

## *Apoglossum gregarium* (Delesseriaceae, Rhodophyta), a New Record for Mediterranean Algal Flora

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### Abstract

The diminutive marine red alga *Apoglossum gregarium* (Dawson) Wynne (Delesseriaceae, Rhodophyta) is reported for the first time in the Mediterranean, where it grows in deep water as an epibiont on gorgonians. Vegetative and reproductive characteristics of the plants are illustrated and their occurrence along the Tuscan Archipelago shore is discussed.

### Introduction

In the Mediterranean, genera and species belonging to the Delesseriaceae are not very numerous. In particular the diminutive species which grow in deep water habitats have been little investigated in recent years.

During a floristic survey of the deep water algal flora of the Tuscan Archipelago a delesseriacean alga whose morphology agrees with the genus *Apoglossum* was collected growing on gorgonians. In the Mediterranean this genus has been represented only by the type species *Apoglossum ruscifolium* (Turner) J. Agardh, which is widely distributed both in the western (Ballesteros and Romero 1982, Boudouresque *et al.* 1984, Giaccone *et al.* 1985, Ben Maïz *et al.* 1987a) and eastern areas (Athansiadis 1987).

Collections of tetrasporangial and gametangial plants has made possible the identification of our material as *A. gregarium* (Dawson) Wynne, a species previously known from southern California and Pacific Mexico (Wynne 1985), the Caribbean and Gulf of Mexico (Ballantine and Wynne 1985) and South Africa (Wynne and Norris 1991). This paper reports *A. gregarium* for the first time from the Mediterranean, and describes the habit and the vegetative and reproductive morphology of plants collected in the Tuscan Archipelago. Data is also presented on the associated algal vegetation.

### Material and Methods

Specimens of *Apoglossum gregarium* were collected by SCUBA diving at several locations on the Tuscan Archipelago: Scoglio del Corallo (Argentario) 15. iii. 1992; Punta del Fenaio (Giglio Island) 22. iii. 1992 and 18. viii. 1992; Formiche di Grosseto 26. iv. 1992; S. Andrea (Elba Island) 14. vii. 1992; Rio Marina (Elba Island) 25. ix. 1992 (Fig. 1).

The plants were growing in the subtidal zone at between 20 to 35 meters depth mainly on the surface of dead portions of gorgonians [*Paramuricea clavata* (Risso 1826) and *Eunicella* spp.]. Fragments of the hosts bearing attached plants were detached and preserved in 5% buffered formalin/sea water.

Microscopic slides for observation were mounted and stained in a solution of 1% aniline blue/1N HCl/liquid glucose (Karo syrup)/water (4 : 1 : 30 : 65). Drawings were made with the camera lucida and photographs were taken through a Zeiss Axiophot microscope. Herbarium specimens and slide preparations have been deposited in the Herbarium Universitatis Florentinae (FI).

### Description of Plants

Plants consist of dense groups of small, erect, spatulate blades up to 7 mm in height and 1–3.5 mm in width. Blades arise from prostrate, terete axes and are