

Marine Algae and Seagrasses of Antalya Coastline (Mediterranean, Turkey)

Antalya Sahillerinde Deniz Algleri ve Deniz Çayırları

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Abstract

In this study, the upper infralittoral zone of Antalya (Turkish Mediterranean coast) was studied. 375 algae and five seagrasses were determined. There are (36 taxon) blue-green algae (*Cyanophyceae*), (198 taxon) red algae [*Rhodellophyceae* (1), *Compsopogonophyceae* (2), *Bangiophyceae* (5), *Florideophyceae* (190)], (74 taxon) brown algae (*Fucophyceae*), (67 taxon) green algae [*Chlorophyceae* (4), *Ulvophyceae* (18), *Cladophorophyceae* (23), *Bryopsidophyceae* (20), *Dasycladophyceae*(2)] and (5 taxon) seagrasses (*Liliopsida*). *Bonnemaisonia clavata* G. Hamel (*Rhodophyceae*) was given as new record for the Turkish Marines. *Leibleinia epiphytica* (Hieronymus) Anagnostidis and Komárek, *Microchaete grisea* Thuret, *Calothrix scopulorum* (Weber van Bosse and Mohr) C. Agardh (*Cyanophyceae*), *Gelidiocolax christinae* J. Feldman et G. Feldman, *Falkenbergia hildenbrandii* (Bornet) Falkenberg, *Hydrolithon farinosum* var. *chalicodictyum* (W.R. Taylor) Serio, *Acrodiscus vidovichii* (Meneghini) Zanardini, *Ceramium codii* (Richards) Feldmann Mazoyer, *Chondria mairei* Feldmann Mazoyer, *Polysiphonia paniculata* Montagne (*Rhodophyceae*) and *Ulva curvata* (Kützing) De Toni (*Ulvophyceae*) were given as new record for the Turkish coast of Mediterranean.

Key Words: Blue-green algae, red algae, brown algae, green algae, seagrasses, Antalya, Mediterranean, Turkey.

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Introduction

The first investigations of the Turkish Mediterranean algae were carried out by Ünal (1968-1970). Apaydın *et al.* (2002) published a new record for The Algal Flora of Turkey: *Chaetomorpha crassa* (C. Agardh) Kützing (Cladophoraceae, Chlorophyceae). Aysel and Gezerler-Şıpal (1996) published the check list of *Cyanophyceae*, *Chlorophyceae*, *Charophyceae* and *Angiospermae* of Turkish Mediterranean coast. Aysel (1997a, b) studied the check list of *Rhodophyta*, *Fucophyceae* and *Phaeophyceae* of the Turkish Mediterranean coast. Patara- Kalkan was investigated by Aysel *et al.* (1998). Aysel *et al.* (2002) published a new record for The Algal Flora of Turkey: *Caulerpa scalpelliformis* (R. Brown ex Turner) C. Agardh var. *denticulata* (Dacaisne) Weber van Bosse (*Caulerpaceae*, *Caulerpales*). Muğla was investigated Aysel *et al.* (2003). Aysel *et al.* (2005a,b,c) studied the distribution of marine macro algae in Adana, Hatay and Mersin shores. Cirik studied distribution of the marine algae in Akkuyu coast in 1986 and 1991. Cirik and Öztürk (1991) published about *Caulerpa racemosa* that distribution on Turkish Mediterranean coast. Ertan *et al.* published a new record for The Algal Flora of Turkey; *Caulerpa scalpelliformis* (Brown and Turner C. Agardh (*Caulerpaceae*, *Chlorophyceae*) in 1998. Everset *et al.* (1997) investigated macroscopic marine algae of the İskenderun Bay. Öztürk investigated distribution of *Cutleriales*, *Sphacelariales*, *Scytosiphonales*, *Dictyotaales* (1988), and *Chordariales*, *Sporochnales* (1993), *Fucales* (1996a) and *Punctariales* (1996b) in the Aegean Sea and the Turkish Mediterranean coast. Öztürk and Güner (1986) studied on *Ectocarpales* (*Phaeophyta*) in the Aegean Sea and the Turkish Mediterranean coast., Taşkın *et al.* (2000a,b) investigated distribution of *Rhodophyta*, *Cyanophyceae* and *Chlorophyceae* in the İskenderun Gulf (Hatay coast). Taşkın *et al.* (2001) published three new record for The Algal Flora of Turkey. Turna *et al.* (2000a) published a new record for the Algal Flora of Turkey; *Botryocladia madagascariensis* G. Feldmann (*Rhodymeniaceae*, *Rhodophyceae*). Turna *et al.* (2000b) studied on distribution of *Chlorophyta* on Antalya bay. Turna *et al.* (2002) studied on seasonal variations in the Biomass of Macro-Algal Communities for the Gulf of Antalya. Turna *et al.* (2003) investigated distribution of Brown algae and Red algae in Antalya Bay

(Mediterranean). Yağcı and Turna (2002) published a new record for The Algal Flora of Turkey; *Chaetomorpha crassa* (C.Agardh) Kützing (*Cladophoraceae*, *Chlorophyceae*).

Material and Methods

Collected specimens were fixed by using 4 % formaldehyde. Specimens belonging to *Rhodomelaceae* and *Corallinaceae* were exceptionally treated with 10 % HCl in identification procedures for specific cell wall properties. Antalya is situated between 29° 16' 23" and 32° 33' 42" East longitudes (Figure 1).



Figure 1: Map of Antalya coastline

The distribution of algae on the Turkish marine that newly recorded for the Turkish coast of Mediterranean is given in Figure 3 [Artvin (1), Rize (2), Trabzon (3), Giresun (4), Ordu (5), Samsun (6), Sinop (7), Kastamonu (8), Bartın (9), Zonguldak (10), Düzce (11), Sakarya (12), Kocaeli (13), İstanbul (14), Kırklareli (15), Tekirdağ (16), Edirne (17), Çanakkale (18), Balıkesir (19), Bursa (20), Yalova (21), Gökçeada (22), Bozcaada (23), İzmir (24), Aydın (25), Muğla (26), Antalya (27), Mersin (28), Adana (29), Hatay (30)].

Results

Taxa distributed in the study area are listed in Table 1. In this list, classes and upper categories were arranged according to Van den Hoek *et al.* (1997) and Guiry and Dhonncha (2005). Arrangement of lower categories, presented in the list were followed by specialists [(Silva *et al.* (1996) for *Cyanophyta* and *Rhodophyta*, Stegenga (1985) for *Acrochaetiales*, Frederic and Hommersand (1989) for *Gracilariales*, Bressan and Babbini-Benussi (1995, 1996) for *Corallinales*, Gomez Garreta *et al.* (2001) for *Ceramiales*, Ribera *et al.* (1992) for *Fucophyceae*, Gallardo *et al.* (1993) for *Chlorophyceae*]. Additionally, the studies of Barbara and Cremades (1996), Ballantine and Aponte (1997) and Hardy and Guiry (2003) were used to create an evolutionary list of taxa above genus level. Taxa in species or below species level are listed alphabetically. New records for the Turkish Marines (***) and the Turkish coast of Mediterranean (*) are indicated with asteriks.

Table 1: Taxa distributed in Antalya (Mediterranean) coast of Turkey. (**): Türkish marines, (*): Turkish coasts of Mediterranean.

CYANOPHYTA	Foslie) Silva
[=CYANOBACTERIA]	
CYANOPHYCEAE	MERISMOPEDIACEAE
CHROOCOCCALES	GOMPHOSPHAERIOIDEAE
CHROOCOCCACEAE	<i>Gomphosphaeria aponina</i> Kützing
<i>Chroococcus dimidiatus</i> (Kützing)	
Nägeli	MERISMOPEDIOIDEA
<i>C. minor</i> (Kützing) Nägeli	<i>Aphanocapsa litoralis</i> Hansgirg
<i>C. minutus</i> (Kützing) Nägeli	(= <i>Microcystis halophila</i> B. Martens and Pankow)
DERMOCARPACEAE	
<i>Dermocarpa acervata</i> (Setchell and Gardner) Pham Hoàng Hô	OSCILLATORIALES
<i>D. schousboei</i> (Thuret) Bornet	OSCILLATORIACEAE
HYELLACEAE	<i>Leptolyngbya foveolarum</i>
<i>Pleurocapsa crepidinum</i> Collins	(Montagne ex Gomont)
	Anagnostidis and Komárek
MICROCYSTACEAE	<i>Lyngbya adriae</i> Ercégovic
<i>Gloeocapsa crepidinum</i> Thuret	<i>L. agardhii</i> (P.L. Crouan and H.M. Crouan) Gomont
<i>Microcystis marina</i> (Hansgrig in	<i>L. confervoides</i> C. Agardh
	<i>L. majuscula</i> (Dilliwyn) Harvey

