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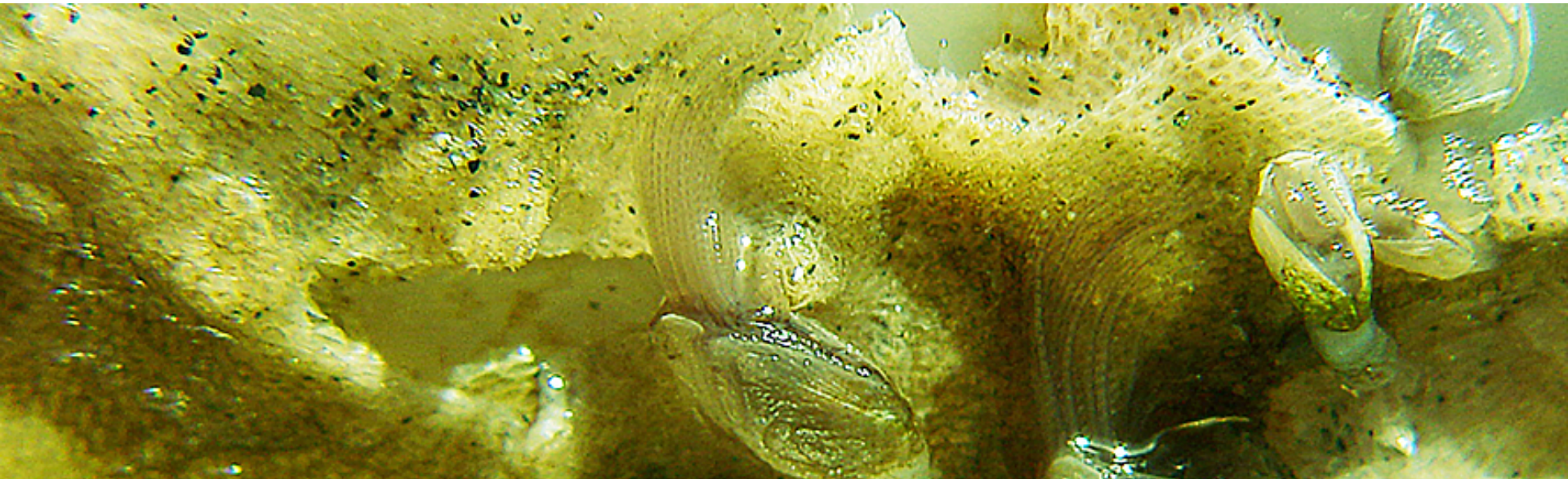
Visualizing the Hidden Beauty of Life on Marine Debris

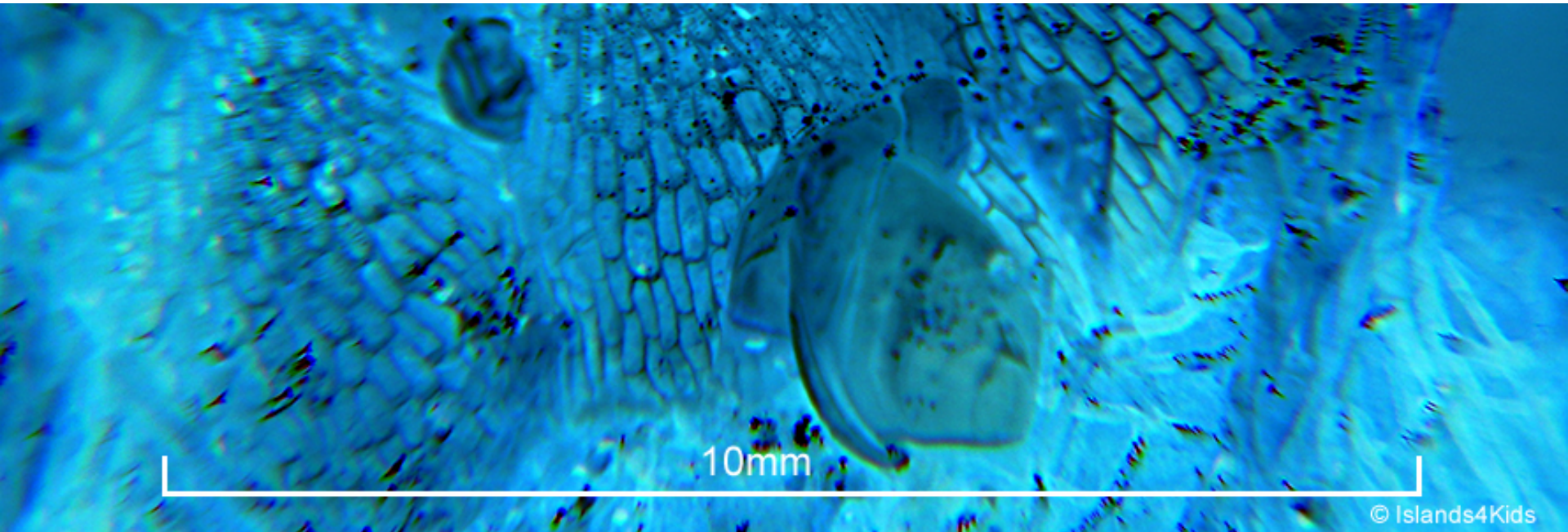
Small lives in potentially harmful environment are still mysteriously sparkling.



Beyond the scope of our imagination,
life on marine debris is artistically beautiful,
despite the potentially harmful environment that they are cultured in.

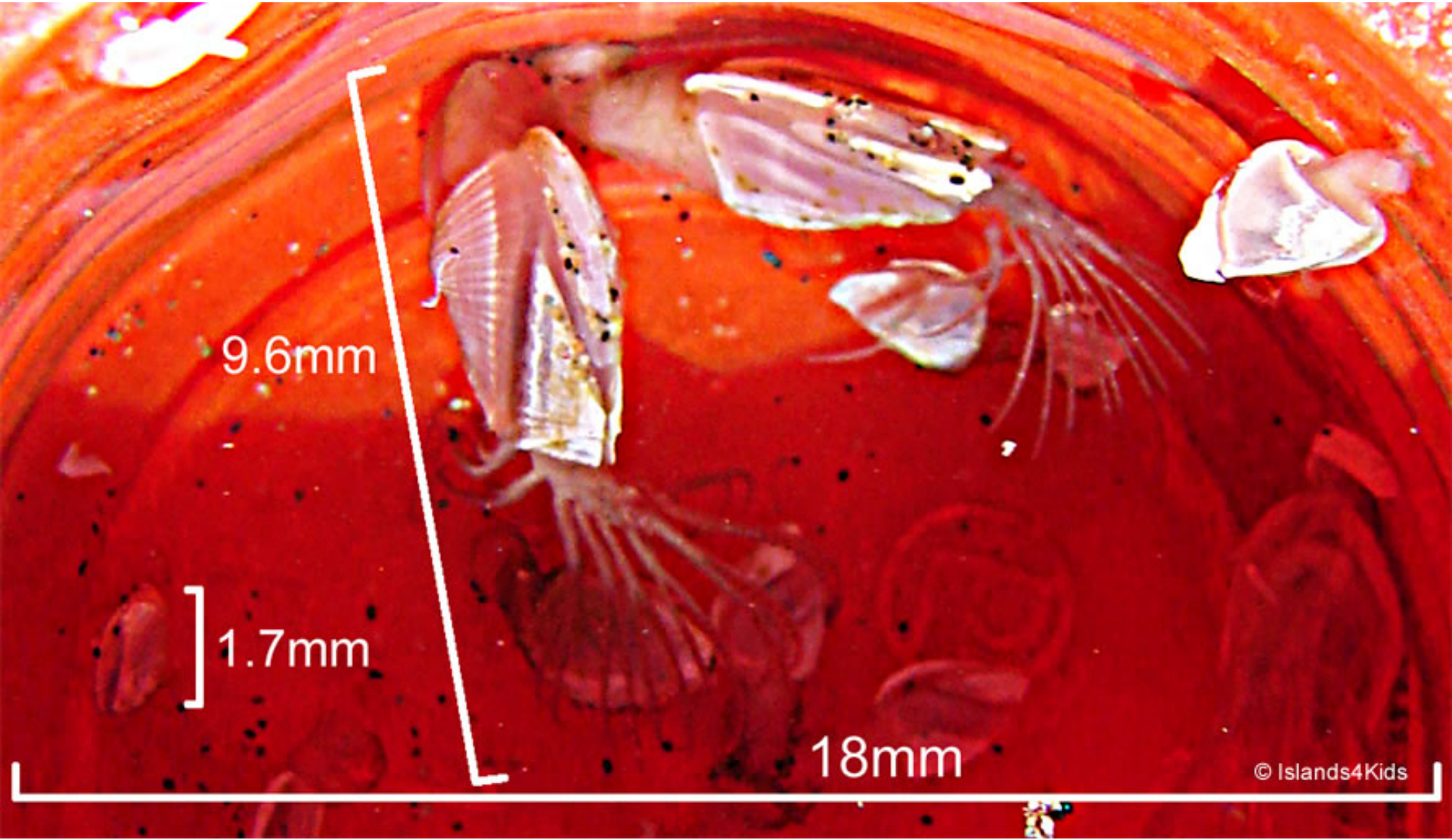
It is heartbreaking, yet amazing to see beautiful creatures
living among the sea of debris that have accumulated in our oceans.

We hope to shine some light onto the wondrous world of those sea creatures so that we can work together to recover their natural habitats to ensure their survival outside the sea of marine debris.



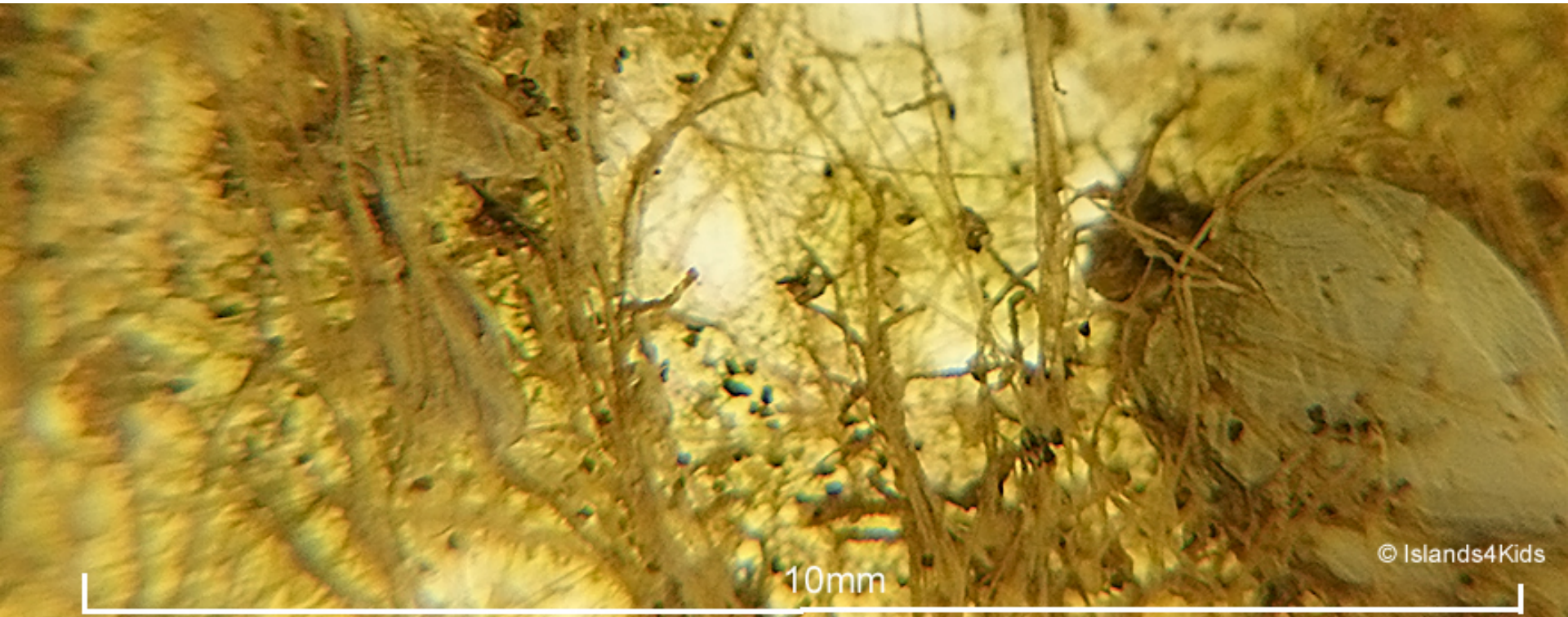
34 baby Gooseneck barnacles (Lepas anatifera) were attached to a 26mm PET bottle cap. How many of them would have been able to grow had the cap not washed ashore?

In natural marine environments, shell parts can grow up to 50mm (2.0in) in length and the peduncle (stalk) can grow up to 400mm (16in) - 800mm (32in) in length.



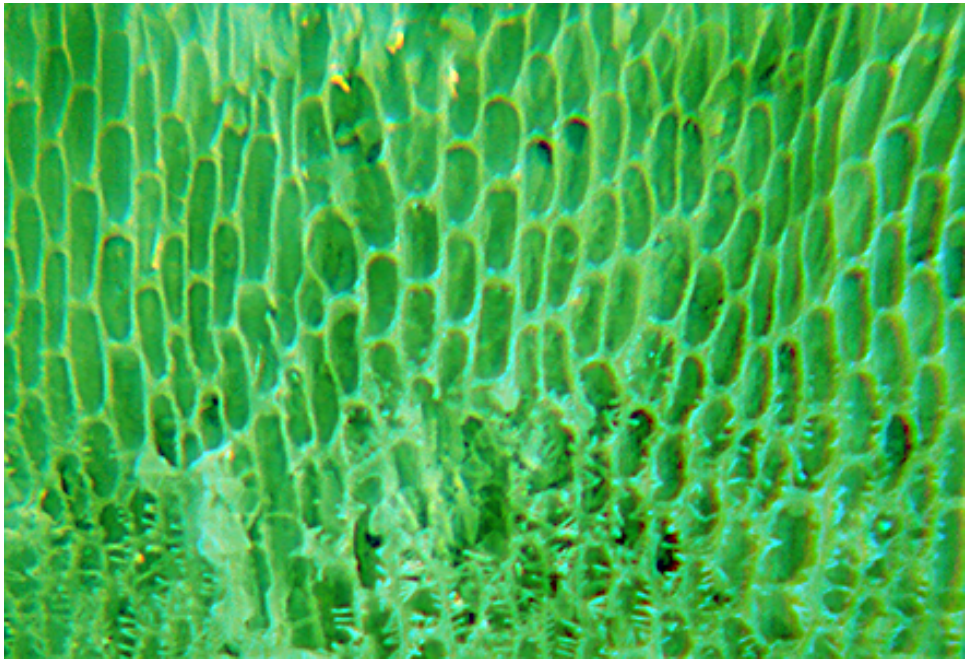
This microscopic image is like a clip of “Fantastic Voyage”, going deeper inside the body.

To the right is a bushy colony of Hydrozoa growing on the surface of plastic marine debris. There is a strange and wonderful world that is worth taking a closer look at.

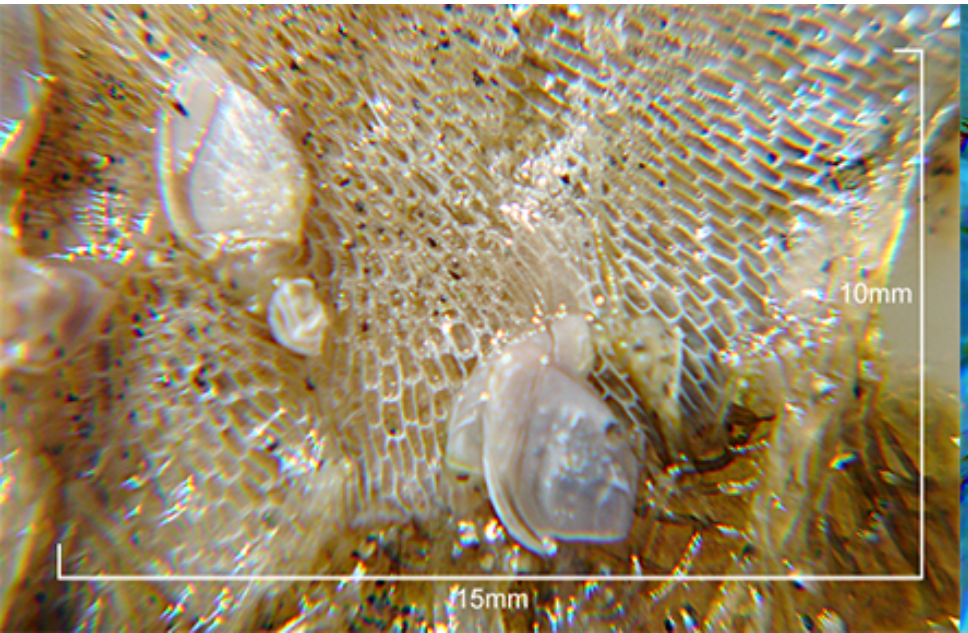


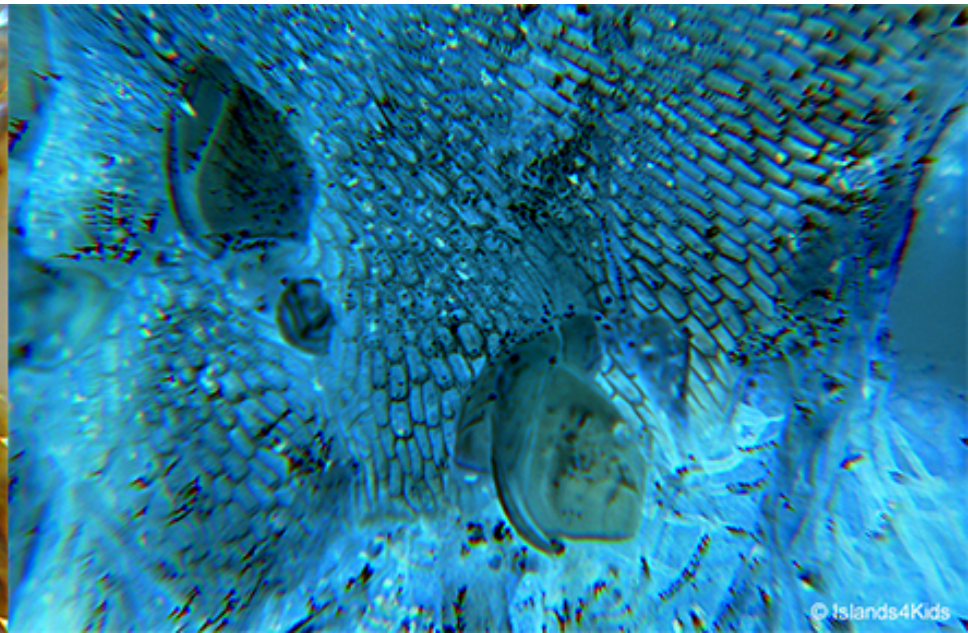
These photos show the protective outer covering of Polyzoa.
Each of the rectangular squares seen in the photos act as compartments that house different marine organisms.

The median size of each compartment is 0.3mm x 0.8mm.

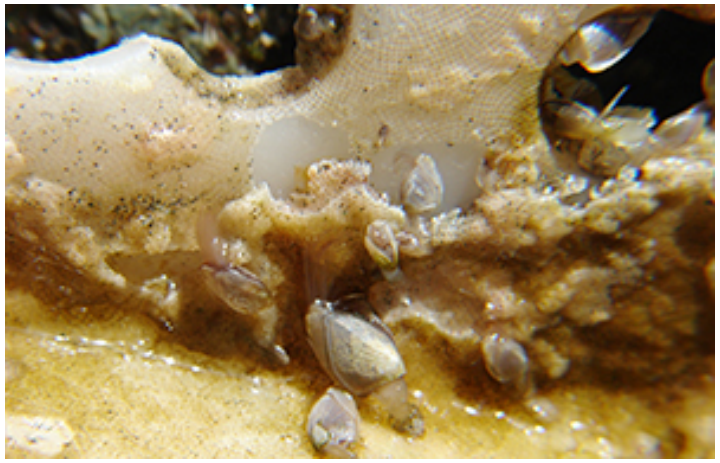


The photos shown above and below are taken with a polarization filter that is set to deliver a clearer image of the photo on the bottom left.





The beautiful half-arches that appear to shoot out of the shells are predaceous organs of baby Gooseneck Barnacles (*lepas anatifera*).



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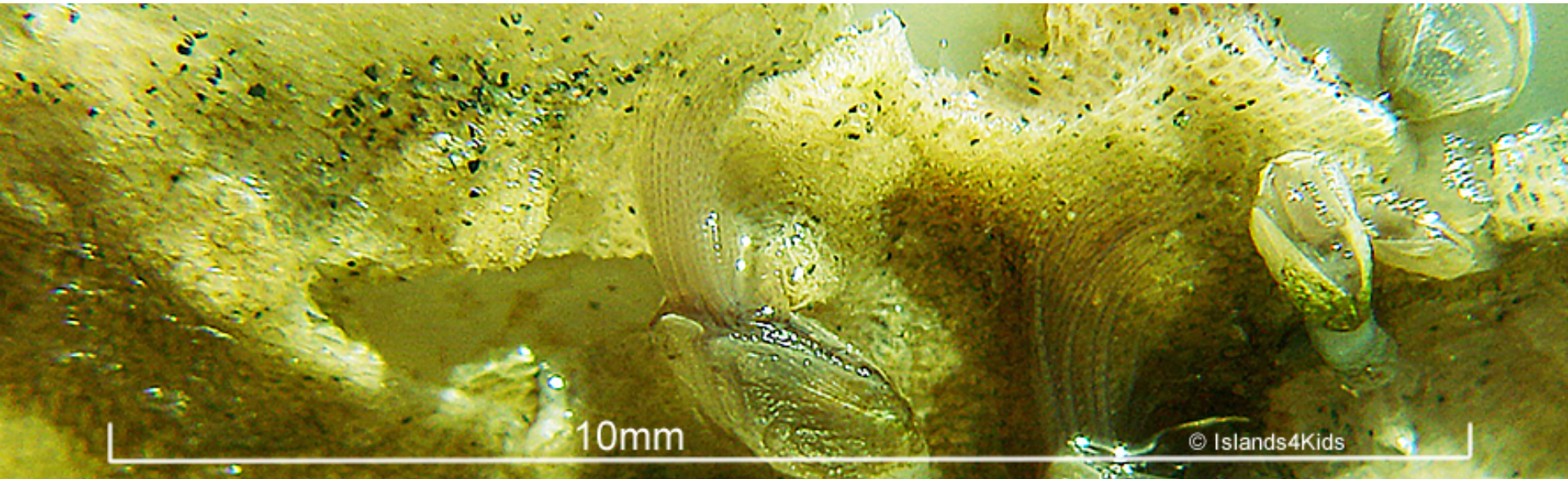
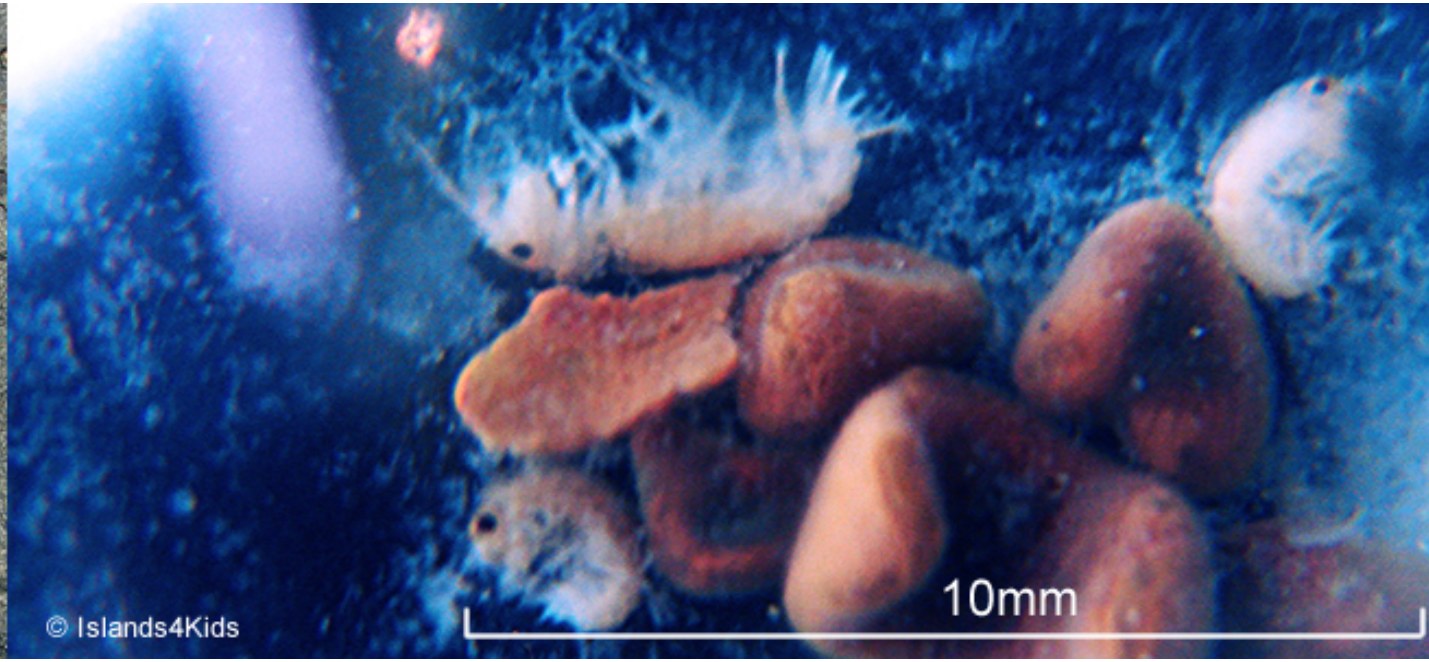


Three amphipods (Hyperia macrocephala), which are a group of macro-planktons, found a home in a small light bulb (6 cm in diameter).

The only access into the bulb is less than 1 mm wide, which is large enough for a filament cable to enter. The eggs of many planktonic species are microscopic in size, ranging in size from 2-20 µm, which allows the eggs to fit through the bulb entry. However, once they begin to grow, they are unable to leave the bulb and return to the ocean.

This demonstrates a good example of why we can't simply remove all debris from the ocean or shore. Many debris have come to shelter marine life, so it is harmful to them if we simply dispose of the debris they are in.



The light bulb shown above was found during a marine debris research at Ocean Shores on July 17, 2014