

## MARINE ALGAE OF KILITBAHIR SHORE (GELIBOLU, ÇANAKKALE, TURKEY)

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### Abstract

During a survey of marine algae growing at Kilitbahir coast (Çanakkale Bosphorus, Sea of Marmara, Turkey), collection were made at the upper-infralittoral region in 1999. Out of 87 species belonging to the divisions Cyanophyta, Chlorophyta, Phaeophyta, Rhodophyta identified, 34 of which are being reported for the first time from the coast of Kilitbahir and 5 from Sea of Marmara. Distribution of the identified specimens according to their orders and mode of occurrence in the algal flora of Kilitbahir shores of Turkey is being presented.

### Introduction

Turkey has a coastline of about 8100 km harbouring 775 species of marine benthic algae according to the check-list prepared by Taşkın *et al.*, (2001). The studies made by Aysel *et al.*, (1991, 1993) on the shores of the Sea of Marmara revealed the occurrence of 440 species belonging to two divisions. Zeybek *et al.*, (1993) reported 415 taxa from the Sea of Marmara. Recently, phycological studies were started to make a detailed investigation of the narrow areas in order to determine algal flora of the shores of Turkey. The present report describes the algal flora of Kilitbahir shores of Turkey.

### Materials and Methods

The specimens were collected with the help of SCUBA during and snorkeling from the coast of Kilitbahir (Gelibolu, Canakkale, Turkey) in 1999. Location of the study area is shown in Fig. 1. The coast includes sandy beaches and rocky platforms in the littoral regions. Specimens were preserved in 4-5% formalin-seawater and identified after reference to Kornmann & Sahling (1983), Pankow (1990), Maggs & Hommersand (1993).

### Results and Discussion

A list of marine benthic algae identified during the surveys and ecological notes about the nature of habitat for each species is given. Species marked with one asterisk are new records for the coast of Kilitbahir and those marked with two asterisks are new records for the Sea of Marmara. In this study, 34 species were recorded for the first time in Kilitbahir, of these *Lyngbya adriae*, *Phormidium tenue*, *Cladophora dalmatica*, *Corallina pinnatifolia* and *Pseudolithophyllum expansum* are new records for the Sea of Marmara.

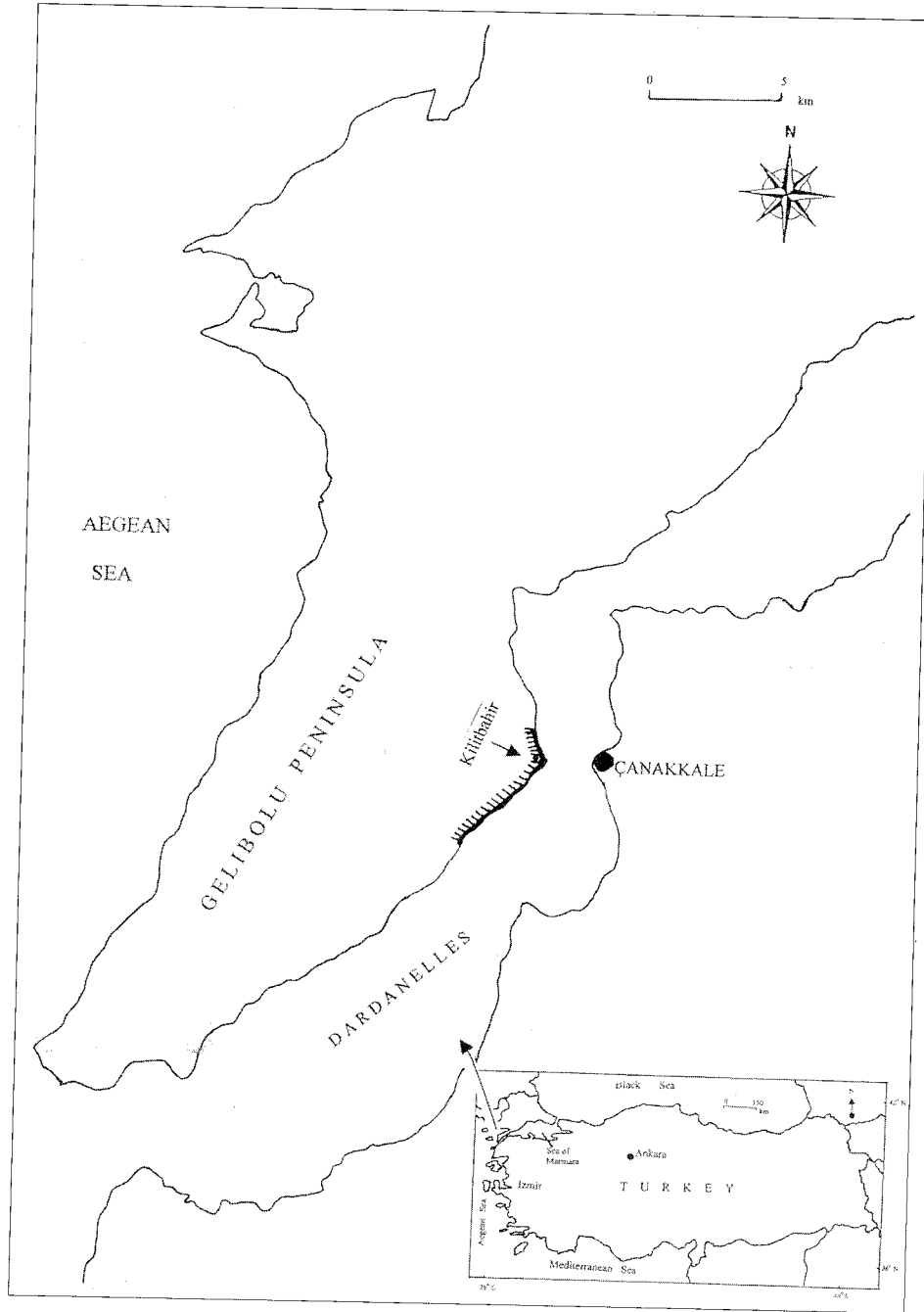


Fig. 1. Location of study area on the coast of Turkey

**Cyanophyta****Oscillatoriales**

\*\**Lyngbya adriae* Ercegovic: epiphytic on other seaweeds in the upper-littoral region; fotofil.

\*\**Phormidium tenue* Meneghini: epilithic in the supra-littoral; fotofil.

**Chlorophyta****Ulvales**

\**Enteromorpha compressa* (L.) Greville var. *compressa*: epilithic on upper and mid-littoral rocky pools; fotofil.

*E. linza* (L.) J.Agardh var. *linza*: epilithic in the upper-littoral; fotofil.

*E. linza* (L.) J.Agardh var. *minör* Schifffner: epilithic in the upper-littoral; fotofil.

*E. prolifera* (O.F. Müller) J.Agardh subsp. *prolifera*: epilithic in the upper-littoral; fotofil.

\**Ulva fasciata* Delile var. *fasciata*: epilithic on upper-littoral rocks; fotofil.

*U. lactuca* L.: epilithic in the upper-littoral; fotofil.

*U. rigida* C. Agardh: epilithic on upper and mid-littoral; fotofil.

**Cladophorales**

*Chaetomorpha aerea* (Dillwyn) Kützing: epilithic on upper and mid-littoral rocks; fotofil.

\*\**Cladophora dalmatica* Kützing: epilithic in the upper-littoral with other algae; fotofil.

\**C. glomerata* (L.) Kützing var. *glomerata*: epilithic on upper-littoral rocks; siafil.

\**C. prolifera* (Roth) Kützing var. *prolifera*: epilithic on upper-littoral rocks; siafil.

\**C. rudolphiana* (C. Agardh) Kützing: epilithic on upper-littoral rocks; siafil.

**Dasycladales**

\**Dasycladus vermicularis* (Scopoli) Krasser: epilithic on rocky substrata in the littoral region; siafil.

**Bryopsidales**

*Codium bursa* (L.) C. Agardh: benthic in the sub-littoral; fotofil and siafil.

*C. fragile* (Suringar) Hariot: epilithic in the upper-littoral, abundant; fotofil and siafil.

\**Flabellia petiolata* (Turra) Nizamuddin: epilithic in sandy bottom in sheltered areas; siafil.

*Halimeda tuna* (Ellis et Solander) Lamouroux: epilithic on rocky substrata in sheltered areas; fotofil and siafil.

**Phaeophyta****Ectocarpales**

\**Acinetospora crinita* Kornmann: abundant; epiphytic on other algae in the upper-littoral; fotofil.

*Ectocarpus siliculosus* (Dillwyn) Lyngbye var. *siliculosus*: epilithic in the upper and mid-littoral; fotofil.

\**Feldmannia globifera* (Kützing) Hamel: epiphytic on other algae in the upper-littoral; siafil.

*F. irregularis* (Kützing) Hamel: epilithic on intertidal rocks; fotofil.

*Hincksia mitchelliae* (Harvey) Silva: scarce; epiphytic on *Asperococcus fistulosus* (Hudson) Hooker; fotofil.

### Chordariales

*Spermatochmus paradoxus* (Roth) Kützing var. *paradoxus*: epilithic on upper and mid-littoral rocks; fotofil.

### Dictyosiphonales

\**Asperococcus fistulosus* (Hudson) Hooker: epilithic in the upper littoral rocks; fotofil.

\**P. hiemalis* Kylin: epilithic on upper and mid-littoral rocks; fotofil.

\**Punctaria latifolia* Greville: epilithic on upper and mid-littoral rocks; fotofil.

### Scytosiphonales

\**Colpomenia sinuosa* (Mertens ex Roth) Derbès et Solier: epilithic on upper and mid-littoral rocks; fotofil.

\**Hydroclathrus clathratus* (Bory ex C. Agardh) Howe: epilithic in the upper littoral rocks; fotofil.

*Scytosiphon simplicissimus* (Clemente) Cremades: epilithic on upper and mid-littoral rocks; fotofil.

### Cutleriales

\**Cutleria multifida* (Smith) Greville: epilithic on upper and mid-littoral rocks; fotofil.

### Sphacelariales

*Cladostephus spongiosus* (Hudson) C. Agardh f. *verticillatus* (Lightfoot) Prud'homme van Reine: epilithic in the upper littoral rocks; fotofil.

*Halopteris filicina* (Grateloup) Kützing: epilithic in the upper-littoral; fotofil.

*Sphacelaria furcigera* Kützing: epiphytic on other algae and epilithic in the upper-littoral.

*S. tribuloides* Meneghini: epiphytic on other algae and epilithic in the upper-littoral.

*Stypocaulon scoparium* (L.) Kützing (Syn.: *Halopteris scoparia* (L.) Sauvageau): epilithic on upper and mid-littoral rocks; fotofil.

### Dictyotales

\**Dictyopteris polypodioides* (De Candolle) Lamouroux: epilithic in the upper-littoral rocks; fotofil and siafil.

*Dictyota dichotoma* (Hudson) Lamouroux: epilithic in the upper-littoral rocks; fotofil.

\**D. dichotoma* (Hudson) Lamouroux var. *incricata* (C. Agardh) Greville: epilithic in the upper-littoral rocks; fotofil.

*D. linearis* (C. Agardh) Greville: epilithic in the upper-littoral rocks; fotofil.

*Padina pavonica* (L.) Thivy in Taylor: epilithic on upper and mid-littoral rocks; fotofil and siafil.

### Fucales

*Cystoseira barbata* (Good. et Wood.) J. Agardh var. *barbata*: abundant; epilithic on upper and mid-littoral rocks; fotofil.

*C. compressa* (Esper) Gerloff & Nizamuddin f. *compressa*: scarce; epilithic in the upper-littoral rocks; fotofil.

\**C. corniculata* (Wulfen) Zanardini: epilithic in the upper-littoral rocks; fotofil.

*C. crinita* (Desf.) Bory: epilithic in the upper-littoral rocks; fotofil.

\**C. mediterranea* Sauvageau: epilithic in the upper-littoral rocks; fotofil.

\**Sargassum acinarum* (L.) C. Agardh: epilithic in the upper-littoral rocks; fotofil.

\**S. hornschurchii* C. Agardh: epilithic on upper and mid-littoral rocks; fotofil.

*S. vulgare* C. Agardh: epilithic in the upper-littoral rocks; fotofil.

### Rhodophyta

#### Erythropeltidales

*Erythrotrichia carnea* (Dillwyn) J. Agardh: epiphytic on other algae and epilithic in the upper-littoral; fotofil and siafil.

\**Sahlugia subintegra* (Rosenvinge) Kornmann: abundant; epiphytic on other seaweeds in the upper-littoral region; fotofil.

#### Bangiales

*Bangia atropurpurea* (Roth) C. Agardh: epilithic in the upper-littoral; fotofil.

#### Acrochaetiales

*Audouinella daviesii* (Dillwyn) Woelkerling: epilithic in the upper-littoral; fotofil.

\**A. microscopica* (Naegeli in Kützing) Woelkerling: abundant; epiphytic on other algae in the upper and mid-littoral; fotofil.

*A. secundata* (Lyngbye) Dixon in Parke et Dixon: epiphytic on other algae in the upper and mid-littoral; fotofil.

#### Nemaliales

*Nemalion helminthoides* (Velley) Batters: epilithic in the mid-littoral; fotofil.

#### Corallinales

*Amphiroa rigida* Lamouroux: epilithic in the upper and mid-littoral; fotofil and siafil.

- Corallina elongata* Ellis et Solander: epilithic in the mid-littoral; fotofil.  
*C. officinalis* L.: epilithic in the upper and mid-littoral; fotofil.  
 \*\**C. pinnatifolia* Manza: epilithic in the upper and mid-littoral; fotofil.  
*Fosliella farinosa* (Lamouroux) Howe: abundant; epiphytic on other algae in the upper and mid-littoral; fotofil.  
 \**Jania corniculata* (L.) Lamouroux: epilithic in the upper and mid-littoral; fotofil.  
*J. rubens* (L.) Lamouroux: epilithic in the upper and mid-littoral; fotofil.  
 \*\**Pseudolithophyllum expansum* (Philippi) Lemoine: epilithic in the upper and mid-littoral; siafil.

### Halymeniales

- Grateloupia filicina* (Wulfen) C. Agardh: epilithic in the mid-littoral; fotofil.

### Gigartinales

- Hypnea musciformis* (Wulfen in Jacquin) Lamouroux: epilithic in the upper and mid-littoral; fotofil.  
 \**Peyssonnelia rubra* (Greville) J. Agardh: epilithic in the upper littoral; siafil.  
*P. squamaria* (Gmelin) Decaisne: epilithic in the upper littoral; siafil.

### Ceramiales

- Boergeseniella fruticulosa* (Wulfen) Kylin: epilithic in the upper-littoral; fotofil.  
*Ceramium ciliatum* (Ellis) Ducluzeau var. *ciliatum*: epilithic in the upper and mid-littoral; fotofil.  
 \**C. tenerimum* (Martens) Okamura var. *brevizonatum*: epiphytic and epilithic in the upper and mid-littoral; fotofil.  
*C. tenuissimum* (Lyngbye) J. Agardh var. *tenuissimum*: epiphytic and epilithic in the upper and mid-littoral; fotofil.  
*Dasya rigidula* (Kützing) Ardissonne: epilithic in the upper-littoral; siafil.  
*Hypoglossum woodwardii* (Woodward) Kützing var. *woodwardii*: epiphytic and epilithic in the upper littoral; fotofil.  
*Heterosiphonia crispella* (C. Agardh) Wynne var. *laxa* (Boerg.) Wynne: epiphytic and epilithic in the upper littoral; fotofil.  
 \**Heterosiphonia secunda* (C. Agardh) Ambronn f. *secunda*: epiphytic in the upper littoral; fotofil.  
 \**H. secunda* (C. Agardh) Ambronn f. *tenella* (C. Agardh) Wynne: epiphytic in the upper-littoral; fotofil.  
 \**Laurencia obtusa* (Hudson) Lamouroux var. *crucifera*: epilithic in the upper and mid-littoral; fotofil.  
*L. obtusa* (Hudson) Lamouroux var. *gracilis* (Kützing) Hauck: epilithic in the upper and mid-littoral; fotofil.  
*L. obtusa* (Hudson) Lamouroux var. *obtusata*: epilithic in the upper and mid-littoral; fotofil.  
*L. obtusa* (Hudson) Lamouroux var. *pyramidata* J. Agardh: epilithic in the upper and mid-littoral; fotofil.

- L. papillosa* (Forssk.) Greville: epilithic in the upper and mid-littoral; fotofil.  
*Lophosiphonia scopulorum* (Harvey) Womersley: epilithic in the upper-littoral; fotofil.  
*L. subadunca* (Kützing) Falkenberg: epilithic in the upper-littoral; fotofil.  
*Osmundea pinnatifida* (Hudson) Stackhouse: epilithic in the upper and mid-littoral; fotofil.  
*Polysiphonia sertularioides* (Grateloup) J. Agardh: epilithic in the upper-littoral; fotofil.

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