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Date _____

Reproductive Strategies

Animal Profile:

BRITTLE STAR (*Ophiactis savignyi*)

Peer into the hole of a sea sponge and you may catch a glimpse of “the world’s most common brittle star,” *Ophiactis savignyi*. These brittle stars are tiny - only an inch or two across with arms stretched. They inhabit virtually all of the world’s tropical and sub-tropical ocean habitats.

Brittle stars are related to sea stars, or starfish, and have a similar body structure. They’ve got a central disk, which holds all the important stuff like the mouth, stomach and reproductive organs. Then there are the arms - long, slender, wavy and edged with short spines. These arms are what give brittle stars their name. They can break off voluntarily and regenerate.

O. savignyi takes the ability to regenerate one step further and actually splits in half in order to reproduce. When fission happens, the brittle star fractures down the middle of its disk, creating two identical 3-armed brittle stars. These stars then grow new arms from their empty arm-spaces. But this isn’t the only way *O. savignyi* reproduces. Like all brittle stars, they also reproduce sexually. At certain times of the year, large females and males raise their disks off the surface, balance on their legs, and release sperm and eggs into the ocean. When the sperm and eggs meet they produce larvae that float away to new habitats.

Fission is the main way that *Ophiocomella* reproduces, but since they don’t move far or fast, this results in large groups of brittle star clones in one area. Scientists believe that sexual reproduction might be a good way for the brittle star to populate new areas far away from their clone-filled sponge homes.



Ophiactis savignyi

Michael Roy



A recently divided *Ophiactis savignyi*. Three tiny arms are beginning to regenerate.

Tamara McGovern



Brittle star spawning.

Ellen Muller - www.phase.com/imagine