# Classifying Animals

Year 6 week beginning 15/6/20

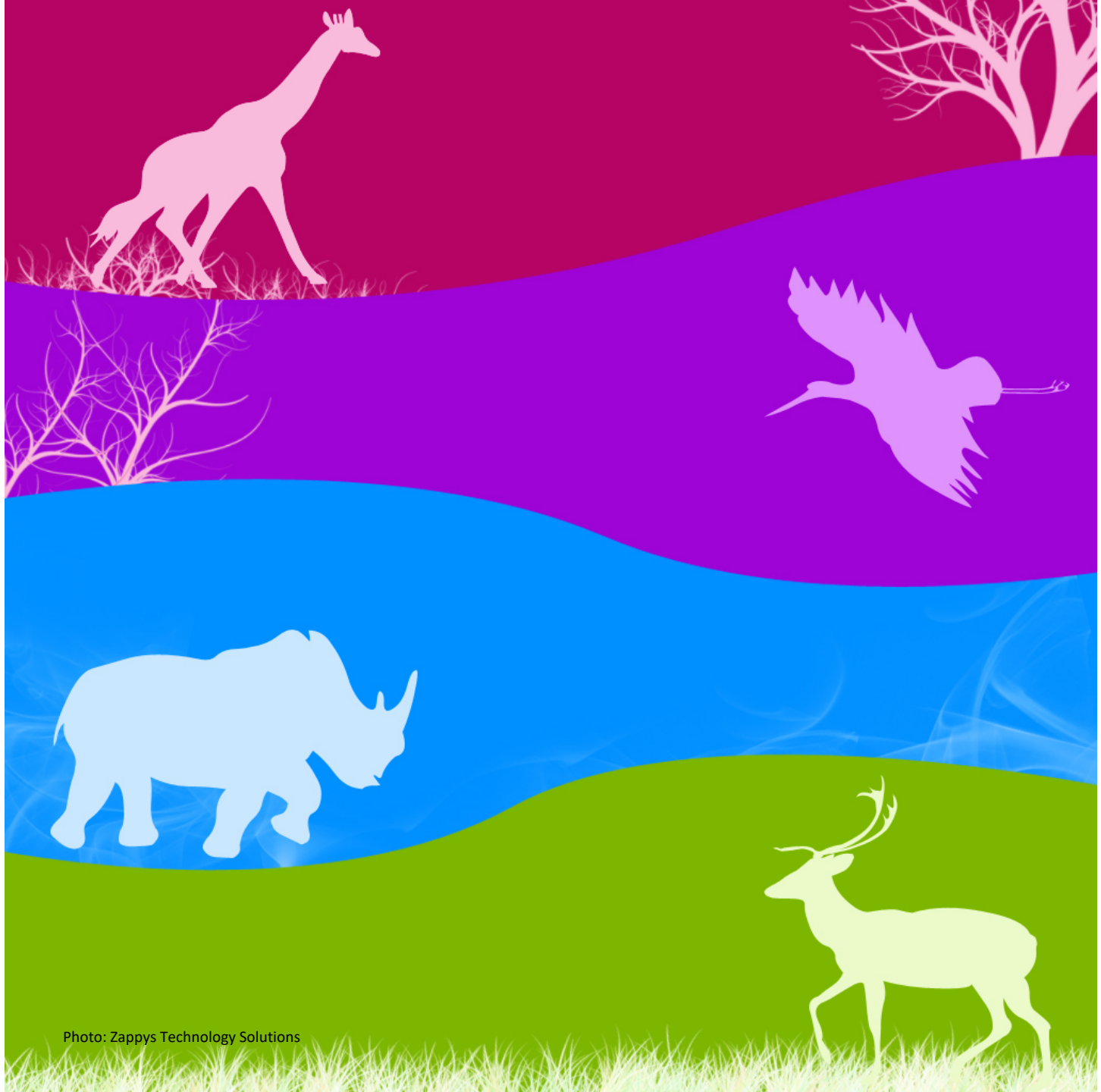


Photo: Zappys Technology Solutions

Scientists estimate that Planet Earth is home to 8.7 million species.

Classification makes sense of this huge diversity.

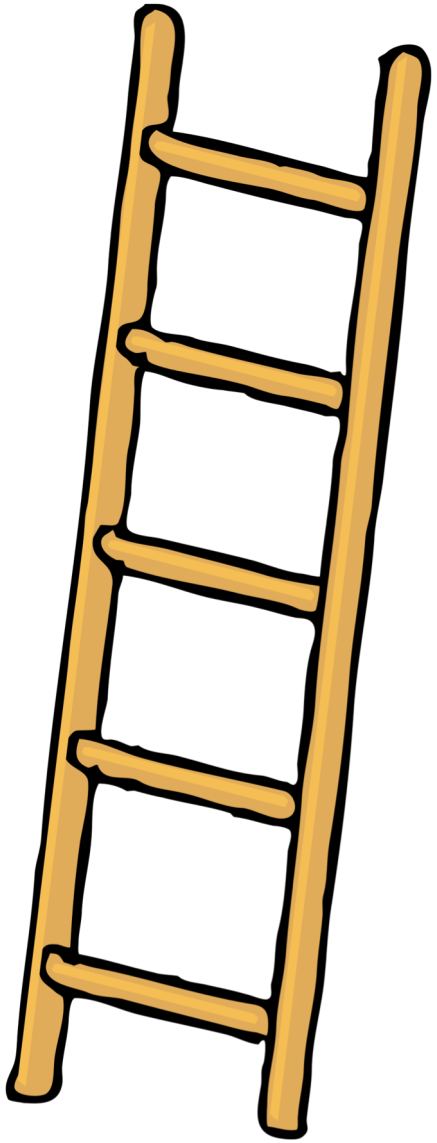
# Aristotle 384BC – 322BC

Photo: Elizabethe

Aristotle was the first person to try and classify living things into groups.

*"In all things of nature there is something of the marvellous"*

# Aristotle's Ladder of Life



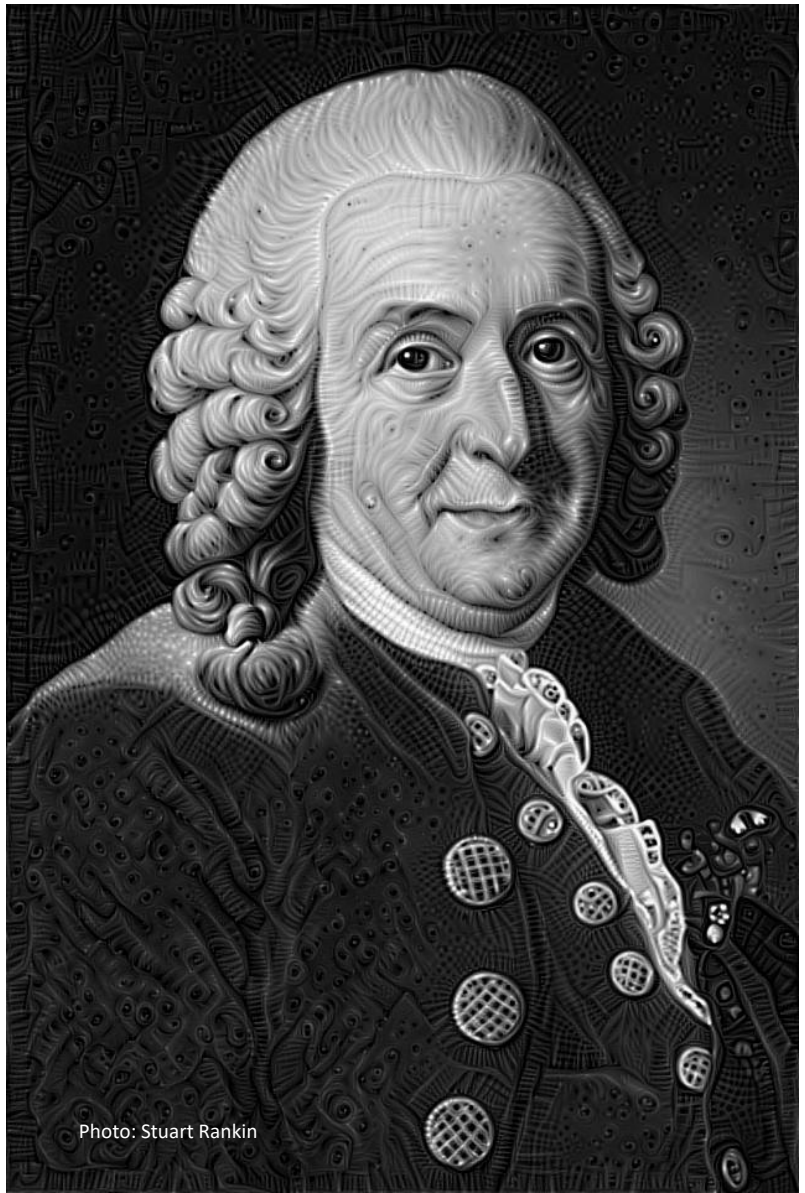
**Human Beings**
Can think and be creative

**Animals**
Can move around to search for food and escape predators
Sensitive to their surroundings

**Plants**
Usually green and stationary
Can grow and reproduce

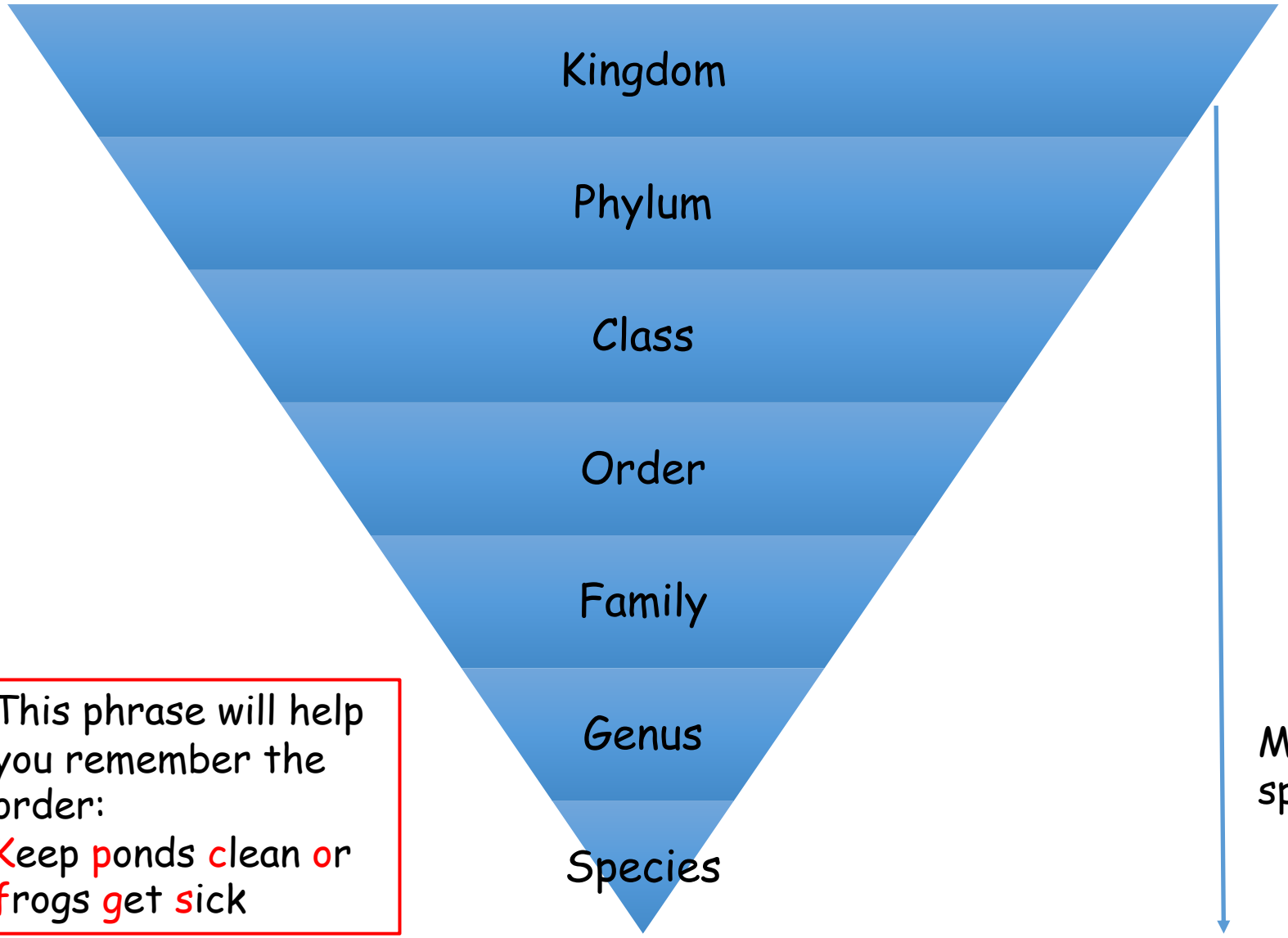
**Non-living Things**
e.g. rocks

# Carolus Linnaeus 1707 - 1778



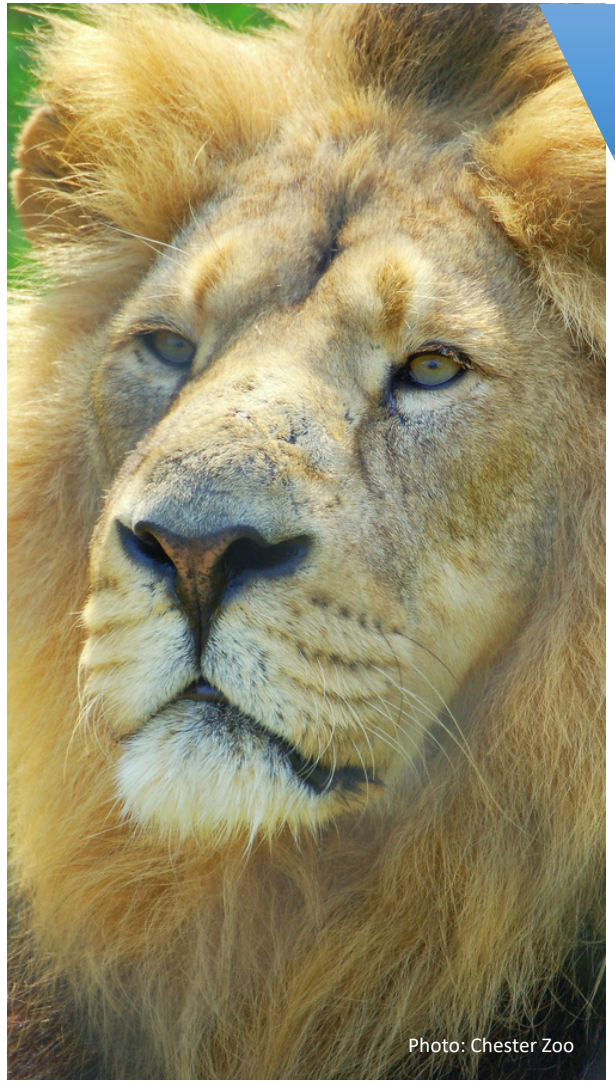

Linnaeus made it his life's work to develop a way to classify and name all life on Earth

# The Seven Levels of Linnaeus' System




This phrase will help you remember the order:
Keep ponds clean or frogs get sick

# *Panthera leo* (lion)




Kingdom:
**Animalia**

Phylum:
**Chordata**
- Backbone

Class:
**Mammalia**
- Hair/fur, live young etc

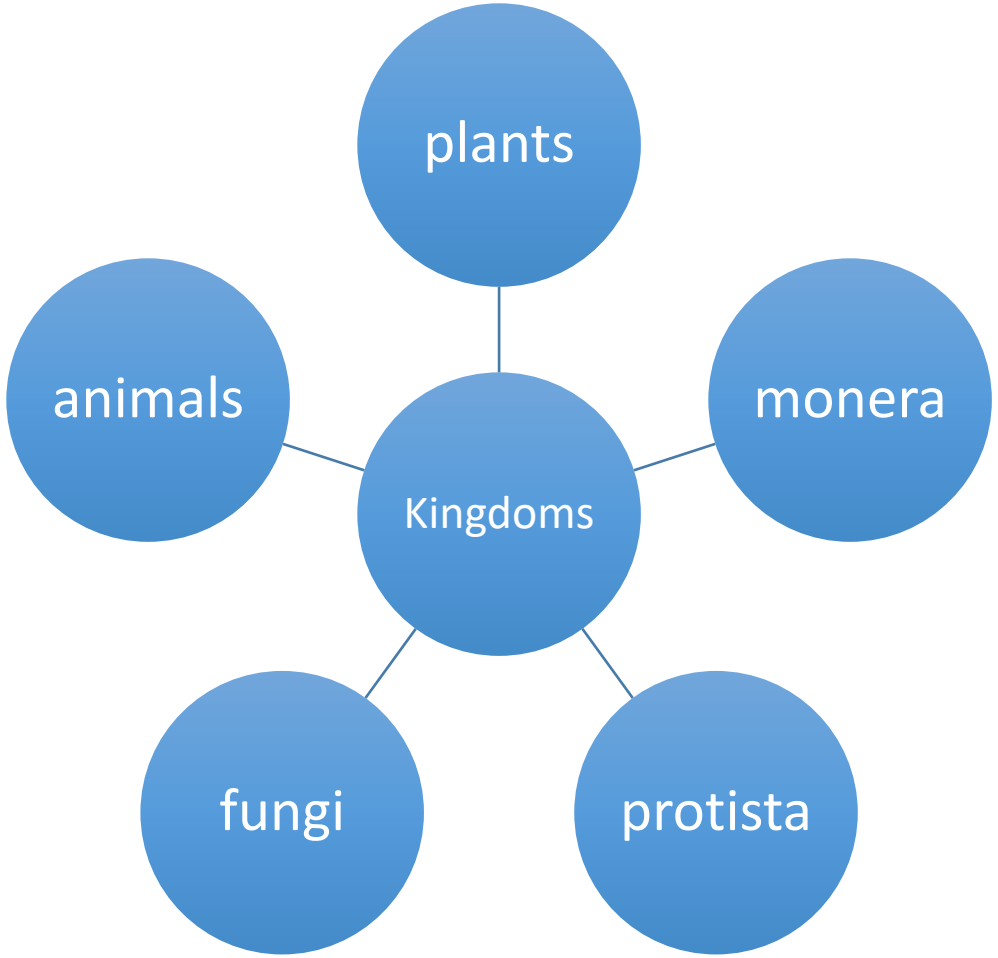
Order:
**Carnivora**
- Meat eating

Family:
**Felidae**
- Retractable claws

Genus:
**Panthera**
- Roars

Species
**Leo**

# The Five Kingdoms



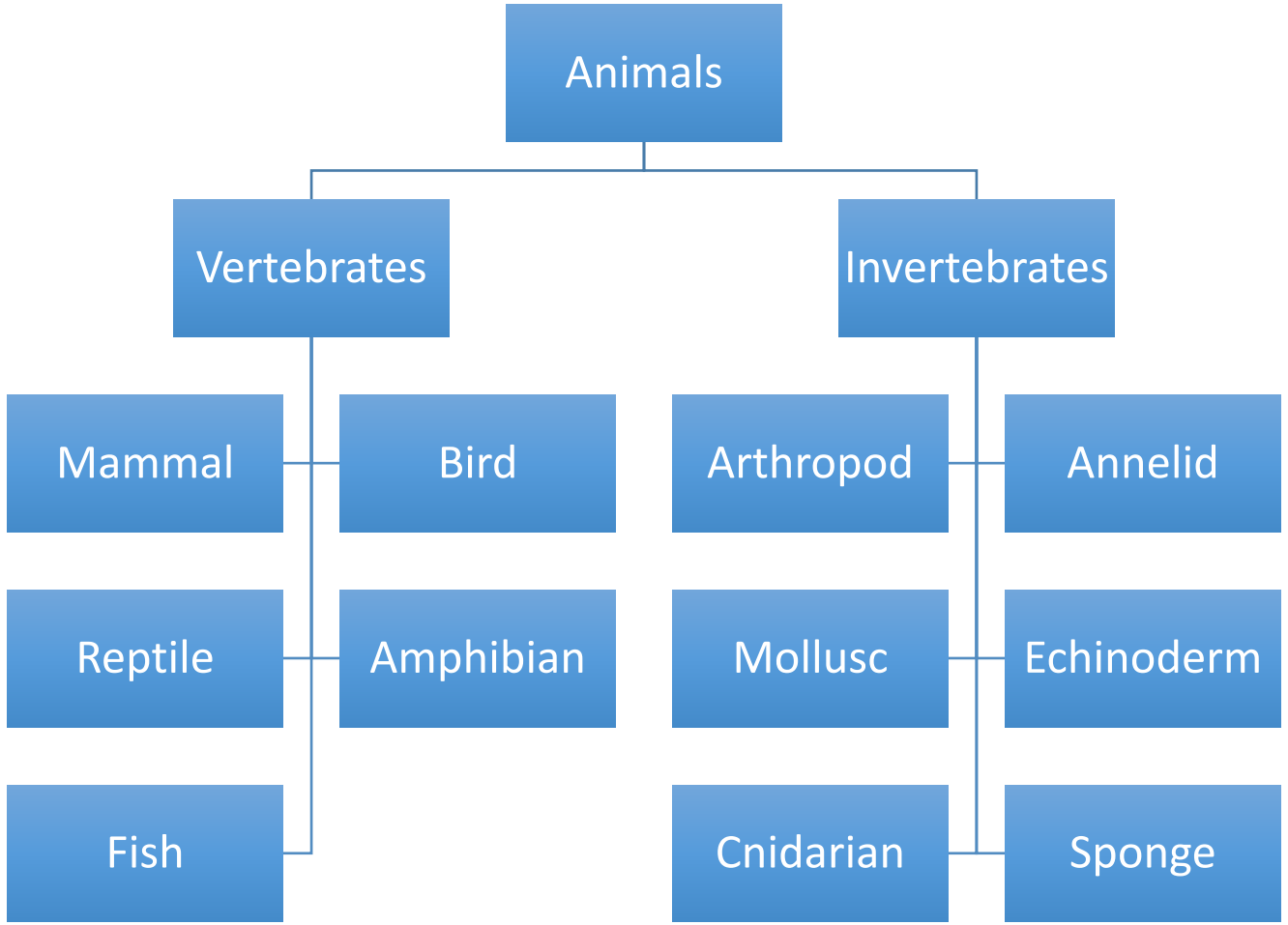

The first big division of living things is to put them into one of the five kingdoms.


Photo: Josep Ramis

# Kingdom Animalia

- Includes all multi-cellullar animals
- Cannot make their own food
- Around 1,500,000 species – more than in all the other kingdoms combined

# How Can We Group Animals?



# VERTEBRATES

Animals can be divided into 2 groups based on the presence or absence of a backbone.

Vertebrates are animals **with** a backbone


**Mammals**


**Birds**

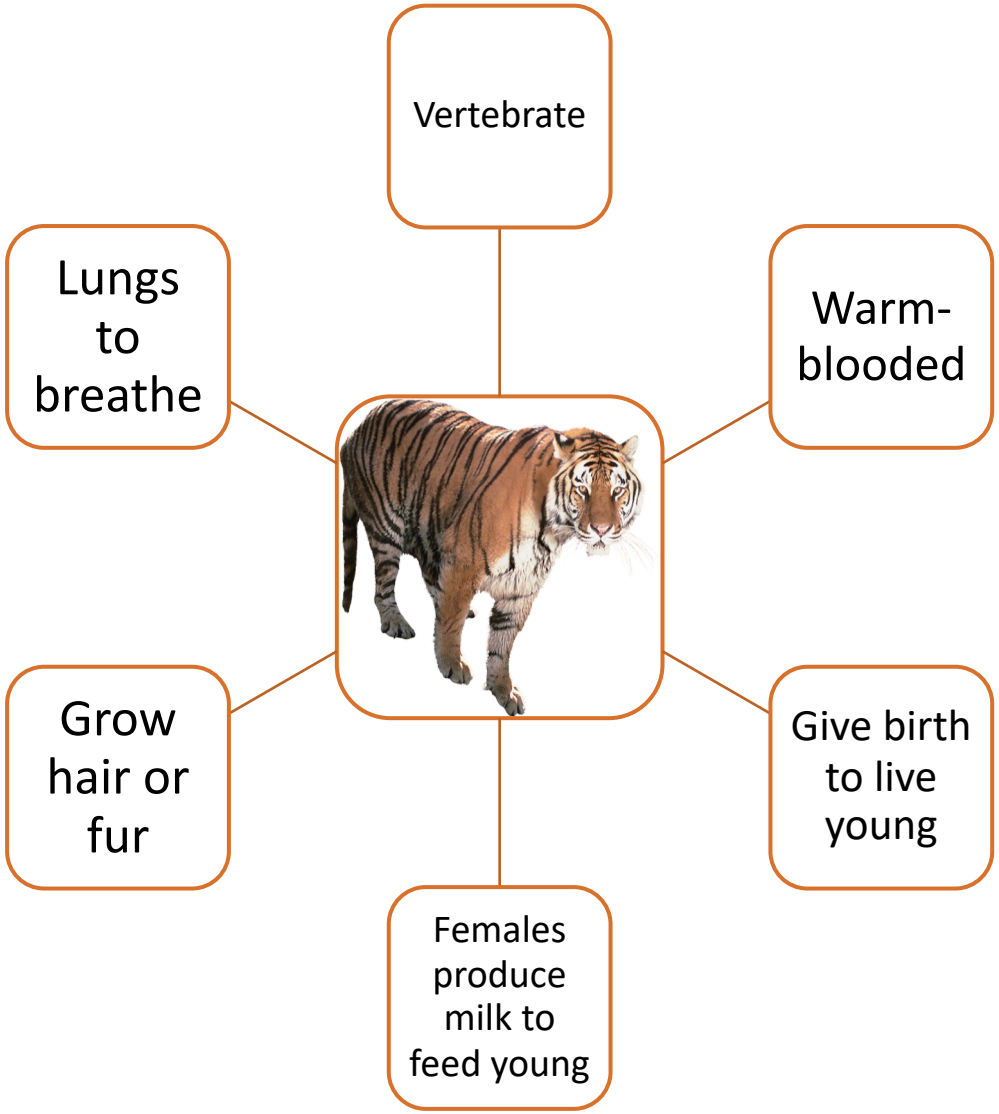

**Reptiles**


**Amphibians**


**Fish**

Vertebrates can be further divided into 5 groups. Animals in each group share certain features.

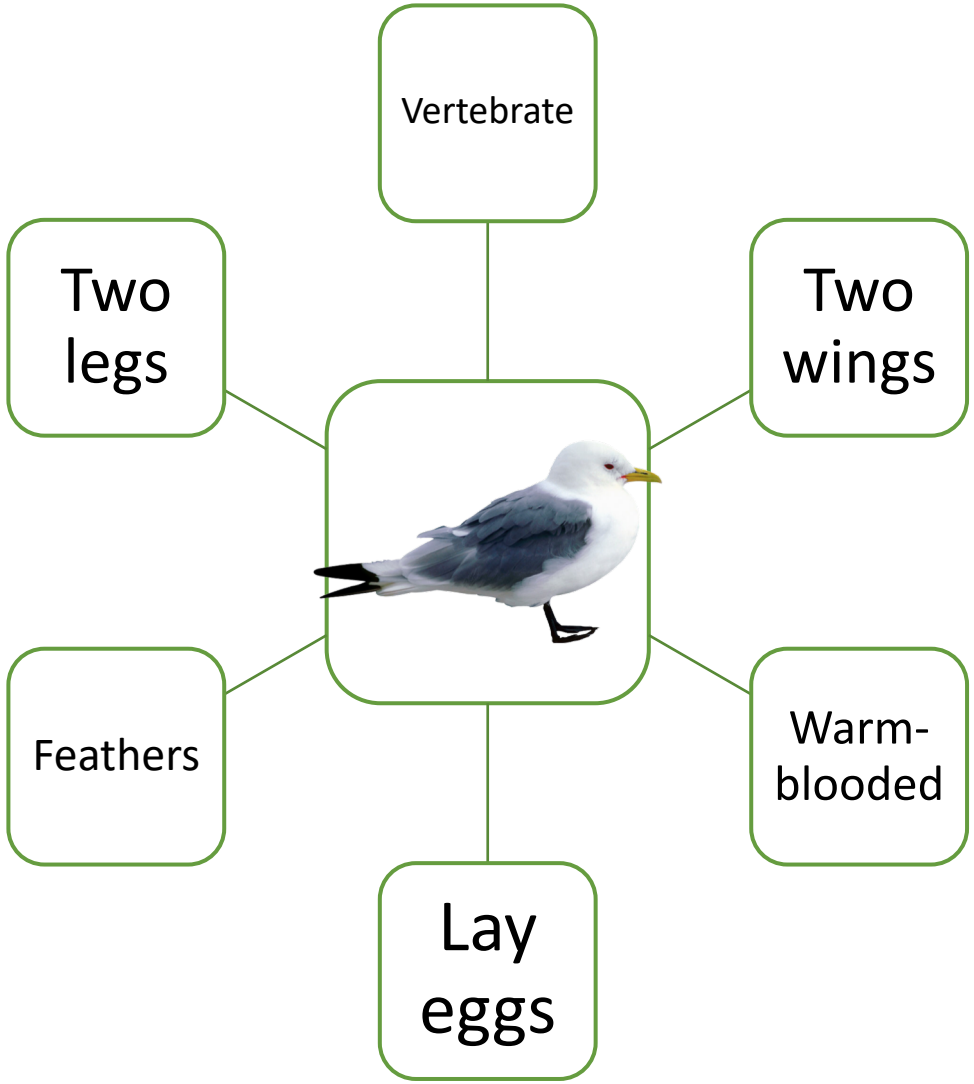
# Mammals
# (Phylum *Chordata*, Class *mammalia*)




- About 5,000 species
- Found on land, in oceans and freshwater

mouse, lion, monkey, whale, human

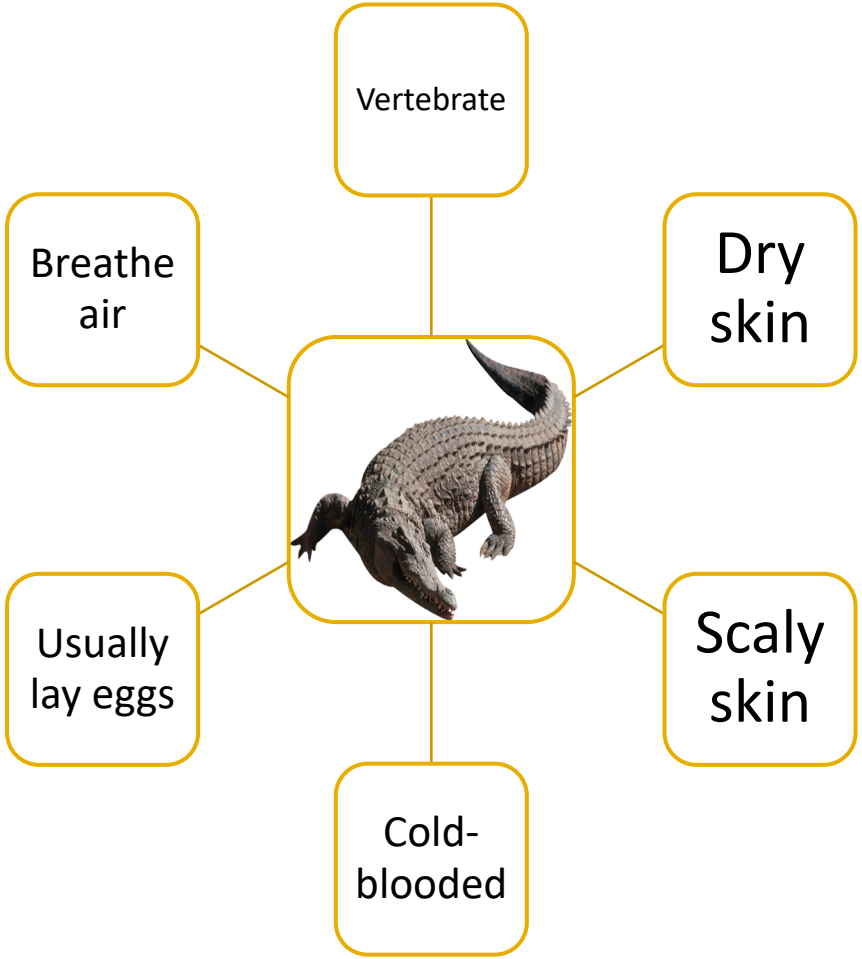
# Birds
# (Phylum *Chordata*, Class *aves*)




- About 10,000 species
- Found flying in skies, swimming in seas, wading in lakes & rivers

parrot, pigeon, penguin

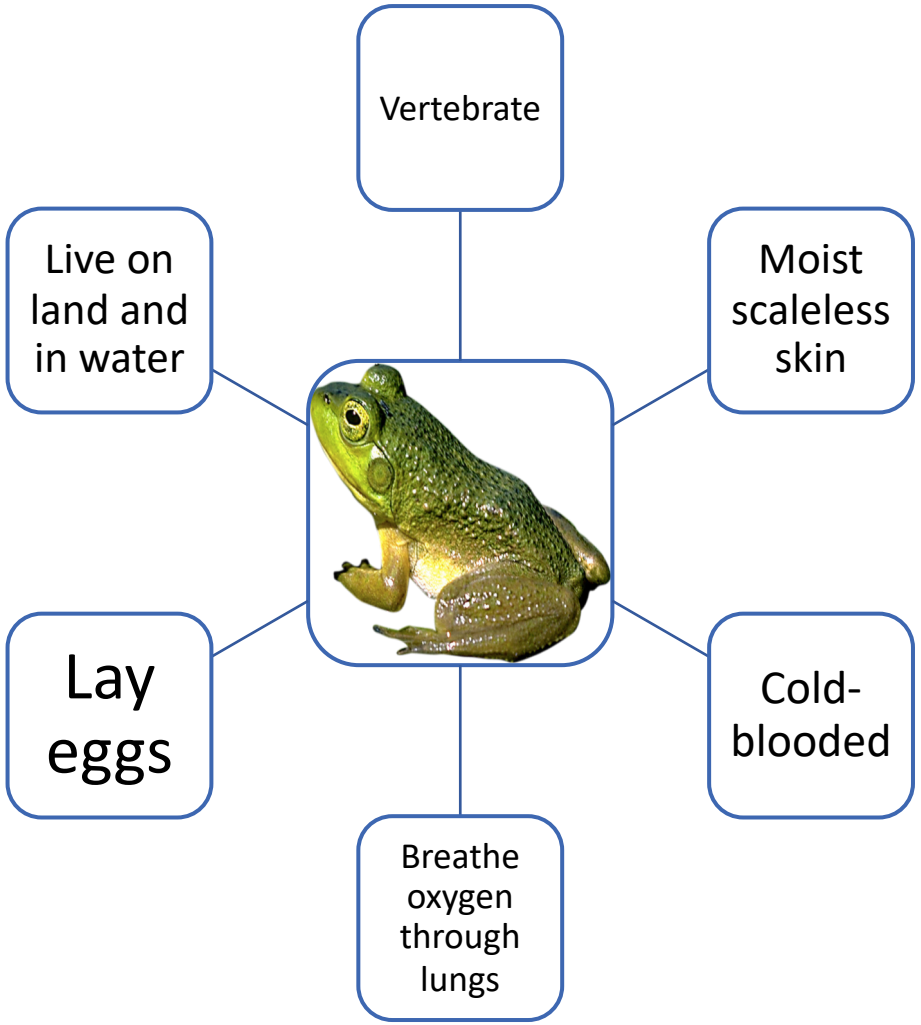
# Reptiles
# (Phylum *Chordata*, Class *reptilia*)




- Over 5,000 species (most of these are snakes and lizards)
- Found on land, in oceans & freshwater

crocodile, snake, lizard, turtle

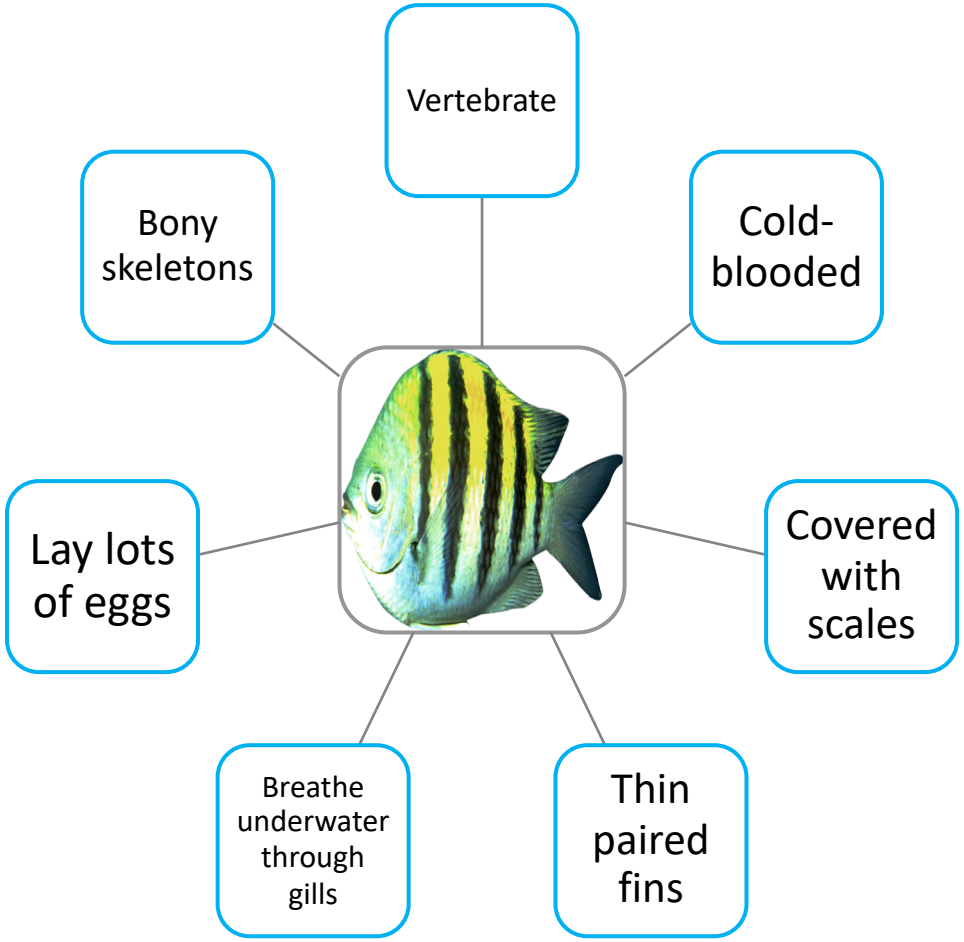
# Amphibians (Phylum *Chordata*, Class *Lissamphibia*)




- About 5,000 species
- Found on land and in freshwater

frog, toad, newt, salamander

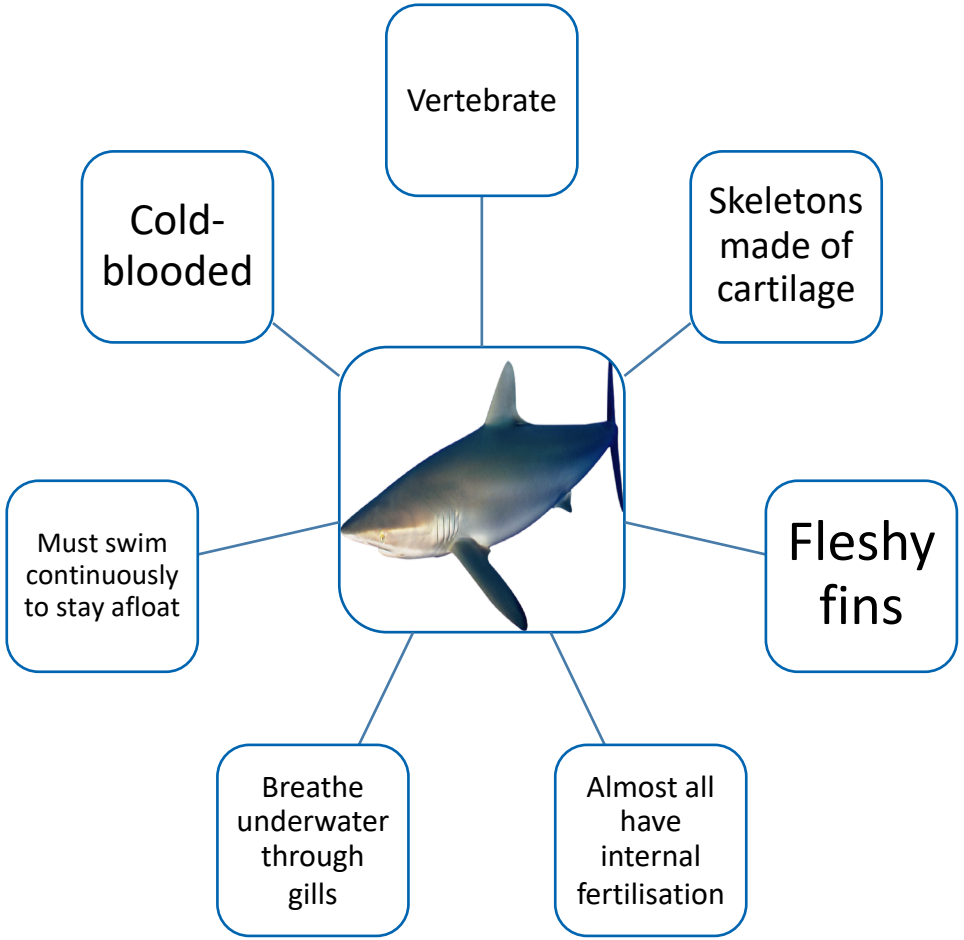
# Bony Fish
# (Phylum *Chordata*, Class *Osteichthyes*)




- About 25,000 species
- Make up most of the fish that swim in seas, rivers & lakes

salmon, tuna, goldfish, seahorse

# Cartilaginous Fish (Phylum *Chordata*, Class *Chondrichthyes*)




- About 850 species
- Found mainly in the sea

shark, ray, skate, sawfish, guitarfish, ratfish

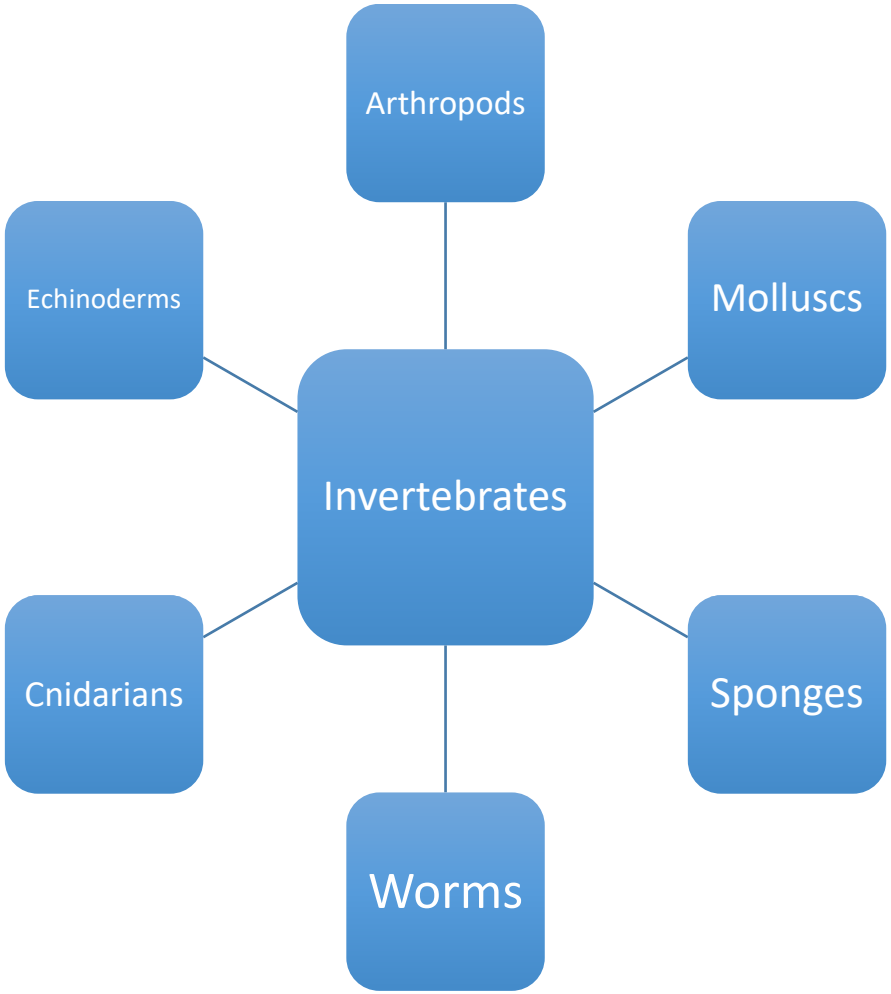
# Platypus: Mammal or Bird?


- Has brown fur and a tail like a beaver
- Has a bill and lays eggs like a duck

What is it?

# INVERTEBRATES

About 97% of animals are invertebrates.
There are about 30 million species in the world!



# Arthropods (Phylum *Arthropoda*)

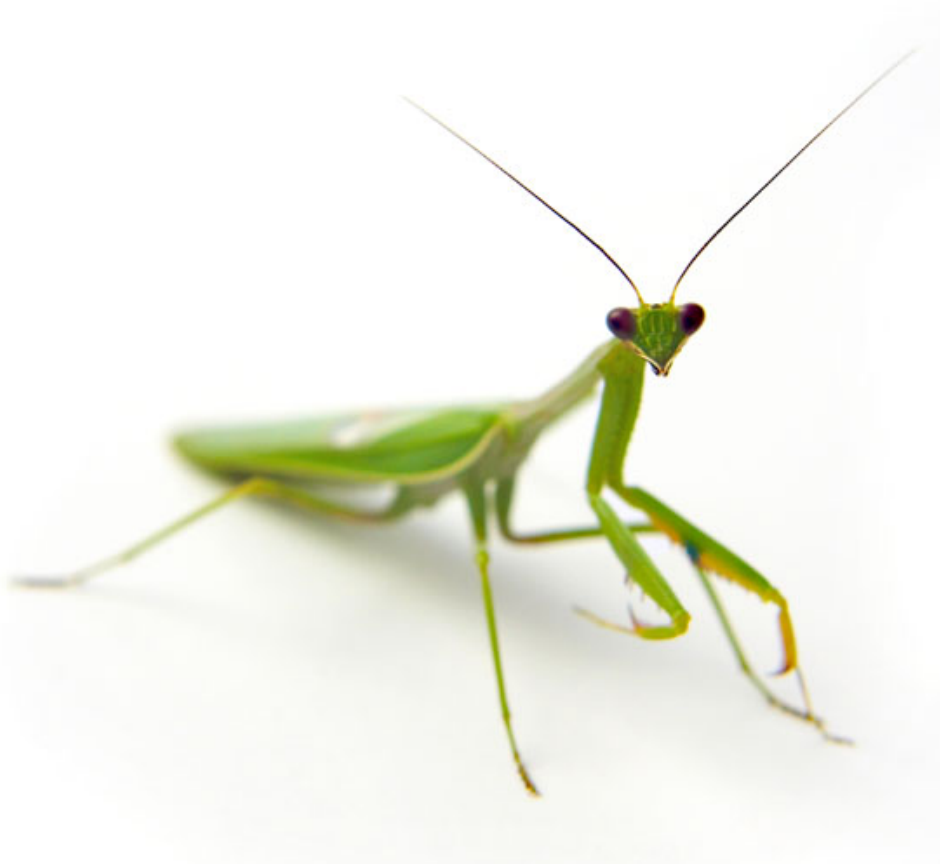
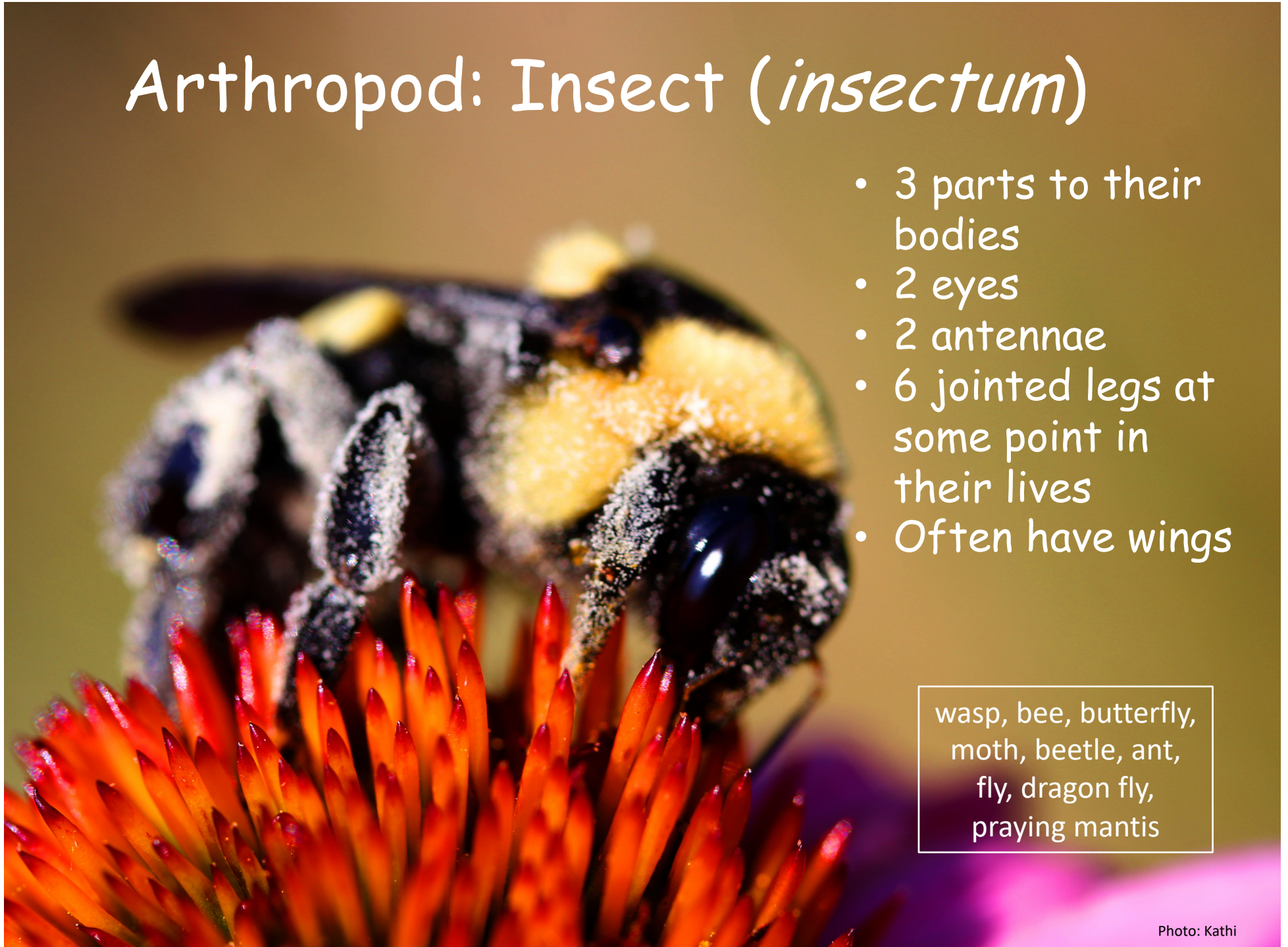


Photo: Federico Rodriguez

- Over 1,000,000 species
- Found on land, in oceans & freshwater
- Invertebrates with exoskeletons, segmented bodies & jointed limbs

# Arthropod: Insect (*insectum*)

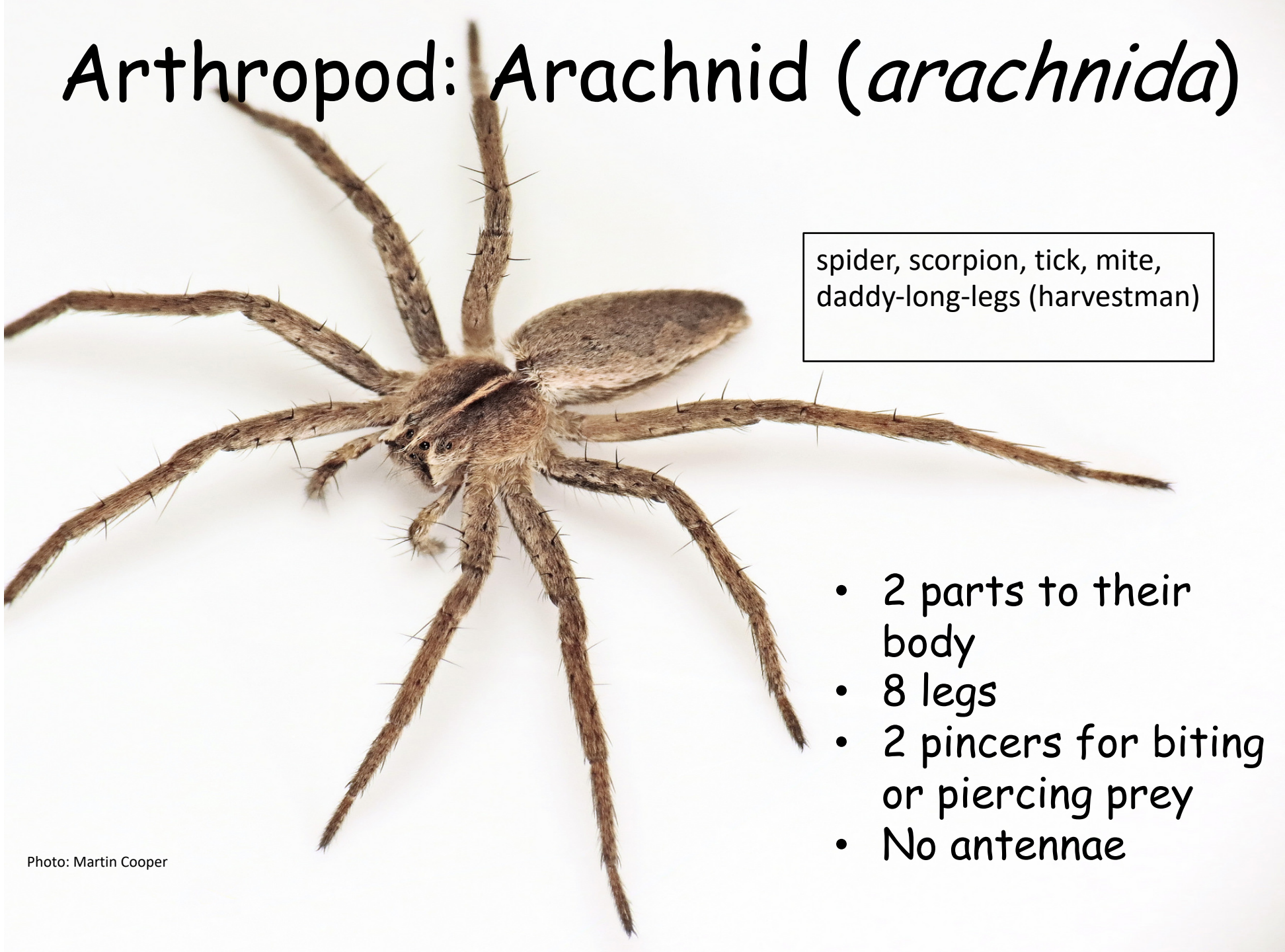


- 3 parts to their bodies
- 2 eyes
- 2 antennae
- 6 jointed legs at some point in their lives
- Often have wings

wasp, bee, butterfly, moth, beetle, ant, fly, dragon fly, praying mantis

Photo: Kathi

# Arthropod: Arachnid (*arachnida*)



spider, scorpion, tick, mite, daddy-long-legs (harvestman)

- 2 parts to their body
- 8 legs
- 2 pincers for biting or piercing prey
- No antennae

Photo: Martin Cooper

# Arthropod: Myriapod (*myriapoda*)

- About 15,000 species
- Most have many pairs of legs
- 2 body sections (head and trunk)
- One pair of antennae on head

Photo: Colin Avison

Centipede, millipede

# Arthropod: Crustacean (*crustacea*)

- A hard outer shell or case
- 10-14 legs
- 2 pairs of antennae

woodlouse, crab, lobster, barnacle, shrimp

Photo: sankax

# Worms

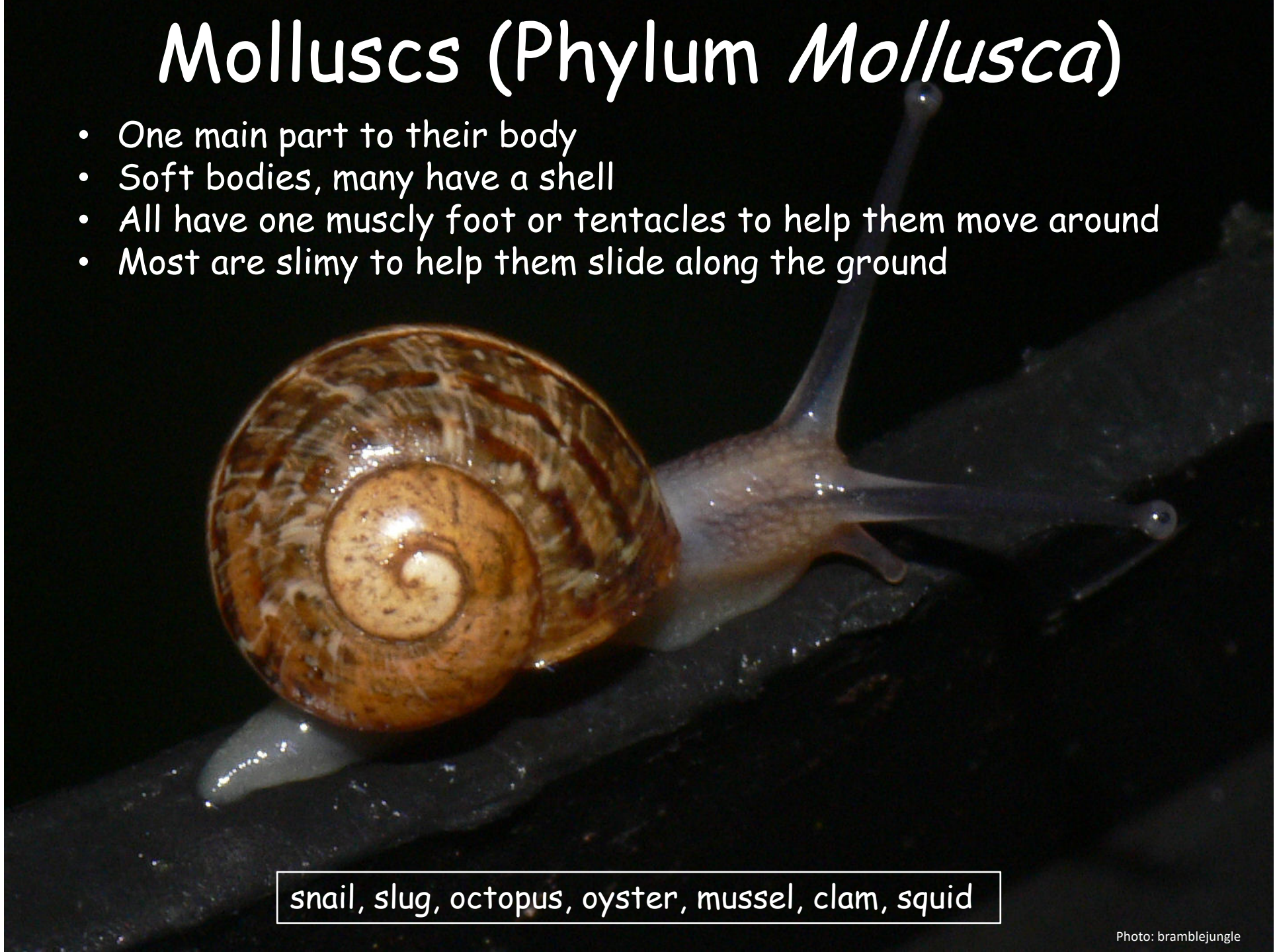
## (Phyla *Annelida, Nematoda & Platyhelminthes*)

- No true limbs
- Body shapes vary but the two sides of their bodies are always symmetrical
- Some live inside other animals, others in water or on land


Earth worm, flat worm, round worm, leech

# Molluscs (Phylum *Mollusca*)

- One main part to their body
- Soft bodies, many have a shell
- All have one muscly foot or tentacles to help them move around
- Most are slimy to help them slide along the ground



snail, slug, octopus, oyster, mussel, clam, squid

Photo: bramblejungle

# Echinoderms (Phylum: *Echinodermata*)

Photo: Selbe Lynn

- Found only in the ocean
- Most have arms or spines that radiate from the centre of their body

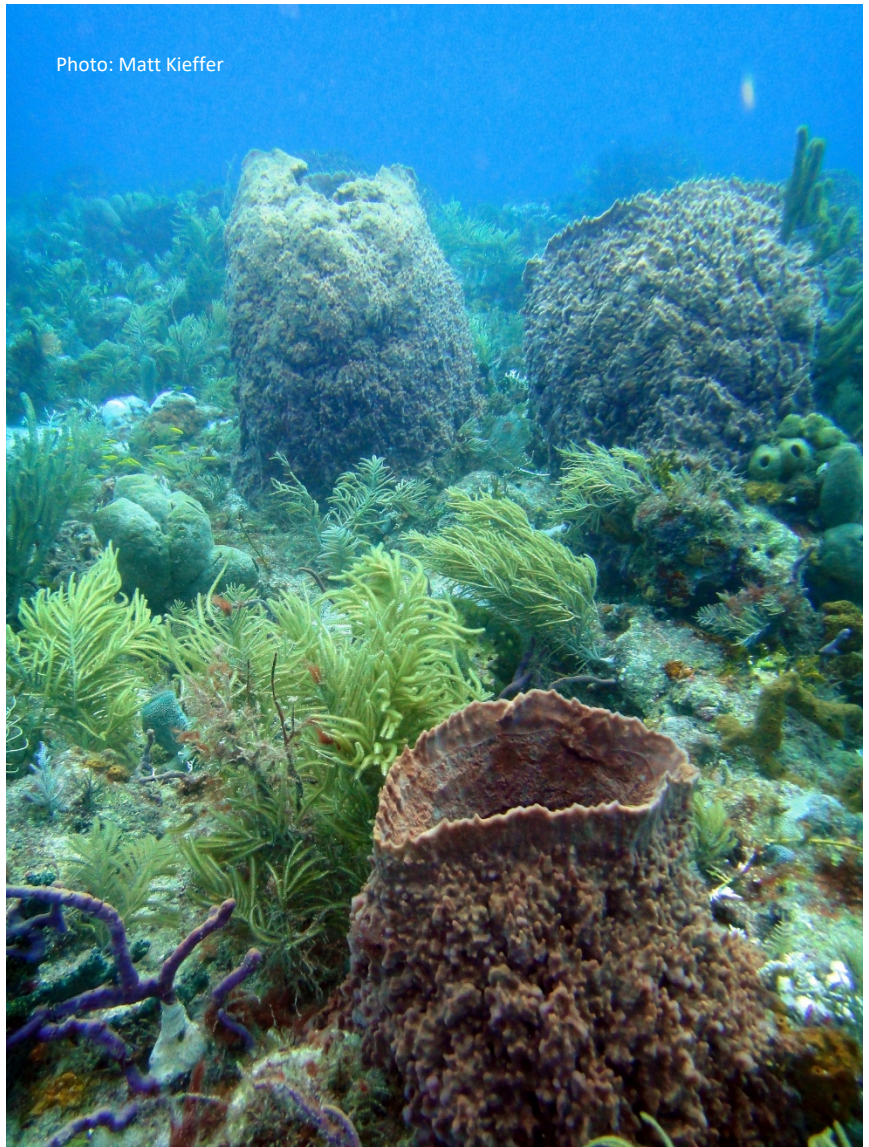
star fish, sea urchin, sea cucumber

# Cnidarians (Phylum *Cnidaria*)


- Found in oceans and freshwater
- Most have a ring of tentacles around mouth – stinging cells on these catch prey

jellyfish, coral, sea anemone

# Sponges (Phylum *Porifera*)




- Usually fix themselves to rocks on sea bed
- May look like seaweed or other plants, but are definitely animals as they do not make their own food.