ENVIRONMENT

Sun, sea and sand dollars - Fauna of our beaches

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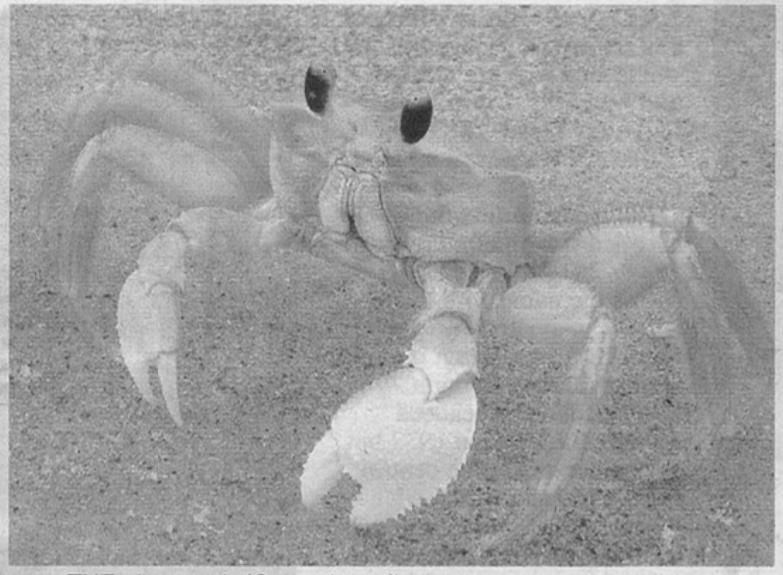


THE ghost crab (Ocypode sp.) comes out at night to scavenge on beaches. They are omnivores eating anything from algae to dead fish to turtle eggs.

THE well known Chip-chip (Donax sp.) is a filter feeding mollusc. The shells are often brightly coloured, making them a favourite for collectors and artists. PHOTOS: WIKIPEDIA

QUITE a few of us love to go to the beach. We have various reasons for doing so, ranging from liming with good friends and family, playing a game of cricket or football with our children, fishing, digging for chip-chip, trying to dig a hole to China, oh yeah, and swimming, snorkelling, diving, surfing, walking or jogging on the shoreline or simply relaxing and enjoying a beautiful sunset.

I am sure that only a handful of beachgoers ever think about the critters that live within the sand of our beaches, you know, the same sand we spread a blanket on and just lie back and relax? Yes, there are tiny creepy crawlies that actually live there!

In fact, if you dig a sample of this sand and sift it through a strainer, you may be surprised to find quite a few different species.

Within the sand, are tiny crustaceans, amphipods (shrimp-like animals) such as Talorchestia, isopods (pillbug-like animals) such as Excirolana, sea cockroaches, sea tattoos or mole crabs (Emerita sp.), chip-chip (Donax sp.), and polychaete worms, (Scolelepis sp.). Some of these feed on organic material, scraps of plants and or animals that were once alive, including – scraps of food or our exfoliated skin – and help to keep the beaches clean. These animals cannot consume plastics, discarded nylon fishing lines, discarded beer bottles or diapers.

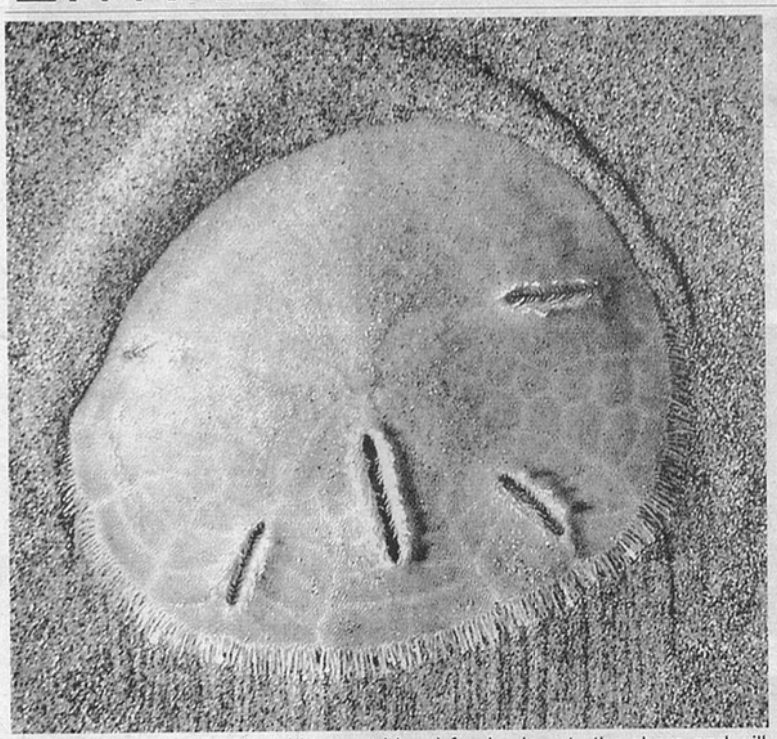
The amphipod Talorchestia, also known as the sand hopper or beach flea, consumes the remains of both plants and animals and even paper. As such, they are considered detritivores or scavengers, and are very important nutrient-recycling organisms in any ecosystem. Don't worry, these fleas do not feed on blood.

The isopod Excirolana consumes dead Emerita, or mole crabs, and if you happen to swim in Rampanalgas, Toco, at times, you may also be nibbled upon by these tiny crustaceans. Scientists have been known to use these organisms to clean skeletons for laboratory displays.

The keyhole urchin (Mellita sp), or sand dollar, is a member of the echinoderms, which include other spiny-skinned animals like the starfish. They are round in shape and flattened with five holes or lunules arranged on the aboral surface (the side furthest away from the mouth), and are similar in symmetry to their five-armed starfish relatives. A five-petal flower pattern on the aboral surface forms a petalloid, which has specialised tube feet that act as gills. Sand dollars are common in sandy beaches like Mayaro and Maracas. They are omnivores, consuming plankton, algae and seaweed which they trap in their tube feet and eat with their mouth (called "Aristotle's lantern"). If you are lucky to find one alive, you will see lots of tiny spines from its oral surface, and these help it to burrow into the sand, move from one place to another, and stir up the sediment to find food.

● FAUNA *continues on Page 6B*

A diversity of life below your feet



THE four-eyed fish (Anableps anableps) feeds close to the shore and will often remain exposed on the sand as a wave retreat. Their unique eye structure allows them to see both below and above the water in order to detect predators.

● FAUNA *from Page 4B*

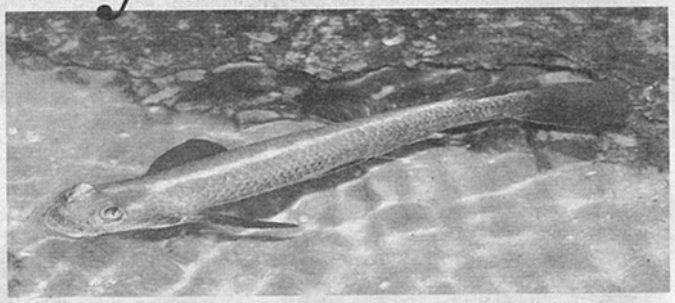
The mole crab, Emerita, consumes zooplankton and is considered to be a carnivore. They are, in turn, preyed upon by marine fish and seabirds. Humans also pose a threat as mole crabs are caught and used as bait by some fishermen, while some Trinidadians catch and curry these "sea cockroaches" or "sea tattoos" as a crunchy delicacy.

Polychaetes, such as Scololepis consume plankton which may be suspended in the water column or deposited in the sediment when the tide is still.

Chip-chip or Donax are filter feeders. These animals have a muscular "foot," which helps them burrow into the sand, and two siphons (an inhalant and exhalant) which help them to breathe in water and capture food particles at the same time. They are eaten by seagulls, fish and starfish. In Trinidad, we enjoy catching these bivalve molluscs to make souse or cocktails, curried chip-chip, chip-chip 'ackra' or fritters.

Ghost crabs, Ocypode, are considered to be both predators and scavengers. They are nocturnal eaters who prefer to dine on Donax, Emerita or even turtle eggs.

Anableps or four-eyed fish are often seen along the Manzanilla-Mayaro eastern coastline, but can be found anywhere there is a mixture of salt and freshwater or brackish water conditions. They can be quite commonly observed drifting with the tide along the beach. They are deceptively hard to catch thanks to their well developed eyes. The eyes are separated into two halves, hence its name, 'four-eyed' fish; the top half is able to see above the water line and the bottom half, is able to see below the water line. In this manner, they are able to avoid predators (above and below) while exploiting food resources on the shore as well as in the sea.



SAND dollars (Mellita sp) are usually buried below the sand in shallow water but may occasionally get washed ashore. These flat, disc-like animals are relatives of the starfish.

In mangrove-lined estuaries, Anableps consumes the red macroalgae found on the red mangrove prop roots, as well as crabs scampering along its roots, and terrestrial insects. In the water, it catches and consumes amphipods, snails, mussels or oysters and worms.

The diversity, quantity and size of these organisms depend on the particle sizes of the sand and whether or not the beach is high or low energy, that is whether the waves are forceful and energetic or calm.

Did you realise there was such a diversity of life beneath your feet? Relax! Don't worry about them, they are harmless to us and can actually be considered to be quite helpful because they help to clean up some of our garbage. That perhaps is one of the things we fail miserably at...although we may remember to take along a garbage bag, and put the trash in the right place, we leave it there on the beach for Lord knows which garbage truck to come pick it up! Guess what? The garbage bags need to be carried away from the beach, perhaps back home with us for proper disposal...somewhere along a real garbage truck route. Or even better, taken to a recycling point.

These creatures and their significant role in our coastal ecosystems sometimes go unobserved. Now that you are enlightened, do not be afraid to share their space during your vacation. They are harmless to humans and actually assist us in keeping our beaches beautiful and healthy.

For more information on our natural environment, you can contact the Trinidad and Tobago Field Naturalists' Club at admin@ttfnc.org or visit our website at www.ttfnc.org. The Club's next monthly meeting will be held today at St Mary's College, Port-of-Spain.

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