

Family Parascylliidae "Collared Carpetsharks"

Sara McCutcheon

Kingdom: Animalia

Phylum: Chordata

Class: Chondrichthyes

Order: Orectolobiformes

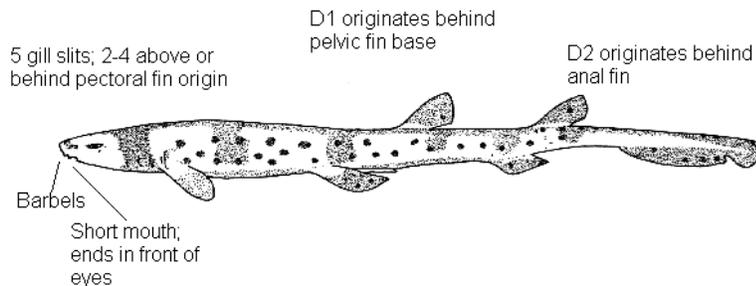
Family: Parascylliidae

Genera: 2 - *Cirrhoscyllium* and *Parascyllium*

Species: 7 – may be another, undescribed species in Australia

Diagnostic Characteristics of the Family Parascylliidae

- Small, slender sharks (<1m TL)
- Tiny spiracles
- Head length ~2-3 x D1 fin base
- No nictitating eyelids
- Nostrils connected to mouth through nasoral groove



Parascyllium

- o No barbels on throat
- o Pattern of saddles and spots
- o Spots on caudal fin

Cirrhoscyllium

- o Unique paired barbels on throat (cartilage-cored)
 - No muscles, taste buds, or sensory receptors associated
 - Thought to function as sensory organs responding to physical or mechanical stimulation
 - Not homologous with head appendages of related shark groups
- o Dark saddles, no spots, no collar markings



Distribution and Habitat

- First appeared in fossil record in Lebanon 98 mya (mid-Cretaceous)
 - o Tiny shark, tiny teeth easy to overlook
- West Pacific
 - o *Cirrhoscyllium* occurs from Vietnam to Taiwan Island and Japan
 - o *Parascyllium* are all endemic to Australia
- Some live in rocky reefs and hard-bottom trawl grounds

Behavior and Biology

- Little is known; details of ecology virtually unknown
- Benthic species
- Inshore to fairly deep continental shelf (1-435m)

- Tropical to temperate
- Western Pacific
- Population doubling time thought to be 4.5-14 years
- Elongated, flattened eggcases

Cirrhoscyllium

- o 3 little known species
- o Cool outer shelf benthic habitats
- o *C. exolitum* (largest shark in Parascylliidae) max length 3.3m (most under 0.9m)

Parascyllium

- o Found in a variety of habitats: sand, rock reef, kelp beds, and seagrass beds
- o Change color to camouflage
- o At least 2 spp nocturnal (*P. ferrugineum* and *P. variolatum*)
- o Some (maybe all) are oviparous (not a lot is known)
- o Bulbous egg capsule with 2 (sometimes 3) horns
 - Oviposition rates vary from 12-39 days
 - 1-2 eggs deposited each time

Diet

- Food habits are generally unknown
- Thought to be bottom-dwelling crustaceans, molluscs, and teleosts

Status

- Some do well in captivity
- Not targeted by fisheries
- Should be rare in bycatch, but may be caught in bycatch
- May be threatened in heavily fished areas
- Presumably rare or uncommon
- *Cirrhoscyllium* are not listed on the IUCN red list
- Parascyllium is listed as either data deficient or least concern

Bibliography

- Carrier, J.C., J.A. Musick, and M.R. Heithaus. 2004. Biology of Sharks and their Relatives. CRC Press, Boca Raton, FL. pp. 66-67.
- Caruso, JC and Bor, PH. 2007. Egg capsule morphology of *Parascyllium variolatum* (Duméril 1853) (Chondrichthyes, Parascylliidae), with notes on oviposition rate in captivity. *Journal of Fish Biology* 70 (5): 1620-1627.
- Compagno, LJV. 1984. FAO Species Catalogue, Vol 4. Sharks of the World. An annotated illustrated catalogue of shark species known to date. Part 1 – Hexanchiformes to Lamniformes. FAO Fish. Synop. 125 (4/1):1-249.
- Compagno, L, M. Dando, and S. Fowler. 2005. Sharks of the World. Princeton University Press, Princeton, NJ. pp. 156-159.
- Goto, T. and Last, PR. 2002. A new parascylliid species, *Parascyllium sparsimaculatum*, from Western Australia (Elasmobranchii: Orectolobiformes). *Ichthyological Research* 49 (1): 15-20.
- Goto, T, Nakaya, K, and Amaoka, K. 1999. Morphology of throat barbels of *Cirrhoscyllium japonicum* (Elasmobranchii, Parascylliidae), with comments on function and homology. *Japanese Journal of Ichthyology* 41 (2): 167-172.
- Nelson, J.S. 2006. *Fishes of the World*, 4th ed. John Wiley and Sons, Inc, NJ. pp. 54-55.