

## *Ginglymostoma cirratum* (Nurse Shark)

Family: Ginglymostomatidae (Nurse Sharks)

Order: Orectolobiformes (Carpet Sharks)

Class: Chondrichthyes (Cartilaginous Fish)



**Fig. 1.** Nurse shark, *Ginglymostoma cirratum*.

[[http://animaliacs.com/zoo/animal/?animal\\_id=12](http://animaliacs.com/zoo/animal/?animal_id=12), downloaded 09<sup>th</sup> October 2011]

**TRAITS.** The nurse shark is a nocturnal creature which can be found in warm tropical waters. They can grow to a length of up to 12 feet with the females of the species ranging in the upper size limits and the males ranging in the lower size limits (Stephens, 2008). They are usually found along the sea floor and can be easily identified by the two fleshy projections from the head of the shark known as barbels which can be clearly seen in Figure 2. Nurse sharks can range in colour from yellowish to dark brown and can weigh between 75 to 105 kg (Bres, 1993). Juveniles of the species usually have small dark spots on the upper regions of their body, surrounded by lighter pigments. There are nasoral grooves but perinasal grooves are absent (Guarracino, 2010). They have two rounded dorsal fins and one anal fin. The initial dorsal fin begins at the point just above the area where the pelvic fin begins and is much larger in size than the second. More than a quarter of the animal's total length is represented by the caudal fin (Guarracino, 2010). Nurse sharks continuously pump water over their gills when not in motion (Edmonds, 2011). This action is seen as the mouth of the shark continuously opens and closes.

Like other sharks, the skeleton of the nurse shark is entirely made up of cartilage (Edmonds, 2011). Nurse sharks have adapted teeth which have evolved to suit its specific diet. The teeth in the mouth of the shark are not overlapped as can be seen in Figure 3. This lack of overlapping areas means that the shark's tooth can be replaced quickly and is not dependant on other teeth.

**DIET, DISTRIBUTION AND HABITAT.** Nurse sharks are given the name shallow sharks or bottom dwelling sharks because of the niche which they occupy. They are usually found in warm waters in the West Indies at depths of up to one meter or less but do not generally venture into waters deeper than 200 feet (Wildga, 1999). They occupy various territories on a global scale. They are found in the north Atlantic oceans as far as the USA and also in the south Atlantic oceans. They are also found in the warm waters of the Pacific Ocean. Nurse sharks are strictly carnivorous animals and has a diet which consists mainly of crustaceans but occasionally feed on bottom fish, octopus, stingrays and sea urchins (Wildga, 1999). They can be found in mangrove island channels, sand flats, grazing algae and in coral reefs. Nurse sharks, unlike other sharks, do not migrate. If water temperature decreases the shark compensates for this by decreasing its activities (Wildga, 1999). During the day nurse sharks are found in social groups of up to 40. They cluster at wreck sites on the sea floor in order to rest up for the nights hunt. These resting spots are somewhat favoured by the sharks and groups may return to the same spot night after night (Wildga, 1999).

**FORAGING BEHAVIOUR.** The nurse shark is a nocturnal creature which has adapted to a very specific diet. They hunt alone and spend most of their time riffling through the bottom sediments in search of food. Sensory organs called barbels act as feelers as the shark roams the sea floor. The shark mouth is relatively small but it has a large pharynx (Wildga, 1999). This allows the shark to build up an enormous sucking power to extract the meat out of its prey. It also sucks in water and shoots it out in a jet like manner which is used to surface prey buried in the sand and flip them over. Nurse sharks also have a great sense of smell and sight which is used to the fullest when hunting.

**SEXUAL BEHAVIOUR AND REPRODUCTION.** Until recently, very little was known about the mating habits of nurse sharks. The mating season runs from late June to the end of July (witherginton, 2009). During this time male sharks roam in search of a female. When one is found the male shark pins the female by biting down on its pectoral fin. After the shark is secured it extends its male sexual organ and attaches to the female depositing its sperm. Nurse sharks are said to be ovoviviparous (Baltimore, 2010). The fertilized egg develops inside the female's body and at the end of development the shark gives birth to a litter of 21 to 29 pups (Jeffery C. Carrier, 1994) The gestation period can last between 5 to 6 months. The sharks' reproductive cycle is said to be biennial (Jeffery C. Carrier, 1994). It takes a total of 18 months for the female's ovaries to produce another batch of eggs.

**JUVENILE BEHAVIOUR.** After a 5 to 6 month gestation period nurse sharks pups are born live into the water. Each pup measures 10.6 to 11.8 inches in length and has a growth rate of about 13cm and 2.3kg per year (Carl A. Luear, 1990). The pups are fully mature at birth and are left to fend for themselves. When a nurse shark is about 225 to 230 cm, 15 to 16 years, they are sexually mature and ready to reproduce (Jeffery C. Carrier, 1994).

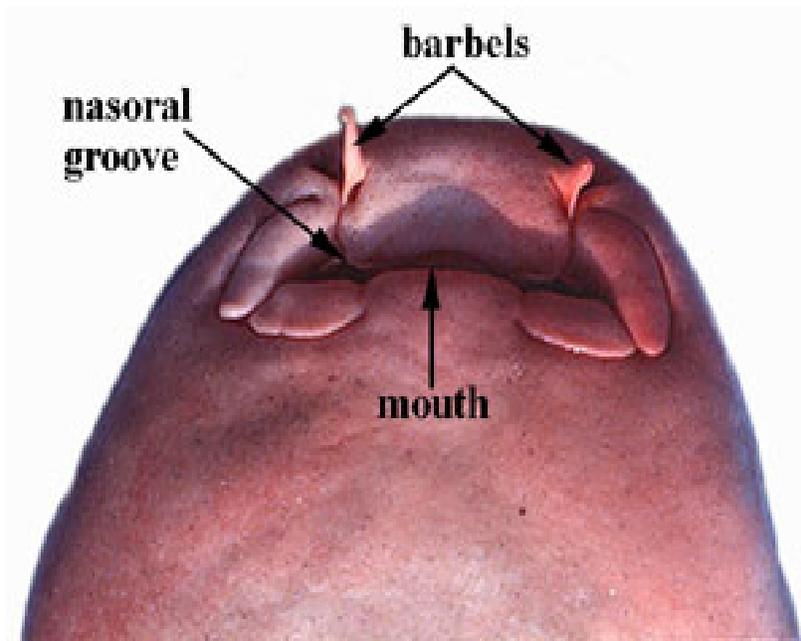
**PREDATORS.** Relative to other sharks, nurse sharks are slow and timid. They can become food to other sharks such as the great white, the tiger shark, lemon shark and the bull shark. Like all other creatures on earth, man is also a predator of this creature. Their meat is consumed and the skin is used to make various items. In some regions the nurse sharks are randomly caught and killed because they are thought of as a nuisance by fishermen. Juvenile nurse sharks are at the same risk with other sharks but can also fall prey to its own species. Adult sharks can sometimes cannibalize their own young.

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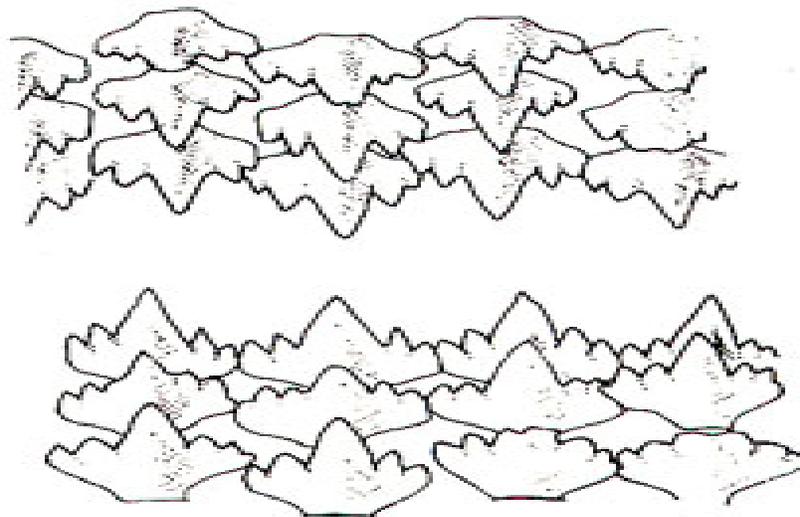
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**Figure 2.** Nurse shark mouth anatomy.

[<http://www.flmnh.ufl.edu/fish/gallery/descript/nurseshark/nurseshark.htm>, downloaded 16<sup>th</sup> November 2011]



**Figure 3.** Nurse shark teeth.

[<http://www.flmnh.ufl.edu/fish/gallery/descript/nurseshark/nurseshark.htm>, downloaded 16<sup>th</sup> November 2011]