

A MAP OF SEAGRASS MEADOWS IN PALAEOCHORI BAY (MILOS ISLAND, GREECE), A MARINE AREA WITH HYDROTHERMAL ACTIVITY

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Abstract

Cymodocea nodosa (Ucria) Ascherson and *Posidonia oceanica* (L.) Delile form extensive meadows in Palaeochori Bay, but only the former lives in close proximity to actively venting sites and brine seepage areas.

Key-words : phanerogams, thermal vents, Aegean Sea

Introduction

Seagrass meadows are dominant and conspicuous communities, of prime importance to the ecology of marine coastal areas (1). Five seagrass species occur in the Mediterranean Sea, but only *Posidonia oceanica* (L.) Delile forms major meadows. *Cymodocea nodosa* (Ucria) Ascherson may also be abundant in certain areas. The importance of seagrass meadows, both from an ecological point of view and for the coastal equilibrium, induced many Mediterranean countries to map their extension (e.g., 2, 3 and references therein).

In the Aegean Sea, seagrasses are known to occupy an important area (2) but only few sites have actually been mapped: Gulf of Geras, Lesvos Island (4), Saronikos Gulf (5), Gulf of Thermaikos (6).

In this paper, we present a first map of seagrass meadows in Palaeochori Bay, an area located to the SE of Milos Island, which is strongly influenced by hydrothermal activity (7, 8). First observations on the biological communities in this area showed that both *Posidonia oceanica* and *Cymodocea nodosa* were present (9, 10).

Methods

The coastline of Palaeochori Bay was surveyed in June 1996 by compass traverse, using aerial photography as a basis. The sea-floor of the bay was mapped from an inflatable rubber boat equipped with an echo-sounder and post-processing dGPS (~ 10 m accuracy) connected to a portable computer. While the boat was holding courses perpendicular to the coast, an observer gave the computer technician a "mark" every time the boat was exactly above an edge of the meadow. Thanks to the great water visibility (20 m and more), the canopy cover was estimated visually, as done in manta tow surveys (11). Position of most vent sites was located by snorkelling or SCUBA diving. Depth contours and the other data recorded were elaborated using @Surfer and @Autocad software packages.

Results and discussion

A qualitative map of the seagrass meadows in Palaeochori Bay was originally produced at a scale 1:10,000 but is reproduced at a smaller scale in the present paper (Fig. 1). Mapping was restricted to a depth

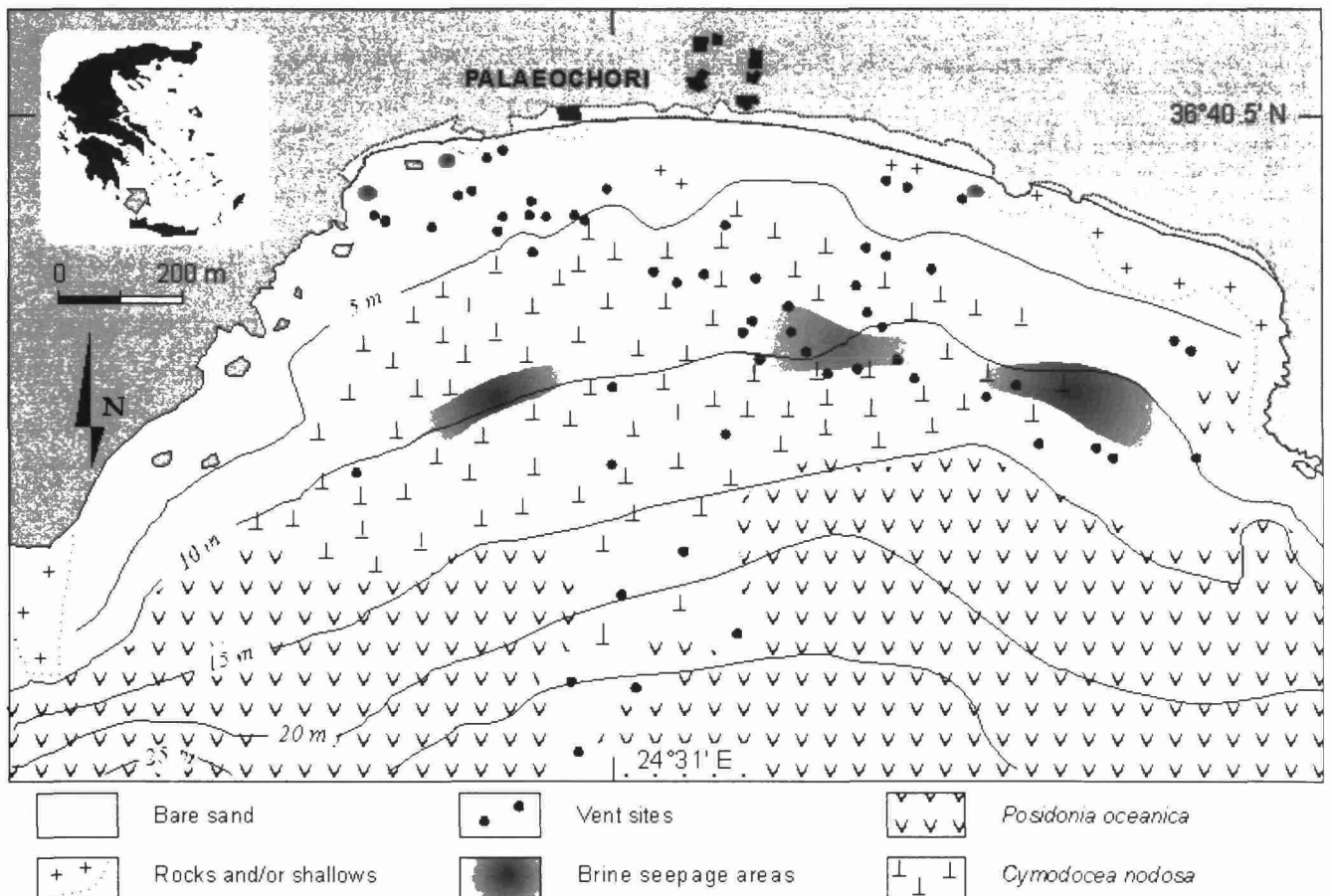


Figure 1: Bathymetric map of Palaeochori Bay, Milos Island, with hydrothermal sites and seagrass meadows.