

# A LIST OF MARINE ALGAE OF SEASHORES OF PERSIAN GULF AND OMAN SEA IN THE HORMOZGAN PROVINCE

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153 species of algae are listed from seashores of Persian Gulf and Oman sea, 87 species (48 *Rhodophyta*, 16 *Phaeophyta*, 18 *Chlorophyta*, 3 *Xanthophyta* and 2 *Cyanophyta*) are new records for the algal flora of Iran. In 16 cases name of former reports are corrected.

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*Key words:* Marine algae, Persian Gulf, Oman sea, Iran.

لیستی از جلبکهای دریایی سواحل خلیج فارس و دریای عمان (استان هرمزگان)

جلوه سهرابی پور و رضا ربیعی

۱۵۳ گونه جلبک از سواحل خلیج فارس و دریای عمان لیست می شود که ۸۷ گونه آن (۴۸ رودوفیت، ۱۶ فتوفیت، ۱۸ کلروفیت، ۳ اگزانتوفیت و ۲ سیانوفیت) گزارشهای جدیدی برای فلور جلبکی ایران می باشند. در ۱۶ مورد نیز نام برخی از گونه ها که در گزارشهای قبلی آمده اند تصحیح شده است.

## INTRODUCTION

Iranian seashores of Persian Gulf and Oman sea were studied for the first time by Endlicher and Diesing (1845) which was based on Kotschy's collection from Kharck island. Borgesen (1939) published 103 species of algae which had been collected from seashores of Bushehr, Qish and Farur islands and Arabian regions of the Persian Gulf. Publication of Nizamuddin and Gessner (1970) was based on collected specimens in the "Meteor" Expedition that a few of them were collected from Qeshm, Qish and Farur islands. Kunckel (1977) reported two species of algae from Hormoz island. Sohrabipour and Rabii (1996) recorded 16 species which had been collected from Qeshm, Abumusa, and Hormoz islands and a few from seashores of Bandar Lengeh. The other areas of the Persian Gulf and Oman sea have also been studied, Newton (1955a, 1955b), Basson (1979a, 1979b), Jones (1986), Meshengi et al. (1987), *Al-Hassan & Jones (1989)*, Basson et al. (1989) and Basson (1992). These publications are about the diversity of algae in Arabian (southern) regions of the Persian Gulf.

In this report the collected and determined algal flora from the seashores

of Hormozgan province and its Islands (between latitude 25°, 50' - 27° and longitude 52°, 55' - 58°, 45') are listed.

Specimens have been collected from intertidal regions of the coasts (up to 4m depth) in different months of the year, then preserved in formalin 4% with seawater solution or pressed and dried as herbarium specimens. These specimens are deposited in the herbarium of Researches Center of Natural Resources of Hormozgan.

In this report 153 species of algae are listed, 103 species are new records, 16 species were recently published (Sohrabipour & Rabii 1996). The 153 species including 76 *Rhodophyta* (48 new), 35 *Phaeophyta* (16 new), 36 *Chlorophyta* (18 new), 3 *Xanthophyta* (2 new) and 3 *Cyanophyta* (2 new). Taxa preceded by an asterisk are new records for the algal flora of Iran.

## CHLOROPHYTA

### Ulvaceae

*Entromorpha clathrata* (Roth) Greville

Hormoz Isand, Sohrabi 308; Bostanu, Rabii & Khosravi 1818; Bandar Pole, Rabii 1834; Bandar Jask, Khosravi 1843SH.

*Entromorpha compressa* (Linn.) Nees

Qeshm island, Sohrabi, Rabii &

Bahmanzadeh 865; Bandar Jask, Khosravi & Hajebi 1393.

\* *Entromorpha flexuosa* (Wulf ex Roth) J. Agardh -Fig. 1A.

Larak Isand, Rabii, 930; Qeshm Island-Kovei, Rabii & Bahmanzadeh 309 and Rabii & Khosravi 1813; Bandar Abbas-Khonsorkh, Rabii & Khosravi 1606; Bandar Jask, Rabii & Khosravi 1842SH

\* *Entromorpha intestinalis* (Linn.) Link. -Fig. 1B.

Hormoz Island, Rabii & Sohrabi 307; Larak Isand, Rabii 304; Qeshm Island Rabii, Sohrabi & Khosravi, 484 & 1814; Hengam Island, Rabii, Sohrabi & Khosravi 1810; Bandar Charak- toward Tahuneh, Rabii & Khosravi 1815 & 1817.

\* *Entromorpha linza* (Linn.) J. Agardh -Fig. 1C.

Qeshm Island, Rabii, Sohrabi & Khosravi 1812 & 1862SH.

*Ulva lactuca* Linn.

Qeshm Island, city beach, Sohrabi 310 and Rabii, Sohrabi & Khosravi 491SH & 494SH; Qeshm Island, Kovei, Rabii & Sohrabi 493SH & 514SH.

*Ulva californica* Wille

Abumusa Island, Rabii & Sohrabi 301; Qeshm Island Sohrabi, Rabii & Khosravi 749; Bandar Jask, Rabii & Khosravi

1836SH.

This species was reported from the Iranian seashores (Sohrabipour & Rabii 1996, p. 96).

*Ulva fasciata* Delili

Qeshm Island, Kovei, Sohrabi, Rabii & Khosravi 500SH; Larak Island, Sohrabi 302.

The species was recently reported from Iran (Sohrabipour & Rabii 1996, p. 96).

### Cladophoraceae

*Chaetomorpha aerea* (Dillw.) Kützing.

Qeshm Island, Rabii & Khosravi 1575; Qeshm Island, Meson, Rabii & Khosravi 1790.

\* *Chaetomorpha brachygona* Harvey -Fig.1D.

Bandar lengeh-city beach, Rabii & Khosravi 1821.

\* *Chaetomorpha californica* Collins -Fig. 1E.

Larak Island, Rabii & Khosravi 873.

\* *Chaetomorpha gracilis* (Kützing) Kützing -Fig. 1F.

Larak Island, Rabii & Khosravi 873.

\* *Cladophora fascicularis* (Mert.) Kützing -Fig. 2A.

Qeshm Island, Sohrabi 1811.

\* *Cladophora koiei* Borgesen

Qeshm Island- Bahman harbour, Rabii & Sohrabi 181.

Borgesen (1939) reported the species from Arabian area of Persian Gulf seashores, therefore for Iranian seashores is new.

\* *Cladophora magdalenae* Harvey -Fig. 2B. Abumusa Island, Shahrak Saiadan, Rabii & Khosravi 1211.

*Cladophora nitellopsis* Borgesen

Larak Island, Rabii & Khosravi 789.

\* *Cladophora radiosa* (Sohr.) Kutzing -Fig. 2C. Larak Island, Rabii & Khosravi 871.

*Cladophora sericioides* Borgesen

Abumusa Island, Shahrak Saiadan, Rabii & Khosravi 1211.

\* *Lola implex* (Dillw.) Hamel -Fig. 1G. Bandar Jask, Rabii & Khosravi 1875

### Siphonocladaceae

*Cladophoropsis membranacea* (C. Ag.) Borgesen

Hormoz Island, Rabii & Sohrabi 271; Qeshm Island, Sohrabi & Rabii 273.

The species was recently reported from Iran (Sohrabipour & Rabii 1996, p. 98).

*Cladophoropsis zollingeri* (Kutz.) Borgesen Qeshm Island, Shibderaz, Rabii, Sohrabi & Khosravi 581; Qeshm Island, 4.5 km West of Bahman harbour, Rabii & Khosravi 623; Hormoz Island Rabii & Sohrabi 922.

### Valoniaceae

*Dictyosphaeria cavernosa* (Forssk.)

Borgesen

Qeshm Island, 10 km after Basaidu, Rabii & Bahmanzadeh 521; Qeshm Island, Salakh, Rabii & Bahmanzadeh 961; Bandar Lengeh, 55 km to East, Rabii & Khosravi 1523.

This species was reported from the Iranian seashores (Sohrabipour & Rabii 1996, p.100).

### Derbessiaceae

\* *Bryopsis pennata* Lamx. var. *secunda* (Harvey) Collin & Harvey -Fig. 2D.

Farur Island, Rabii & Khosravi 1708; Qeshm Island, Suza, Sohrabi & Rabii 157; Hormoz Island, Rabii, Sohrabi & Hoseinpour 162; Bandar Jask, Bahal, Rabii & Khosravi 1479.

\* *Bryopsis pennatula* J. Agardh -Fig. 2E. Qeshm Island, Sohrabi 161.

\* *Bryopsis plumosa* (Huds.) C. Agardh -Fig. 2F. Hormoz Island, Sohrabi & Rabi 163.

### Caulerpaceae

*Caulerpa manorensis* Nizamuddin

Bandar Jask, Rabii & Khosravi 1829, 1850 & 1853.

\* *Caulerpa racemosa* (Forssk.) J. Agardh var. *macrophysa* (Kutz.) Taylor

Larak Island, Sohrabi 115 & 124; Qeshm Island, city beach, Rabii, Khosravi & Sohrabi 459SH & 454; Hormoz Island. Sohrabi & Rabii 439.

This variety was recently reported from the Iranian seashores (Sohrabipour & Rabii 1996, p.98).

\* *Caulerpa racemosa* (Forssk.) J. Agardh.

var. *peltata* (Lamx.) Eubank

Syn.: *Caulerpa peltata* Lamx.

Abumusa Island, Rabii & Sohrabi 122; Qeshm Island, Sohrabi 118; Qeshm Island, Rabii, Sohrabi & Khosravi 1503, 1466SH, 1469SH, 1468SH, 1431; Hormoz Island, Rabii & Sohrabi 440.

This variety was recently reported from Iran as *Caulerpa peltata* Lamx. (Sohrabipour & Rabii 1996, p. 98) but Wynne (1995, p. 330) and Nyeurt (1996, p. 378) believed that *C. racemose* var. *peltata* (Lamx.) Eubank is the correct rank.

\* *Caulerpa sertularioides* (S. G. Gmelin)

Howe forma *farlowii* (Weber-Van Bosse)

Borgesien -Fig. 3A.

Qeshm Island: Rabii & Sohrabi 123; Salakh, Rabii & Bahmanzadeh 127; Mesen, Rabii & Bahmanzadeh 325SH, 1277SH; Bandar Jask, Sarkaleh harbour, Rabii & Bahmanzadeh 125; Bandar Lengeh: 55 km toward the East, Rabii & Khosravi 1495 & 1502; Hormoz Island, Rabii & Sohrabi 441.

The species was reported by Nizamaddin & Gessner (1970) from Oman sea but it is a new record for the Iranian region of Persian Gulf.

*Caulerpa taxifolia* (Vahl.) C. Agardh

Syn.: *Caulerpa mexicana* Sonder ex Kutzing;

*Caulerpa crassifolia* (C. Agardh) J. Agardh.

Qeshm Island, Rabii, Khosravi 116, 515SH, 333SH; Bandar Jask, Rabii & Khosravi 1838, 1847SH, 1849, 1392; Hormoz Island, Rabii & Sohrabi 442.

Borgesien (1939) reported this species as *Caulerpa crassifolia* from the Iranian seashores but Basson (1992) listed the Borgesien specimen as a synonym of *Caulerpa mexicana*. According to the report of Coppejans (1992), *C. mexicana* is a variety of *C. taxifolia*. Therefore *C. taxifolia* is the correct name for the species.

\* *Caulerpa* sp. -Fig. 3B.

Qeshm Island; 5.5 km West of Bahman harbour, Sohrabi 1798SH and Mesen, Rabii & Khosravi 1448.

The specimen is completely different with the other species and is reported as unknown species.

## Codiaceae

\* *Codium papilatum* Tseng & Gilbert -Fig. 3C.

Qeshm Island, Sohrabi, Rabii & Khosravi

1548, 1717, 143, 1706, 1698SH, 1743SH, 1741SH; Larak Island, Sohrabi, Rabii & Bahmanzadeh 145.

### **Udoteaceae**

*Avrainvillea calithina* Kraft & Olsen  
-Stojkovich

Qeshm Island, Sohrabi, Rabii & Khosravi  
291, 292, 298, 299, 1465SH, 1737SH.

The species was recently reported from the Iranian seashores (Sohrabipour & Rabii 1996, p.98).

### **Dasyclaolaceae**

\* *Acetabularia calyculus* Quoy & Gaimard.  
Bandar Lengeh, 30 km to the East, Rabii & Sohrabi 101, 103, & 110; Qeshm Island, Rabii & Khosravi 1704.

This species was recently reported from Iran (Sohrabipour & Rabii 1996, p.100).

\* *Acetabularia mobii* Solms-Laubach  
Qeshm Island: 4 km West of Bahman harbour, Sohrabi 108, 105.

The species was recently reported from Iran (Sohrabipour & Rabii, 1996 p.99).

### **Polyphysaceae**

*Polyphysa parvula* (Solms-Laubach)  
Schnetter & Bula-Meyer  
Qeshm Island: Mesen, Rabii & Bahman

Zadeh 104; 6 km West of Bahman harbour, Rabii & Bahmanzadeh 106.

The species was recently reported from Iran as *Acetabularia* sp. (Sohrabipour & Rabii 1996, p.99).

## **PHAEOPHYTA**

### **Ectocarpaceae**

\* *Bachelotia antillarum* (Grunow) Gerloff  
-Fig.3D.

Qeshm Island, Mesen, Rabii & Sohrabi  
822.

*Feldmania irregularis* (Kutz.) Hamel  
Qeshm Island, Sohrabi 199; Hormoz Island, Sohrabi & Rabii 196.

This species was recently reported from Iran (Sohrabipour & Rabii 1996, p. 101)  
*Hinksia mitchelliae* (Harvey) P. C. Silva  
Syn.: *Giffordia mitchelliae* (Harvey.) Hamel;  
*Ectocarpus mitchelliae* Harvey  
Larak Island, Sohrabi & Rabii 197, 198, 200 & 210; Qeshm Island, Sohrabi 199.

Borgesen (1939) and Nizamuddin & Gessner (1970) reported this species as *Ectocarpus mitchelliae* Harvey.

### **Sphacelariaceae**

*Sphacelaria nova-hollandiae* Sonder  
Abumusa Island, Sohrabi & Rabii 277.

The species was recently reported from

Iran (Sohrabipour & Rabii 1996 p. 101)

*Sphacelaria rigidula* Kutzing

Bandar Lengeh- Sahel Sadaf, Sohrabi 289.

The species was previously reported from Iran by Borgesen (1939) as *Sphacelaria furcigera* Kutzing.

\* *Sphacelaria tribuloides* Meneghini

Abumusa Island, Sohrabi & Rabii 278.

The species was recently reported from Iran (Sohrabipour & Rabii 1996, p.102).

### Dictyotaceae

\* *Dictyota ciliolata* Kutzing -Fig. 3E.

Qeshm Island, Rabii & Khosravi 1242SH;

Qeshm Island, Shibderaz, Sohrabi & Rabii 497SH.

\* *Dictyota dichotoma* (Hudson) Lamx.

Qeshm Island, Kovei, Sohrabi, Rabii & Khosravi 1642.

*Dictyota divaricata* Lamx.

Qeshm Island, Kovei, Sohrabi, Rabii & Khosravi 1645.

The species was reported from Iran by Borgesen (1939).

*Dictyota indica* Sonder ex Kutzing

Qeshm Island - Basaidu, Rabii, Sohrabi & Khosravi 1646.

\* *Dictyota volubilis* Vickers -Fig. 3F.

Qeshm Island - Basaidu, Rabii, Sohrabi & Khosravi 1643 & 1643SH.

*Lobophora variegata* (Lamx.) Womersley

Syn.: *Pocockiella variegata* (Lamx.) Papen;

*Zonaria variegata* (Lamx.) C. Agardh

Qeshm Island: Mesen, Sohrabi, Rabii & Khosravi 1690; Shibderaz, Sohrabi & Rabii 524; 10 km West of Bahman harbour, Rabii & Bahmanzadeh 152; Abumusa Island, Rabii & Khosravi 214; Bandar Lengeh, 55 km to the East, Rabii & Khosravi 1362.

Borgesen (1939) reported the species as *Zonaria variegata* from Iran.

\* *Padina australis* Hauck -Fig. 4A.

Syn.: *Padina gymnospora* (Kutzing) Nickers

Qeshm Island, Rabii 153 & 334SH; Qeshm Island, city beach, Rabii & Khosravi 1699.

\* *Padina borgesenii* Allender & Kraft

Qeshm Island - city beach, Rabii & Bahmanzadeh 1282; Qeshm Island - Mesen, Rabii & Khosravi 1515

\* *Padina crassa* Yamada -Fig. 3B.

Larak Island, Rabii & Khosravi 1692SH.

*Padina pavonica* (Linn.) Thivy

Syn.: *Fucus pavonica* Linn.

Qeshm Island, Rabii, Sohrabi & Khosravi 1704, 1600; Qeshm Island - Salakh, Rabii & Khosravi 1691, 1789SH. & 1790SH.

*Padina tenuis* Bory de Saint Vincent

Syn.: *Padina boryana* Thivy; *Padina commersonii* Bory

Bandar Charak, toward Tahuneh, Rabii &

Khosravi 1695; Qeshm Island, city beach, Sohrabi, Rabii & Khosravi 698SH.

Borgesen (1939) reported the species as *Padina commersonii* Bory. Basson (1992) reported it as a synonym of *Padina boryana* Thivy, but based on Allender & Kraft (1983), *P. commersonii* & *P. boryana* are synonyms of *P. tenuis* Bory de Saint Vincent.

*Padina tetrastromatica* Hauck

Larak Island, Rabii & Khosravi 1696; Qeshm Island - Salakh, Rabii & Khosravi 1538 & 1773SH.

The species was reported by Borgesen (1939) from Iran.

\* *Padina* sp.A

Qeshm Island, Salakh, Rabii & Sohrabi 1697; Bandar Charak, city harbour, Rabii & Khosravi 1700.

The specimens have 4 layers of cells but sometimes the layers reduce to three.

\* *Padina* sp.B

Abumusa Island, Shahrak Saiadan, Rabii & Khosravi 1594.

The specimens resemble to *P. australis* but lacking of hair bands and strongly calcification in the inferior part distinguish them from *P. australis*.

\* *Spatoglossum variable* Figail & Denotaris  
Qeshm Island: Farmandary beach, Rabii,

Sohrabi & Khosravi 1240; Mesen, Sohrabi, Rabii & Khosravi 1693; Shaibderaz, Rabii, Sohrabi & Khosravi 1242 & 1245; Larak Island, Sohrabi 502SH.

Nizamuddin & Gessner (1970) reported the species from Pakistan seashores in Oman sea but it is a new record for the Iranian seashores.

\* *Stoechospermum marginatum* (C. Agardh) Kutzing -Fig. 4D.

Qeshm Island: Salakh, Sohrabi, Rabii & Khosravi 1484, 1476SH; Shaibderaz, Rabii, Sohrabi & Khosravi 1481 & 1481SH; Basaidu, Sohrabi, Rabii & Khosravi 1646.

### Punctariaceae

*Colpomenia sinuosa* (Mertens ex Roth) Derbes & Solier

Qeshm Island - Suza, Rabii & Khosravi 1868; Hengam Island, Rabii & Khosravi 1869; Larak Island, Rabii & Khosravi 1872 & Sohrabi 1264; Bandar Charak, Rabii & Khosravi 1871; Bandar Lengeh, 55 km to the East, Rabii & Khosravi 1729SH.

*Iyengaria stellata* (Borgesen) Borgesen  
Qeshm Island, Rabii, Sohrabi & Khosravi 1864, 1865, 1792SH & 1793SH; Larak Island, Rabii & Sohrabi 1866; Hengam Island, Rabii, Sohrabi & Khosravi 1867; Bandar Charak, city harbour, Rabii &



Khosravi 1863.

*Rosenvingea floridana* (Taylor) Taylor  
Qeshm Island, city beach, Sohrabi & Rabii  
257 & 260; Bandar Charak, Tahuneh, Rabii  
& Khosravi 1725SH, 1726SH.

### Cystoseiraceae

*Cystoseira myrica* (S. G. Gmelin) C. Agardh  
Bandar Lengeh, Kohin, Rabii 320SH;  
Qeshm Island, Mesen, Rabii 327SH;  
Basaidu, Rabii, Sohrabi & Khosravi 1455;  
Bandar Charak, Tahuneh, Rabii &  
Khosravi 1797SH & 1877; Bandar  
Gavbandy, Bustanu, Rabii & Khosravi  
1879; Larak Island, Rabii & Khosravi 1880.  
*Cystoseira trinodis* (Forsskal) C. Agardh  
Bandar Charak, harbour, Rabii & Khosravi  
1883; Bandar Charak, toward Tahuneh,  
Rabii & Khosravi 1884; Qeshm Island,  
Basaidu, Sohrabi, Rabii & Khosravi 1885 &  
1591; Bandar Lengeh, 20 km to the East,  
Rabii 317 SH.

The species was reported with different  
names from Iran by Endlicher & Diesing  
1845 (as *Cystoseira virgata* Endlicher &  
Deising; Borgesen (1939) and Nizamuddin  
& Gessner (1970) as *Cystophyllum*  
*muricatum* (C. Agardh) J. Agardh.

\* *Cystoseira neglecta* Setchell & Gardner  
-Fig. 4E.  
Bandar Jask, Farmandary beach, Rabii &

Khosravi 1861SH & 1886.

\* *Hormophysa cuneiformis* (J. F. Gmelin) P.  
C. Silva -Fig. 4F.

Syn.: *Hormophysa triquetra* (C. Agardh)  
Kutzing

Bandar Lengeh, Kohin, Sohrabi & Rabii  
191.

Borgesen (1939) in his report from the  
Iranian Gulf recorded the species from  
Arabian area.

### Sargassaceae

*Sargassum angustifolium* C. Agardh  
Bandar Charak, Sohrabi & Rabii 312SH;  
Qeshm Island, Sohrabi 1437SH.

*Sargassum boveanum* J. Agardh  
Qeshm Island; 5.5 km West of Bahman  
harbour, Rabii & Khosravi 1803SH.

\* *Sargassum fluitans* (Borgesen) Borgesen  
Qeshm Island, 5.5 km West of Bahman  
harbour, Rabii & Khosravi 1753SH.

\* *Sargassum latifolium* (Turner) C. Agardh  
Qeshm Island: Mesen, Rabii & Khosravi  
1435; Salakh, Rabii & Khosravi 1438SH.

*Sargassum vulgare* C. Agardh  
Qeshm Island, Rabii & Sohrabi 316SH;  
Bandar Lengeh, Rabii & Sohrabi 319SH.

*Turbinaria conoides* (J. Agardh) Kutzing  
var. *conoides* Taylor

Qeshm Island, 4.5 km West of Bahman  
harbour, Sohrabi & Rabii 1748SH &

1749SH; Larak Island, Sohrabi & Rabii 527 & 1750SH.

The species was recently reported from Iran (Sohrabipour & Rabii 1996, p. 102).

## RHODOPHYTA

### Goniotrichaceae

*Chroodactylon ornatum* (C. Agardh) Basson  
Syn.: *Asterocystis ornata* (C. Agardh) Hamel  
epiphyte on *Laurencia* spp. & *Hypnea* spp.

The species was reported as *Asterocystis ornata* from seashores of Iran by Borgesen (1939).

\* *Stylonema alisidii* (Zanardini) Drew -Fig. 5A.

Syn.: *Goniotrichum alisidii* (Zanardini) Howe; *G. elegans* (Chauh) Lejolis  
Qeshm Island, Rabii & Sohrabi 136.

### Erythropeltidaceae

\* *Erythrocladia irregularis* Rosenvinge  
Syn.: *Erythrocladia subintegra* Rosenvinge  
Qeshm Island, Rabii & Sohrabi 156.

The specimens are epiphyte on other macroalgae. Borgesen (1939) reported the species as *Erythrocladia subintegra* Rosenvinge.

*Erythrotrichia carnea* (Dillwyn) Agardh  
Qeshm Island, Kovei, Rabii & Khosravi 1628.

### Acrochaetiaceae

*Audouinella saviana* (Meneghini) Womersly  
-Fig. 5B.

Syn.: *Acrochaetium savianum* Meneghini  
Qeshm Island, 8 km to Salakh, Rabii & Sohrabi 135.

### Galaxauraceae

*Galaxaura lapidscens* (Ellis & Solander)  
Lamx.

Qeshm Island, 3.5 km West of Bahman harbour, Rabii & Khosravi 1559; Qeshm Island, Salakh, Sohrabi, Rabii & Bahmanzadeh 1266.

The species was reported as *G. flagelliformis* (Kjell.) emend Borgesen from Iran by Borgesen (1939).

\* *Galaxaura rugosa* (Ellis & Solander)  
Lamx. -Fig. 5C.

Larak Island, Rabii & Khosravi 1686.

\* *Scinaia tsingalensis* Tseng -Fig. 5D.

Qeshm Island, Farmandary beach, Rabii, Sohrabi & Khosravi 1676 & 1607SH; Bandar Jask, Farmandary beach, Rabii & Khosravi 1859.

### Gelidiaceae

*Gelidiella acerosa* (Forssk.) J. Feldmann & Hamel

Qeshm Island, Mesen, Rabii & Khosravi 1808; Bandar Charak, Tahunch, Rabii &

Khosravi 1297; Bandar Kong, Rabii & Sohrabi 1133.

\* *Gelidium chilensis* (Montagne) Stantlices & Montalva -Fig. 5E.

Qeshm Island, Basaidu, Rabii 205; Farur Island, Rabii & Khosravi 1705.

*Gelidium pusillum* (Stakhous) Lejolis

Hormoz Island, Rabii & Sohrabi 203;

Qeshm Island, Farmandary beach, Rabii & Sohrabi 1124.

### Coralinaceae

\* *Amphiroa fragilissima* (Linn.) Lamx. -Fig. 5F.

Qeshm Island, Suza, Sohrabi & Rabii 148; Larak Islad, Sohrabi 840.

\* *Amphira* sp. -Fig. 6A.

Qeshm Island, 5.5 km West of Bahman harbour, Rabii & Khosravi 1835.

Collected specimens are different from *A. fragilissima* in lenght and diameter of branches.

*Hydrolithon farinosum* (Lamx.) Penrose & Chamberlain

Syn.: *Fosliella farinosa* (Lamx.) Howe;

*Melobesia farinosa* Lamx.

Farur Island, Rabii & Khosravi 1716;

Qeshm Island, Basaidu, Rabii, Sohrabi & Khosravi 1831; Bandar Jask, Rabii & Khosravi 1887.

Borgesen (1939) reported the species as *Melobesia farinosa* and Basson (1992) reported as *Fosliella farinosa* but Chamberlain (1993) made *Hydrolithon farinosum* (Lamx.) Penrose & Chamberlain as a new combination for it.

\* *Jania adhaerens* Lamx. -Fig. 6B.

Qeshm Island, 4.5 km West of Bahman harbour, Rabii, Sohrabi & Bahmanzadeh 850.

*Jania rubens* (Linn.) Lamx.

Qeshm Island: 4.5 km West of Bahman harbour, Rabii & Sohrabi 824; Kani, Rabii & Bahmanzadeh 1272; 3.5 km West of Bahman harbour 1582.

### Geracilariaceae

*Gracilaria corticata* (J. Agardh) J. Agardh.

Qeshm Island, Rabii, Sohrabi & Khosravi, 1238; 1270, 1543, 1681, 1682; Hormoz Island, Sohrabi & Rabii 1234 & 1801SH; Bandar Gavbandy, Ziarat, Rabii & Khosravi 1688.

\* *Gracilaria canaliculata* Sonder. -Fig. 6C-F.

Qeshm Island, Kovei, Sohrabi, Rabii & Khosravi 1235 & 1453; Qeshm Island, Mesen, Rabii & Bahmanzadeh 1283; Abumusa Island, Farmandary beach, Rabii & Khosravi 1533; Bandar Lengeh, 9 km to

the East, Rabii & Khoarvi 1286.

*Gracilaria foliifera* (Forssk.) Borgesen

Hormoz Island, Rabii & Khosravi 1587;

Abumusa Island, Rabii & Khosravi 1564;

Bandar Lengeh, 9 km to the East, Rabii &

Khosravi 1456; Qeshm Island, Salakh,  
Sohrabi, Rabii & Bahmanzadeh 1687.

*Gracilaria salicornia* (C. Agardh) Dawson

Syn.: *Coralopsis cacalia* J. Agardh,

*Gracilaria cacalia* (J. Agardh) Dawson

Qeshm Island, Farmandary beach, Sohrabi,  
Rabii & Khosravi 1222.

Borgesen (1939) reported the species as  
*Coralopsis cacalia* from Iran.

\* *Gracilariopsis longissima* (S. G. Gmelin)  
Steentoft & al.

Syn.: *Gracilaria verrucosa* (Huds.)

Papenfuss

Bandar Gavbandy, Bostanu, Kamrani 165.

### **Solieriaceae**

*Sarconema filiforme* (Sonder) Kylin

Syn.: *Sarconema furcellatum* Zanardini;

*Sarconema furcatum* Borgesen

Qeshm Island: Kovei, Sohrabi & Rabii 831;

Mesen, Sohrabi, Rabii & Khosravi 1685,  
1778SH, 1779SH & 1800SH.

Borgesen (1939) reported the species as  
*S. furcellatum* from Iran but based on  
Millar (1939).

\* *Solieria anastomosa* Gabrielson & Kraft  
-Fig. 7A.

Qeshm Island, Sohrabi 206.

\* *Solieria filiformis* (Kulz.) Gabrielson -Fig.  
7B & C.

Syn.: *Neagardhiella baileyi* (Kutzing) Wynne  
& Taylor

Qeshm Island, Farmandary beach, Rabii &  
Khosravi 1703 (carposprophyte phase),  
1674 & 1675 ; Bandar Abbas, Bustanu,  
Sohrabi 1702.

\* *Solieria robusta* (Greville) Kylin

Qeshm Island, Farmandary beach, Rabii,  
Sohrabi & Khosravi 1739SH, 1769SH,  
1772SH.

### **Gigartinaeae**

\* *Gigartina acicularis* (Roth) Lamx. -Fig.  
7D & E.

Qeshm Island, Kovei, Rabii & Khosravi  
1611.

### **Furcellariaceae**

\* *Furcellaria fastigiata* (Huds.) Lamx.

Qeshm Island, West of Bahman harbour,  
Rabii 1008.

### **Hypniaceae**

\* *Hypnea cervicornis* J. Agardh -Fig.7F.

Abumusa Island, Shahrak Saiadan, Rabii &

Khosravi 1534; Qeshm Island, Shibderaz, Sohrabi & Rabii 522; Qeshm Island, Farmandary beach, Rabii & Khosravi 678.

\* *Hypnea cornuta* (Kutzing) J. Agardh -Fig.8A & B.

Bandar Abbas, Bustanu, Sohrabi 1589; Bandar Charak, Rabii & Khosravi 1651; Qeshm Island, Shibderaz, Sohrabi & Rabii 342; Basaidu, Rabii & Khosravi 1648; Farmandary beach, Sohrabi, Rabii & Khosravi 705.

\* *Hypnea flageliformis* Greville ex J. Agardh - Fig. 8C & D.

Bandar Abbas, Golshahr beach, Sohrabi 241.

*Hypnea musciformis* (Wulfen) Lamx

Hormoz Island, Sohrabi & Rabii 1247; Qeshm Island, Sohrabi & Rabii 238, 1661 & 487.

*Hypnea pannosa* J. Agardh

Hengam Island, Sohrabi, Rabii & Khosravi 1647.

\* *Hypnea spinella* (C. Agardh) Kutzing -Fig. 8E & F.

Qeshm Island, Farmandary beach, Rabii & Khosravi 699; Qeshm Island, Basaidu, Rabii & Khosravi 1672.

*Hypnea valentia* (Turner) Montagne

Larak Island, Sohrabi 1673; Qeshm Island, Basaidu, Rabii & Khosravi 1561.

## Rhodymeniaceae

\* *Botryocladia leptopoda* (J. Agardh) Kylin - Fig. 8G.

Qeshm Island, Farmandary beach, Sohrabi 249.

Borgesen (1939) reported the species from Pakistan seashores but for the Iranian seashores of Persian Gulf is new record.

\* *Rhodymenia* sp. - Fig.8H.

Qeshm Island, Shibderaz, Rabii & Sohrabi 526; Larak Island, Sohrabi 247 & 525; Qeshm Island, Sohrabi 1092; Qeshm Island, Farmandary beach, Rabii, Sohrabi & Khosravi 1677, 1744SH; 1742SH & 1740SH.

Morphological features and reproduction structure confirm that the specimens belong to the genus *Rhodymenia*.

## Lomentariaceae

*Lomentaria corallicola* Borgesen

Bandar Abbas, Khonsorkh, Rabii & Sohrabi 1649.

The species was reported as a new species from Iran by Borgesen (1939).

\* *Lomentaria baileyana* (Harvey) Forlow -Fig. 9A.

Farur Island, Rabii & Khosravi 1707.

\* *Lomentaria* sp. - Fig. 9B & C.

Qeshm Island, Suza, Sohrabi, Rabii &

Khosravi 1683.

Cartilagineous and fragile structure of the specimens resemble to that of *L. baileyana* but arched branches and connected point between them are not observed

### Champiaceae

\* *Champia compressa* Harvey var. *scindica* (Harvey) Borgesen -Fig 9D & E.

Bandar Jask, Farmandary beach, Rabii & Khosravi 1839.

\* *Champia globulifera* Borgesen -Fig. 9F.

Qeshm Island: 20 km West of Bahman harbour, Sohrabi & Rabii 142; Salakh, Sohrabi & Rabii 138; 20 km to Salakh, Sohrabi, Rabii & Bahmanzadeh 141.

\* *Champia indica* Borgesen

Qeshm Island, 20 km after Salakh, Sohrabi, Rabii & Bahmanzadeh 137.

*Champia parvula* (C. Agardh) Harvey

Qeshm Island: Chahu, Rabii & Bahmanzadeh 140; Kovei, Sohrabi & Rabii 534.

### Delesseriaceae

\* *Platysiphonia miniata* (J. Agardh) Borgesen -Fig. 10 A.

Larak Island, Sohrabi & Rabii 194.

\* *Taenioma nanum* (Kützting) Papenfuss -Fig. 10 B.

Qeshm Island, 10 km West of Bahman harbour, Rabii & Bahmanzadeh 1666.

### Dasyaceae

\* *Dasya baillovia* (S. G. Gemelin) Montagne -Fig. 10 C.

Syn.: *Dasya pedicellata* C. Agardh.

Qeshm Island, Basidu, Rabii & Bahmanzadeh 343.

\* *Pogonophorella* sp. -Fig. 10 D-F.

Qeshm Island, Sohrabi & Rabii 395, 408, 597; Larak Island, Sohrabi 225.

Most of the features confirm that the specimens belong to *Pogonophorella* sp.

### Ceramiaceae

*Anotrichium tenue* (C. Agardh) Nageli

Syn.: *Griffithsia tenuis* C. Agardh.

Larak Island, Rabii & Khosravi 1826 (epiphyte on *Galaxaura* sp.).

The species was reported as *Griffithsia tenuis* by Borgesen (1939).

*Calilthamnion cordatum* Borgesen

Syn.: *Aglaothamnion cordatum* (Borgesen)

Feldman-Mazoyer

Hormoz Island, Rabii & Sohrabi 172.

\* *Gymnophycus* sp.

Larak Island, Sohrabi 169.

Branches alternately distichus; Tetrasporangia pedicellate.

\* *Centroceras apiculatum* Yamada -Fig. 11 A.

Bandar Lengeh, Sahel Sadaf, Sohrabi & Rabii 173; Hormoz Island, Sohrabi & Rabii 401; Bandar Jask, city harbour, Rabii & Khosravi 1400.

\* *Centroceras bellum* Setchel & Gardner  
Hormoz Island, Sohrabi & Rabii 171; Abumusa Island, Shahrak Saiadan, Rabii & Sohrabi 1137.

*Centroceras clavulatum* (C. Agardh)  
Montagne

Qeshm Island, Sohrabi & Rabii 660, 653, 432, 540, 1755SH; Hormoz Island, Rabii & Sohrabi 434 ; Bandar Jask, Sarkaleh harbour, Rabii 1104.

*Ceramium fastigiatum* (Wulfen ex Roth)  
Harvey

Qeshm Island, Sohrabi 174.

*Ceramium flaccidum* (Harvey ex Kutzing)  
Adrisson

Syn.: *Ceramium transversale* Collins & Havey

Qeshm Island, Farmandary beach, Sohrabi, Rabii & Khosravi 466 & 523; Hormoz Island, Rabii & Sohrabi 1828; Bandar Abbas, Golshahr beach, Sohrabi 1090.

The species was previously reported as *C. transversale* from Iran By Nizamuddin & Gessner (1970).

\* *Ceramium manrensis* Anand -Fig. 11 C.

Bandar Jask, Farmandary beach, Rabii & Khosravi 1854.

\* *Crounia attenuata* (C. Agardh) J. Agardh  
-Fig. 11D.

Qeshm Island: West of Bahman harbour, Sohrabi & Rabii 427; 5.5 km West of Bahman harbour, Rabii & Khosravi 1832.

*Spyridia filamentosa* (Wulfen) Harvey

Qeshm Island, Basaidu, Rabii & Khosravi 1657 (carposporophyte phase); Bandar Lengeh, 20 km to the East, Rabii & Sohrabi 168; Larak Island, Sohrabi 166; Qeshm Island, city beach, Sohrabi, Rabii & Khosravi 635.

### Rhodomelaceae

\* *Acanthophora muscoides* (Linn.) Bory de Saint-Vincent -Fig. 11E.

Hengam Island, Rabii, Sohrabi & Khosravi 1659; Qeshm Island, Farmandary beach, Rabii, Sohrabi & Khosravi 477; Hormoz Island, Rabii & Sohrabi 438.

*Acanthophora spicifera* (Vahl) Borgesen

Qeshm Island, Sohrabi, Rabii & Khosravi 476, 660, 653, 717, 126 & 1661; Bandar Charak, Rabii & Khoaravi 1305; Hengam Island, Rabii & Bahmanzadeh 1658; Larak Island, Rabii & Khosravi 1761SH.

\* *Chondira bernardi* Dangeard -Fig. 11F.

Qeshm Island, Sohrabi 219; Larak Island, Sohrabi & Rabii 227.

\* *Chondria cornuta* Borgesen -Fig. 12A.

Qeshm Island, Sohrabi & Rabii 224; Hormoz Island, Sohrabi 220; Qeshm Island, 7 km to Salakh, Sohrabi, Rabii & Bahmanzadeh 872.

*Chondria dasyphylla* (Woodward) C. Agardh

Qeshm Island, Sohrabi 211; Hormoz Island, Sohrabi 229.

\* *Chondria nidifica* Harvey -Fig. 12 B.

Bandar Jask, Rabii & Khosravi 1837SH.

\* *Chondria oppositoclada* Dawson -Fig. 12 C.

Qeshm Island, Salakh, Rabii & Sohrabi 212 & 222; Qeshm Island, 3.5 km West of Bahman harbour, Sohrabi, Rabii & Khosravi 532.

*Digenia simplex* (Wulfen) C. Agardh

Qeshm Island, 4.5 km West of Bahman harbour, Sohrabi, Rabii & Khosravi 626; Bandar Lengeh, Sahel Sadaf, Sohrabi & Rabii 843.

*Herpsiphonia secunda* (C. Agardh) Falkenberg

Hormoz Island, Sohrabi & Rabii 209; Bandar Kong, city harbour, Sohrabi & Rabii 221.

Borgesen (1939) reported the species as

*H. tenella* (C. Agardh) Nagli

*Laurencia papillosa* (C. Agardh) Greville  
Bandar Lengeh, 55 km to East, Rabii & Khosravi 1363; Bandar Abbas, Gachin, Sohrabi & Rabii 1370; Bandar Jask, Khosravi & Hajebi 1385.

\* *Laurencia pedicularioides* Borgesen -Fig. 12D.

Bandar Jask, Farmandary beach, Rabii & Khosravi 1844SH & 1845SH.

\* *Laurencia intricata* Lamx. - Fig. 12E.

Qeshm Island, 20 km to Salakh, Sohrabi, Rabii & Bahmanzadeh 217.

\* *Laurencia snyderiae* Dawson -Fig. 12F.

Qeshm Island, Farmandary beach, Sohrabi, Rabii & Khosravi 680; Bandar Abbas, Gachin, Rabii & Sohrabi 1369; Larak Island, Rabii & Khosravi 771; Bandar Lengeh, 13 km to East, Rabii & Khosravi 1329; Qeshm Island, Salakh, Sohrabi, Rabii & Khosravi 1581; Qeshm Island, Rabii & Khosravi 1785SH & 1806SH.

*Leveillea jungermannioides* (Hering & Martens) Harvey

Qeshm Island, Farmandary beach, Rabii & Sohrabi 1143; Hormoz Island, Sohrabi & Rabii 1154; Bandar lengeh, 55 km to the East, Rabii & Khosravi 1367; Bandar Charak, toward Tahunch, Rabii & Khosravi 1718 & 1760SH.



\* *Polysiphonia scopulorum* Harvey var. *villum* (C. Agardh) Hollenberg -Fig. 13A.  
Hormoz Island, Rabii & Sohrabi 1136.

\* *Polysiphonia variegata* (C. Agardh) Zanardini

Qeshm Island, Farmandary beach, Rabii, Sohrabi & Khosravi 688, 1053 & 1617; Qeshm Island, Shibderaz, Rabii & Sohrabi 1622; Hengam Island, Sohrabi 1662.

*Tolypocladia glomerulata* (C. Agardh) Schmitz

Syn.: *Roschera glomerulata* C. Agardh

Qeshm Island, Rabii, Sohrabi & Khosravi 613 & 752; Larak Island, Rabii & Khosravi 767 and Rabii, Sohrabi 1074; Abumusa Island, Farmandary beach, Rabii & Khosravi 1596.

Nizamuddin & Gessner (1970) reported the species as *Roschera glomerulata*.

## XANTHOPHYTA

### Nitzschiaceae

*Nitzschia martiana* (C. Agardh) Van Huerck

epiphyte on other algae.

The species recently reported from Iran (Sohrabi & Rabii 1996, p. 102).

### Thalassiosiraceae

\* *Stephanopyxis palmeriana* (Grev.) Grunow -Fig. 13B.

Epiphyte on other algae.

### Naviculaceae

\* *Gomphonema* sp. -Fig. 13C.

Epiphyte on other algae specially *Cladophora* spp.

### Tabelariaceae

\* *Tabelaria flocculosa* (Roth) Kutzing -Fig. 13D.

Epiphyte on other algae.

## CYANOPHYTA

### Nostocaceae

\* *Colothrix scopulorum* (Weber & Mohr) C. Agardh ex Borner & Flahant -Fig. 13E.

### Osilatoriaceae

\* *Microcoleus lyngbyaceus* Kutzing -Fig. 13F.

Epiphyte on other algae.

*Spirolina subsalsa* Orested ex Gomont

Moghadam (1974) reported the species from Geno hot spring.

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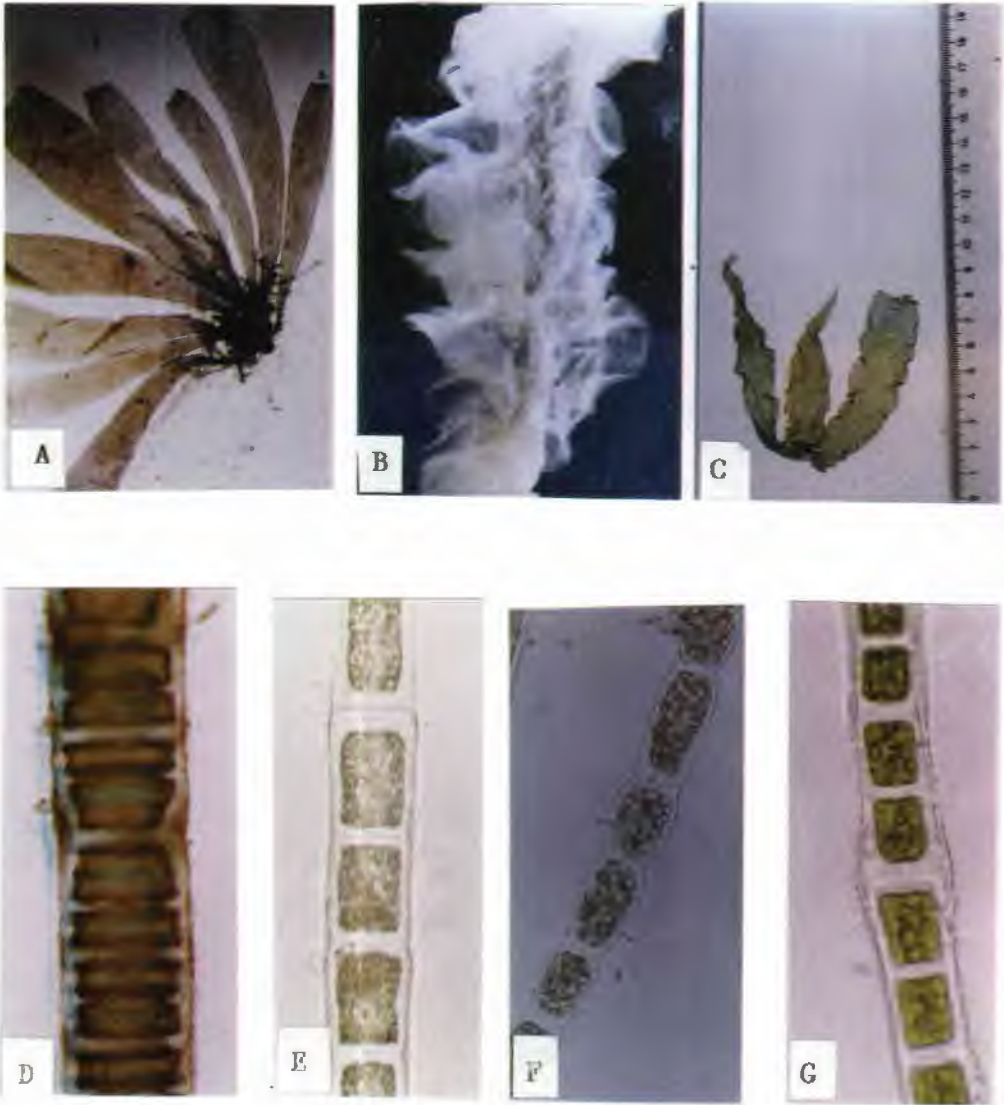
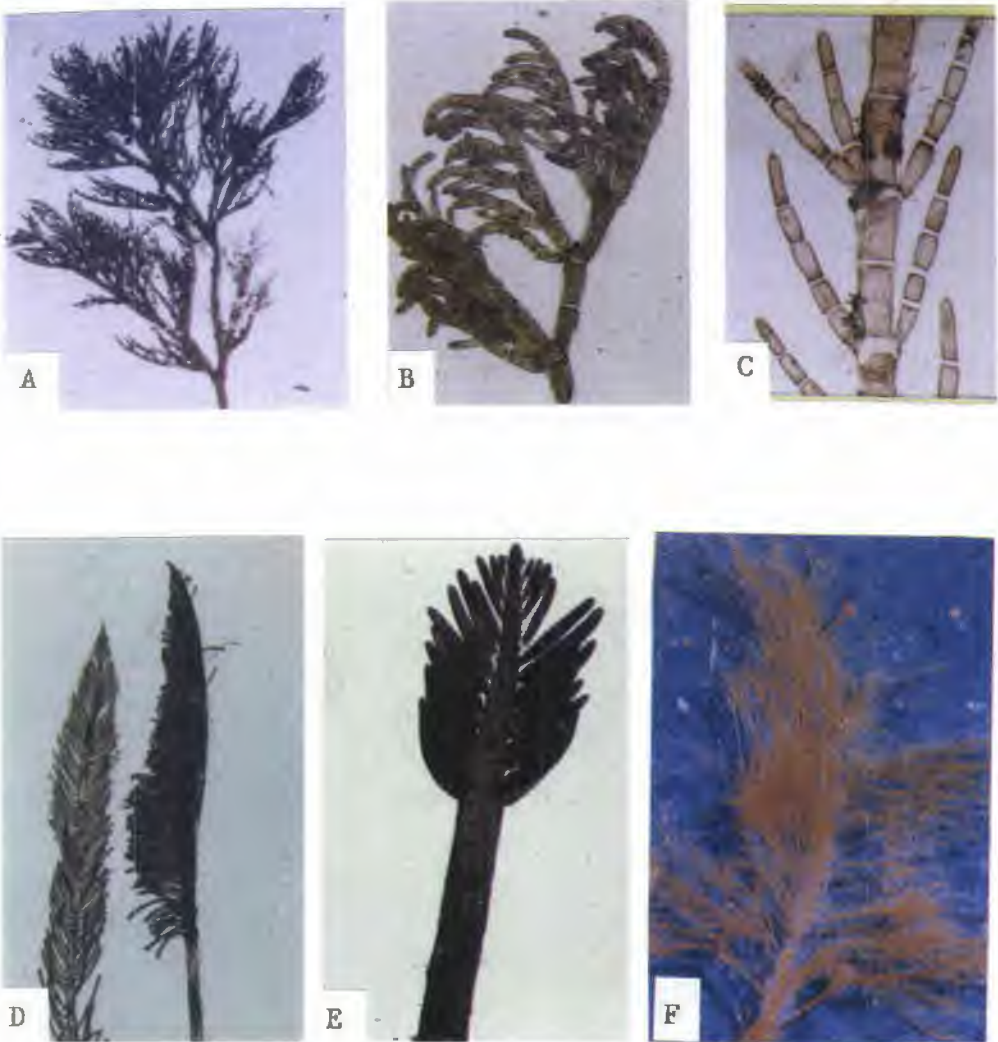


Fig. 1. (A) *Entromorpha flexuosa* (x4). -(B) *E. itestinalis* (x4). -(C) *E. linza*. -(D) *Chaetomorpha brachyгона* (x100). -(E) *C. californica* (x400). -(F) *C. gracilis* (x200). (G) *Lola implex* (x200).



Figs. 2. (A) *Cladophora fascicularis* (x10). - (B) *C. magdalene* (x100). (C) *C. radiosa* (x20). - (D) *Bryopsis pennata* var. *secunda* (x7). - (E) *Bryopsis pennatula* (x10). - (F) *Bryopsis plumosa* (x10).

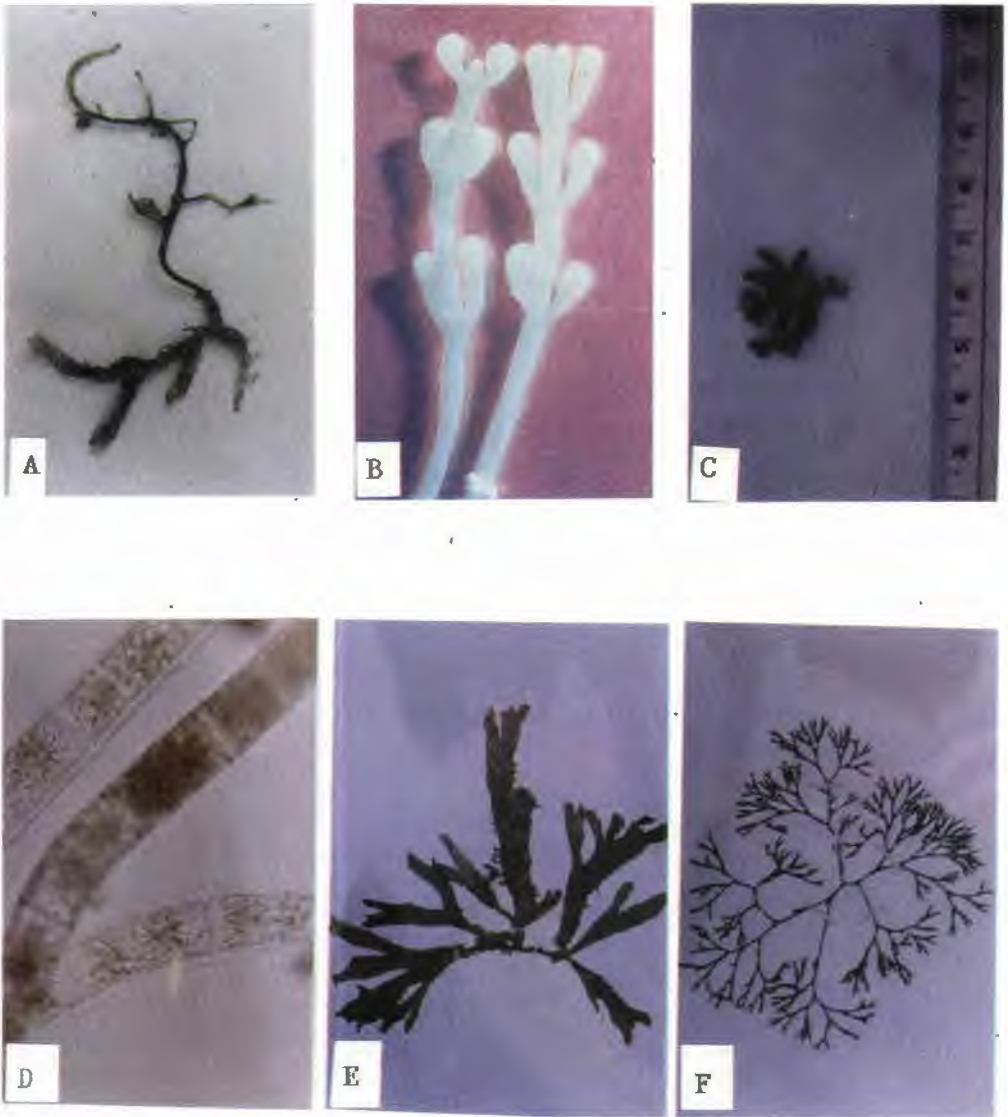


Fig. 3. (A) *Caulerpa serularioides* forma *falowii* (x0.5). -(B) *Caulerpa* sp. (x5). -(C) *Codium papilatum*. -(D) *Bachelotia antillarum* (x200). -(E) *Dictyota ciliolata* (x0.25). -(F) *Dictyota volubilis* (x0.25).



Fig. 4. (A) *Padina australis* (x0.25). -(B) *Padina crassa* (x0.25) -(C) *Spatoglossum variables* (0.25). -(D) *Stoechospermum marginatum* (x0.25). -(E) *Cystoseria neglecta* (x0.5). -(F) *Hormophysa cuneiformis*.

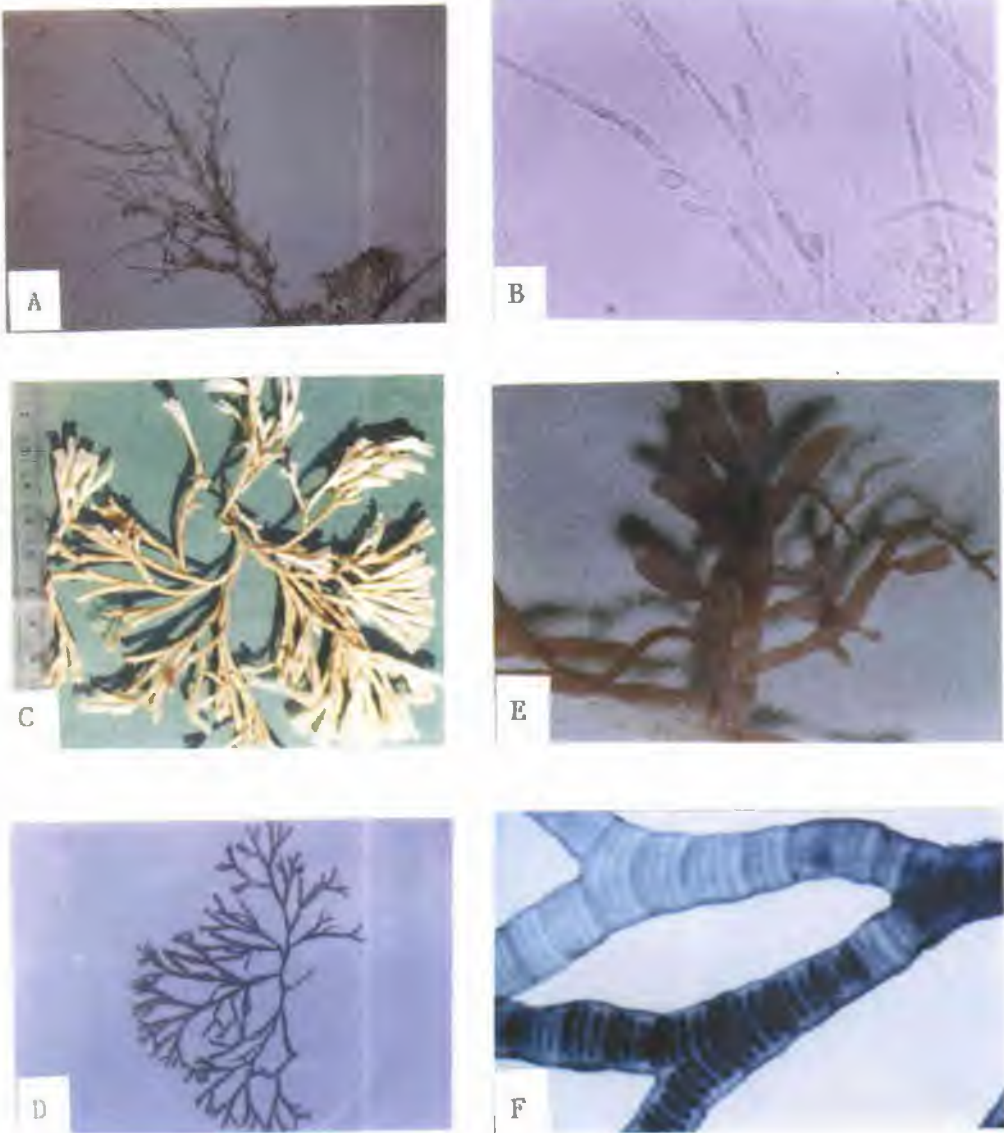


Fig. 5. (A) *Stylonema alisidii* (x50). - (B) *Audouinella saviana* (x2000). - (C) *Galaxaura rugosa*. - (D) *Scinaia tsingalensis* (x0.25). - (E) *Gelidium chilensis* (x3). - (F) *Amphiroa fraglissima* (x20).



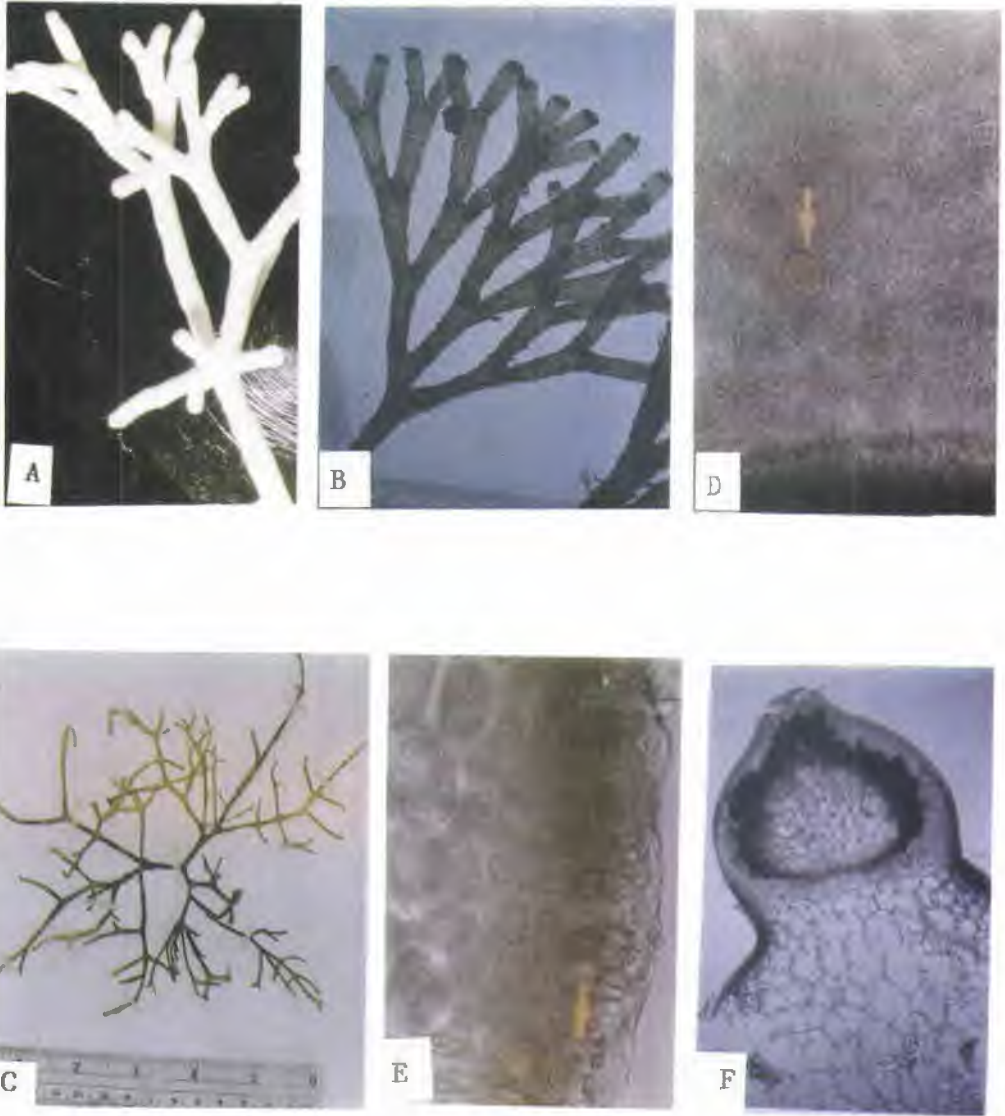


Fig. 6. (A) *Amphirosa* sp. (x7). -(B) *Jania adhaerens* (x10) -(C) *Gracilaria canaliculata* (x0.3). -(D) *G. canaliculata* (Withish spots x200). -(E) *G. canaliculata* (tetrasporangia x200). -(F) *G. canaliculata* (carposporangia x20).

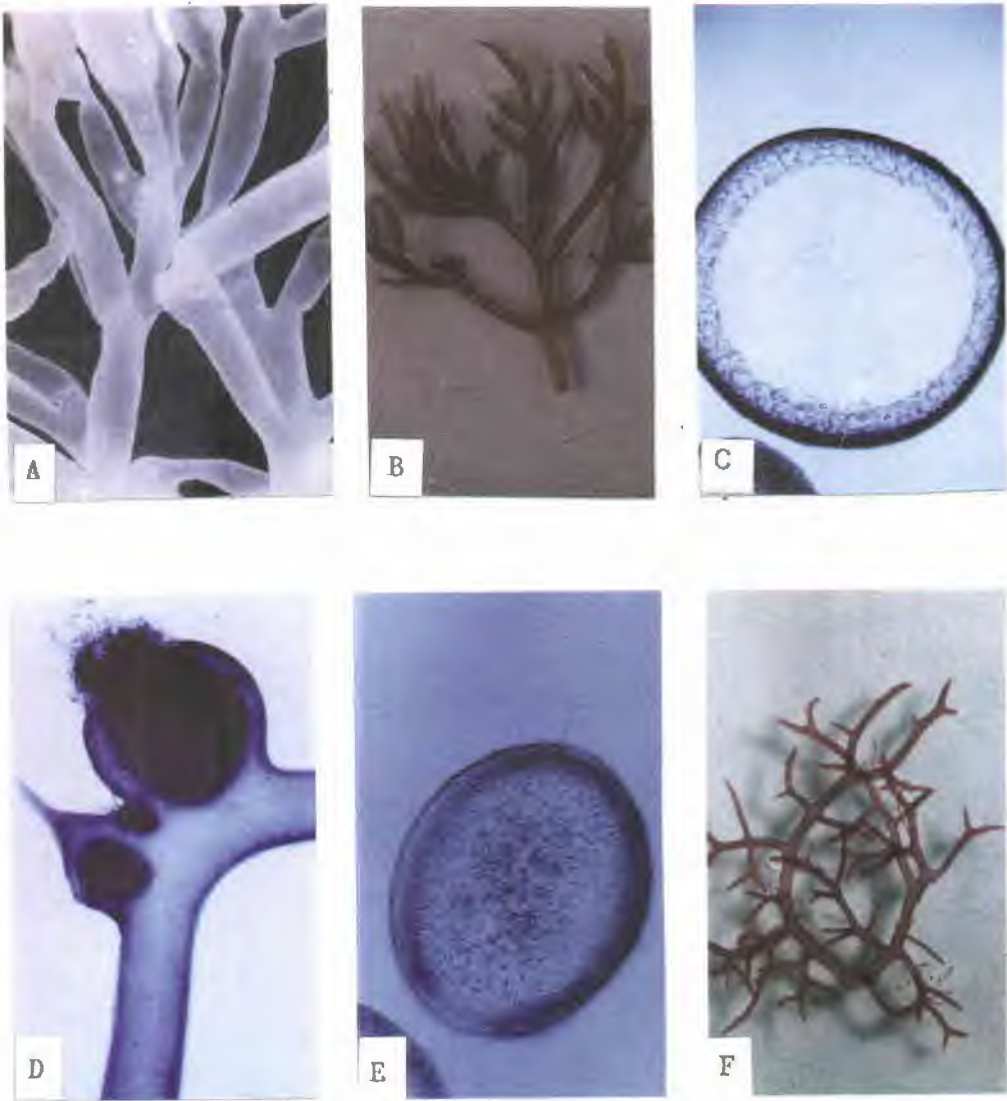


Fig. 7. (A) *Soheria anastomosa* (x3). -(B) *S. filiformis* (x10). -(C) *S. filiformis* (T. S. x20). -(D) *Gigartina acicularis* (carposporangia x20). -(E) *G. acicularis* (T. S. x50). -(F) *Hypnea cervicornis* (x7).

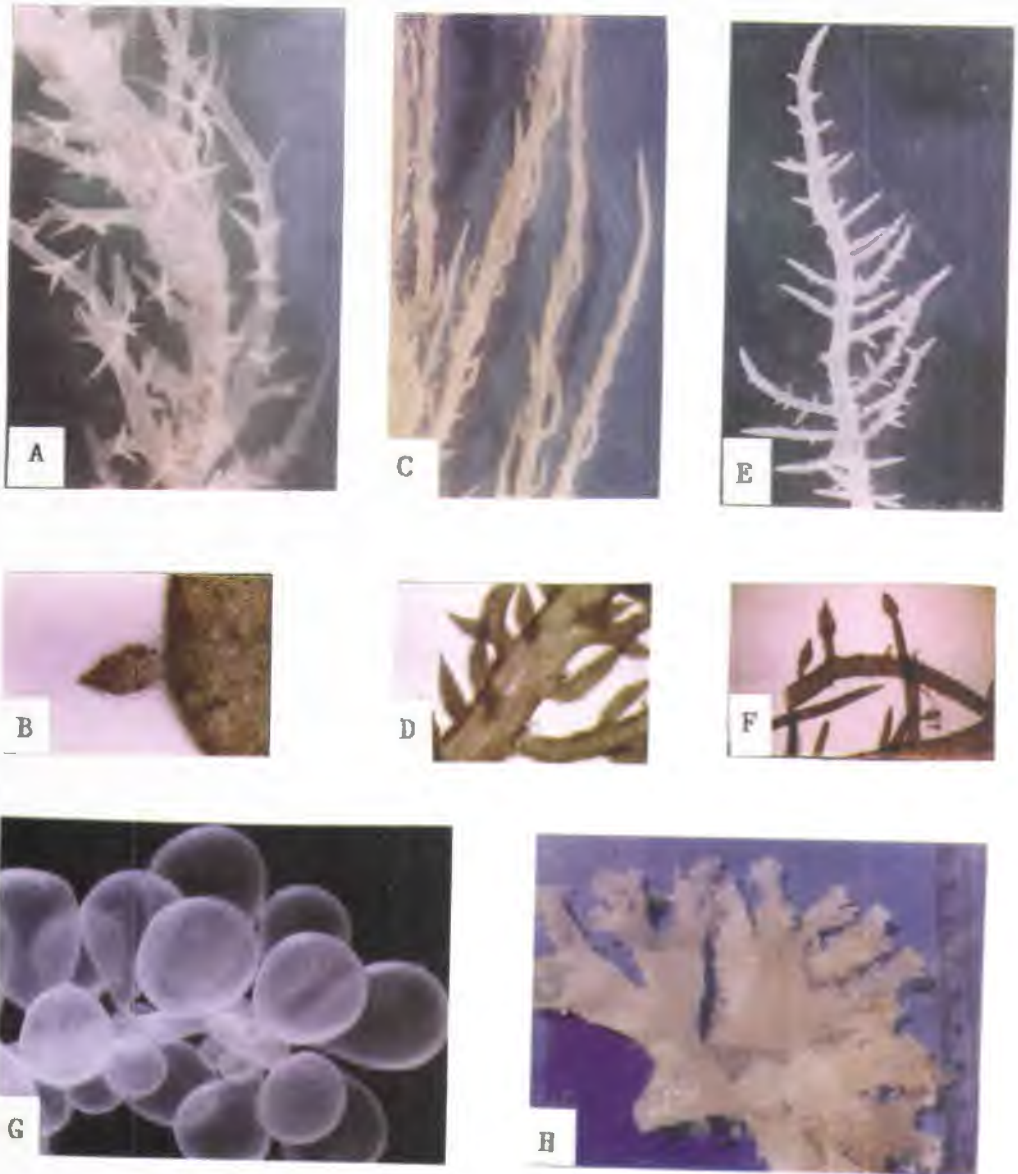


Fig. 8. (A) *Hypnea cornuta* (x3). -(B) *H. cornuta* (tetrasporangia x10). -(C) *H. flageliformis* (x4). -(D) *H. flageliformis* (tetrasporangia x10). -(E) *H. spinella* (x4). -(F) *H. spinella* (tetrasporangia x10). -(G) *Botryocladia leptopoda* (x5). -(H) *Rhodymenia* sp.

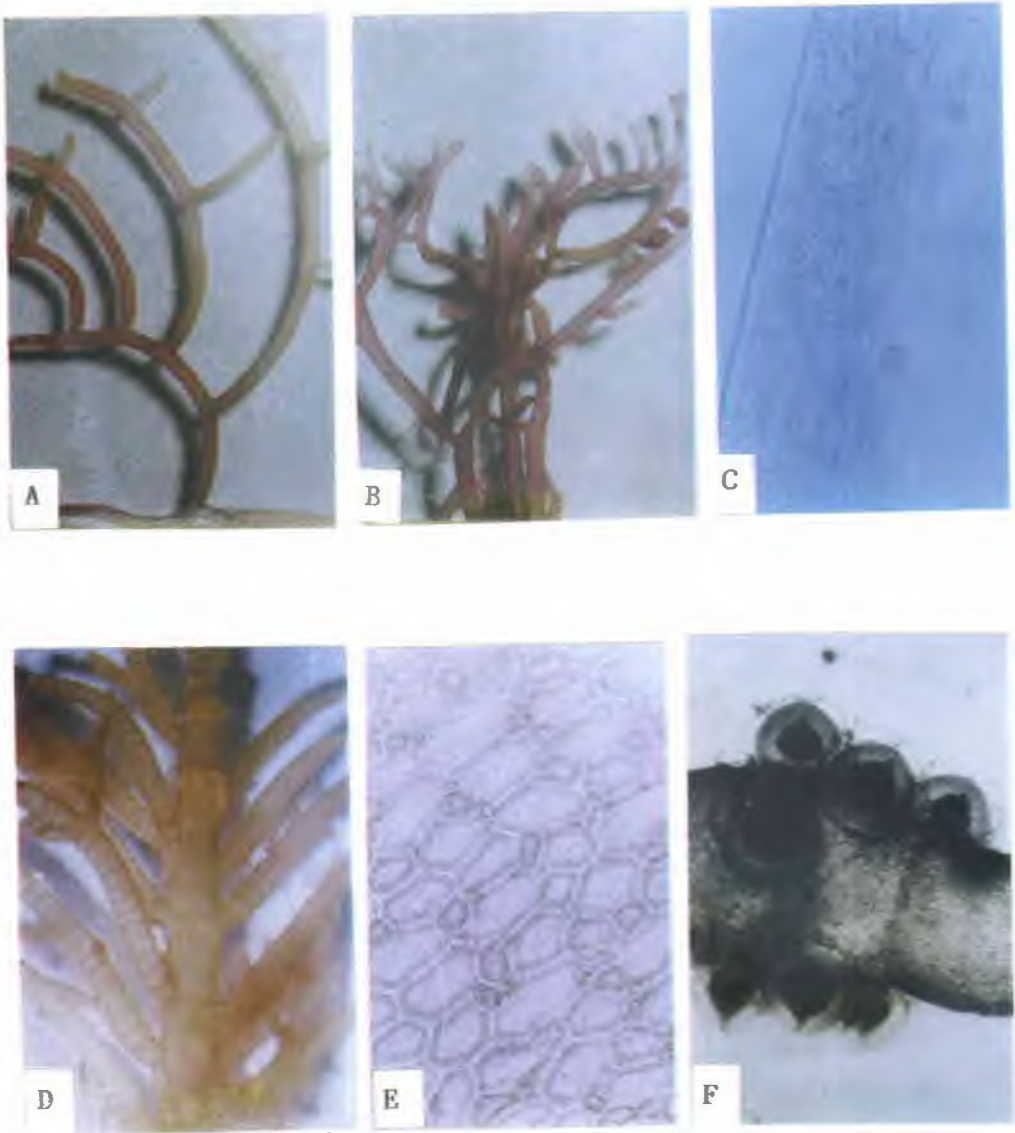


Fig. 9. (A) *Lomentaria baileyana* (x4). -(B) *Lomentaria* sp. (x4). -(C) *Lomentaria* sp. (L. S. x200). -(D) *Champia compressa* (x4). -(E) *C. compressa* (Surface view of cells x100). -(F) *Champia globulifera* (x10).

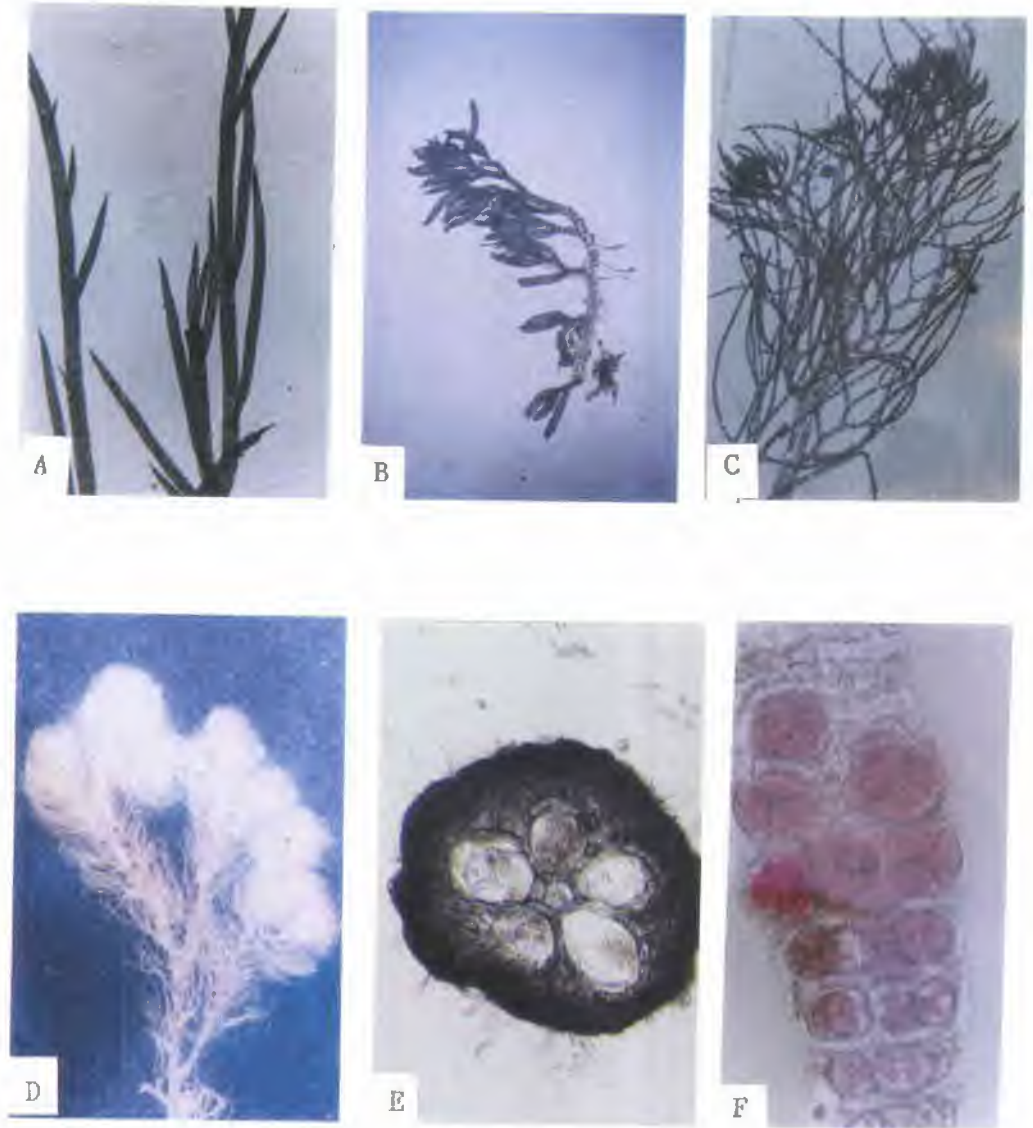


Fig. 10. (A) *Platysiphonia miniata* (x20). -(B) *Taenioma nanum* (x20). -(C) *Dasya bailloviana* (x10). -(D) *Pogonophorella* sp. (x4). -(E) *Pogonophorella* sp. (T. S. x18). -(F) *Pogonophorella* sp. (tetrasporangia x50).

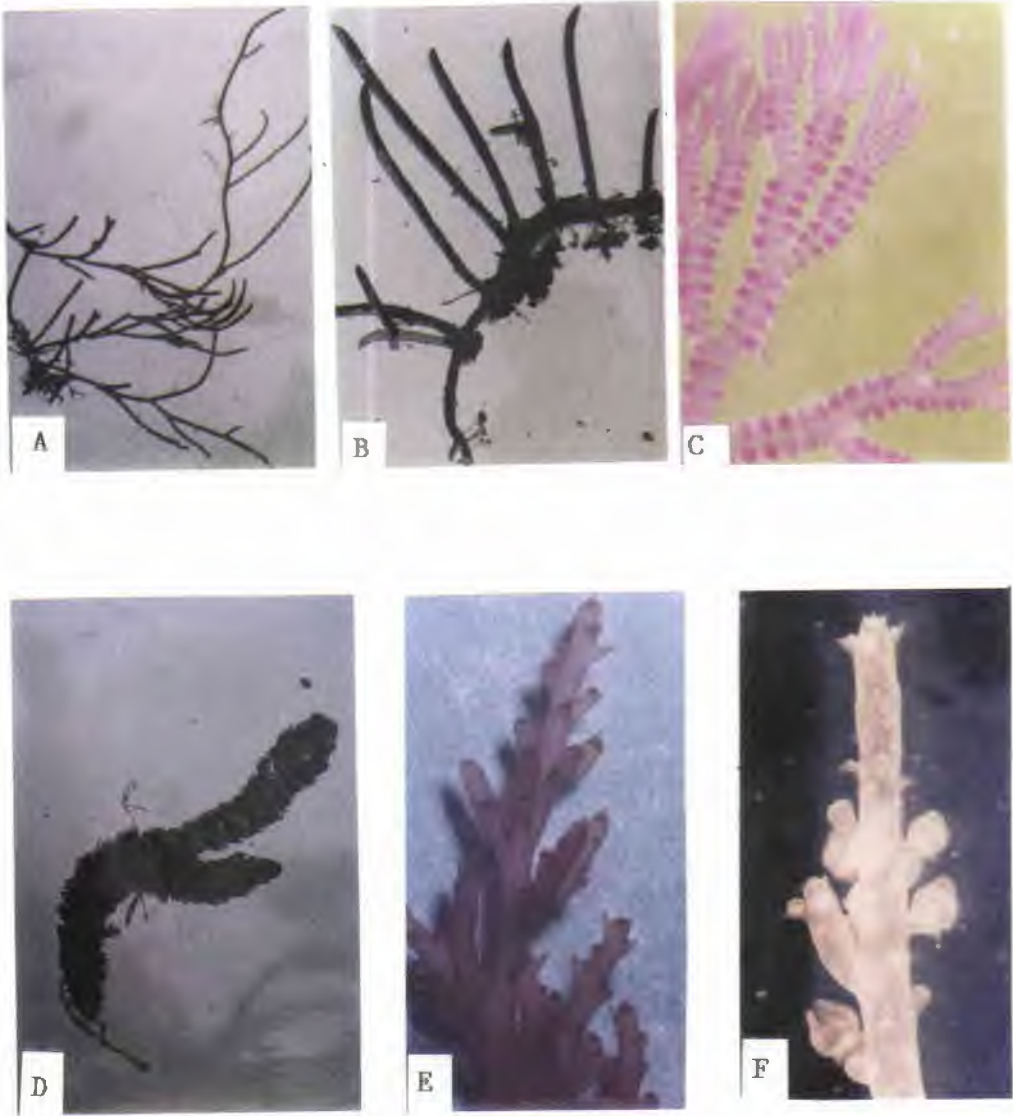


Fig. 11. (A) *Centroceras apiculatum* (x7). - (B) *Centroceras bellum* (x14). - (C) *Ceramium manrensis* (x20). - (D) *Crounia attenuata* (x25). - (E) *Acanthophora muscoides* (x4). - (F) *Chondria bernardii* (x4).

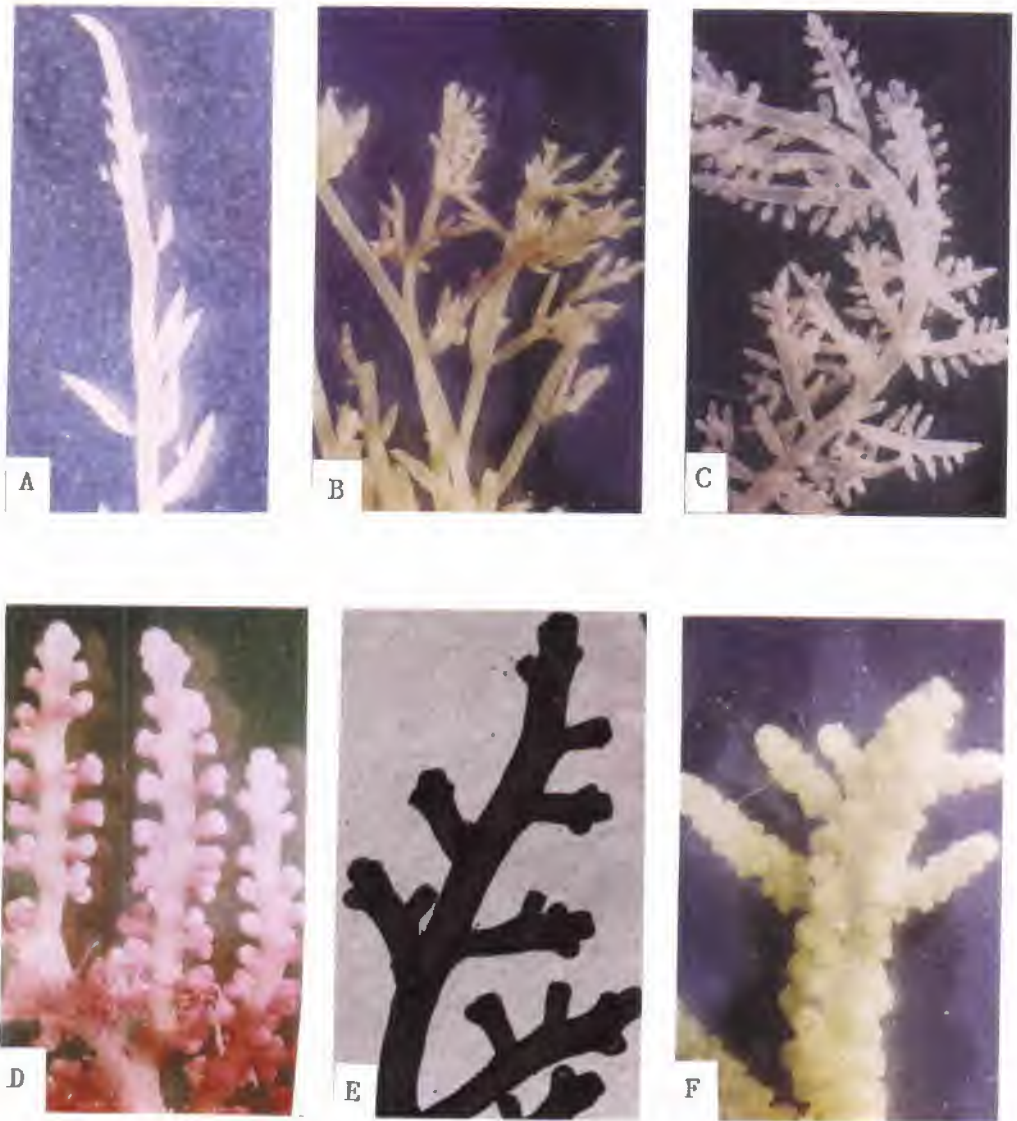


Fig. 12. (A) *Chondria cornuta* (x14). -(B) *Chondria nidifica* (x4). -(C) *C. oppositoclada* (x4). -(D) *Laurencia pedicularioides* (x4). -(E) *L. intricata* (x28). -(F) *L. snyderiae* (x4).

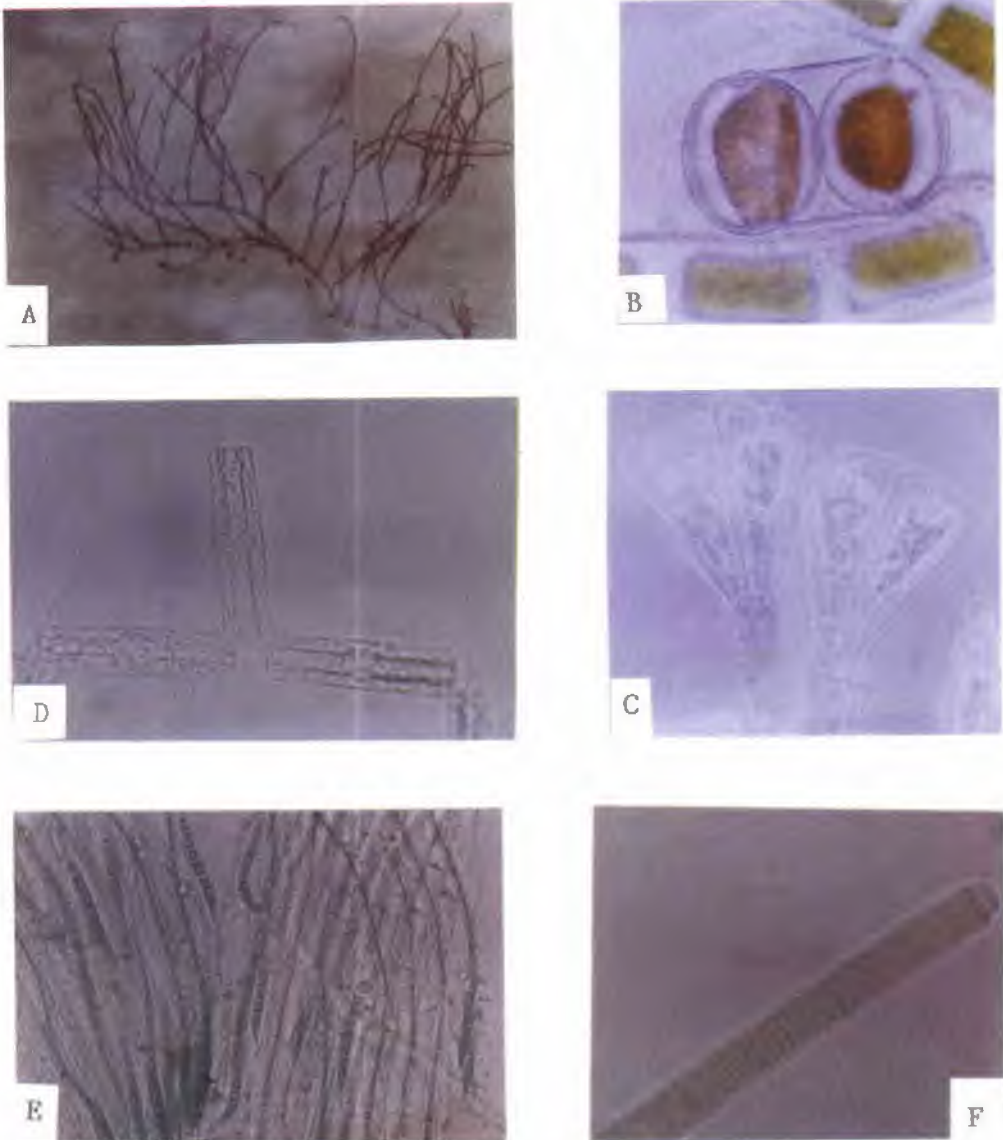


Fig. 13. (A) *Polysiphonia scopulorum* var. *villum* (x5). -(B) *Stephanopyxis palmeriana* (x500). -(C) *Gomphonema* sp. (x500). -(D) *Tabelaria flocculosa* (x500). -(E) *Colothrix scopulorum* (x100). -(F) *Microcoleus lyngbyaceus* (x500).