Continuing range extension of *Halophila stipulacea* (Forssk.) Aschers. (Hydrocharitaceae) in the Mediterranean—now found at Kefallinia and Ithaki (Ionian Sea)

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SUMMARY

A stand of the seagrass *Halophila stipulacea* (Forssk.) Aschers. has been discovered at the Ionian Island of Kefallinia. Detached floating plants have been observed in various harbours on Kefallinia and Ithaki, indicating a further range extension in the Mediterranean.

Key-words: extension, Halophila stipulacea, range.

Halophila stipulacea (Forssk.) Aschers. is a seagrass which is known to occur in the Mediterranean since 1894 (Lipkin 1975). It invaded the Mediterranean from the Red Sea through the Suez canal. In the Mediterranean it established itself first in the eastern part from which new localities can still be reported (Den Hartog & Van der Velde 1992; Zibrowius 1992). It has also been found in Malta since 1970, up to now the most western locality in the Mediterranean (Lipkin 1975). Recently the species has been reported to occur in Sicily, where it was found in 1989 (Biliotti & Abdelahad 1990) and in some localities in the southern and western regions of Greece (Haritonidis & Diapoulos 1990) (Fig. 1).

From 9 to 23 September 1991 the first author visited the Ionian Isles of Kefallinia and Ithaki off the west coast of Greece. Plants of *H. stipulacea* were found in five localities (Fig. 2). In four places it occurred as freshly detached floating plants, indicating the presence of stands of the species in the close vicinity, and in one locality a well-developed stand of the species was found. None of the observed plants were flowering. The following is a list of localities of where the species was found (see Fig. 2).

Kefallinia

- 1. Lassi Beach in front of Hotel White Rocks, northern bay of a small peninsula. *H. stipulacea* grows here at depths of 1–3 m associated with *Cymodocea nodosa* (Ucria) Aschers. and the bivalve *Pinna nobilis* L. The bottom in this locality consists of silty, finely-grained sand, which is highly reduced. Only the upper cm is not black. Both seagrasses root in the reduced sand; however, they were also found as pioneers on pure yellow sand without a reduced layer (Fig. 3).
- 2. Harbour of Argostoli. Some detached living plants were observed together with masses of *C. nodosa*.
- 3. Harbour of Lixouri. A fresh leaf was found between leaves of C. nodosa.
- 4. Harbour of Agia Efimia. A single floating plant was observed.



Fig. 1. Distribution of Halophila stipulacea in the Mediterranean.



Fig. 2. Halophila stipulacea on the Ionian Isles Kefallinia and Ithaki.

Ithaki

5. Harbour Kioni. A single floating plant was found between leaves and plants of *C. nodosa*.

No plants of *H. stipulacea* were found in the harbours of Fiskardo in the north of Kefallinia or of Vathi on Ithaki. In both these localities the bottom consists of gravel, and only the chlorophyte *Caulerpa prolifera* (Forssk.) Lamour. was found flourishing here.



Fig. 3. Halophila stipulacea surrounded by Cymodocea nodosa, both species as pioneers on bare sand at Lassi Beach, Kefallinia (Photograph G. van der Velde).

The observations on *H. stipulacea* at Kefallinia and Ithaki are complementary to those of Tsekos & Haritonidis (1977), who observed floating plants at the Ionian Isle of Paxi (Porto-Gaios) in 1976 and Zibrowius (1991), who mentioned the occurrence of the species in the Korinthiakos Gulf in 1977. According to Haritonidis & Diapoulos (1990) it is now common in the gulf. At present *H. stipulacea* is probably widely distributed in suitable habitats in the Ionian Isles. The discovery of new localities along the west coast of Greece, at Sicily and Malta suggests that the species is still continuing to extend its range. The species should be searched for along the coasts of Tunisia, the Gulf of Tarente and the southern Adriatic Sea. In spite of its long presence in the Mediterranean the species is still unknown in the western part. During a recent investigation on seagrasses along the Costa Brava (Spain) in 1991 the species was not found and also not along the Gulf of Tarente (Mare Grande, Capo S. Vito, Lido Silvana, Gallipoli) and at Bari (Italy) in spite of investigations in January 1992 I. Nagelkerken (pers. comm.) (Fig. 1).

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