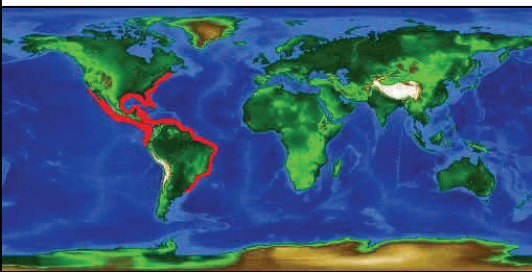


Bonnethead Sharks

When spending time on the Georgia coast, particularly in late summer, you will likely see shark fins in the waters. This usually inspires a little apprehension and awe in us all. Thankfully there is a good chance that what you are seeing in the shallow waters are Bonnethead (also known as shovelhead) sharks, the smallest in the family of 9 species of Hammerheads. They are known for nibbling on small fish, bivalves, blue crabs, shrimp, octopuses, crustaceans, and even sea grasses, not large mammals such as ourselves. Bonnetheads have noticeably rounder heads; protruding forward like a shovel; than the other 8 species of Hammerheads. Like other hammerheads, they have eyes perched on the far sides of their head giving them an expanded field of vision. If our eyes were similarly placed, they would be out above our ears.....quite a different view, indeed. While feeding these sharks sway their head from side to side, scanning the bottom with their fine-tuned sensory and nervous systems. They are responding to the shadow and light their eyes perceive, the scents their keen nostrils pick-up, as well as a unique sense, electrical sensitivity. Studies show that they are able to detect electrical current (all animals emit an electrical current) through specialized pores called ampullae of Lorenzini. Recently it has been

Photo by: Susan Inman



discovered that these pores are also able to detect changes in water temperatures as small as 0.001 degrees Celsius (University of San Francisco, Dr. Brandon Brown).

Bonnetheads generally reach about 3-4' in length (as long as 5' have been documented) and are generally abundant within inshore, coastal, continental, and insular shelf areas within its range. They are found on the Eastern Pacific (from Southern California to Ecuador), Caribbean, Gulf of Mexico, and Western Atlantic (from North Carolina, and occasionally seen further north, to Southern Brazil), preferring tropical and subtropical regions. Around St. Catherines Island they are most commonly found in the rivers, channels, sandflats, shallow surf and intertidal zone. They are believed to have a lifespan of 6-7 years, maturing in their second year and then reproducing yearly. They are viviparous (live-birthing rather than hatching from eggs), producing 7-9 young. Their gestation period is approximately 4-5 months, the shortest known in the shark family. While times might vary slightly in Georgia, Florida Bonnetheads have been shown to breed in late November, storing the semen until ovulation/fertilization until March or April and producing young in late August– September (IUCN Red List of Threatened Species). While they usually congregate in gender-specific schools of 5-15 throughout their range, reports along St. Catherines Island confirm that they are also seen regularly moving through the shallow waters in solitude. If you have the chance to see one in the shallows on a clear-water day, take a look at these amazing creatures. Their beauty never fails to impress.

Photo by: Susan Inman





Summer Storms leave piles of dead plant debris. Salt Cord Grass is seen here in the upper edges of beach, and Sargassum is in large piles along the beach. Close-up of Sargassum, a genus of brown algae, upper right. Photos by Susan Inman



Are the Ring-tailed Lemurs on St. Catherines cathemeral?

By Cadell Last

Cadell Last spent a few weeks on St. Catherines Island to see if the lemurs had nocturnal leanings. Diurnality, nocturnality and cathemerality are all concepts that define different observed activity patterns in the animal kingdom. If an animal is primarily active during daylight and its circadian rhythm is intimately tied to the light half of the light/dark cycle, it is diurnal. If an animal is primarily active during the night and its circadian rhythm is intimately tied to the dark half of the light/dark cycle, it is nocturnal. And if an animal

is not wedded to being active during either day or night, it is cathemeral. However, the field is not the classroom, and while I studied the activity patterns of ring-tailed lemurs (*Lemur catta*) on St. Catherines Island, I found it difficult to understand and employ the concept of cathemerality.

The reason cathemerality made studying activity patterns confusing is because of the inherent limitations and subjectivity of concepts and definitions. I can say that I observed periods on SCI when the lemurs were awake

at night. They displayed a range of activities that may have been patterned, including surveying the area around them, social grooming, play and switching sleeping trees. So are the lemurs on SCI cathemeral or not?

If in order to classify as cathemeral activity the animal must distribute activity 'fairly evenly' throughout a 24-hour period, then I certainly did not witness that pattern. However, did I witness 'distinct periods' of activity in both the diurnal and nocturnal temporal niches? I think I could conclude 'yes' objectively, albeit with some reservation. In the end, regardless of what the decisive terminology defines, we did learn that ring-tailed lemurs do have periods of nocturnal activity most nights.

