

# Sponges / “engine” of the deep sea for healthier oceans and human beings

The SponGES project

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@DeepSea\_Sponges  
#SpongeThursday



# What is a sponge ?

Arctic

They are **multicellular organisms** that have bodies full of pores and channels allowing water to circulate through them, consisting of jelly-like mesohyl sandwiched between two thin layers of cells.

The mesohyl embeds collagen fibers, spicules and various cells

Sponges do not have nervous, digestive or circulatory system.

They are geographically widespread (all oceans, all latitudes) and sessile/sedentary in nature.

Found 30 - > 3000 m depth

Antarctica



Images source: Fisheries and Oceans Canada (DFO), University of Bergen (UiB), Rebikoff-Niggeler Foundation, Alfred Wegener Institute (AWI).

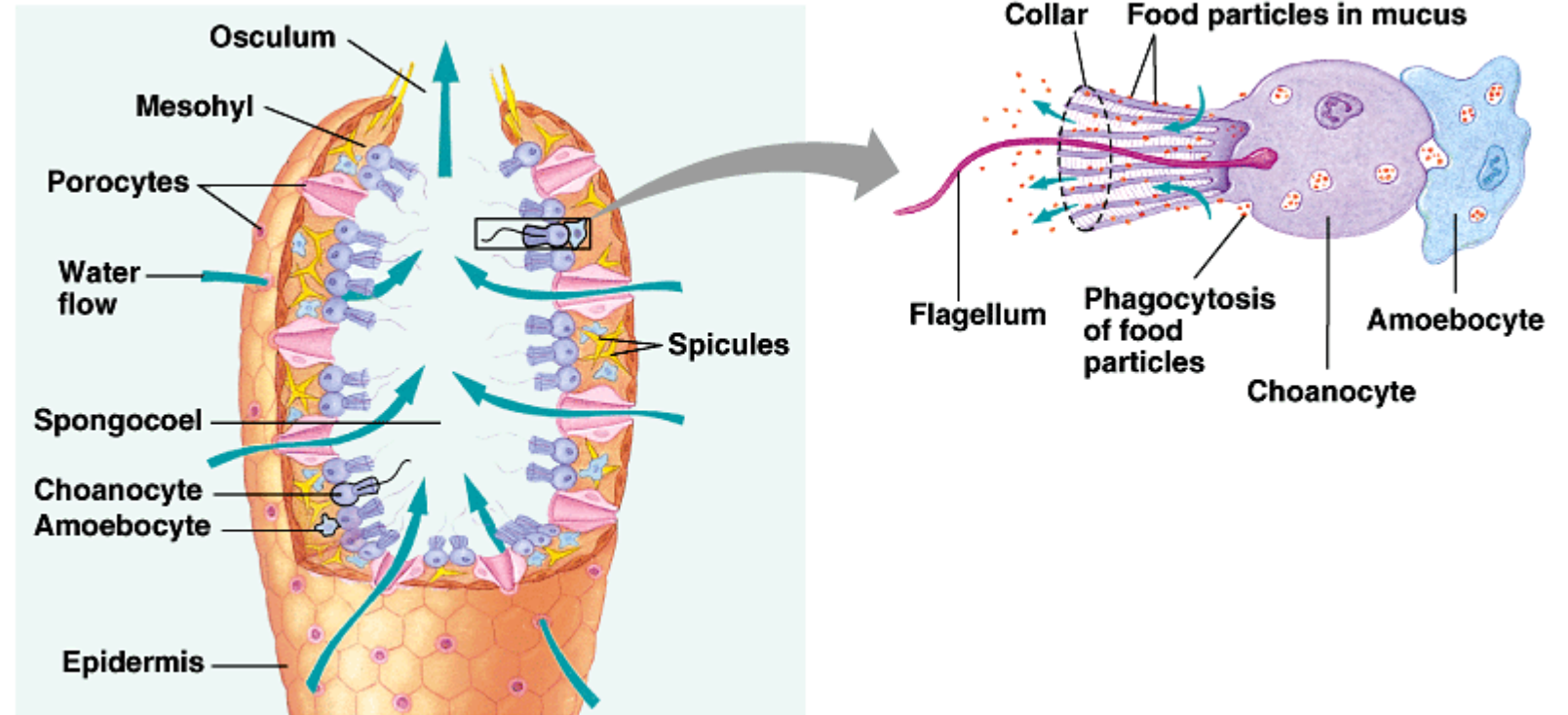


# The filtration capacity of sponges is huge

*Geodia barretti* can filter up to 1,000 liters of water per kilogram of tissue each day.

Other species have filtration rates of up to 20,000 liters seawater kg<sup>-1</sup> h<sup>-1</sup> [dry wt].

Sponges can remove up to 95% of bacteria and particles from the water (POM) and 90% of dissolved organic



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