

Sexual Reproduction of the Orange Colonial Coral *Astroides calycularis* (Scleractinia: Dendrophyllidae) in the Mediterranean Sea

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This study examines the sexual reproduction in a scleractinian coral living in temperate waters, in the western and central Mediterranean Sea. *Astroides calycularis* is an azooxanthellate coral that colonizes vertical walls, overhangs, cave entrances, and sea caverns with strong water movement, from the surface to 50m in depth. The colonies have been collected monthly, from April 2004 to September 2005 at Palinuro (Salerno, Campania, Italy) in the Southern Tyrrhenian Sea. This is the first in-depth investigation of the reproductive biology of this species. As expected for a member of the family Dendrophyllidae, *A. calycularis* was a gonochoric coral: colonies were sex separated. Morphological aspects of male gametogenesis were similar to those described in other dendrophylliids coral. During spermary development, spermary diameter increased from a minimum of 31 μm during the immature stages to a maximum of 673 μm during the mature stages. Female gametogenesis was characterized by the conspicuous presence of lipid droplets in the oocyte cytoplasm, which were of phagocytic origin. During oogenesis, oocyte diameter increased from a minimum of 30 μm during the immature stage to a maximum of 1529 μm when mature. Embryogenesis took place in the coelenteron indicating a brooding reproductive mode. Quantitative data on the annual reproductive cycle indicate spring fertilization.