

Sisbiota-Mar protocol - benthic community sampling

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Abstract

The Sisbiota-mar photoquadrat survey aims to quantify the benthic cover of horizontal reef surfaces using photography and subsequent image analysis, in a manner that is directly comparable across geographies. Our survey method employs 2m² horizontal surfaces of reef area at 1-7 meters (shallow) and 8-15 meters (deep). At each locality, between one and five reef sites were assessed (but most of them had at least three sampled sites). The 2m² horizontal surfaces of reef area were at least 2 meters apart and haphazardly selected (avoiding sand patches). On each 2m² reef area, the benthic community was assessed by a set of five 25x25 cm photoquadrats.

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Protocol

Photoquadrat procedure

Step 1.

At the start, a diver selects 2m² (1x2m) horizontal surface on reef, avoiding sand and big boulders, either at 1-7 meters (shallow) or 8-15 meters (deep). On each 2m² the diver photographs the bottom by a set of five photoquadrats (25x25 cm). The 2m² areas were around 2-5m meters apart from each other.

Photoquadrat analysis

Step 2.

Digital photographs are analyzed using a PC with the software called photoQuad (<http://www.mar.aegean.gr/sonarlab/photoquad/index.php>) by laying fifty random points on each image and identifying the organism underneath to the lowest taxonomic level possible.