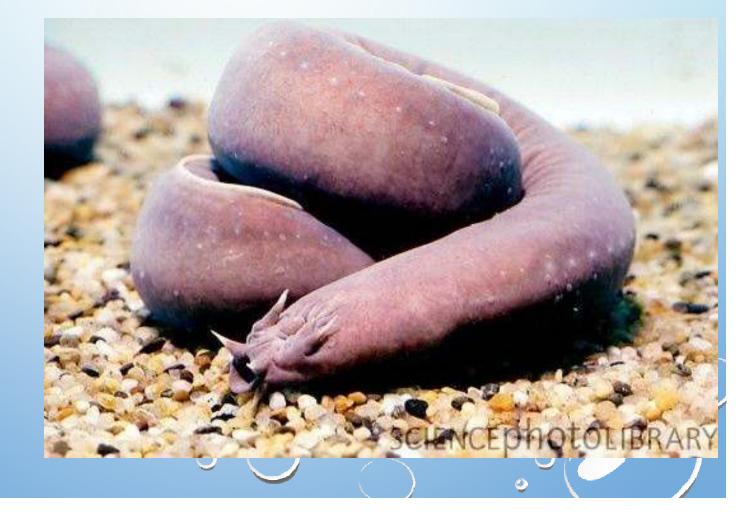
# FISH GROUPS

SUBPHYLUM VERTEBRATA

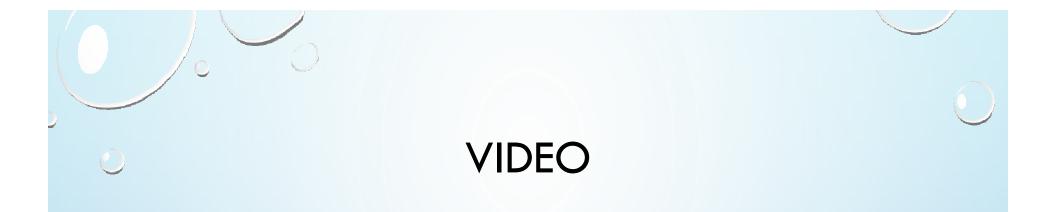
### SUBPHYLUM HYPEROTRETI

• HAGFISH



#### SUBPHYLUM HYPEROTRETI

- HAGFISH
- NO EYES OR JAW
- TENTACLES SURROUND THE MOUTH
- EAT DEAD OR DYING FISH FROM THE INSIDE OUT
- NO VERTEBRAE- NOTOCHORD INSTEAD
- SECRETE MASSIVE AMOUNTS OF SLIME
- OPEN CIRCULATORY SYSTEM
- COLD WATER MARINE



• <u>HTTP://VIDEO.NATIONALGEOGRAPHIC.COM/VIDEO/NEWS/NEW-</u> ZEALAND-HAGFISH-SLIME-VIN?GC=%2FVIDEO%2FANIMALS%2FFISH



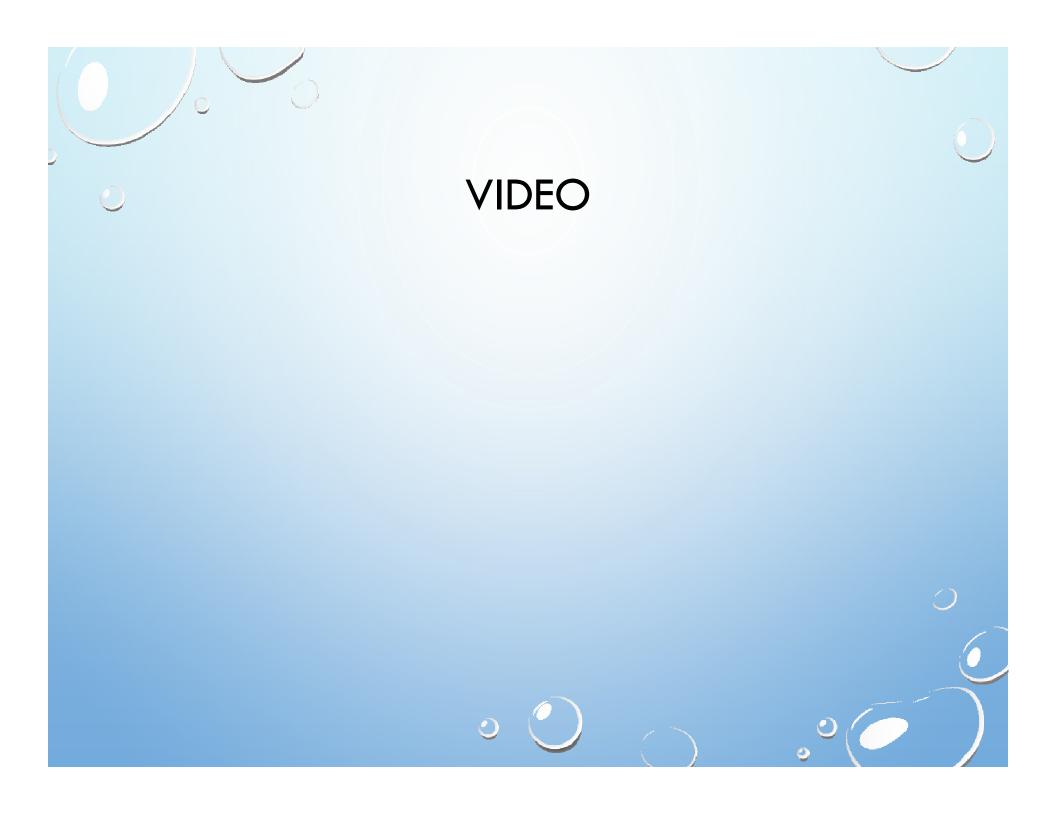
#### **CLASS CEPHALASPIDOMORPHI**

LAMPREY



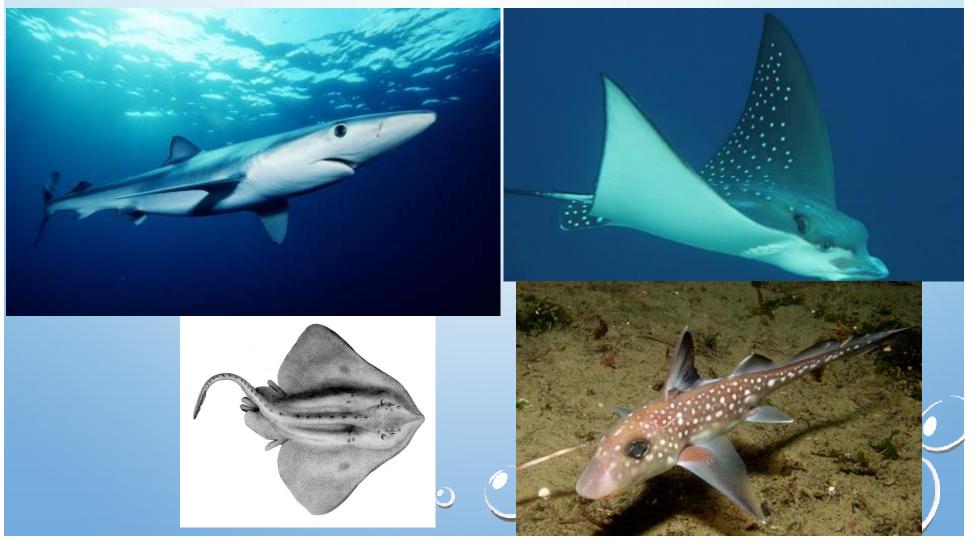
#### **CLASS CEPHALASPIDOMORPHI**

- LAMPREY
- NO JAW
- MARINE AND FRESHWATER
- LARVAE FILTER FEED
- ADULTS PREY AS PARASITES
- SUCKER—LIKE MOUTH, TONGUE USED TO RASP AWAY SCALES\
- EATS TISSUES AND BODY FLUIDS OF ITS HOST



# **CLASS CHONDRICHTHYES**

#### • SHARKS, SKATES, RAYS AND CHIMAERAS



### **CLASS CHONDRICHTHYES**

- SHARKS, SKATES, RAYS AND CHIMAERAS
- SKELETON MADE OF CARTILAGE
- TOUGH SANDPAPER-LIKE SCALES
- SHARKS- TEETH IN MULTIPLE ROWS- CONSISTENTLY REPLACED
- CARNIVORES, SCAVENGERS OR FILTER FEEDERS
- RAYS EAT BOTTOM DWELLING INVERTEBRATES
  - EXPANDED PECTORAL FINS AND VENOMOUS TAIL SPINE
- NO SWIM BLADDER
- APPEARED 375 MILL. YEARS AGO

#### MEGALODON

- TEETH ARE MODIFIED SCALES
- ROWS OF TEETH THAT ARE CONSTANTLY REPLACED
- 1-M TO 10 M
- GREAT WHITE AND MAKO AS BEST PREDATORS

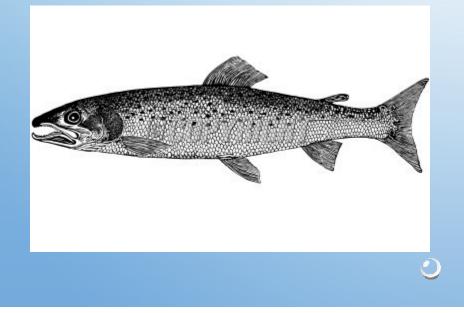


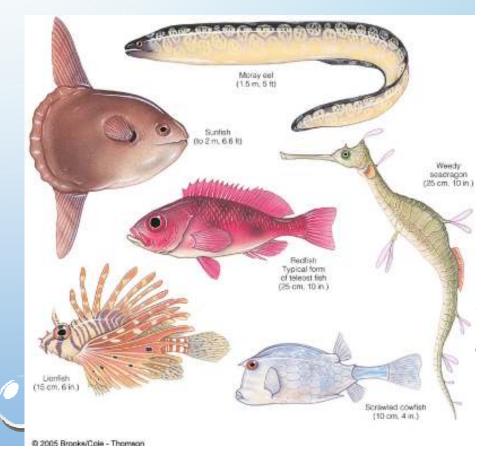
#### **CLASS OSTEICHTHYES**

- BONY FISH
  - RAY FINNED
  - LOBE FINNED
- SKELETON MADE OF BONES
- HAVE A SWIM BLADDER
  - SOME HAVE HAD THIS ADAPTED INTO A LUNG
- OPERCULUM
- APPEARED ABOUT 405 MILL. YR. AGO

# **CLASS OSTEICHTHYES**

- RAY FINNED
- MOST LIVING FISH
- FINS ARE MADE OF THIN SKIN
  AND THIN BONY SPINES

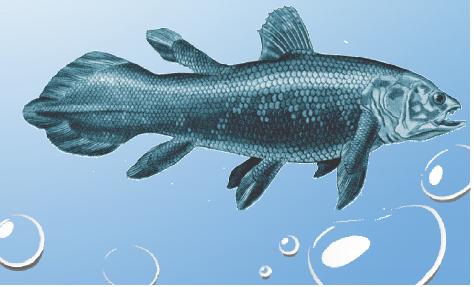




# **CLASS OSTEICHTHYES**

- LOBE FINNED
- ONLY 7 LIVING SPECIES
  - LUNG FISH
  - COELOCANTH
    - LIVING FOSSIL: APPEARED 70 MILLION YEARS AGO
- FINS HAVE FLESHY MUSCLES
- FIN BONES ARE SUBSTANTIAL AND
  OFTEN JOINTED
- FOUND IN AFRICA, SOUTH AMERICA AND AUSTRALIA





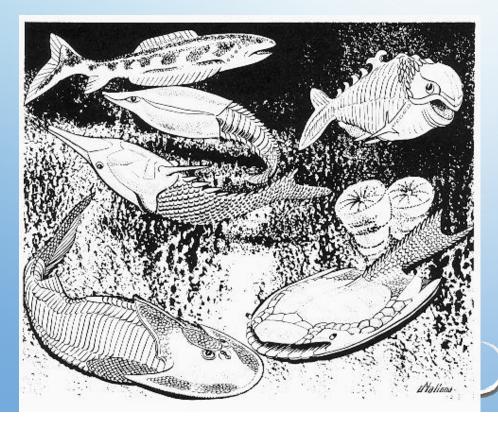


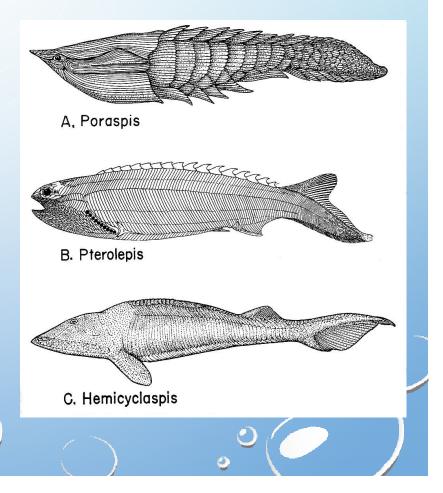


- FLOUNDER NAT GEO
- <u>HTTP://VIDEO.NATIONALGEOGRAPHIC.COM/VIDEO/TUNA\_EAT\_BAIT</u> <u>BALL?GC=%2FVIDEO%2FANIMALS%2FFISH</u> SCHOOLING
- UNDERWATER SURVIVAL TECHNIQUES
- SARGASSUM FISH

# **OSTRACODERMS-EXTINCT**

#### FISH OF THE DEVONIAN TIME PERIOD





# OSTRACODERMS- EXTINCT

- FISH OF THE DEVONIAN TIME PERIOD
- BONY ARMORED FISH
- BOTTOM DWELLERS
- NO JAW
- FILTER FEEDERS