

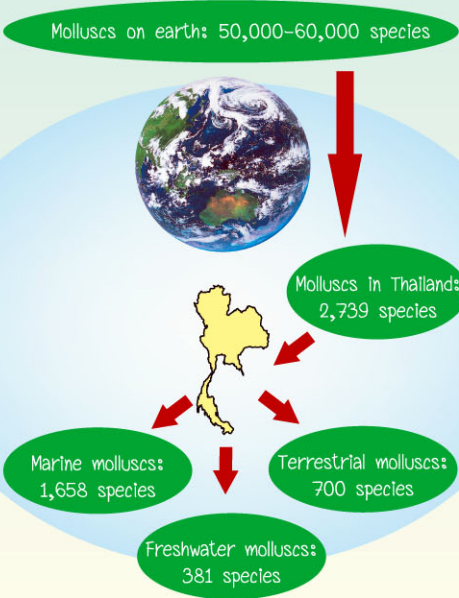
Mollusca Ranger



Do you know that a creature with soft inner body and hard outer shell is called "mollusc". A mollusc in general means a creature with one or two shells while in scientific meaning there are more than those that have shells. Let's learn more about molluscs. 🐾 🐾 🐾 🐾

Molluscs

Molluscs are invertebrate. Their population are the second largest next to insects. It is reported that there are 50,000 - 60,000 species of molluscs found all over the world. There are 2,739 species found in Thailand, of which 1,658 are in the sea, 381 are in freshwater and 700 live on land. Why are there so many molluscs ????



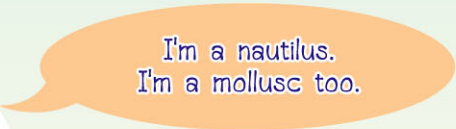
Molluscs are not only snails and bivalves you see in rivers, streams or on the ground, but they can also be found in coral reefs. Octopuses and Nautilus whose bodies look like a submarine are molluscs too.



Though we physically look like slugs, internally we are molluscs.



Some of us have a lot of tentacles.



I'm a nautilus.
I'm a mollusc too.



Do you know that I used to be a model for today's submarine?



The History of Molluscs

Molluscs have been living on earth for several million years. The oldest mollusc fossil aged about 600 million years.

Over past million years, mollusc shapes have a little changed. In recent years, Wingstrand and Lemche discovered a new mollusc species, named *Neopilina galathea*, in deep sea.

Hi, I'm *Neopilina galathea* or you can call me Neopilina. I was rediscovered living in 5,000 meter deep sea by Wingstrand and Lemche after everyone thought I was extinct.



All About Molluscs

Let's have fun with grouping molluscs. First of all, we have to know that molluscs are in Phylum Mollusca under which there are two subphyla.

1. Subphylum Amphineura is a group of molluscs that have eight separate shell plates of limestone covering their backs. They have no eyes and tentacles. What strange creatures are they? They are "chitons".

Hello there, I'm Chiton. I'm in class Polyplacophora. I have eight shell plates on my back to protect myself. You can find me in rocky tidal zones.



We love clinging to rocks on shores.



2. Subphylum Conchifera Molluscs in this group are lucky. They have hard shells to cover their soft bodies and are able to move well. They are divided into 5 classes.

2.1 Class Monoplacophora is a group of molluscs in ancient times. Nowadays they are rarely found. They do not live in Thai seas.

I'm a mollusc from ancient times.
Everyone believed I was extinct but I was
discovered again. I have a cap-like shell.
You can't find me
in Thailand.



2.2 Class Gastropoda is a group of molluscs with one or no shell.

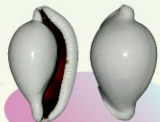
The right and left parts of their bodies are not the same in shape. They can be found in freshwater or seawater and from land to high mountains.

Hi, I'm *Haliotis asinina* or you can call me abalone. I have economic values so abalone farming is popular.

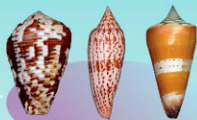


Hi, I'm *Cypraea tigris* or known as tiger cowry. You can find me in coral reefs.

Hi, I'm *Ovula ovum* or the common egg cowrie. The surface of my shell is smooth and white.



We're *Conus* spp. or cone snails. Although we are beautiful, we have dangerous toxins. Be careful when meet us.



*Filopaludina
martensi martensi*
Pond snails



Pila polita
Apple snails



Pomacea sp.
Golden applesnails

We are freshwater snails that have plain shells. We are edible.



Quantula wainkauffiana



Cryptozonia siamensis

Hi, I'm *Achatina fulica* or African Giant Snail. You can find me on trees or on the ground. Do you know I was not born in Thailand? Actually, I came from Africa !!!





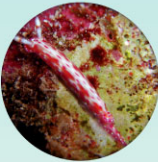
Glossodoris atromarginata
Black-margined Nudibranch



Tambja morosa
Morose Tambja



Flabellina rubrolineata
Flabellina rubrolineata



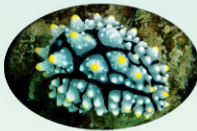
Hypselodoris maculosa
Spotted Hypselodoris



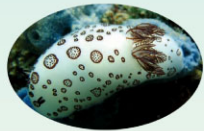
Philinopsis cyanea
Blue-lined Philinopsis



Hexabranthus sanguineus
Spanish Dancer



Phyllidia elegans
Elegant Phyllidia



Jorunna funebris
Black-spot Jorunna

We are nudibranchs. We have shells only in larva stage. We have no shell in adult form. We are colours of the sea. Most divers find us attractive because of our lovely bodies.

2.3 Class Bivalvia is a group of molluscs with two shells to protect themselves. They live in freshwater and the sea,



Anadara granosa
Ark Shells



Perna viridis
Donaxes

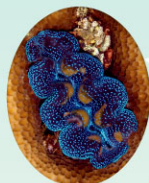


Donax faba
Sea Mussels



Paphia undulata
Undulating Venus

Hello, We are sea bivalves. We can be found for sale in market places as we have economic values. We are served as food for humans so you see how much important we are to you, don't you?



Tridacna crocea
Crocus Giant Clam
(Status : Vulnerable)



Tridacna gigas
Giant Clam
(Status : Extinct)



Tridacna maxima
Elongate Giant Clam
(Status : Endangered)



Tridacna squamosa
Fluted Giant Clam
(Status : Endangered)

We are the Gang of Giant Clams who are recognized as beauty of the seas. Some kinds in our gang have conservation status. Our population declines dramatically, therefore, aquaculture is needed and released us to the sea annually to increase our population.



*Scabies
crispata*
Freshwater
mussels



*Cristaria
plicata*
Freshwater mussels



*Unioandra
contradens*

About us: You can find us in freshwater. Although we are not so beautiful as our friends in the sea, we are used to decorate furniture or make jewellery because our shells are glittering.

2.4 Class Scaphopoda is a group of molluscs whose shells look like tiny tusks so they are called "tusk shells"

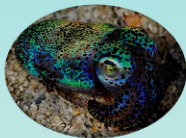


Is my shape
similar to a tusk?

Hello, I'm Tusk Shells.
My shape is tusk-like. You can
find me in the sea. Sometimes
you can find me at a depth of
4,000 meters.



2.5 Class Cephalopoda includes cuttlefishes and nautilus. They move quickly. Tentacles on their heads were adapted from their primitive feet. They are found only in the sea.



*Euprymna
berryi*



*Sepia
pharaonis*



Hapalochlaena sp.

You may find me beautiful but I'm toxic. Be careful when you meet us.

About us: We are molluscs too, though we look different from other of molluscs. We, in fact, have shells but they were reduced. Moreover, we have got a set of tentacles which were modified from our feet. We also have ink and expel it to confuse predators.



Hello there, I'm Nautilus. My Thai name is Hoy Nguang Chang. My key characteristic is a submarine-like shell. I'm proud of myself for being a model for submarine development.



Dos and Don'ts

Dos

- 🐚 Protect the environment from degradation to be habitats and breeding sites of molluscs.
- 🐚 Provide aquaculture of molluscs and release them to nature as some kinds of molluscs are rapidly decreasing in numbers.

Don'ts

- 🐚 Collect any shells.
- 🐚 Drop anchors on coral reefs because they may destroy habitats of some molluscs.
- 🐚 Touch some kinds of molluscs such as cone shells as they are seriously toxic.
- 🐚 Buy products that use shells as raw material.

More information is available at

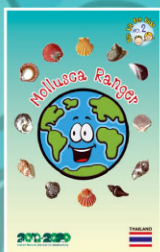
- 🐚 Thon Thamrongnawasawat, Teerapong Duangdee, and Narongpon Sittithaweeapat. 2008, A guide to sea shells in the Andaman Sea. Agricultural Research Development Agency.
- 🐚 Aurapa Nagachinda, Montira Piamtipmanat, Chutamas Chiwalak, Visakha Puncanok Jutamas Jivaluk, Wisakar Poonyakanok, and Jintana Totanapoca. Use of freshwater molluscs in Thailand. Department of Fisheries. Ministry of Agriculture and Cooperatives
- 🐚 [Http://chm-thai.onep.go.th](http://chm-thai.onep.go.th)

Bio Kit for Kids

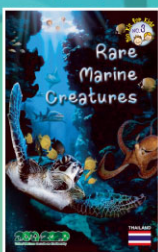
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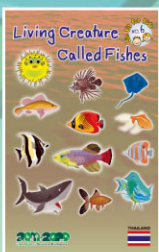
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No. 5



No. 6



No. 7



Biological Diversity Division
Office of Natural Resources and Environmental
Policy and Planning
Ministry of Natural Resources and Environment
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