

## **Observations of 27 gigantic gelatinous spheres in European waters from 2001 to 2017**

**Marine scientists need public assistance to provide testable tissue samples to learn what they are!**

**In the summer of 2017, media caught interest in several observations of mysterious, huge jelly balls, usually reported, pictured and filmed by recreational scuba divers. A group of marine scientists, from several Norwegian cities collected information and collaborated to try to learn more. Although no tissue samples were collected, and the phenomenon has not previously been scientifically described from European waters, something quite similar was earlier found to be linked to egg mass from some pelagic squid species in the Pacific Ocean and from the North-African coast. The guess is out that it may be squids involved also in Norway. If anyone can collect and deliver a fresh tissue sample from a sphere, we can actually solve the mystery using DNA analysis.**

Text:

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This sphere was recorded in the Mediterranean, in Italy, at 50 m depth, and resembles other large spheres recorded from the Norwegian coast (*photo: Edoardo Ruspanini*).

By the end of 2017, a total of 27 gelatinous spheres (jelly balls) with an average size of 1 m in diameter were reported observed since 2001. The phenomena is quite rare. The size range varies from 0.3 to 2 metre in diameter. The observations have been based on photo, video and visual observations mostly from recreational scuba divers. By far the most observations comes from the southern part of the Norwegian coast, north to Mid-Norway in Nordland county. Beside the Norwegian observations, sights have been reported from the west coast of Sweden as well as the Mediterranean Sea (Croatia, Italy, France and Malta). The observations were done at depths from 0.5 til 52 m and at sea temperatures between 10 og 21 °C.

These reports are all collected in a newly accepted scientific paper in the journal Marine Biology Research (\*Ringvold & Taite 2018). This paper compare egg capsules from world-wide cephalopod species. The observations of the gelatinous spheres is not quite like anything previously reported. We have a theory that the European flying squid *Todarodes sagittatus*, may be one candidate, as no one have ever described eggs or larvae of this species. Still, without proof, no one knows..

We need to collect fresh tissue samples from these rare jelly balls, preserve them and have the tissue DNA-analysed to find out. It may be the flying squid, it may be another squid species. Nature never stops surprising us scientists. At least, now there is DNA-samples from many European cephalopd species to compare with, and other marine species as well due to international Barcode-projects like Bold and Genbank.

To secure a sample, a piece of the sphere must be cut loose. This does not need to be a big chunk, a small piece, like a thumb's nail, will be sufficient. It should be placed in a small jar or bag under water and brought on land. It must then be kept cool and frozen as quickly as possible. Make contact with us in the scientific team and we will guideline you to get the sample properly conserved and made ready for analyses. Along with the tissue, we would like to get a note on the approximate size of the sphere, the location as exact as possible, along with depth, temperature and habitat. If you also can provide pictures or video of it, that would be great!

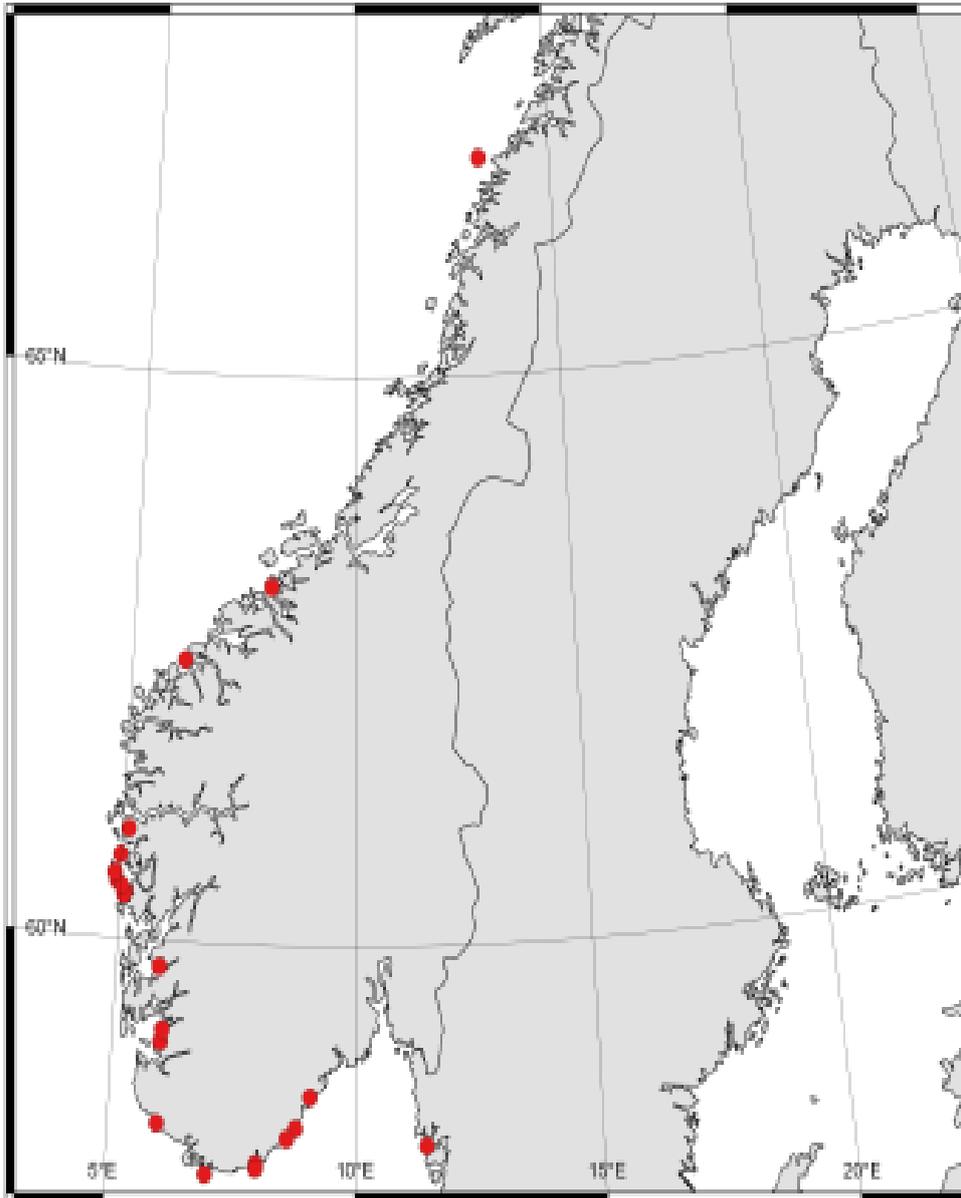
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These jelly balls have usually been spotted between April and September. This is now the time to find more. Even if we have a theory of cephalopod origin, we do not know this. We need that tissue sample!

\*Ringvold H, Taite M. Using citizen science to obtain data on large, floating gelatinous spheres from NE Atlantic, attributed to egg mass of ommastrephid squid (Oegopsida, Cephalopoda, Mollusca). Marine Biology Research (accepted, July 2018).



*The red dots indicate where the large gelatinous spheres along the Norwegian- and Swedish coasts have been reported. The northernmost recording is from Nordland county in Mid-Norway, but most are reported from southern Norway.*