Sharks of different species hunt for prey at different times to avoid each other

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A team of researchers from Murdoch University, the New England Aquarium and Mote Marine Laboratory, has found at least one instance of sharks of different species hunting at different times so as to avoid

each other. In their paper published in *Proceedings of the Royal Society B*, the group describes tagging and monitoring several species of sharks in the Gulf of Mexico.

Prior research has shown that very often, different species sharing an ecosystem develop a means for apportioning resources—predators go after different sorts of prey, for example. In this new effort, the researchers discovered that some sharks share resources by foraging at different times. This was a surprise, as researchers previously believed that sharks of all species tend to hunt mostly at dawn and dusk.

After noticing this phenomenon in the Gulf of Mexico, the researchers decided to study the sharks more closely. They captured and tagged 172 sharks from six species, affixing them with special accelerometer technology that detected when a shark was going after prey. Over time, they managed to capture 3,766 hours of shark activity.

The researchers found patterns indicating that the different shark species were foraging at different times. More specifically, they found that the largest sharks—tigers—foraged whenever they chose. Being the largest, they did not have to negotiate with other sharks for hunting time; plus, they have been known to kill and eat smaller sharks. They tended to hunt during the middle part of the day. That left the rest of the day for the other sharks. The bulls tended to troll in the early morning hours, while sandbars hunted during the afternoon and blacktips hunted in the evening—both types of hammerheads (great and scalloped) hunted at night.

The researchers note that time-division-based resource sharing is quite rare in nature, though they suggest it might be more common in sea creatures than has been known, as very little study of resource sharing in the ocean has been conducted.

More information: Karissa O. Lear et al, Temporal niche partitioning as a novel mechanism promoting co-existence of sympatric predators in marine systems, *Proceedings of the Royal Society B: Biological Sciences* (2021). DOI: 10.1098/rspb.2021.0816