
Know today
Live better tomorrow

Naoto Honda, Japan's Fisheries Agency
© Naoto Honda

Giant jellyfish equipped with an Argos transmitter
© Naoto Honda

The most unlikely creature tracked by ARGOS: a giant jellyfish in the Sea of Japan

The giant jellyfish is an amazing creature which is unfortunately harmful to coastal fisheries. In the search for solutions for peaceful coexistence between fishermen and the jellyfish, Naoto Honda has been conducting a scientific study of this gelatinous species with the help of ARGOS.

The giant Nomura's Jellyfi sh, Nemopilema nomurai, is one of the largest jellyfi sh in the world.

It can attain a diameter of 2m and weigh in excess of 200kg. This amazing species used to be restricted mostly to the coast of China until the end of the 20th century when it started to arrive in vast numbers along the Japanese coast, causing serious damage to coastal fisheries. In order to avoid the damage these giant jellyfish cause to fishing nets, scientists such as Naoto Honda are trying to understand the ecology of these gelatinous creatures, their lifecycle, growth mechanisms and also their distribution at depth. It seems that this last parameter is the most important. If they were sure of the distribution of giant jellyfi sh at different ocean depths, fishermen could avoid catching them during fishing campaigns.
A knowledge of this parameter could also help scientists determine the speed and trajectory of their migration as a function of ocean currents. For this purpose, Naoto fitted giant jellyfish with PTT-100 standard and Mk10-PAT Pop-Up ARGOS satellite tags.
These beacons send back information about the jellyfish's diving and swimming depths. Naoto fitted ten specimens with the tags.

Almost all the jellyfish had a diameter of over 1 metre as can be seen from the photos. The tags were fitted far out in the Sea of Japan from 2004 to 2006. They were attached to the creatures' necks using a plastic strap, so as not to damage the body of the jellyfish or hamper its movements.

Naoto has already been able to exploit data from all of the ten jellyfi sh. The jellyfi sh frequently showed vertical movement, with the swimming depth ranging from 0 to 176 m. The mean swimming depths of most individuals were less than 40 m. And the swimming depths of the jellyfish in the northern Japan Sea in the winter were mostly deeper than those of this species in the southern Japan Sea in the autumn. Swimming depths during the nighttime were significantly deeper than those during the daytime. More specifically, during the daytime, the depths in the afternoon tended to be shallower than those in the morning, while during the nighttime, the depths after midnight were deeper than those before midnight. In order to elucidate the mysterious life of giant jellyfi sh in detail, it will be necessary to fit tags to more specimens.

CLS Key Figures

7,000 *animals tracked by Argos in the world*

13 *subsidiaries and offices around the world*

nearly 400 *employees around the world*

3 *areas of operation*

- sustainable management of marine resources
- environmental monitoring
- maritime safety

3 *specialist fields*

- location
- collection of data
- ocean observation and surveillance