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By Matthew T. McDavitt



The ancestral sawfish carves-out the Angurugu River on Groote Eylandt followed by three creator stingrays. An ancestral hunter watches from the riverbank, waiting to spear some rays for a feast. **Culture:** Anindilyakwa, **Clan:** Maminyamanja, **Artist:** Nekingaba Maminyamanja, **Date:** c. 1980. Collection of the author.

THE CULTURAL SIGNIFICANCE OF SHARKS AND RAYS IN ABORIGINAL SOCIETIES ACROSS AUSTRALIA'S TOP END

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Introduction

When the first fleet of European settlers arrived in Australia in 1788, an estimated 300 000 to over one million Aboriginal peoples inhabited the continent. They were organised into a large number of diverse societies, speaking over 200 distinct languages. Today, more than 460 000 Aboriginal peoples inhabit Australia and at least 20 languages remain both spoken and viable.

Today, sharks and rays continue to be important to Aboriginal peoples throughout coastal Australia, as they were in the past. In Aboriginal cultures these animals symbolise both their connection to the land and sea, as well as providing critical food resources at certain times of the year.

Origin of animal symbols

Animals are a common inspiration for symbol and metaphor in every society. Early Western economies were largely based on farming and herding, and as a result, many animal symbols and metaphors were inspired by interactions with domesticated animals, for example: *good egg*, *pigsty*, *count your chickens*, *gentle as a lamb*, and *gift horse*. Western dependence on farm animals tended to demonise predators which were thought to threaten livestock or compete with mankind for resources. Thus our ancestors despised *the wolf at the door*, *the fox guarding the hen house*, and *the snake in the grass*. The image of sharks is particularly negative in Western culture. For many of us they symbolise predatory behaviour, greed, gluttony, danger, and deceit, inspiring negative metaphors such as: *swimming with the sharks*, *loan shark*, *shark lawyer*, and *feeding frenzy*.

'Popular' Western attitudes towards sharks and rays are traditionally negative; however, this is slowly changing as people become more informed. As epitomised by the infamous movie *Jaws*, sharks are viewed as mindless eating machines—they continue to haunt our nightmares in an age largely devoid of animal monsters. Popular knowledge of elasmobranch (cartilaginous fishes; sharks and rays) diversity is equally poor. To Westerners, almost every shark is thought to be a great white (*Carcharodon carcharias*), tiger shark (*Galeocerdo cuvier*), or hammerhead (*Sphyrna* spp.). The rays have virtually no symbolism in the Western tradition.

For Aboriginal societies, whose economies were traditionally grounded on the hunting and gathering of wild foods, animal symbols were naturally based on wild animal species. Incorporating predators like sharks into religious symbolism might seem unusual to Westerners, but it is not really so strange; we continue to view certain predators as representing positive qualities like strength (the bear), bravery (the eagle), or nobility (the lion). For many coastal Aboriginal peoples, certain sharks and rays have similar positive associations and symbolic value.

Indigenous and Western classification

There are approximately 66 elasmobranch species inhabiting the Gulf of Carpentaria in northern Australia. As these are tropical waters, sharks familiar to most Westerners such as the great white and mako (*Isurus* spp.) are absent. Of the species present, many of the whaler shark and stingray species are almost indistinguishable except to a trained zoologist. Thus, of the 66 species present, only about 28 species would be recognisable as distinct to a non-scientist, based on features like body markings and unique anatomical features. The average Australian of European ancestry could probably identify only two or three species with unique features such as the tiger shark and hammerhead. There are often several common names referring to the same species depending on whom you talk to and where they are from. In contrast, Top End Aboriginal societies generally recognise over twenty named species.

Aboriginal knowledge of sharks and rays is more balanced than the negative image sharks hold in the European tradition. Unlike most Australians of European ancestry, Aboriginal groups recognise a wide diversity of species and they are able to observe them in their habitat. This familiarity has encouraged a more realistic image of elasmobranchs in indigenous thought. While they certainly recognise that some species such as tiger sharks and bull sharks are potentially dangerous at certain sizes, they also know that most species are harmless to mankind. They do not have an unreasoning fear of the dangerous sharks. Instead they view them as powerful and worthy of respect, just as Westerners see eagles and lions as models of independence, bravery, and might.

Because Aboriginal societies are familiar with a wider diversity of sharks and rays, they find symbolic value in a much wider array of species as well. Whereas Western cultures generally depict only a few kinds of sharks, indigenous societies find meaning in species largely ignored in the West. Among the sharks, hammerheads and tigers are certainly important, but so are more unfamiliar species. Whaler sharks are of central importance. The fact that certain sharks, such as the infamous bull shark (*Carcharhinus leucas*) (figure 1) and the poorly

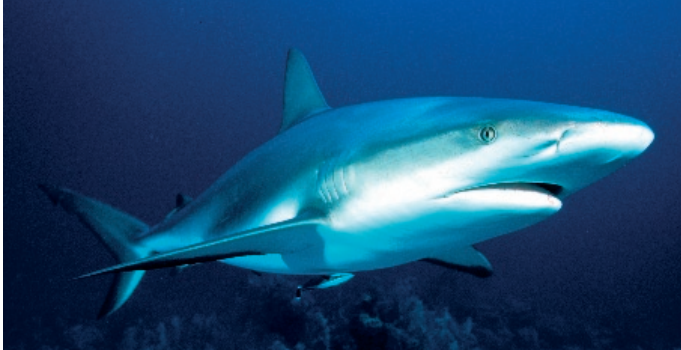


Figure 1. The fact that certain sharks, such as the infamous bull shark (*Carcharhinus leucas*) enter freshwater rivers and lakes, is very meaningful for some Aboriginal groups (© Andrea Marshall).



Figure 2. Speartooth shark (*Glyphis* spp.) (© CSIRO Marine Research).



Figure 3. Shovelnose ray (*Rhinobatos typus*) (© CSIRO Marine Research).

known speartooth shark (*Glyphis glyphis*) (figure 2), enter freshwater rivers and lakes, is very meaningful for some Aboriginal groups; in contrast, it is only recently that Westerners have become aware that some sharks enter freshwater. For the rays, many stingray species are important symbols, as are shovelnose rays (*Rhinobatos typus*) (figure 3), eagle rays (*Aetobatus narinari*) (figure 4), manta rays (*Mobula* spp.), and sawfishes (*Pristis* spp.) (figure 5).

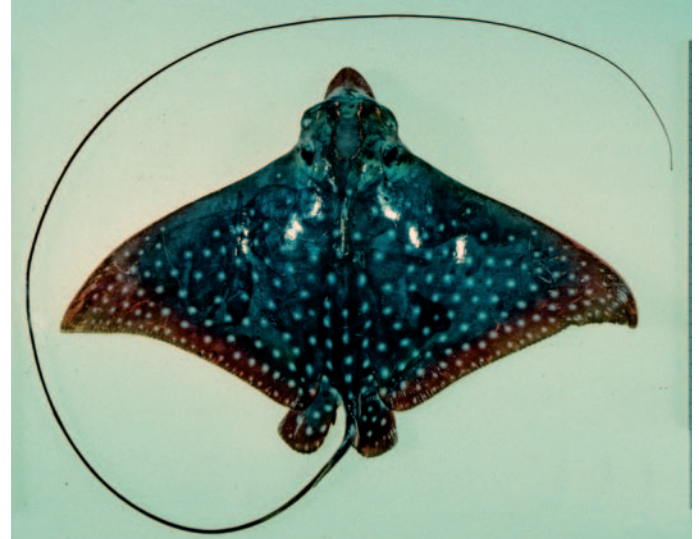


Figure 4. Eagle ray (*Aetobatus narinari*) (© CSIRO Marine Research).



Figure 5. Sawfish (*Pristis clavata*) (© CSIRO Marine Research).

Sharks and rays as resources

Although elasmobranchs are highly symbolic in Aboriginal society, they are also valued as a source of food and raw materials. These two views are not inconsistent. In Aboriginal thought, supernatural creator beings created the landscape and bestowed culture on mankind. Various sharks and rays were placed in the world by the ancestors to provide nourishment for their descendants. This link between the ancestors, food species, and mankind is revealed through sacred signs in the landscape. Aboriginal hunters know when sharks and stingrays are 'fat' and ready to be harvested when certain plants bloom—these are known today as calendar plants. These flowers are signs from the ancestral creators that a food species has been added to the menu for another season.

Stingray is a favourite food item for coastal Aborigines, though sharks are sometimes also consumed. Young animals are preferred as they are tender and have more succulent livers. Once caught, the viscera is removed, but the liver (a

high protein and vitamin-packed delicacy) is retained. The ray is then roasted in hot coals or boiled for half an hour. Once fully cooked, the meat is shredded, soaked in freshwater, then rinsed with seawater. Next, handfuls of meat are squeezed to remove the water and juices. This step removes the pungent ammonia that can permeate shark flesh, making it taste bad. Finally, the heated or raw liver is kneaded into the shredded meat. The finished mixture, which tastes like succulent buttered crabmeat, is then separated into small round cakes and shared with relatives. This recipe is remarkably consistent throughout societies along the northern coastlines.

Utilisation of sharks and rays for food is so central to indigenous thought that it influences how Aboriginal societies classify these animals. In Western science, elasmobranchs are separated from the bony fishes because they possess a cartilaginous skeleton. In contrast, Aboriginal groups separate the sharks and rays from bony fishes based on this unusual cooking technique. Among the *Lardil* people of Mornington Island, for instance, the sign language term for 'elasmobranch' (used when silence is desired, as when hunting), is a fist resting in a cupped hand—an approximation of the round stingray cake!

Traditionally, indigenous peoples did not share the Western notion of environmental conservation. They believed that food animals were released into the landscape by the ancestors as needed, so long as proper relations were maintained with them through ceremony, art, and song. However, exploitation of animal species was controlled based on laws established by the ancestors during the creation period. As a result, most food species were only harvested seasonally, like when the calendar plants were in bloom. If hunters harvested animals out of season, they could be punished by the clan responsible for maintaining ritual relations with that species. These ancestral laws served to assure a steady supply of sharks and rays every year without triggering the massive population collapses which plague Western 'maximum sustainable yield' fisheries.

Sharks and rays were also traditionally used to manufacture a variety of tools, weapons, and implements. On Groote Eylandt, for instance, the toothy snout of small sawfishes was sometimes used as a hair comb. Elasmobranch vertebrae, intriguing round spool-shaped disks, were strung as beads to make ornamental necklaces. Shark teeth were utilized to make carving implements and rough shark hide was sometimes used like sandpaper. Shark teeth were also set into wooden clubs to make flesh-ripping swords. Large sawfish snouts were also fashioned into intimidating war clubs. Similarly, spears were sometimes tipped with a bristling bouquet of venomous stingray spines. Wounds caused by this fearsome weapon were nearly always fatal. The *Wik* peoples of Cape York would sometimes cut rings from the tails of thorny rays, creating spiny 'brass knuckles' which made punches more dangerous during fighting.

Totemism demystified

While Aboriginal religion remains largely unfamiliar to the average Australian, an introduction to the basic concepts will allow a deeper appreciation for the role shark and ray totemic ancestors play in Top End cultures. Aboriginal societies are divided into extended family groups called clans. Totemism is a belief that each family clan traces its ancestry to a distinct group of ancestral creator beings (sometimes called totems), distinct from the divine ancestry of every other clan.

During the primal creation period, many ancestral beings emerged from the unformed earth, sea, and sky. These superhuman creators had the power to transform into any form they desired, including animals, plants, natural forces, or people. They were restless, so they journeyed across the formless world searching for a place to rest for eternity. They lived much as people live today, but their actions had cosmological consequences, shaping the landscape and creating features such as rivers, valleys, bays, rock formations, and trees. Eventually, each ancestor found a location to their liking, transforming into a land feature or dissolving into the landscape. Before the ancestors disappeared, they bestowed their land estate upon human descendants and taught them the sacred designs, power-names, songs, and dances necessary to remain in contact with the ancestor.

By following the sacred laws established by the ancestors and re-enacting their journey through painting, song, and dance, humans continue to maintain their link to the life-force which ensures both human well being and the fecundity of the landscape. These songs and designs serve both as statements of clan identity and function as legal land title under native law. Nowadays, the presence of the ancestors is revealed both through the landforms they created and as the life-force which animates the plants, animals, and natural forces on the clan land estate.

Below are three representative stories from Aboriginal groups revealing the importance of sharks and rays as ancestral creators. First, we will learn about two ancestors of the *Yolngu* peoples of northeast Arnhem Land: the powerful shark creator *Mäna* who embodies justified vengeance, and then *Gawangalkmirri*, a totemic stingray which symbolises cultural survival. Finally, we will follow a school of creator rays and sawfishes to Groote Eylandt, where their presence continues to permeate the lands that they created.

The shark: *Mäna*

For the *Yolngu* peoples of northeast Arnhem Land, certain ancestors who created potent sacred sites are known as 'power totems'. These ancestors are central to the identity of the clans descended from them, and clansmen draw spiritual and

physical strength by accessing their power through sacred designs, songs, and dances. Several *Yolngu* clans trace their identity to the ancestral whaler shark *Māna* (pronounced: MAR-na). According to the public version of the story, this ancestral being began his journey along the coast of northeast Arnhem Land. While sleeping on the beach, *Māna* was speared by an ancestor from another clan who did not want other creator beings near him. Enraged by this stealthy attack, *Māna* charged inland from the sea, exploding into the landscape. The ancestral shark gouged his way inland using his teeth to carve out several river systems. As he journeyed onward, his teeth broke off on the hard riverbanks; these lost teeth became the pandanus trees which line rivers today. The leaves of these trees are dagger-shaped with serrated edges, like shark teeth. These trees represent both *Māna*'s anger at being speared and the stingray-spine tipped spear that *Māna* carried to avenge his death.

This ancestral event explains why modern whaler sharks are dangerous and why some sharks still enter freshwater. Modern sharks still possess anger at being ambushed during the creation times, but this rage is viewed in a positive context. *Māna* represents justified vengeance, the strength to overcome obstacles and avenge injustice. *Yolngu* clansmen claiming ancestry from this powerful shark continue to use his energy to summon physical strength and psychological resolve in the face of danger and adversity. It is well known in *Yolngu* society that it is very dangerous to wrong members of the shark clans!

The travels of this shark ancestor carried him through the lands of several related *Yolngu* clans. If these clans are on good terms politically, they may acknowledge that a single shark traveled through all the lands during a single journey, linking them. Alternately, when the clans wish to express their distinctive identity, they will explain that each clan's shark was a different ancestor, each starting its separate journey from the spearing incident.

Other social connections can be expressed through totemic art. Common in many depictions of sharks and rays in Aboriginal art is the x-ray technique, whereby the horseshoe-shaped liver is delineated within the body. The liver in these paintings has two meanings. Superficially, it refers to a favorite food source, as elasmobranch liver is creamy and high in nutrition. On a deeper level, the liver within the animal represents the child within the shark- or ray-clan mother. When you remove the liver from a shark, it still belongs to the shark. Similarly, although children of shark-clan mothers belong to their father's clan, and thus cannot belong to the shark clan, they are still somehow 'shark'. On a practical level, children of shark-clan mothers maintain important 'manager' duties to their mother's clan, being responsible for looking after their shark-clan lands, ceremonies, and ancestral art.

The stingray: *Gawangalkmirri*

Another prominent ancestor which appears in many non-ceremonial contexts today is *Gawangalkmirri*, the mangrove whipray (*Himantura granulata*), sacred to the *Gumatj* clan of the *Yolngu*. *Gawangalkmirri* (pronounced: guh-wong-alk-MEERR-ee) is a beautiful black stingray flecked with white spots like a starry sky, with a striking white tail. To the *Yolngu* these fishes are a metaphor for human society. Like people, stingrays are gentle and social, and they take good care of their children. Like people, stingrays carry spears, but only use them in self-defense. According to *Yolngu* belief, *Gawangalkmirri* is a devoted parent, carefully preparing a safe home to give birth in (called *Yirrngga*). In this home, like human parents, *Gawangalkmirri* teaches its children everything they need to know to survive. This behavior is a metaphor for the passing of sacred lore from the elders to the new generation. As a result, *Gawangalkmirri* has come to represent cultural survival for the *Gumatj* clan.

The famous *Yolngu* rock band *Yothu Yindi* draws many of its members from the *Gumatj* clan. This band released the song 'Gapirri', which celebrates the power of this ancestral stingray, on its *Tribal Voice* album. The linear notes from their next album, *Freedom*, includes a painting of *Gawangalkmirri* parents in their home, teaching their children. As a powerful symbol of cultural survival, it is appropriate that when the *Yothu Yindi* Foundation opened a recording studio in 1999, they named it *Yirrngga* and made the building in the shape of their benevolent stingray ancestor.

And this remarkable stingray holds other symbolism. During ancestral times, *Gawangalkmirri* fought with the crocodile ancestor *Baru* after he killed a stingray clansmen. Instead of killing the crocodile for this outrage, *Gawangalkmirri* avenged the murder by spearing *Baru* in the thigh. This act of restraint became the model for the *Yolngu* peacemaking ceremony called *makarrata* (pronounced: muh-KARR-ar-tuh).

In addition, *Gawangalkmirri* is associated with the fertility of the landscape. Mangrove stingrays give birth among the mangrove prop-roots at the beginning of the Wet. As they nuzzle into the seafloor to make their birthing pit, their digging is said to activate sacred ancestral power-wells, triggering the development of wet season clouds. There is seemingly a connection between the clouds of silt stirred-up by nesting stingrays and the development of thunderheads. Because the wet season brings renewal of life throughout the tropical north, these stingrays are linked to the fecundity of the landscape itself. As evident from this brief description, this ancestral ray symbolises many positive attributes including social harmony, good parenting, cultural survival, peacemaking, and the fruitful earth!

The Wurrakwakwa rays

Sometimes groups of ancestors banded together during their ancestral travels. For several clans of the *Anindilyakwa* people of Groote Eylandt, collectively known as the *Wurrakwakwa* (pronounced: wurr-ahg-WAHG-wuh), a school composed of many different ray species was responsible for creating a series of land estates during their journey across the island. According to the story, sawfish ancestors, accompanied by estuary whiprays (*Dasyatis fluviorum*), shovelnose rays, eagle rays, and others left the mainland searching for a home. They first stopped on Bickerton Island, but found it too uncomfortable. They continued onwards, eventually running into Groote Eylandt. They knew that their home was at the eastern end of the island, but they could not continue overland because they were now transformed into fishes. Sawfish then leapt ahead, gouging a riverbed across the island using his toothy snout. As the tide rushed in behind him, the rays followed in a jostling pack, eventually reaching a shallow bay on the eastern shore. They realised that this was their eternal resting place, so they circled around the bay in joy. As the rays circled around and around, some of them were speared by ancestral hunters, establishing that rays were to be a prized food source for mankind forever.

In the painting pictured (figure 6), we see the ancestral sawfish *Yukwurrirringangwa* (pronounced: yook-wurr-irr-in-DUNG-wuh) as he carves-out the Angurugu River with his toothy saw. Following behind are three estuary whiprays, *Yimaduwaya* (pronounced: yim-uh-du-WAH-yuh). An ancestral hunter is depicted on the riverbank watching the sacred rays pass. He is



Figure 6. The ancestral sawfish carves-out the Angurugu River on Groote Eylandt followed by three creator stingrays. An ancestral hunter watches from the riverbank, waiting to spear some rays for a feast. **Culture:** Anindilyakwa, **Clan:** Maminyamanja, **Artist:** Nekingaba Maminyamanja, **Date:** c. 1980. Collection of the author.

poised with a spear to harvest a few of these delicious fishes for a feast. For the clans linked through the story of these totemic rays, this sacred journey established many social, ceremonial, and economic ties between them. These rays are so central to *Wurrakwakwa* clan identity and ideas of land ownership that when a new aged-care facility was constructed along the banks of the Angurugu River recently, the *Anindilyakwa* naturally decided to make the building in the shape of the ancestral sawfish!

Final thoughts

As is clear from the following brief examples drawn from the dozens of shark and ray ancestors found among Top End Aboriginal societies, indigenous peoples have much to teach Western society about valuing sharks and rays. Societies such as the *Yolngu* and the *Anindilyakwa* view elasmobranchs in a much more balanced way, finding them worthy of respect and admiration. Instead of fearing the predatory prowess of these fascinating fishes, Aboriginal people see in them strength and values which are a model for human behavior. Very few sharks and rays ever pose a threat to mankind, and now our activities (e.g., recreational and commercial fishing; disturbance/loss of habitat) threaten the survival of species such as the freshwater sawfish and the grey nurse shark. If we can change our attitudes about these misunderstood animals and utilise historical biological information on specific species through indigenous connections, we will have a better chance of sustainably managing these species.

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