later accepted for the classification of all living things. Classification utilises Kingdoms, Classes, Families, Genera and species for making sense of the world



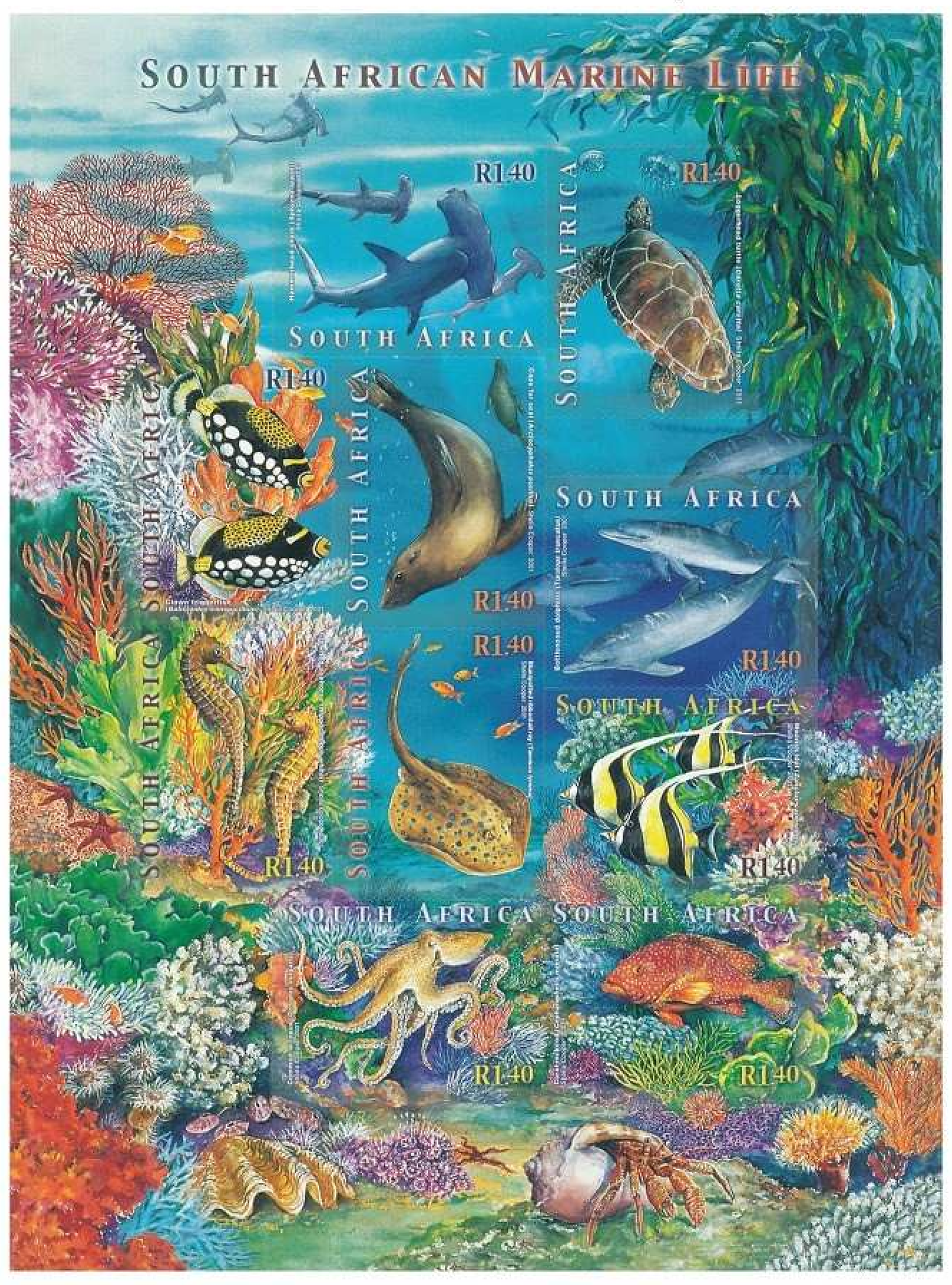
Stamps commemorating Linnaeus (Linné) were issued in many countries, some of them to commemorate the publication of ***Systema Naturae****.*

3.1. Recycled Shells

Discarded shells are often recycled and used by hermit crabs (Crustacea). Their tender part need to be protected so they cement themselves into molluscs until they get too big and then seek a larger shell and quickly make the change. When threatened they withdraw into the shell and protect themselves with their claws and hard legs.



3.2. South African Infra-Tidal sea fauna Stamp



Molluscs in the sea generally don't stay off the ocean floor for long or without assistance.
Molluscs which float on the surface of the sea are called pelagic. The Cephalopods (Octopus and Squid) swim for short distances or at a low level searching for prey. The Patelogastropoda are herbivores and spend their lives on rocks grazing. Bivalves are filter feeders and either live cemented to rocks or under the sand.

3.3. Fresh water and Mangrove Molluscs.

Mangrove swamps are tidal and grow in shallow water and supports a large number of animals including molluscs.

Molluscs in the mangrove swamps live in the tidal area of the roots of the mangroves.
Bivalves cement themselves to the roots to take advantage of the food which is brought in with the rising tide, they are filter feeders.
The Gastropods are mobile so they can move to areas up and down the mangrove roots in search of food.
Their shells are generally very heavy and thick. They also lay their eggs above the water at low tide , they will be covered at high tide.

3.4. Land Molluscs.

Land molluscs are generally hermaphrodites and live underground, on the surface on also in trees. Shells are thin.

Brightly coloured tree snails. Surface garden snail are generally very drab and edible. Those that live underground are very small.

3.5. Fossil Molluscs.

Fossils exist in all the classes but by far the greatest number are the Ammonites which can measure up to one metre across. Some fossils still exist today. If a fossil does not have a modern representative it is difficult to classify as they can not be properly analysed because what we see as the fossil shell is in fact sand which accumulated within it and was fossilised leaving no part of the original shell at all.

Voluta Junonia *and extant mollusc also known from the fossil record*

4. Classification of Mollusca.

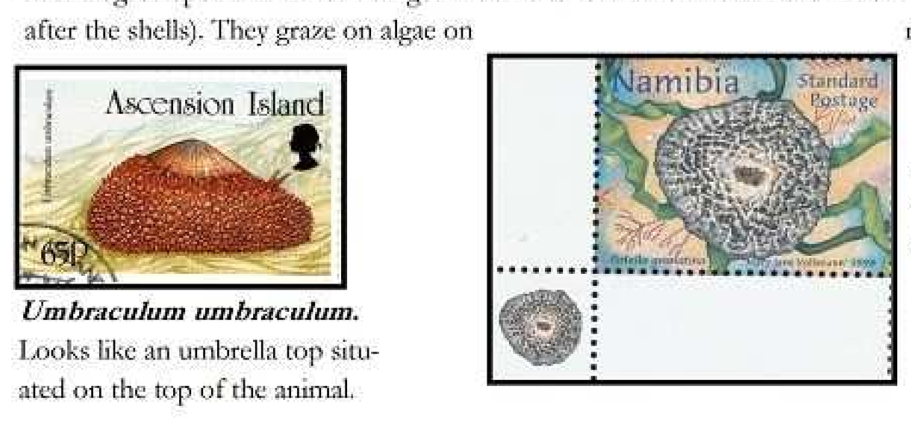
The Binominal System was devised by Carl Linnaeus at the Upsala University of Sweden. His classification system is like a family name and a given name and called them Genus (spelled with a capital letter) and a species (spelled with a small letter). Genera were collected into Families and families into Classes, the classes collected into a Phylum (in this case, Mollusca). Although it not always done, the full name of a shell is Genus species Author and Date.

4.1. Class Gastropoda.

By far the largest group in the mollusca are the gastropods.
The Gastropoda has many sub-groups from ancient forms to modern.
Sea, Land and Fresh water.
Some Gastropods have begun developing smaller shells and in some cases none at all.

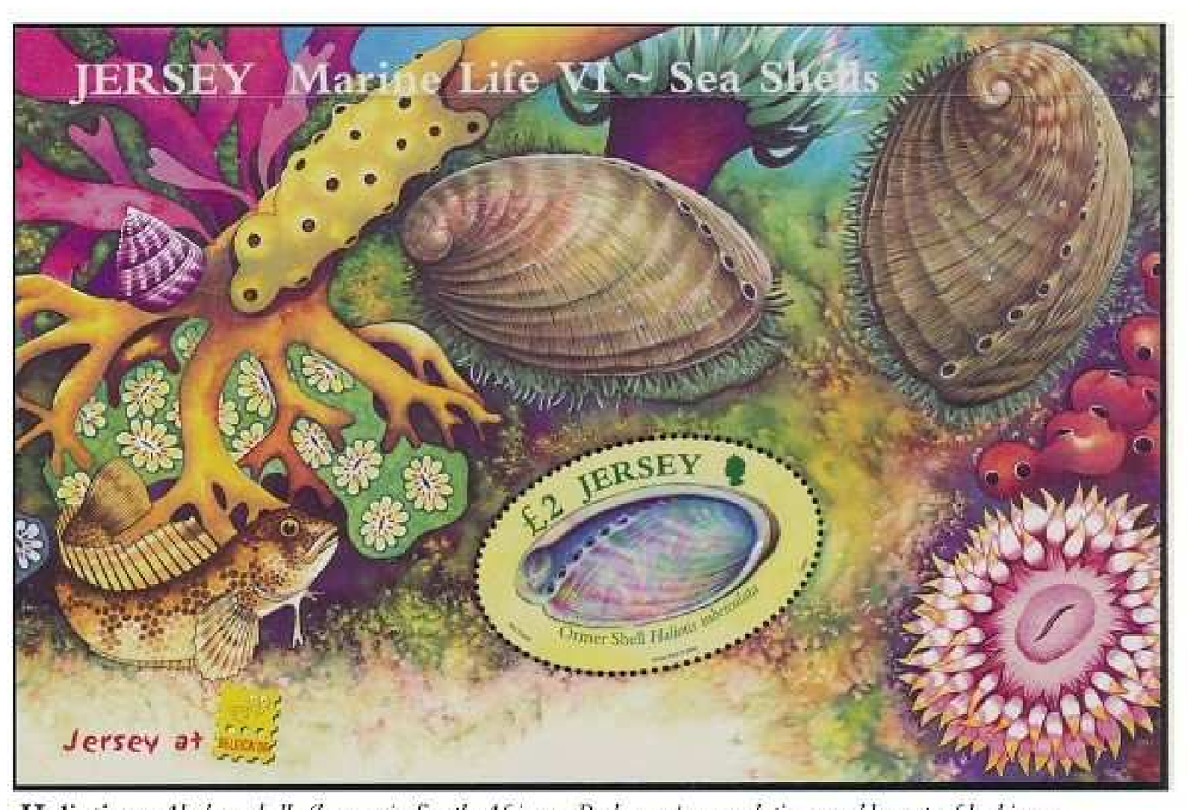
4.1.1. Patellogastropoda.

Conical-shelled limpets, without slits or holes, found in rocky shallow waters (Acmaeidae and Patellidae). Patellaogastropoda have not changed much over the centuries and are flat shells like a knee cap (called *Patella* after the shells). They graze on algae on rocks and hence do not move



Umbraculum umbraculum. Looks like an umbrella top situated on the top of the animal.

Patella granatina or rock mussels are found intertid-



Haliotis *or Abalone shells (known in South Africa as Perlemoen) an evolutionary old group of herbivores.*

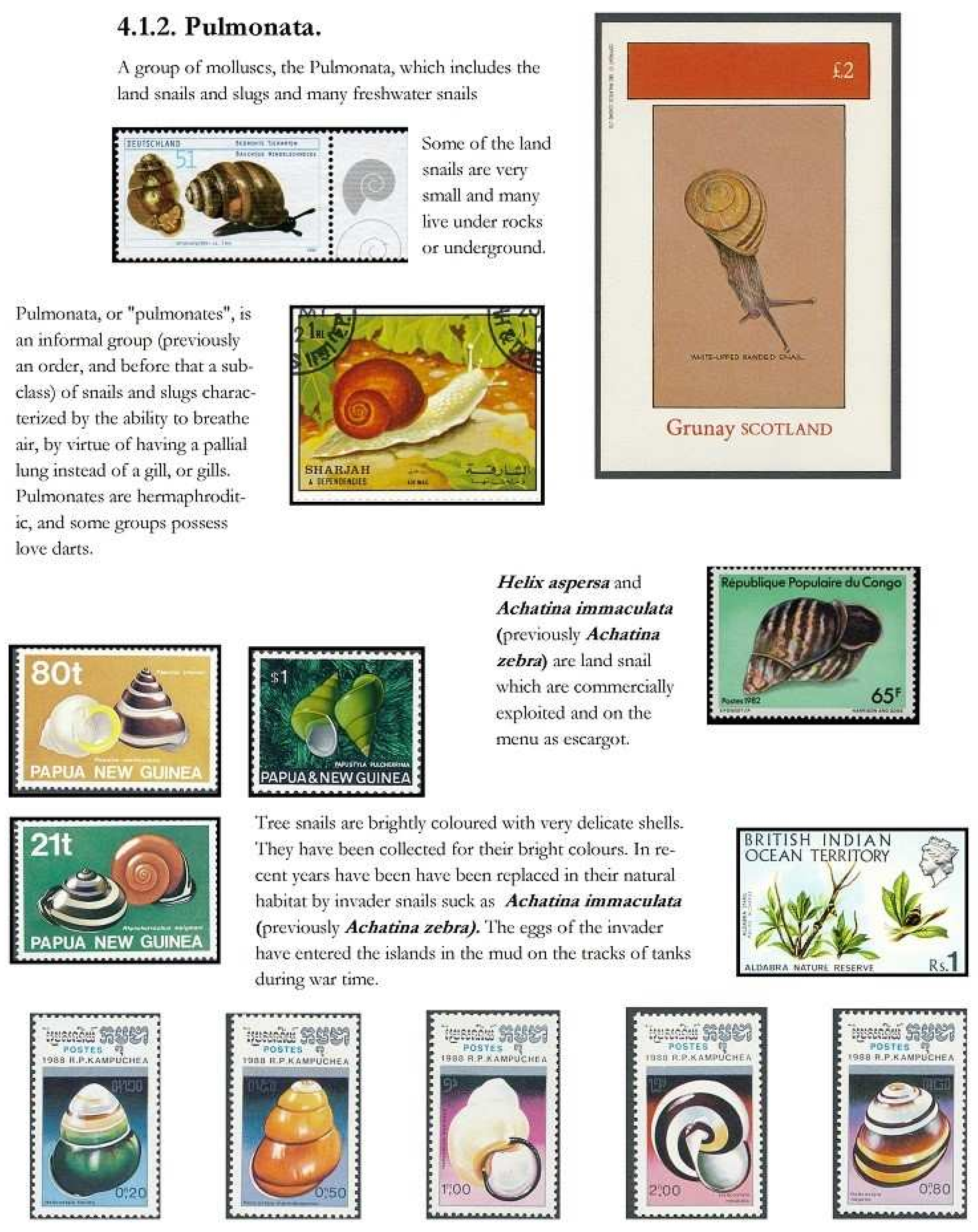
4.1.2. Pulmonata.

A group of molluscs, the Pulmonata, which includes the land snails and slugs and many freshwater snails

Some of the land snails are very small and many live under rocks or underground.

Pulmonata, or "pulmonates", is an informal group (previously an order, and before that a subclass) of snails and slugs characterized by the ability to breathe air, by virtue of having a pallial lung instead of a gill, or gills. Pulmonates are hermaphroditic, and some groups possess love darts.

Helix aspersa and ***Achatina immaculata*** (previously ***Achatina zebra***) are land snail which are commercially exploited and on the menu as escargot.

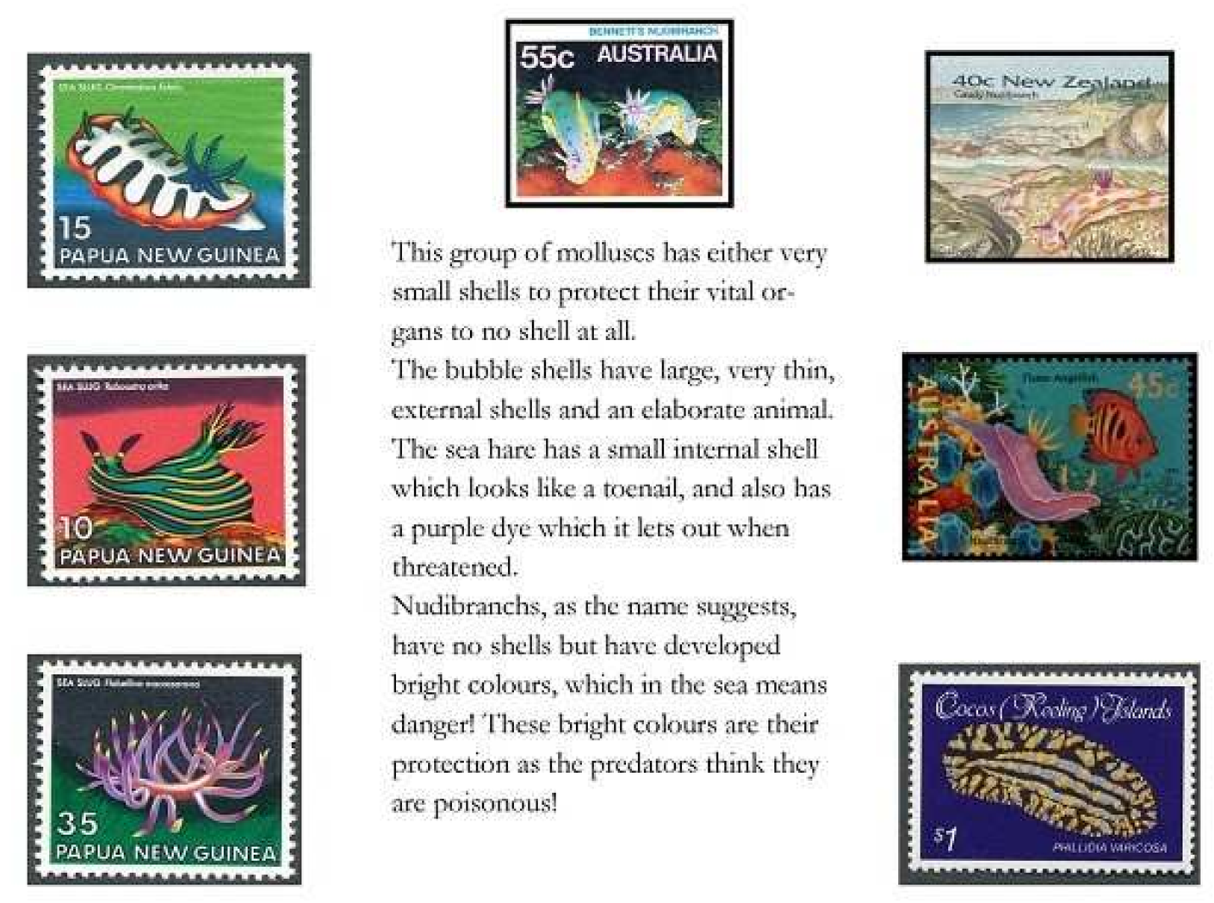


Tree snails are brightly coloured with very delicate shells. They have been collected for their bright colours. In recent years have been have been replaced in their natural habitat by invader snails suck as ***Achatina immaculata*** (previously ***Achatina zebra).*** The eggs of the invader have entered the islands in the mud on the tracks of tanks during war time.

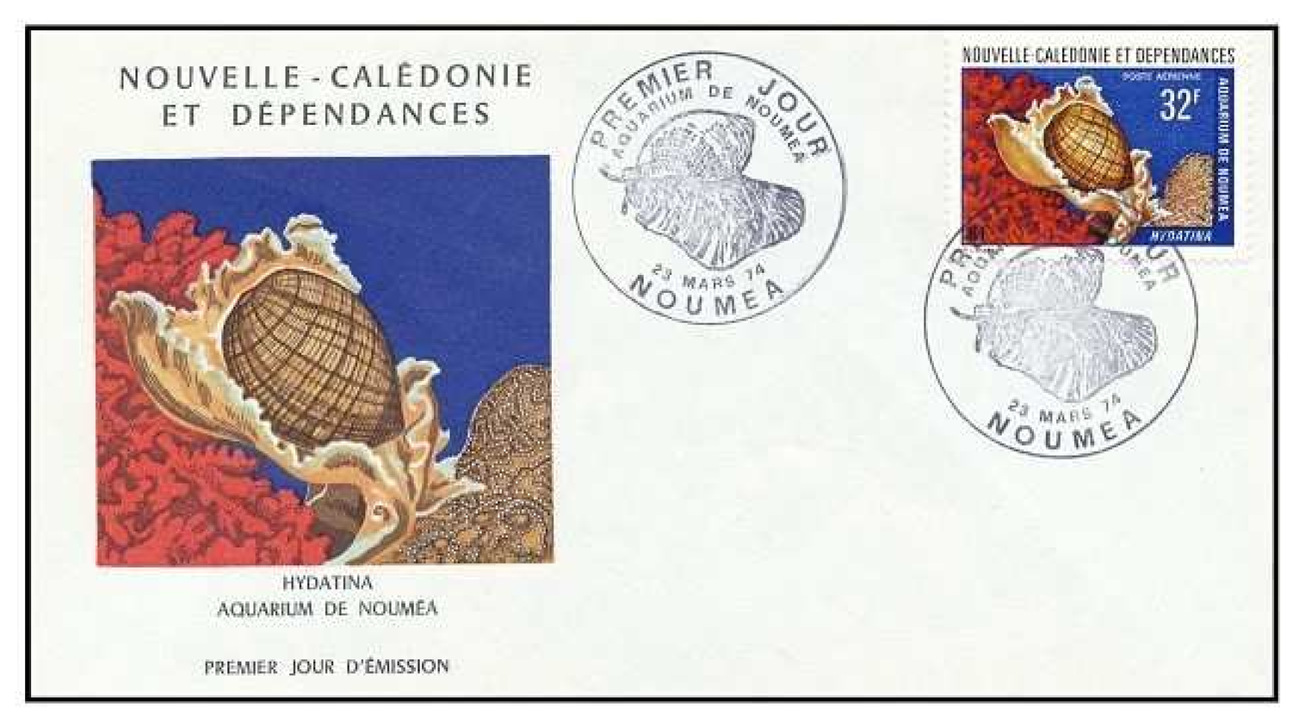
4.1.3. Opisthobranches.

Opisthobranchia, are the sea slugs, sea butterflies, and sea hares, characterized by a vestigial or absent mantle and shell and two pairs of tentacles.

Opisthobranch means "gills behind" (and to the right) of the heart. In contrast, Prosobranch means gills in front (of the heart).



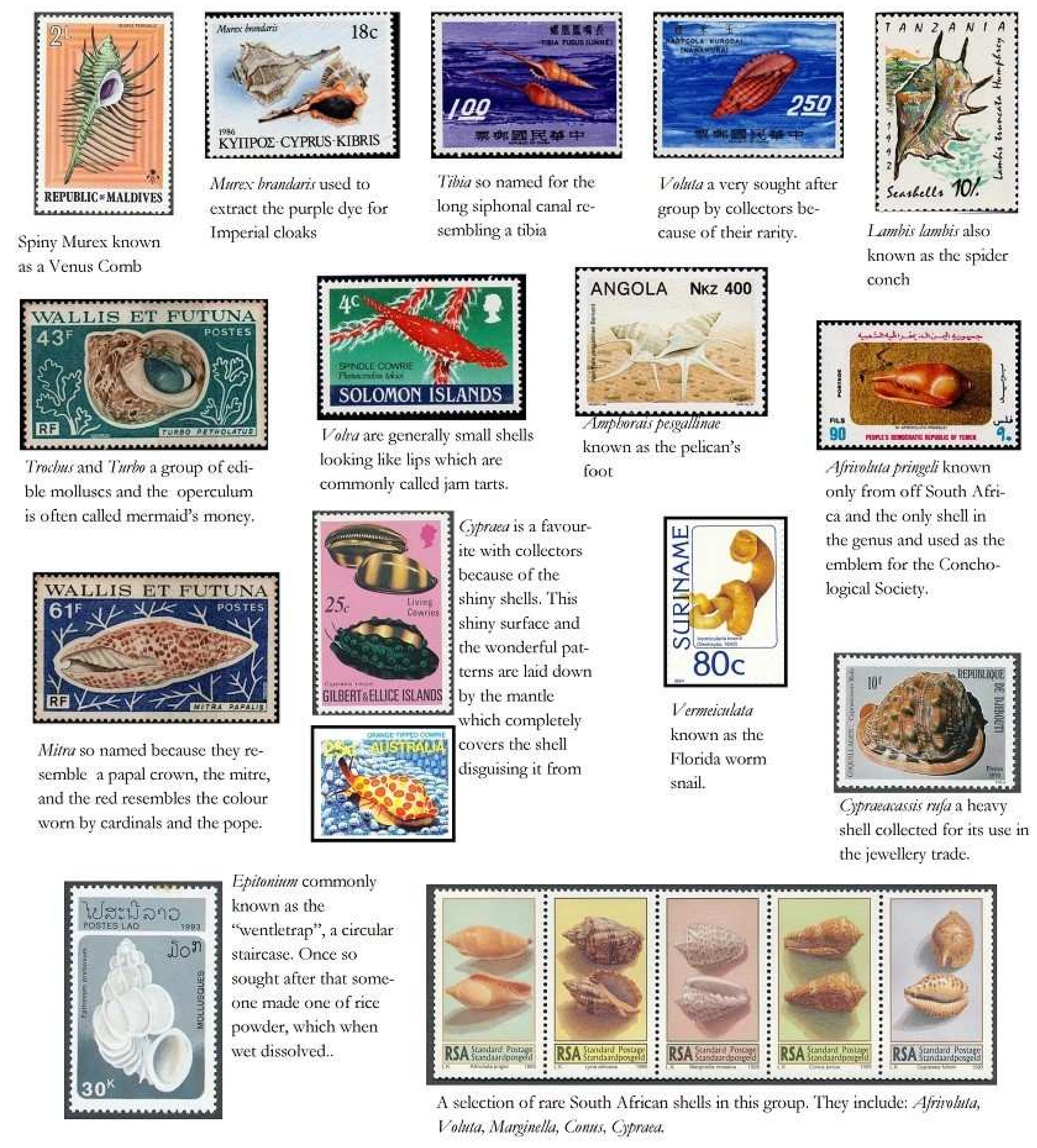
This group of molluscs has either very small shells to protect their vital organs to no shell at all.
The bubble shells have large, very thin, external shells and an elaborate animal.
The sea hare has a small internal shell which looks like a toenail, and also has a purple dye which it lets out when threatened.
Nudibranchs, as the name suggests, have no shells but have developed bright colours, which in the sea means danger! These bright colours are their protection as the predators think they are poisonous!



"Bubble shells" (**Hydatina**) have a frilly animal which makes it look like a delicately flowing seaweed

4.1.4. Streptoneurous.

Streptoneurous (twisted) gastropods with an anteriorly located mantle cavity (space lined with epidermis); **operculum** (protective cover) generally present; sexes separate; shell can usually hold entire animal; primarily marine, several freshwater and terrestrial groups; about 33,000 species.



Spiny Murex known as a Venus Comb

Murex brandaris used to extract the purple dye for Imperial cloaks

Tibia so named for the long siphonal canal resembling a tibia

Voluta a very sought after group by collectors because of their rarity.

Lambis lambis also known as the spider conch

Trochus and *Turbo* a group of edible molluscs and the operculum is often called mermaid's money.

Volva are generally small shells looking like lips which are commonly called jam tarts.

Amphorais pesgallinae known as the pelican's foot

Afrivoluta pringeli known only from off South Africa and the only shell in the genus and used as the emblem for the Conchological Society.

Cypraea is a favourite with collectors because of the shiny shells. This shiny surface and the wonderful patterns are laid down by the mantle which completely covers the shell disguising it from

Vermeiculata known as the Florida worm snail.

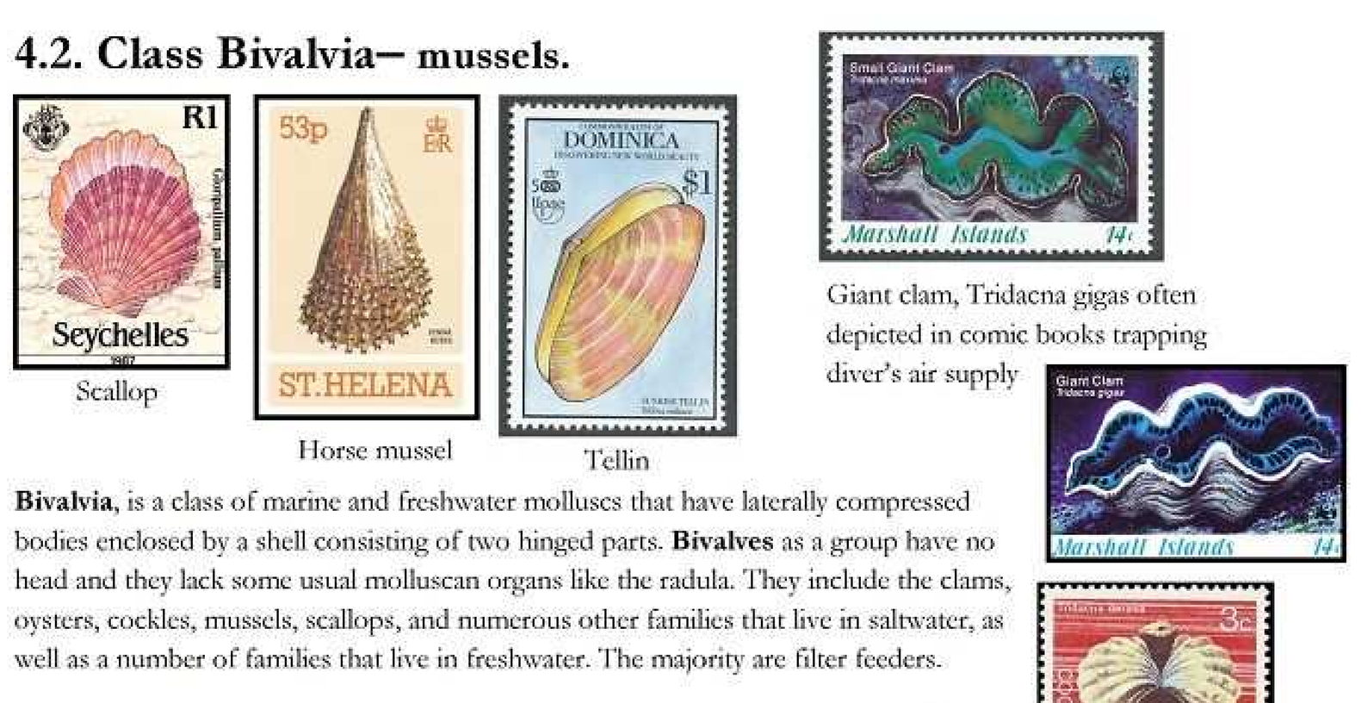
Mitra so named because they resemble a papal crown, the mitre, and the red resembles the colour worn by cardinals and the pope.

Cypraeacassis rufa a heavy shell collected for its use in the jewellery trade.

Epitonium commonly known as the "wentletrap", a circular staircase. Once so sought after that someone made one of rice powder, which when wet dissolved..

A selection of rare South African shells in this group. They include: *Afrivoluta, Voluta, Marginella, Conus, Cypraea.*

4.2. Class Bivalvia– mussels.



Scallop

Horse mussel

Tellin

Giant clam, Tridacna gigas often depicted in comic books trapping diver's air supply

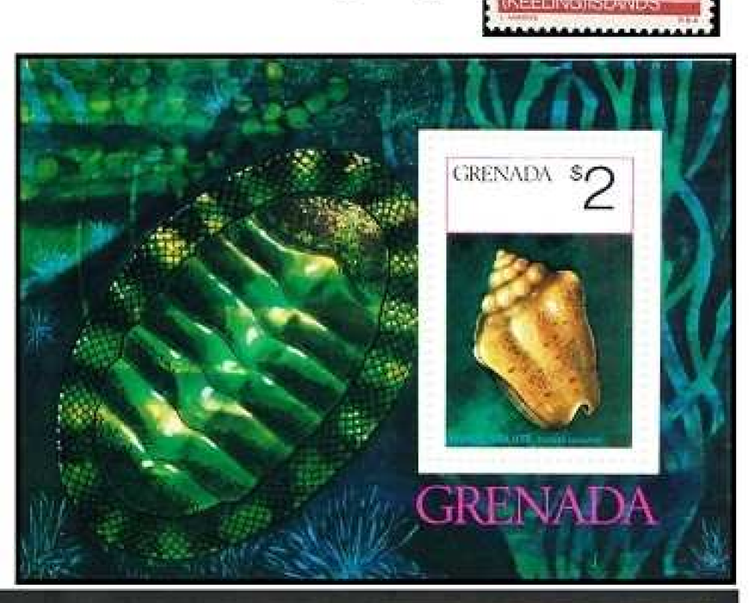
Bivalvia, is a class of marine and freshwater molluscs that have laterally compressed bodies enclosed by a shell consisting of two hinged parts. **Bivalves** as a group have no head and they lack some usual molluscan organs like the radula. They include the clams, oysters, cockles, mussels, scallops, and numerous other families that live in saltwater, as well as a number of families that live in freshwater. The majority are filter feeders.

Angel Wings

4.3. Class Polyplacophora coat of mail shells.

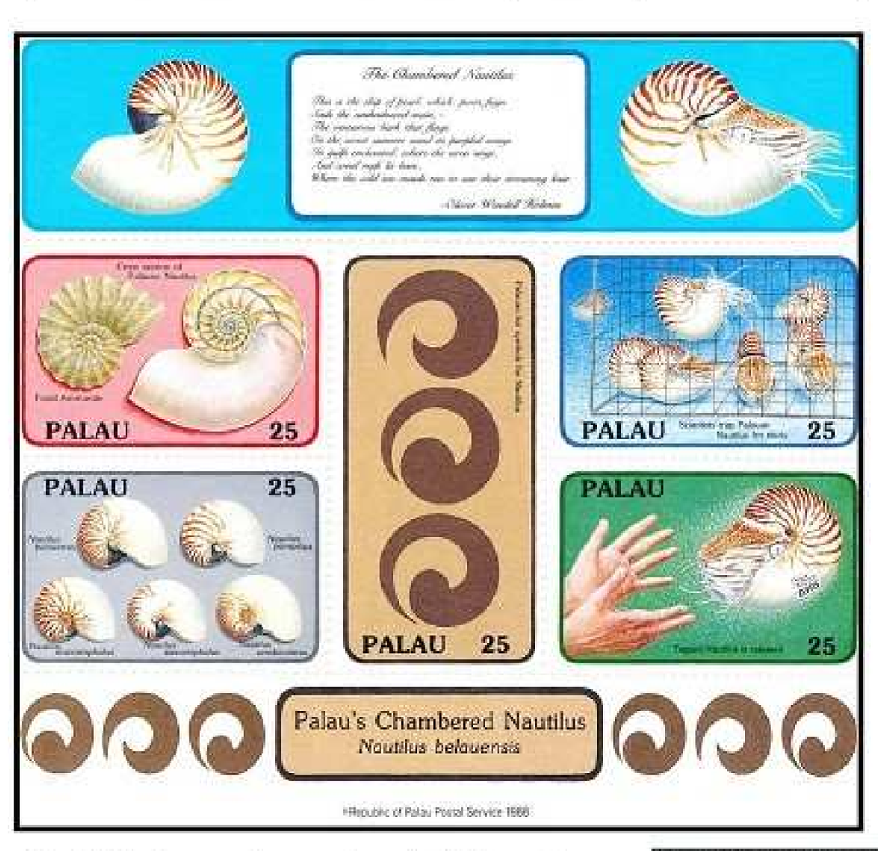
Chitons are marine molluscs of varying size in the class *Polyplacophora*, formerly known as Amphineura. About 940 extant and 430 fossil species are recognized.

Chitons have segments on the back all held together by a girdle. They are grazers on algae mostly in rock pools but have been found to 7000m.



4.4. Class Cephalopoda– Octopus, Nautilus, Squid and Ammonites.

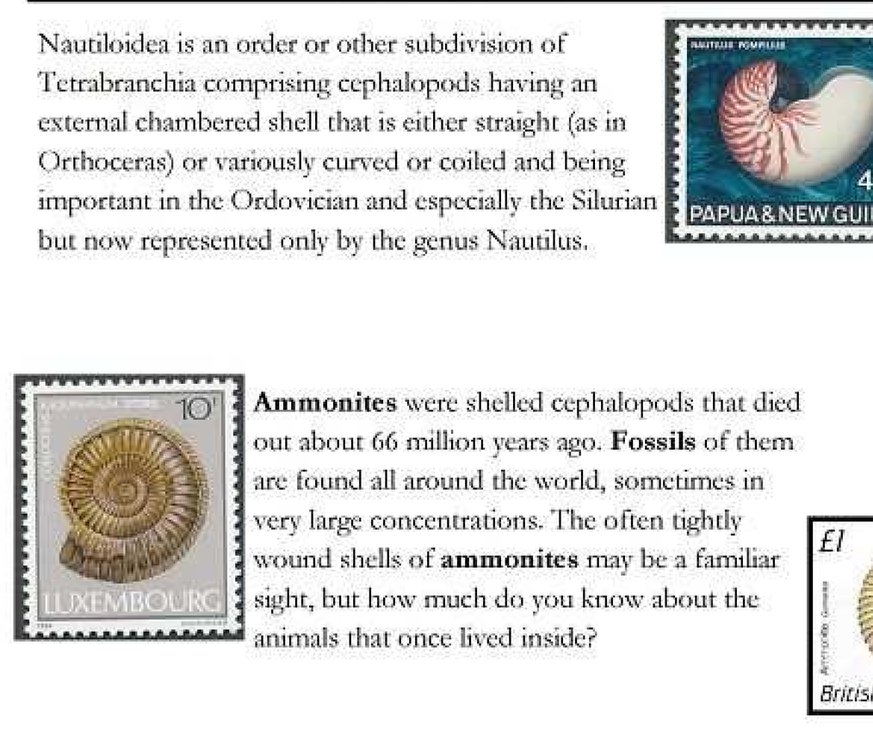
A **cephalopod** is any member of the molluscan class **Cephalopoda** meaning "head-feet") such as a squid, octopus, cuttlefish, or nautilus. They are exclusively marine animals and have a prominent head, and a set of arms or tentacles modified from the primitive molluscan foot. Fishermen sometimes call cephalopods **"inkfish,"** referring to their common ability to squirt ink. The ink from squids was used in printing and resulted in Sepia printing (***Sepia*** also the Genus of the squid)
Cephalopods became dominant during the Ordovician period, represented by primitive nautiloids. The class now contains two, only distantly related, extant subclasses: Coleoidea, which includes octopuses, squid, and cuttlefish; and Nautiloidea, represented by *Nautilus* and *Allonautilus*. About 800 living species of cephalopods have been identified. Two important extinct taxa are the Ammonoidea (ammonites) and Belemnoidea (belemnites).



The **octopus** has 8 tentacles and in some species two have adapted to the producing and carrying of the Nautilus shell which they create and is used for carrying their eggs

The squid (***Sepia***) is a multi-purpose animal and can grow to very large sizes. There are stories of these animals engulfing sailing ships.
They are eaten as squid, calamari or chokka.
Bird cages are festooned with cuttlefish which is produced by some squids.
Sepia ink for printing was from squid, hence the name ink fish.
They pulse colour to blend in to the surroundings while waiting for their prey.

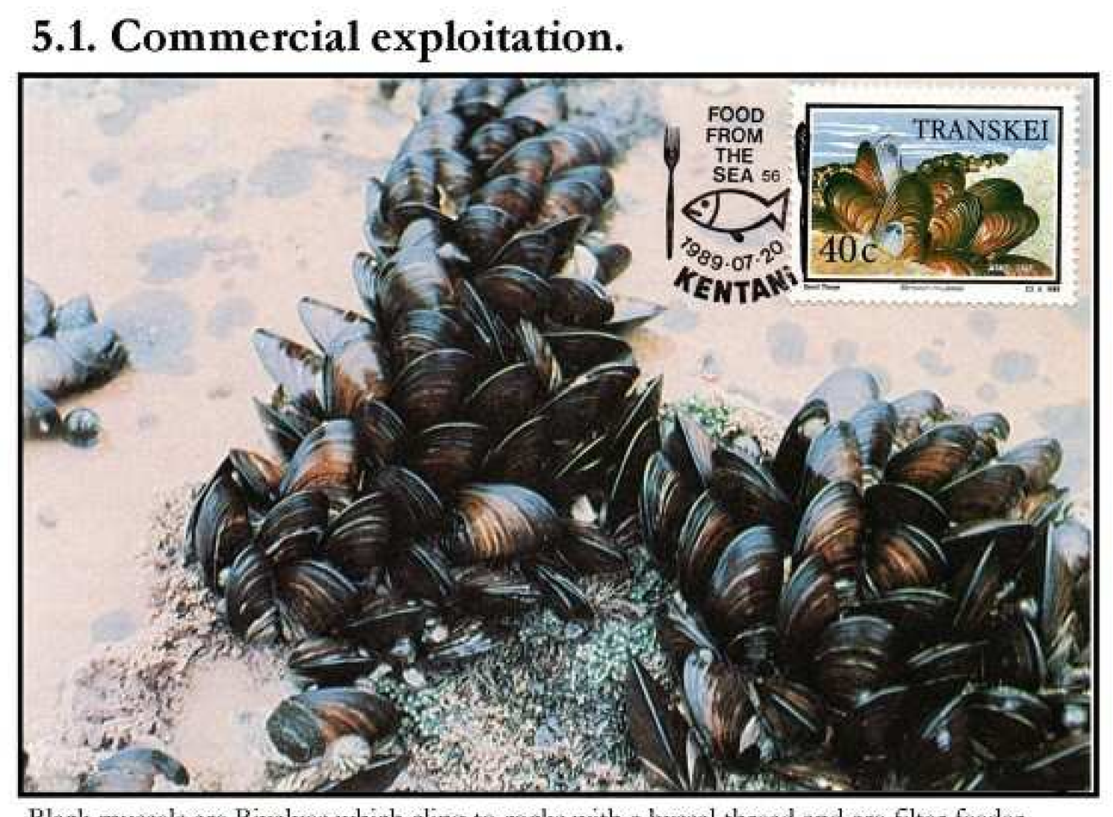
Nautiloidea is an order or other subdivision of Tetrabranchia comprising cephalopods having an external chambered shell that is either straight (as in Orthoceras) or variously curved or coiled and being important in the Ordovician and especially the Silurian but now represented only by the genus Nautilus.



Ammonites were shelled cephalopods that died out about 66 million years ago. **Fossils** of them are found all around the world, sometimes in very large concentrations. The often tightly wound shells of **ammonites** may be a familiar sight, but how much do you know about the animals that once lived inside?

5. Uses and Abuses

5.1. Commercial exploitation.



Black mussels are Bivalves which cling to rocks with a byssal thread and are filter feeder. They are found on tidal rocks over most of the world and are harvested as food.

The Queen Conch is harvested in the Caribbean for food, decoration and is used by some tribes as a trumpet.

Scallops are found infra-tidally and therefore diving or dredging is the means of collecting. Many of the bivalve molluscs live in the sand in the pounding surf and are collected by agile collectors as the wave recedes.

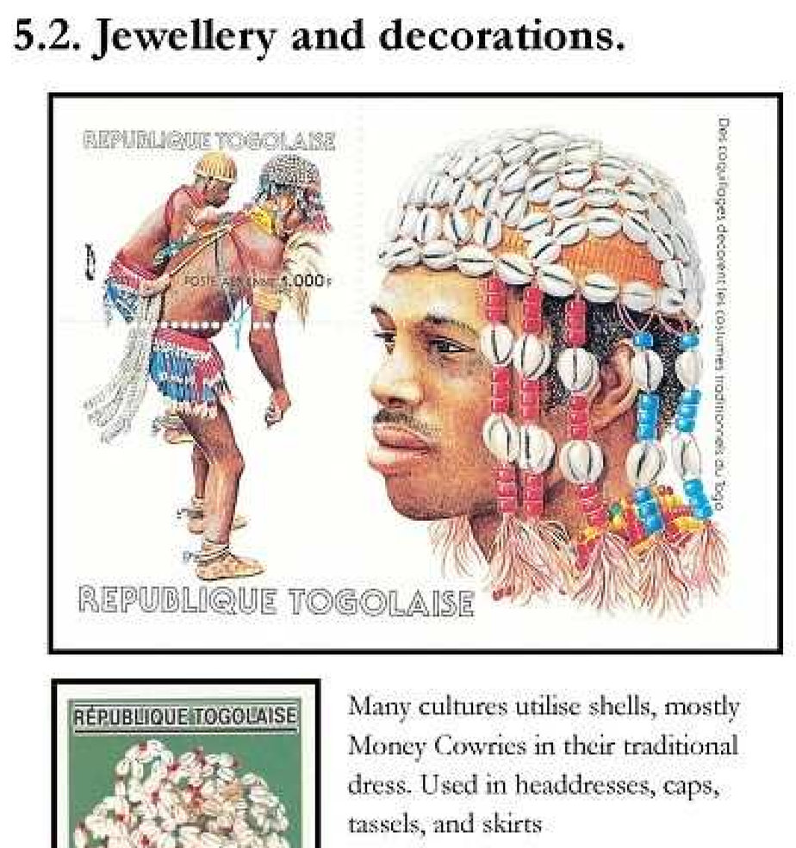
Amongst the cephalopods the squid is caught for food and ends up on the table as chokka or calamari.

Seychelles, being an island depends heavily on the sea for food. Molluscs play a large part in feeding the inhabitants, as a result there are many traditional recipes from families on the preparation of these dishes. These stamps issued in the Seychelles also includes recipes.

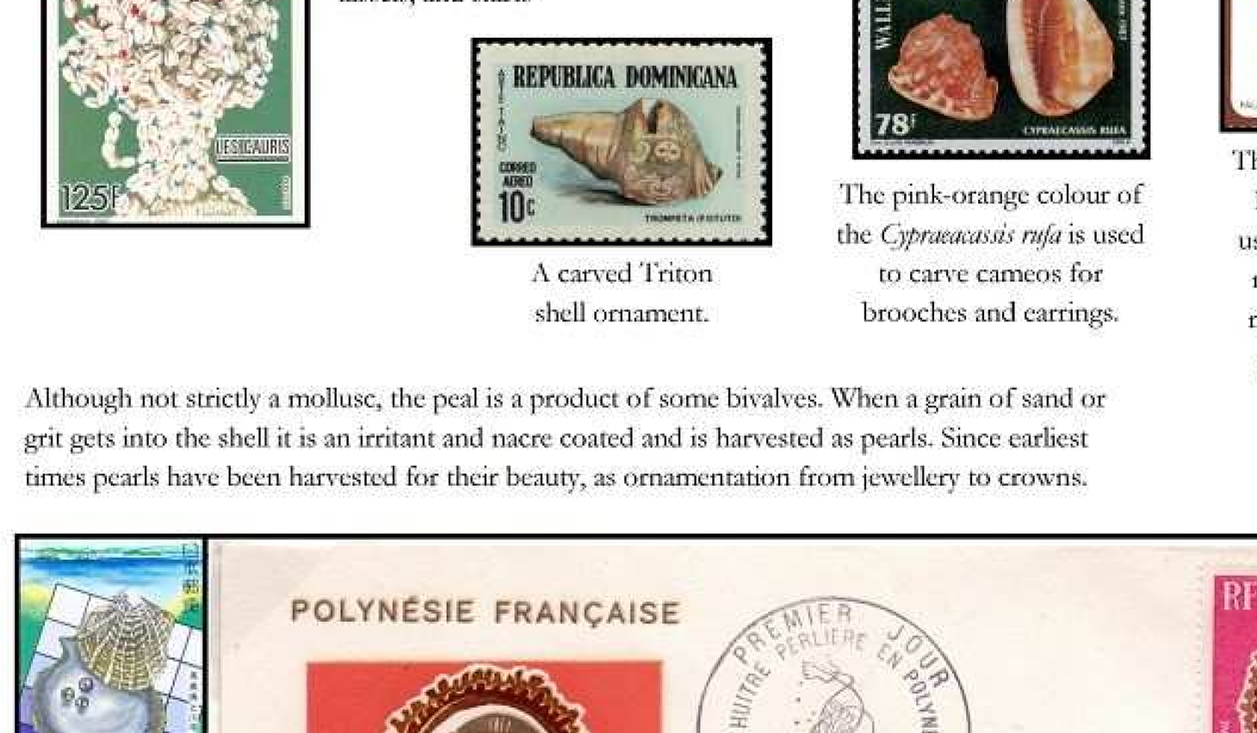
The octopus is also a delicacy for the table. In the stamp above, another mollusc, a Tiger cowrie is used as a lure.

Land snails like *Helix aspersa*, are often eaten in restaurants as escargot with garlic butter.

5.2. Jewellery and decorations.



Jewellery made with shells, bracelets, earrings and necklaces



Many cultures utilise shells, mostly Money Cowries in their traditional dress. Used in headdresses, caps, tassels, and skirts

A carved Triton shell ornament.

The pink-orange colour of the *Cypraeacassis rufa* is used to carve cameos for brooches and earrings.

The Paua shell of New Zealand used in jewellery making for its rich mother of pearl colours

Although not strictly a mollusc, the peal is a product of some bivalves. When a grain of sand or grit gets into the shell it is an irritant and nacre coated and is harvested as pearls. Since earliest times pearls have been harvested for their beauty, as ornamentation from jewellery to crowns.

5. Uses and Abuses

5.3. Money.

Cowrie money.

Octopus on coin.

Cowrie shells have long been used as currency in many countries.
A money cowrie is named *Cypraea moneta* to illustrate their use as money.
An Octopus depicted on the new Tuvalu coin.

Shell money.

Cypraea moneta

5.4. Poisonous molluscs.

The blue ringed octopus from Australia is small but very venomous.

Conus and other vividly marked cones are venomous. Most of the other tent marked cones are poisonous.

Conus geographus is an Indo-Pacific cone which can grow very large (15cm) and is found as far south as Moçambique. All Cones fire little dart at their prey to paralyse it. There is no antidote to the poison from this shell which can even kill when dead.

5.5. Molluscs in Art.

5.5.1. Drinking Vessels.

Nautilus shells trimmed in precious metals on stands as chalices.

5.5.2. Musical Instruments, Trumpets.

Many cultures use conch shells or Tritons as musical instruments or in religious ceremonies.

The US Submarine was named Triton after a mollusc.
The cover shows a merman blowing on a Triton shell and a Triton shell also depicted below.
The name Argonauts is also a mollusc name, referring to the Octopus shell.

5.5.3. Ornaments.

5.5.4. Coat of Arms.

A Nativity scene made of shells.
A gold ornament made in the form of a Bivalve.

The coat of arms of the Turks and Caicos Islands depicts a Queen Conch shell.

5.5.5. Mollusc Tales.

The Portuguese man of war (or "Blue Bottle") floats on the surface of the sea and is carried by the wind. Certain molluscs prey on it and ingest its colour making them purple.
A pelagic Nudibranch floats along eating. *Janthina janthina*, a thin shelled mollusc, has to make a bubble raft to carry it to the surface to float with its prey.

Xenophora is a shell collector. This shell finds other shells and cements them onto its shell as a disguise. Derivation of the name ***Xenos (Gk.) = stranger*** and ***Amphora (Latin) = container***

The Golden Cowrie with scientific name ***Cypraea aurantia*** which means orange (fruit). If the intention was to name it **Golden** it should have been ***aureum.***

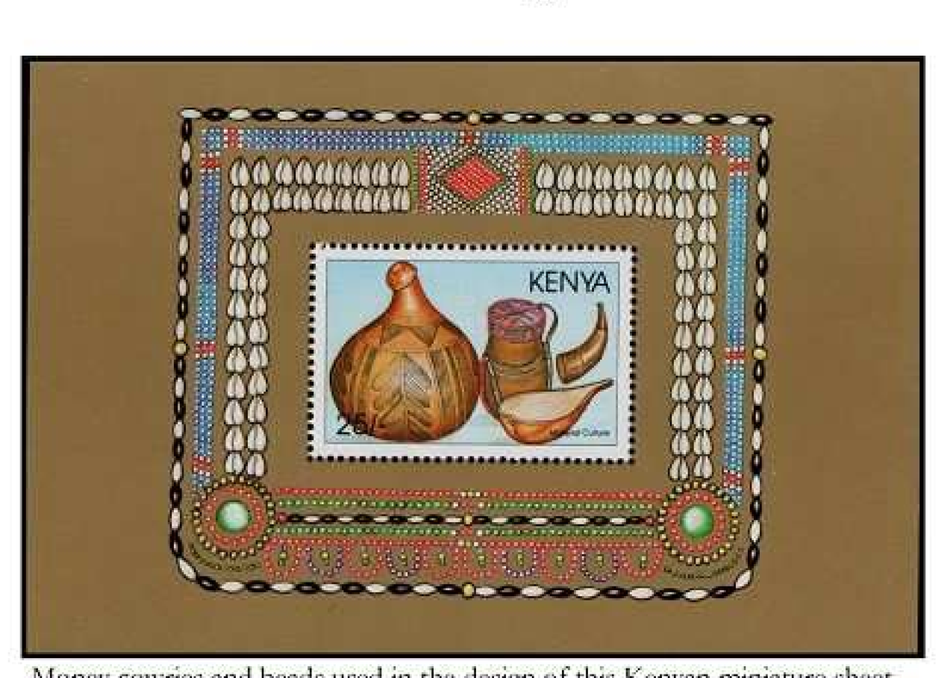
The tiger cowrie was used by granny to darn socks and is carved to make grey cameos, while in Italy the children played with cowries calling them **Porcello** (piglets). When Marco Polo arrived back in Venice with shiny objects they looked like the shiny cowries and so were called porcelain. In French the word for cowrie is Porcelain.

5.5.6. Book Art.

For the 75th Death Anniversary of Jules Verne, the Tongalese Republic issued a stamp depicting an octopus attacking divers.

Verne also named his submarine ***The Nautilus*** a mollusc.

5.5.7. Molluscs used in Design.



Money cowries and beads used in the design of this Kenyan miniature sheet.

A Japanese Tuberculosis Foundation issued a miniature sheet depicting two mollusc designs. One depicting a Pecten and a Turrid and the other two spiny Murex.

Bead art of South Africa utilising buttons made of shells (***Trochus***).

Trochus used to make buttons

Stylised Conch shells, a symbol of Tibetan Buddhism, used on stamps from Bhutan and Travancore-Cochin. Often the watermarks were of the Conch too.

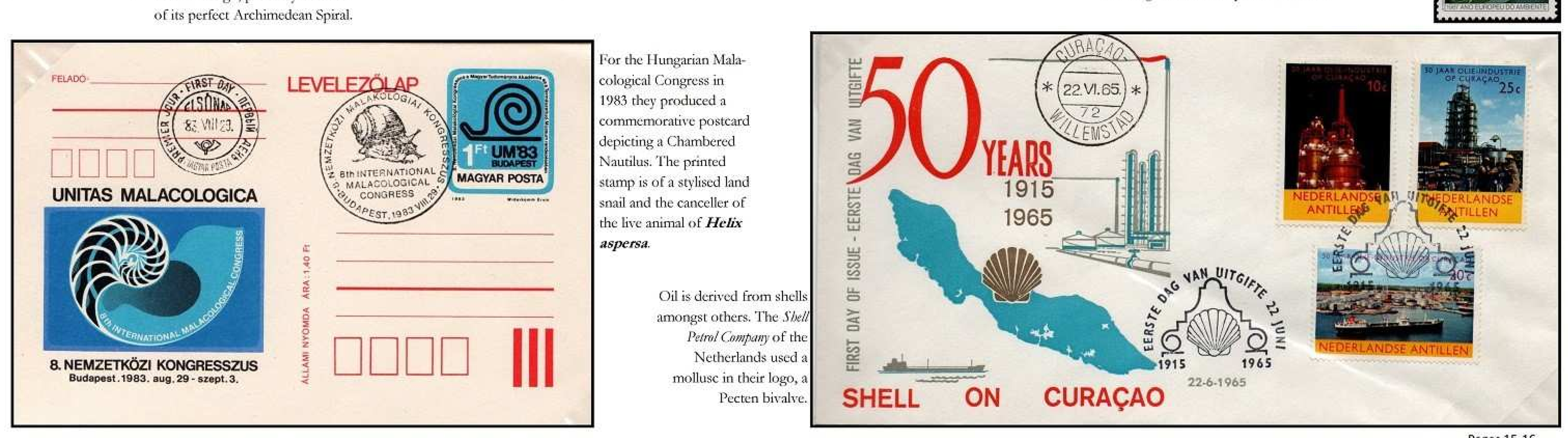
The Chambered Nautilus is probably the most popular mollusc used in design, probably because of its perfect Archimedean Spiral.

A ***Helix aspersa*** in disguise watching a farmer tilling the fields, oblivious of the danger that he could end up being eaten.

Tunisia issued this stamp commemorating the International Amateur Film Festival in Kelibia. One of the frames of the film shows a gastropod.

Stylised Abalone shell on a stylised sea, showing one of the exports of Mexico.

A stylised Conch used in this design from Portugal.



For the Hungarian Malacological Congress in 1983 they produced a commemorative postcard depicting a Chambered Nautilus. The printed stamp is of a stylised land snail and the canceller of the live animal of ***Helix aspersa***.

Oil is derived from shells amongst others. The *Shell Petrol Company* of the Netherlands used a mollusc in their logo, a Pecten bivalve.

SHELLFISH PURSUITS

The study of mollusca is called Conchology or Malacology.
Not all molluscs produce shells and not all "shells" are molluscs.
This exhibit begins with the first stamp to depict a shell.
This is followed by a tribute to Linnaeus, the father of classification,
and an outline of the system and describes the uses and abuses of mollusca.
The exhibit is based on the exhibitor's research as published in
Classification of Mollusca: a classification of World-wide mollusca. (2019, 5th ed., 276p.)

1. The First Stamp

The first stamp issued depicting a mollusc was in 1859, only 10 years after the first stamp. It was printed in Bahamas. It depicts Queen Victoria with a Queen Conch bottom right.

2. Linnaeus—Father of Classification

Classification of the animal kingdom is called the Binominal System which was devised by Carl Linnaeus at the Upsala University of Sweden

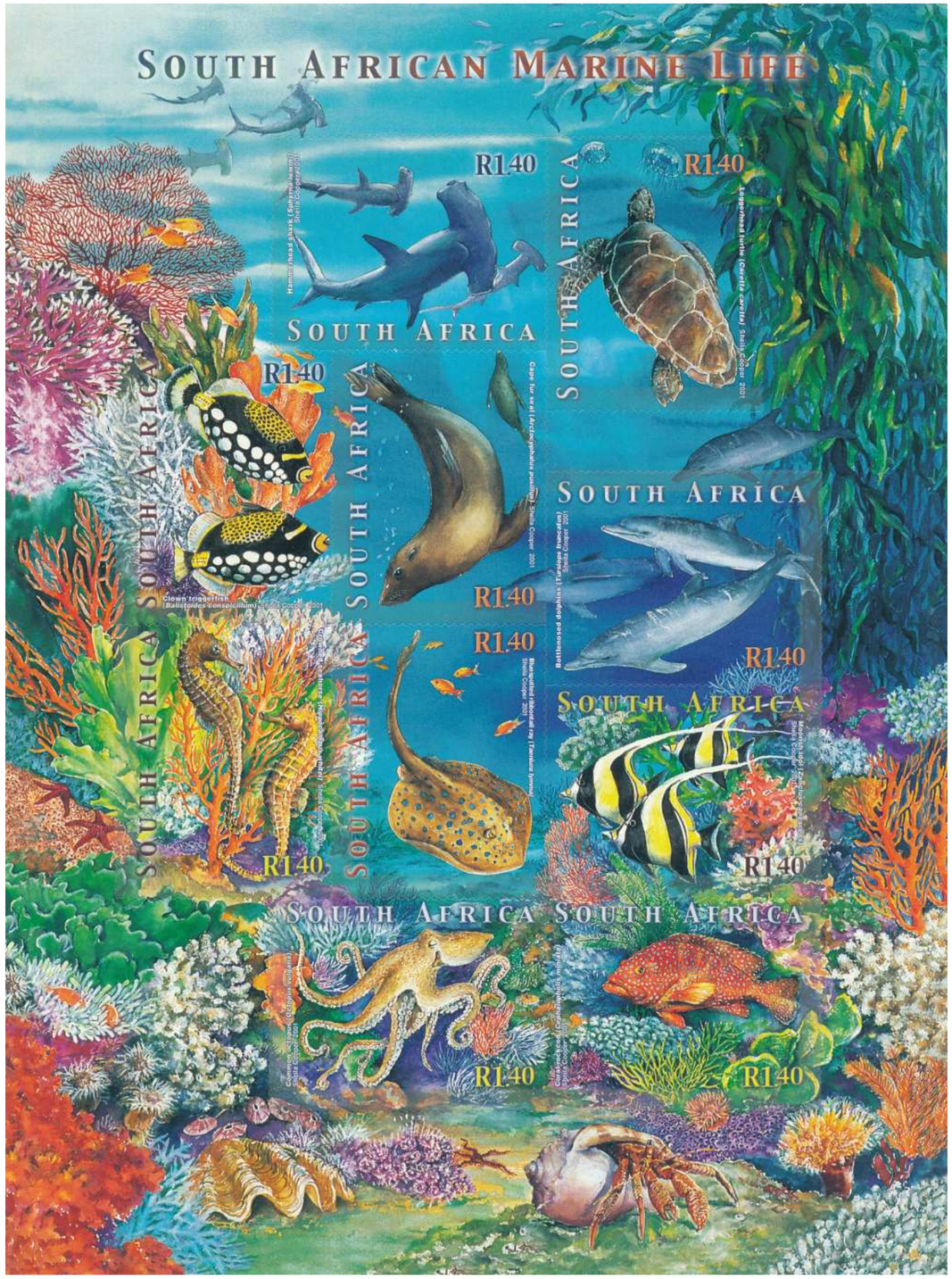
The *Systema Naturae* by Linnaeus, was on flowers. The system was later accepted for the classification of all living things. Classification utilises Kingdoms, Classes, Families, Genera and species for making sense of the world

Stamps commemorating Linnaeus (Linné) were issued in many countries, some of them to commemorate the publication of ***Systema Naturae****.*

3.1. Recycled Shells

Discarded shells are often recycled and used by hermit crabs (Crustacea). Their tender part need to be protected so they cement themselves into molluscs until they get too big and then seek a larger shell and quickly make the change. When threatened they withdraw into the shell and protect themselves with their claws and hard legs.

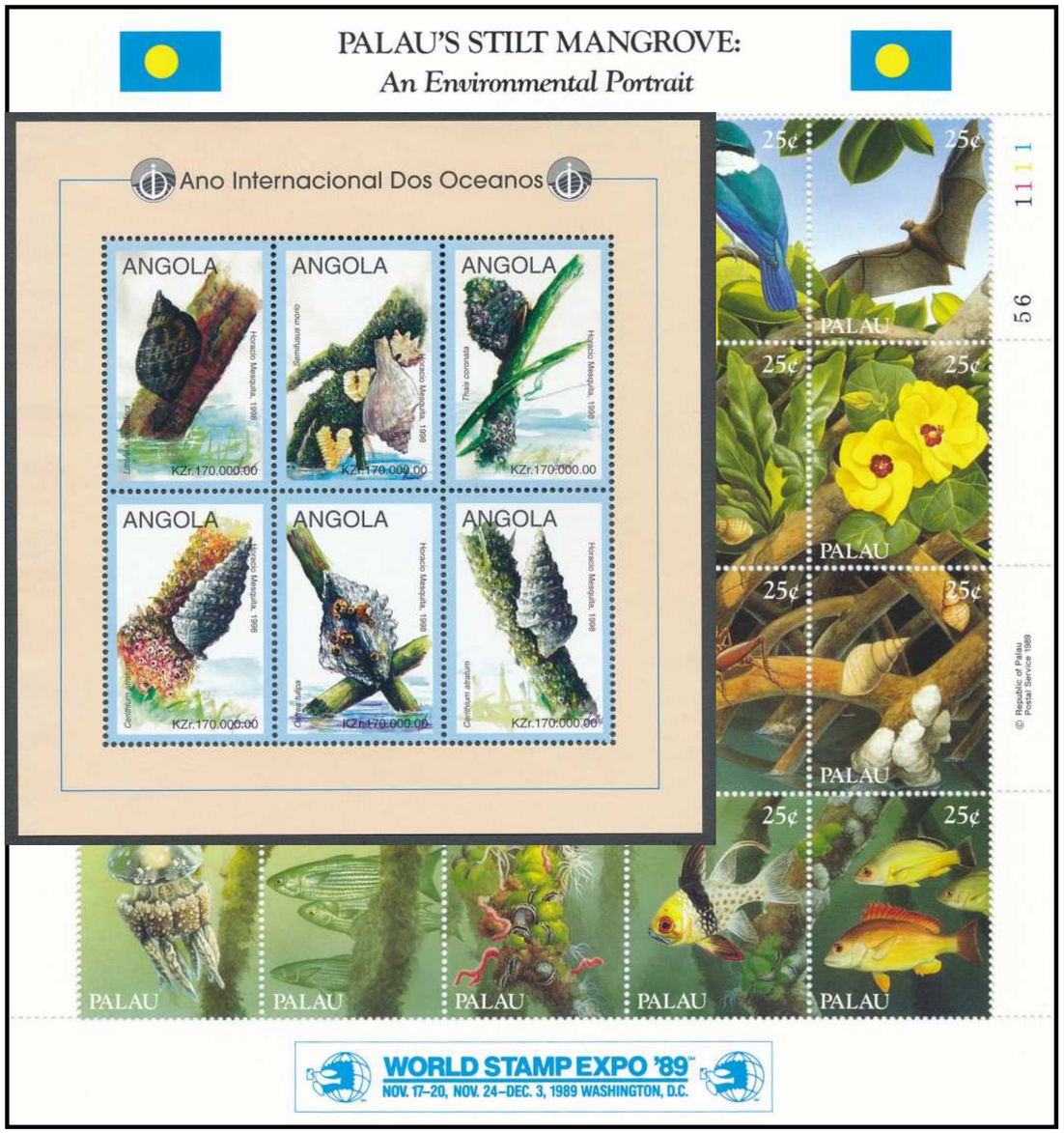
3.2. South African Infra-Tidal sea fauna Stamp



Molluscs in the sea generally don't stay off the ocean floor for long or without assistance.
Molluscs which float on the surface of the sea are called pelagic. The Cephalopods (Octopus and Squid) swim for short distances or at a low level searching for prey. The Patelogastropoda are herbivores and spend their lives on rocks grazing. Bivalves are filter feeders and either live cemented to rocks or under the sand.

3.3. Fresh water and Mangrove Molluscs.

Mangrove swamps are tidal and grow in shallow water and supports a large number of animals including molluscs.



Molluscs in the mangrove swamps live in the tidal area of the roots of the mangroves.
Bivalves cement themselves to the roots to take advantage of the food which is brought in with the rising tide, they are filter feeders.
The Gastropods are mobile so they can move to areas up and down the mangrove roots in search of food.
Their shells are generally very heavy and thick. They also lay their eggs above the water at low tide , they will be covered at high tide.

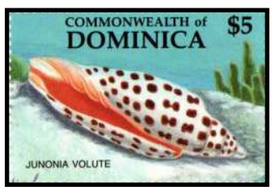
3.4. Land Molluscs.

Land molluscs are generally hermaphrodites and live underground, on the surface on also in trees. Shells are thin.

Brightly coloured tree snails. Surface garden snail are generally very drab and edible. Those that live underground are very small.

3.5. Fossil Molluscs.

Fossils exist in all the classes but by far the greatest number are the Ammonites which can measure up to one metre across. Some fossils still exist today. If a fossil does not have a modern representative it is difficult to classify as they can not be properly analysed because what we see as the fossil shell is in fact sand which accumulated within it and was fossilised leaving no part of the original shell at all.



Voluta Junonia *and extant mollusc also known from the fossil record*

4. Classification of Mollusca.

The Binominal System was devised by Carl Linnaeus at the Upsala University of Sweden. His classification system is like a family name and a given name and called them Genus (spelled with a capital letter) and a species (spelled with a small letter). Genera were collected into Families and families into Classes, the classes collected into a Phylum (in this case, Mollusca). Although it not always done, the full name of a shell is Genus species Author and Date.

4.1. Class Gastropoda.

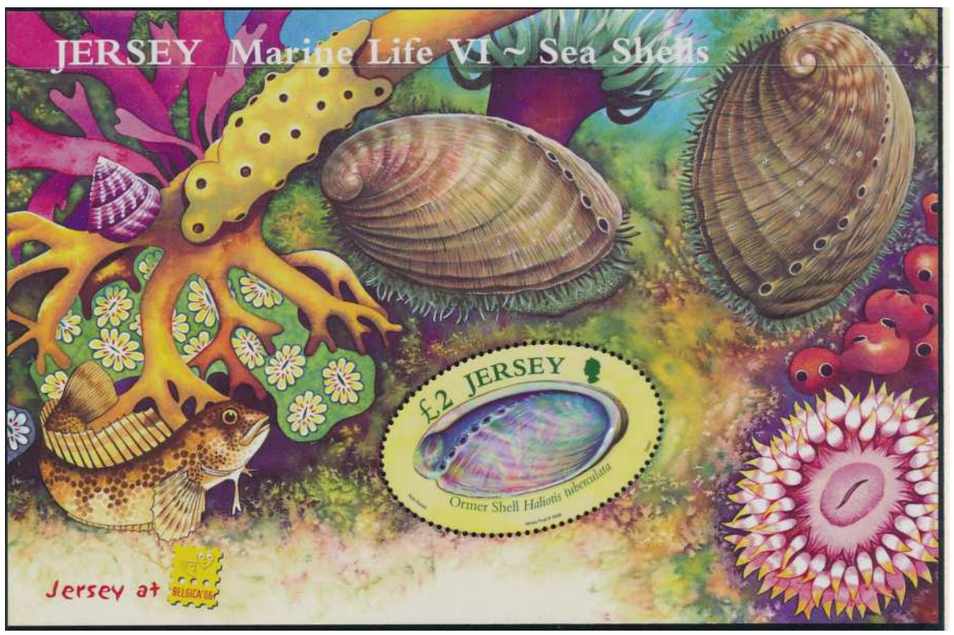
By far the largest group in the mollusca are the gastropods.
The Gastropoda has many sub-groups from ancient forms to modern.
Sea, Land and Fresh water.
Some Gastropods have begun developing smaller shells and in some cases none at all.

4.1.1. Patellogastropoda.

Conical-shelled limpets, without slits or holes, found in rocky shallow waters (Acmaeidae and Patellidae). Patellaogastropoda have not changed much over the centuries and are flat shells like a knee cap (called *Patella* after the shells). They graze on algae on rocks and hence do not move

Umbraculum umbraculum.
Looks like an umbrella top situated on the top of the animal.

Patella granatina
or rock mussels are found intertid-

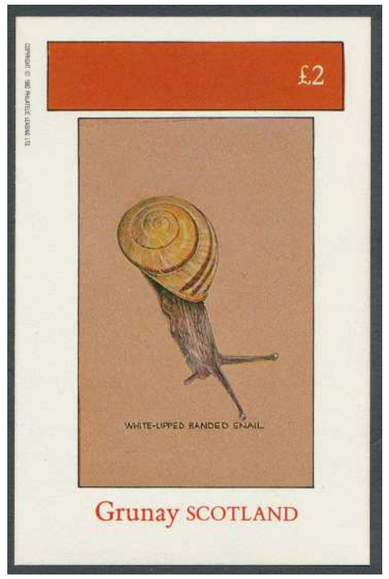


Haliotis *or Abalone shells (known in South Africa as Perlemoen) an evolutionary old group of herbivores.*

4.1.2. Pulmonata.

A group of molluscs, the Pulmonata, which includes the land snails and slugs and many freshwater snails

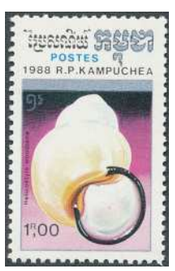
Some of the land snails are very small and many live under rocks or underground.



Pulmonata, or "pulmonates", is an informal group (previously an order, and before that a subclass) of snails and slugs characterized by the ability to breathe air, by virtue of having a pallial lung instead of a gill, or gills. Pulmonates are hermaphroditic, and some groups possess love darts.

Helix aspersa and ***Achatina immaculata*** **(**previously ***Achatina zebra*****)** are land snail which are commercially exploited and on the menu as escargot.

Tree snails are brightly coloured with very delicate shells. They have been collected for their bright colours. In recent years have been have been replaced in their natural habitat by invader snails suck as ***Achatina immaculata*** **(**previously ***Achatina zebra).*** The eggs of the invader have entered the islands in the mud on the tracks of tanks during war time.

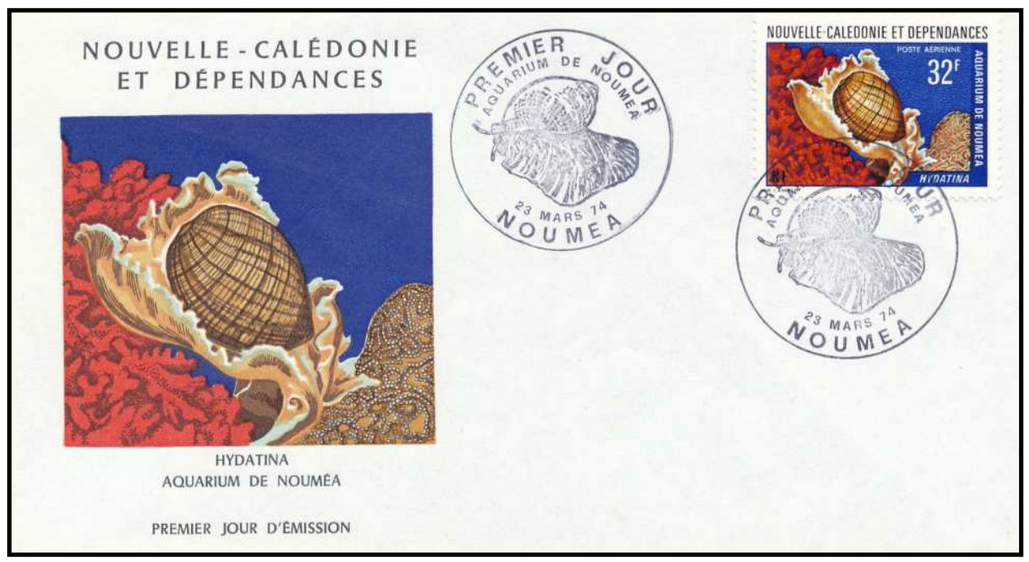


4.1.3. Opisthobranches.

Opisthobranchia, are the sea slugs, sea butterflies, and sea hares, characterized by a vestigial or absent mantle and shell and two pairs of tentacles.

Opisthobranch means "gills behind" (and to the right) of the heart. In contrast, Prosobranch means gills in front (of the heart).

This group of molluscs has either very small shells to protect their vital organs to no shell at all.
The bubble shells have large, very thin, external shells and an elaborate animal.
The sea hare has a small internal shell which looks like a toenail, and also has a purple dye which it lets out when threatened.
Nudibranchs, as the name suggests, have no shells but have developed bright colours, which in the sea means danger! These bright colours are their protection as the predators think they are poisonous!



"Bubble shells" (**Hydatina**) have a frilly animal which makes it look like a delicately flowing seaweed

4.1.4. Streptoneurous.

Streptoneurous (twisted) gastropods with an anteriorly located mantle cavity (space lined with epidermis); **operculum** (protective cover) generally present; sexes separate; shell can usually hold entire animal; primarily marine, several freshwater and terrestrial groups; about 33,000 species.

Spiny Murex known as a Venus Comb

Murex brandaris used to extract the purple dye for Imperial cloaks

Tibia so named for the long siphonal canal resembling a tibia

Voluta a very sought after group by collectors because of their rarity.

Lambis lambis also known as the spider conch

Trochus and *Turbo* a group of edible molluscs and the operculum is often called mermaid's money.

Volva are generally small shells looking like lips which are commonly called jam tarts.

Amphorais pesgallinae known as the pelican's foot

Afrivoluta pringeli known only from off South Africa and the only shell in the genus and used as the emblem for the Conchological Society.

Mitra so named because they resemble a papal crown, the mitre, and the red resembles the colour worn by cardinals and the pope.

Cypraea is a favourite with collectors because of the shiny shells. This shiny surface and the wonderful patterns are laid down by the mantle which completely covers the shell disguising it from

Vermeiculata known as the Florida worm snail.

Cypraeacassis rufa a heavy shell collected for its use in the jewellery trade.

Epitonium commonly known as the "wentletrap", a circular staircase. Once so sought after that someone made one of rice powder, which when wet dissolved..

A selection of rare South African shells in this group. They include: *Afrivoluta, Voluta, Marginella, Conus, Cypraea.*

4.2. Class Bivalvia– mussels.

Scallop

Horse mussel

Tellin

Giant clam, Tridacna gigas often depicted in comic books trapping diver's air supply

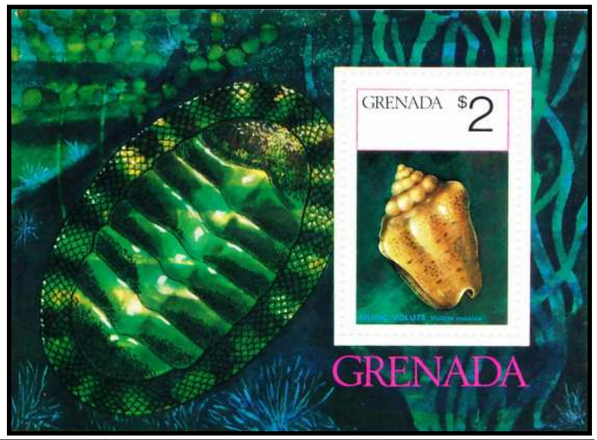
Bivalvia, is a class of marine and freshwater molluscs that have laterally compressed bodies enclosed by a shell consisting of two hinged parts. **Bivalves** as a group have no head and they lack some usual molluscan organs like the radula. They include the clams, oysters, cockles, mussels, scallops, and numerous other families that live in saltwater, as well as a number of families that live in freshwater. The majority are filter feeders.

Angel Wings

4.3. Class Polyplacophora
coat of mail shells.

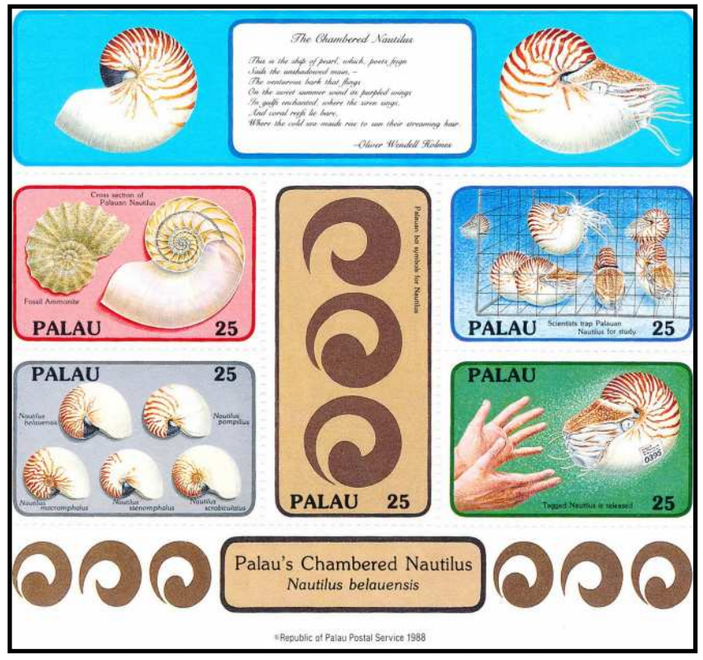
Chitons are marine molluscs of varying size in the class *Polyplacophora*, formerly known as Amphineura. About 940 extant and 430 fossil species are recognized.

Chitons have segments on the back all held together by a girdle. They are grazers on algae mostly in rock pools but have been found to 7000m.



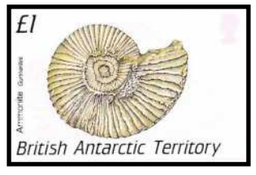
4.4. Class Cephalopoda– Octopus, Nautilus, Squid and Ammonites.

A **cephalopod** is any member of the molluscan class **Cephalopoda** meaning "head-feet") such as a squid, octopus, cuttlefish, or nautilus. They are exclusively marine animals and have a prominent head, and a set of arms or tentacles modified from the primitive molluscan foot. Fishermen sometimes call cephalopods "**inkfish**," referring to their common ability to squirt ink. The ink from squids was used in printing and resulted in Sepia printing (***Sepia*** also the Genus of the squid)
Cephalopods became dominant during the Ordovician period, represented by primitive nautiloids. The class now contains two, only distantly related, extant subclasses: Coleoidea, which includes octopuses, squid, and cuttlefish; and Nautiloidea, represented by *Nautilus* and *Allonautilus*. About 800 living species of cephalopods have been identified. Two important extinct taxa are the Ammonoidea (ammonites) and Belemnoidea (belemnites).



Nautiloidea is an order or other subdivision of Tetrabranchia comprising cephalopods having an external chambered shell that is either straight (as in Orthoceras) or variously curved or coiled and being important in the Ordovician and especially the Silurian but now represented only by the genus Nautilus.

Ammonites were shelled cephalopods that died out about 66 million years ago. **Fossils** of them are found all around the world, sometimes in very large concentrations. The often tightly wound shells of **ammonites** may be a familiar sight, but how much do you know about the animals that once lived inside?



The **octopus** has 8 tentacles and in some species two have adapted to the producing and carrying of the Nautilus shell which they create and is used for carrying their eggs

The squid (***Sepia***) is a multipurpose animal and can grow to very large sizes. There are stories of these animals engulfing sailing ships.
They are eaten as squid, calamari or chokka.
Bird cages are festooned with cuttlefish which is produced by some squids.
Sepia ink for printing was from squid, hence the name ink fish.
They pulse colour to blend in to the surroundings while waiting for their prey.

5. Uses and Abuses

5.1. Commercial exploitation.

Black mussels are Bivalves which cling to rocks with a byssal thread and are filter feeder. They are found on tidal rocks over most of the world and are harvested as food.

The Queen Conch is harvested in the Caribbean for food, decoration and is used by some tribes as a trumpet.

Scallops are found infra-tidally and therefore diving or dredging is the means of collecting. Many of the bivalve molluscs live in the sand in the pounding surf and are collected by agile collectors as the wave recedes.

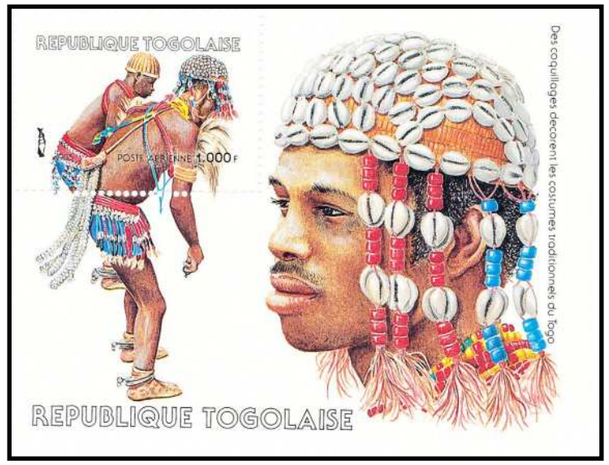
Amongst the cephalopods the squid is caught for food and ends up on the table as chokka or calamari.

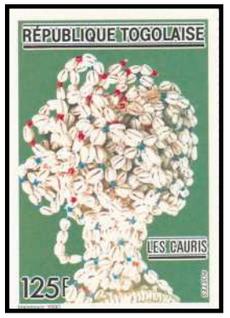
Seychelles, being an island depends heavily on the sea for food. Molluscs play a large part in feeding the inhabitants, as a result there are many traditional recipes from families on the preparation of these dishes. These stamps issued in the Seychelles also includes recipes.

The octopus is also a delicacy for the table. In the stamp above, another mollusc, a Tiger cowrie is used as a lure.

Land snails like *Helix aspersa*, are often eaten in restaurants as escargot with garlic butter.

5.2. Jewellery and decorations.





Many cultures utilise shells, mostly Money Cowries in their traditional dress. Used in headdresses, caps, tassels, and skirts

A carved Triton shell ornament.

Jewellery made with shells, bracelets, earrings and necklaces

The pink-orange colour of the *Cypraeacassis rufa* is used to carve cameos for brooches and earrings.

The Paua shell of New Zealand used in jewellery making for its rich mother of pearl colours

Although not strictly a mollusc, the peal is a product of some bivalves. When a grain of sand or grit gets into the shell it is an irritant and nacre coated and is harvested as pearls. Since earliest times pearls have been harvested for their beauty, as ornamentation from jewellery to crowns.

5. Uses and Abuses

5.3. Money.

Cowrie money.

Octopus on coin.

Cowrie shells have long been used as currency in many countries.
A money cowrie is named *Cypraea moneta* to illustrate their use as money.
An Octopus depicted on the new Tuvalu coin.

Cypraea moneta

Shell money.

5.5. Molluscs in Art.

5.5.1. Drinking Vessels.

Nautilus shells trimmed in precious metals on stands as chalices.

5.5.2. Musical Instruments, Trumpets.

Many cultures use conch shells or Tritons as musical instruments or in religious ceremonies.

The US Submarine was named Triton after a mollusc.
The cover shows a merman blowing on a Triton shell and a Triton shell also depicted below.
The name Argonauts is also a mollusc name, referring to the Octopus shell.

5.5.3. Ornaments.

A Nativity scene made of shells.
A gold ornament made in the form of a Bivalve.

5.5.4. Coat of Arms.

The coat of arms of the Turks and Caicos Islands depicts a Queen Conch shell.

5.5.6. Book Art.

For the 75th Death Anniversary of Jules Verne, the Tongalese Republic issued a stamp depicting an octopus attacking divers.

Verne also named his submarine ***The Nautilus*** a mollusc.

5.4. Poisonous molluscs.

The blue ringed octopus from Australia is small but very venomous.

Conus and other vividly marked cones are venomous. Most of the other tent marked cones are poisonous.

Conus geographus is an Indo-Pacific cone which can grow very large (15cm) and is found as far south as Moçambique. All Cones fire little dart at their prey to paralyse it. There is no antidote to the poison from this shell which can even kill when dead.

5.5.5. Mollusc Tales.

The Portuguese man of war (or "Blue Bottle") floats on the surface of the sea and is carried by the wind. Certain molluscs prey on it and ingest its colour making them purple.
A pelagic Nudibranch floats along eating.
Janthina janthina, a thin shelled mollusc, has to make a bubble raft to carry it to the surface to float with its prey.

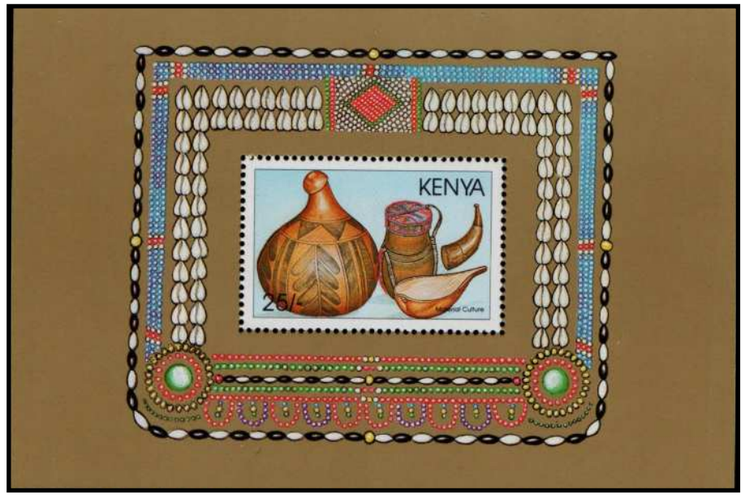
Xenophora is a shell collector. This shell finds other shells and cements them onto its shell as a disguise. Derivation of the name ***Xenos (Gk.) = stranger*** and ***Amphora (Latin) = container***

The Golden Cowrie with scientific name ***Cypraea aurantia*** which means orange (fruit).
If the intention was to name it **Golden** it should have been ***aureum.***

The tiger cowrie was used by granny to darn socks and is carved to make grey cameos, while in Italy the children played with cowries calling them **Porcello**

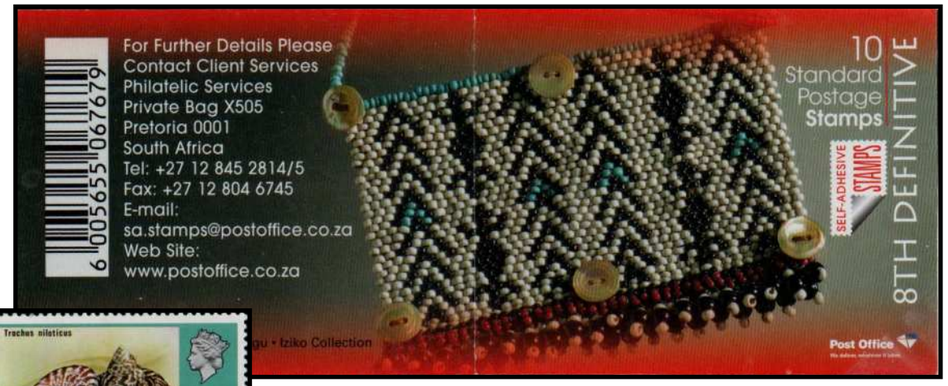
(piglets). When Marco Polo arrived back in Venice with shiny objects they looked like the shiny cowries and so were called porcelain. In French the word for cowrie is Porcelain.

5.5.7. Molluscs used in Design.



Money cowries and beads used in the design of this Kenyan miniature sheet.

A Japanese Tuberculosis Foundation issued a miniature sheet depicting two mollusc designs. One depicting a Pecten and a Turrid and the other two spiny Murex.



Bead art of South Africa utilising buttons made of shells (***Trochus***).

Trochus used to make buttons

Stylised Conch shells, a symbol of Tibetan Buddhism, used on stamps from Bhutan and Travancore-Cochin. Often the watermarks were of the Conch too.

The Chambered Nautilus is probably the most popular mollusc used in design, probably because of its perfect Archimedean Spiral.

A ***Helix aspersa*** in disguise watching a farmer tilling the fields, oblivious of the danger that he could end up being eaten.

Tunisia issued this stamp commemorating the International Amateur Film Festival in Kelibia. One of the frames of the film shows a gastropod.

Stylised Abalone shell on a stylised sea, showing one of the exports of Mexico.

A stylised Conch used in this design from Portugal.

For the Hungarian Malacological Congress in 1983 they produced a commemorative postcard depicting a Chambered Nautilus. The printed stamp is of a stylised land snail and the canceller of the live animal of ***Helix aspersa***.

Oil is derived from shells amongst others. The *Shell Petrol Company* of the Netherlands used a mollusc in their logo, a Pecten bivalve.