

# Rampaging rays likely behind massacre of horseshoe crabs

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*Part of the gill on the belly of a horseshoe crab displayed here in Kokura-Minami Ward in the western city of Kita-Kyushu, is missing, possibly due to a bite from a ray. (Takuya Miyano)*

KITA-KYUSHU--A suspect has been named as the guilty party in the mysterious deaths here of 500 horseshoe crabs, a species that has seen an alarming decrease in numbers recently.

The suspect's name is ray--the fish, that is. And not just regular-sized rays, but jumbo ones.

"Crabs have been bit by rays, which spread an infectious disease among them," said Makoto Yukimura, 66, a volunteer worker at the local Kabutogani Jimankan museum. "That may have resulted in the large number of deaths."

He said three of four horseshoe crabs donated to the facility in early September had suffered injuries near their gills apparently caused by bites.

He also said all seven horseshoe crabs with injuries handed over to the museum in the summer died within a few days.

Many dead horseshoe crabs were washed ashore at the Sonehigata tidal flat in Kokura-Minami Ward, Kita-Kyushu, during the summer.

While the number of deaths significantly decreased in September, the mystery attracted considerable attention throughout Japan.

Horseshoe crabs are regarded as "living fossils" as their origin dates back hundreds of millions of years, and they are now in serious decline.

Some people suggested high temperatures as a possible cause of their deaths, but now locals such as Yukimura are pointing their finger at the rays.

"There are so many rays in the sea. Their number rapidly rose last year," said Ryota Matsumoto, 46, one of the fishermen working near Sonehigata who hands crabs over the museum when they get trapped in his nets. "I have found a large type of ray in the ocean I have not seen the likes of before."

The Kabutogani Jimankan museum opened in 2012 near the tidal flat to keep and display the horseshoe crabs.

Matsumoto speculates that horseshoe crabs, weakened due to high temperatures and drizzle, were preyed upon by more rays than usual.

Many of the dead horseshoe crabs had rotted so it was impossible to check their gill area for bite injuries.

However, horseshoe crabs that died before completely shedding their skins were found among those that washed ashore, although such horseshoe crabs were not discovered until last year.

This means rays may have attacked them as their bodies were relatively soft because of the molting.

People living near Sonehigata, one of the largest habitats of horseshoe crabs in Japan, are worried that the large number of deaths could result in fewer eggs being laid next year.

"I hope the reason will be identified and countermeasures will be taken," said a local resident.