How can Eco Evo Devo studies on sponges help us to understand the effect of pollutants on both marine biodiversity and human health?

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Abstract

Sponges (Porifera) are one of the first emerged and still present animal lineages. Recent transcriptomic and genomic studies evidence that despite their cellular and anatomical simplicity, these organisms possess a genetic content as diversified as that of other animals. Note worthily, our labs have shown that some key genetic pathways are conserved from sponges to mammals. Moreover, our preliminary results suggest that some pollutants disturb the normal functioning of these pathways that are major players in embryogenesis and tissue integrity in all animals. We are thus convinced that sponges will soon become valuable simple animal models to study the effects of pollutants/perturbations at molecular, cellular and developmental levels.

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