

# About the Survey



## STEPPING STONES

Warmer seas and milder winters are allowing species previously found only in southern and western parts of Ireland and Britain to survive in new places. Humans are also responding to climate change by building artificial structures to guard against flooding and storms along the coast. It seems, however, that these coastal defences are acting as stepping-stones for marine species, helping them to occupy new habitats along the coasts of the Irish Sea.

## HOW YOU CAN HELP

We are collecting information on the effects of coastal structures on the movements of three species of rocky shore snails. We need citizen scientists in Ireland and Wales to explore their local rocky shores and coastal structures, and record the location of three marine snail species on the Ecostructure Observatory website.

## SUBMIT YOUR OBSERVATIONS AT:

[www.observatory.ecostructureproject.eu](http://www.observatory.ecostructureproject.eu)

# Recording Your Observations

**1** Identify a rocky area of seashore in the intertidal zone (below the water level at high tide). This can be natural or artificial. We are particularly interested in artificial rock or concrete structures surrounded by sand or mud.

\*Always consider your own safety and seek permission before venturing onto private property.

**2** Search for snails on the surfaces of rocks, in gullies and at the edges of rock pools. Photograph one of each species you have identified.

**3** Record the number of toothed topshells, purple topshells, dog whelks and clusters of dog whelk eggs that you find.



*Keep an eye out for clusters of dog whelk eggs like these!*

**4** Make sure to also record:

- the amount of time spent searching
- the number of people searching
- the type of habitat in which each species was found

**5** Upload your observations and photos to the observatory at:

[www.observatory.ecostructureproject.eu](http://www.observatory.ecostructureproject.eu)



# SEASHORE SNAIL SURVEY

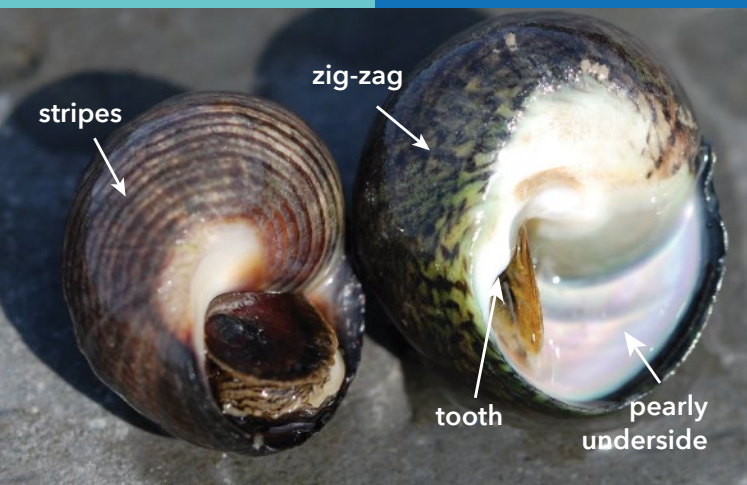
How are climate change and urbanisation affecting seashore wildlife along your coast?

# Topshells or Periwinkles?

Topshells and periwinkles can be easily confused. To tell the two apart, you just need to keep your eyes open for a few key identifiable features.

## COMMON PERIWINKLE

## TOOTHED TOPSHELL



## PERIWINKLE

*Littorina littorea*

Look for visible, dark stripes or banding when wet and a china white centre. Periwinkles lack the 'tooth' at the opening of the shell and don't have pearly undersides or an umbilicus.

## TOPSHELL

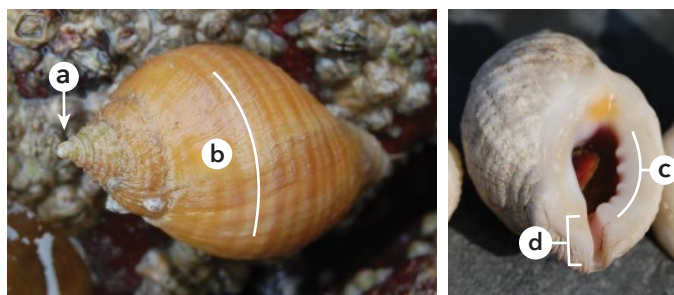
*Phorcus lineatus*

Look for a zig-zag pattern on the outer shell. Topshells have pearly markings where the shell has eroded and on their undersides. Toothed topshells have a 'tooth' at the shell opening.

## DOG WHELK

*Nucella lapillus*

A predatory snail that is fond of barnacles. It has an unmistakably pointed shape, an aperture with a distinctive canal, and sometimes a toothed ridge. The shells of dog whelks are hugely variable in colour. While the majority of dog whelks are white, some are brown, orange, yellow, or purple, and some have banded colour patterns. Look for dogwhelk egg cases: these look like clusters of yellow rice grains and are usually found in damp crevices.

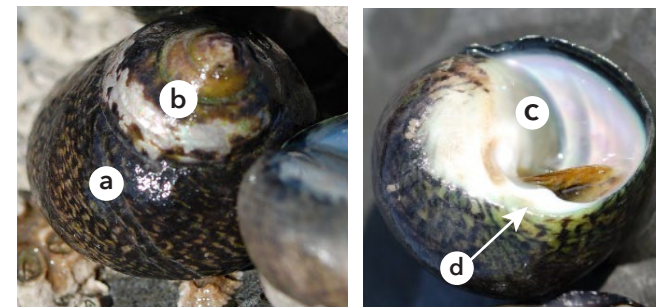


- a. Short pointed spire
- b. Spiralled ridges
- c. Toothed ridge
- d. Siphonal canal

## THICK OR TOOTHED TOPSHELL

*Phorcus lineatus*

The toothed topshell is a more southern species that is extending its range northward in Britain and Ireland. They have a circular aperture covered by a 'trapdoor' for protection, a distinctive tooth, zigzag markings, and a pearly underside. Toothed topshells also have a turbinated spire with 6 whorls that can reach up to 3cm in height. They can be dark green, grey, and black, with brown zig-zag markings.



- a. Zig-zag markings
- b. Silvery where eroded
- c. Pearly underside
- d. 'Tooth'

## FLAT OR PURPLE TOPSHELL

*Steromphala umbilicalis*

The flat topshell is easily recognised by its purple stripes and the distinctive hole (umbilicus) in its underside. It has a circular aperture and a small (1.5cm), bluntly conical shell. Flat topshells are usually reddish-purple in colour, accented by thin grey stripes that appear silvery where eroded. Be careful not to confuse this species with grey topshells (*Steromphala cineraria*) - find more about this species on the Observatory.



- a. Silvery where eroded
- b. Aperture (the circular opening of the shell)
- c. Broad, reddish-purple stripes
- d. Umbilicus