

1 **Class Chondrichthyes**
Cartilaginous Fish
By Will Kelly

2 **Class Chondrichthyes**

- 1
 - composed of 600 species, divided in two subclasses: Elasmobranchii and Holocephali.
 - Elasmobranchii made up of most common cartilaginous fish: rays and sharks.

- 2
 - Elasmobranchii has 13 orders

- Hexanchiformes (cow sharks)
- Heterodontiformes (bullhead sharks)
- Lamniformes (mackerel sharks)
- Orectolobiformes (carpetsharks)
- Carcharhiniformes (ground sharks)
- Squaliformes (dogfish sharks)
- Pristiophoriformes (sawsharks)
- Squatiniformes (angel sharks)
- Rajiformes (skates)
- Pristiformes (saw fish)
- Rhinobatiformes (guitarfish)
- Torpediniformes (electric rays)
- Myliobatiformes (stingrays, eagle rays)

3 **Hexanchiformes-**
cow sharks

- only one dorsal fin
- either six or seven gill slits,
- no nictitating membrane in the eyes.
- Torpedo shaped
- There are only four extant species left

4 **Heterodontiformes-**
bullhead sharks

- snout pig-like
- five pairs of gill slits
- spine on the front of both dorsal fins
- presence of an anal fin (distinguishes them from the spiny dogfishes, order Squaliformes)
- bottom-dwellers in shallow coastal waters
- 10 species

5 **Lamniformes-**
mackerel sharks

- two dorsal fins
- anal fin present
- lamnoid dental pattern- large anterior teeth, slightly to much smaller intermediate teeth, large lateral teeth, followed by much smaller posterior teeth

6 **Orectolobiformes-**
carpet sharks

- two, spineless dorsal fins
- short, transverse mouth that is well anterior to the eyes

- specialized nostrils, with prominent barbels and nasoral grooves connecting the nostrils to the mouth
- 34 species

7  **Carcharhiniformes-
ground sharks**

- Over 270 species
- Includes blue shark, cat sharks, swell sharks, sandbar shark, and hammerhead shark
- presence of a nictitating membrane over the eye, two dorsal fins, an anal fin, and five gill slits

8  **Squaliformes-
dogfish sharks**

- many species are bioluminescent to some degree
- most species strongly bottom oriented, many mesopelagic dogfish take nightly migrations
- 80 species

9  **Pristiophoriformes-
saw sharks**

- snout flattened and blade-like embedded teeth that usually alternate between long and short
- long nasal barbels on ventral surface of the rostral saw
- Most of species fished commercially, their meat is considered to be excellent
- 8 species

10  **Squatiniformes-
angel sharks**

- flattened bodies and broad pectoral fins
- strong resemblance to skates and rays
- occur worldwide in temperate and tropical seas

11  **Rajiformes-
skates**

- snout pointed
- Tail long and skinny
- weak electrogenic organs at base of tail stalk
- a few species live in shallow waters close to shore, but most live in deep water, on soft bottoms along continental margins

12  **Pristiformes-
saw fishes**

- snout saw like with equal sized embedded teeth along snout
- body shark-like
- Sawfishes nocturnal, sleeping during the day hunting at night

13  **Rhinobatiformes-**

guitar fish

- known for an elongated body with flattened head and tail
- small raylike wings
- can weigh 500 pounds and grow to ten feet in length
- 50 species

14 **Torpediniformes- electric rays**

- rounded snout and pectoral disc
- large, kidney-shaped electrogenic organs at base of pectoral fins
- body thick and flabby, with soft, loose skin
- eyes small to obsolete (four species are blind)

15 **Myliobatiformes- sting rays, eagle rays**

- pectoral disc rhomboid elaborated into wings
- tail solid to very slender
- most species have one or more saw-edged spines or stings on the dorsal surface of the tail, armed with poisonous tissue and used as a defensive weapon

16 **Works Cited**

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