

Some things never change, including the Atlantic horseshoe crab

BY LEE BELANGER
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Anyone who's ever walked Florida's beaches has surely seen the Atlantic horseshoe crab (*Limulus polyphemus*). This crab lives along the Atlantic and Gulf coasts of North America from New York to Mexico.

Like other animals with an exoskeleton, the horseshoe crab outgrows its shell. It's usually the discarded shell, and not the actual animal, that washes ashore. The crab's new shell is soft and pleated at first, but soon swells and hardens. Molt happens several times during the first year, but tapers off to once a year after three to four years. Each new shell is about 25 percent larger than the previous one.

Horseshoe crabs belong to a large group called Arthropoda, which includes lobsters, insects, crabs, spiders and scorpions. They're more closely related to spiders and scorpions than to crabs. Like insects, horseshoe crabs have compound eyes, allowing them to see in all directions. They have gills and use oxygen from the water, but if their gills remain moist, they can also use oxygen from the air.

Their tail is not poisonous, nor does it have a stinger. The animal uses its tail to turn over when it finds itself upside down.

Female horseshoe crabs grow to about 17 inches, whereas the males reach about 17 inches.

All horseshoe crabs eat marine worms, mollusks and dead fish. Because they don't have jaws, they use their legs to crush food and therefore can eat only while walking.

They must be doing something right, as they date back 300 million years, long before the dinosaurs. At one time there were hundreds of different species, but today there are only four worldwide, and only one on the North American coast. Because their shape hasn't changed for millions of years,

they are true living fossils.

Although Native Americans ate both the eggs and the muscle in the abdomen that moves the tail, horseshoe crabs are generally not consumed by people anymore. At least a dozen species of migratory birds do eat the horseshoe crab's eggs, however. As they migrate north in the spring, ruddy turnstones, sanderlings and black-bellied plovers eat large quantities of the eggs, most of which come from nests disturbed by storms in the Delaware Estuary.

The estuary is the largest feeding area for shorebirds in the Atlantic Flyway. It's where the birds can double or even triple their weight, replenishing their fat supply for their trip to Arctic breeding grounds.

Horseshoe crab eggs are also an important food for loggerhead sea turtles. Fortunately for the horseshoe crab, each female lays up to 20,000 eggs at a time.

Horseshoe crab shells contain a substance called chitin that, when refined into chitosan, is used in making contact lenses, skin creams and hair sprays. Chitosan is also a source for removing lead and other metals dissolved in drinking water.

Humans benefit directly from research done on horseshoe crabs eyes that led to a better understanding of the human optic nerve. And recently, scientists have begun using horseshoe crab blood for medicinal purposes. The blood contains special cells that kill some bacteria that are harmful to man. The blood can be collected and the crabs released unharmed.

Perhaps no other animal so clearly illustrates the interdependence of all animals, including man. The horseshoe crab's future depends on man's understanding of their importance to both wildlife and humans. To see these and other astonishing marine animals, visit any of Florida's spectacular beaches. And enjoy a refreshing swim while you're at it! ■



Atlantic horseshoe crab

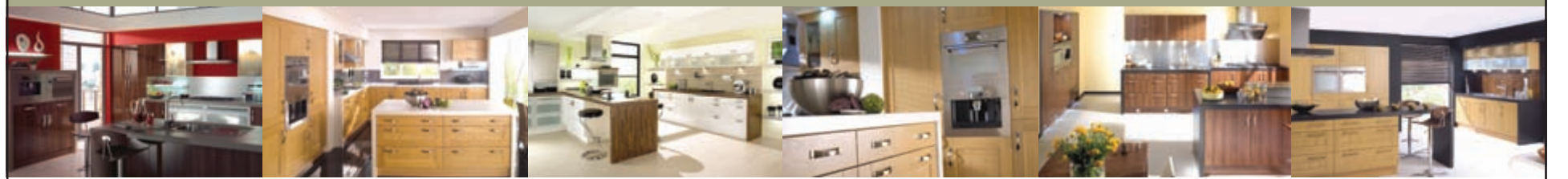


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