

Paleoceanographic study of submarine cave with air-chamber

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A submarine cave named Ginama cave is located on the northwestern coast of Hedo Point, Okinawa Mainland, Japan. The entrance of the cave lies about 16 m deep. The cave is about 40 m long and ascends until it reaches sea level, thus forming a closed air-chamber at its farthest extension. We measured water temperature and salinity in the cave at 14 October 2011 and collected sessile fauna on the wall with a hammer and chisel. The humidity is almost 100 percent at the air-chamber, because we could see our breath. This implies that the formation of speleothems may be stopped within the air-chamber. Salinity increased from 11.7psu at water surface at the air-chamber to 32.9psu at 11m depth. Skeletal shells of cave-dwelling bivalve *Pycnodonte taniguchii* and coralline sponges *Acanthochaetetes wells* and *Astrosclera willeyana* were collected at the wall between 2 and 7 m depth. On the other hand, the living individuals of coralline sponges are observed at the cave wall below 11 m depth.

Keywords: submarine cave with air-chamber, sessile fauna, environmental changes, Okinawa