



Once thought to be a form of plant life, sponges (Phylum Porifera) are actually among the simplest of multicellular animals. Marine species are common members of benthic and coral reef communities. They actively filter seawater to obtain oxygen and nutrients. Barrel sponges (*Xestospongia* sp.), like the one pictured on the front cover, have earned a reputation as "redwoods of the sea" because they are able to survive for hundreds of years. Their longevity is due, in part, to a cocktail of defensive chemicals that make them resistant to disease and distasteful to predators. In fact, sponges have attracted the interest of drug companies over the past 50 years and proven to be a rich source of novel compounds with anticancer, antimicrobial, antifungal, antiviral, and anti-inflammatory activity. Acyclovir (Zovirax®), a drug used to treat herpes, and Cytarabine (Cytosar®), a therapy for non-Hodgkin's lymphoma, are both derived from compounds discovered in a sponge that lives off the coast of Florida.

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