

MARINE ALGAE FROM EASTERN COAST OF LIBYA (CYRENAICA)

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Abstract

The distribution and frequency of marine algae along the eastern coast of Libya (Cyrenaica) showed the presence of 168 species, 6 varieties and 2 forms. This includes 56 Chlorophyceae, 37 Phaeophyceae and 76 Rhodophyceae including varieties and forms. The R/P ratio was 2.05. Hence it is rather subtropical than boreal.

Introduction

These days resources of sea is becoming more and more important in human life as regards the economic utilization of the sea is concerned. Scientists are in search of some means from the sea to feed the soaring population of the world. It is an established fact that the sea is full of innumerable wealth of minerals, vitamins and biological organisms. Libya has a long sea coast of about 1900 Km extending from the Egyptian to the Tunisian borders. The Italians who collected algal specimens have been deposited in Florence Herbarium, Italy and listed by Ardissoni (1893); De Toni (1892, 1895); De Toni & Forti (1913, 1914); De Toni & Levi (1888); Lemoine (1915); Muschler (1910) Pampanini (1931); Petersen (1918); Raineri (1920, 1921). Collections of marine algae recently made by Nizamuddin have been deposited in Botany Department, El-Fatah University. Based on this survey the marine flora of the coast of Libya (Cyrenaica) is presented.

Materials and Methods

Survey for the collection of specimens was made from 13 stations i.e., Tobruk to Syrte extending about 1000 Km. viz., (1)-Tobruk (2)-Ain Ghazala (3)-Derna (4)-Susa (5)- Tolmeta (6)- Tocra (7)-Benghazi (8)-Ghemini (9)-El-Zweitena (10)-El-Breqa (11)-El-Sidra (12)-Ben Jawad and (13)-Syrte during January 1989 to August 1990. Specimens were fixed and some were preserved in polythene bags sprinkled with formalin for mounting on the herbarium sheets for future use. The specimens have been deposited in Algal Herbarium, Botany Department, Garyounis University, Benghazi (CHUG). The species are listed in alphabetical order under classes and are followed by station number (Fig.1).

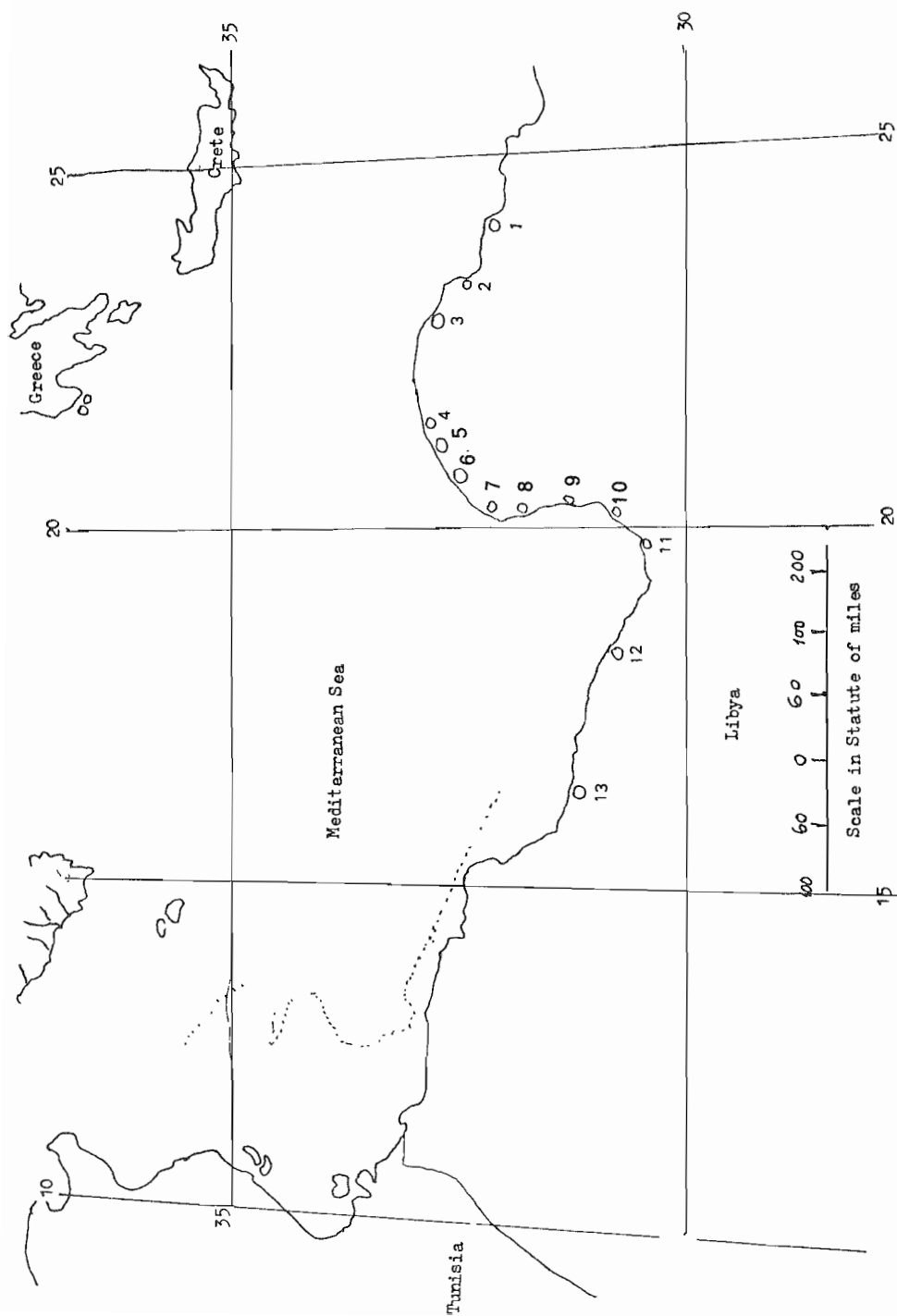


Fig.1. Number showing places of collections.

List of species

CHLOROPHYCEAE

<i>Acetabularia</i> Lamouroux 1817 -----	n.r.
<i>Acetabularia acetabulum</i> (Lamx.) Silva 1,4,6,7,8,13 -----	n.r.
<i>Anadyomene</i> Lamouroux 1812 -----	
<i>Anadyomene stellata</i> (Wulf.) C. Agardh 1,2,3,6,7,8,13 -----	
<i>Bryopsis</i> Lamouroux 1809 -----	
<i>Bryopsis adriatica</i> (J. Ag.) Meneghini 7 -----	n.r.
<i>Bryopsis duplex</i> De Notaris 1,3,4, -----	n.r.
<i>Caulerpa</i> Lamouroux 1809 -----	
<i>Caulerpa prolifera</i> (Forsk.) Lamouroux 1,2,3,4,5,6,7,8,13 -----	
<i>Caulerpa ollivieri</i> Dostal 7 -----	n.r.
<i>Chaetomorpha</i> Kützing 1843 -----	
<i>Chaetomorpha aerea</i> (Dillw.) Kützing 7 -----	
<i>Chaetomorpha capillaris</i> (Kütz.) Børgesen 4,7 -----	n.r.
<i>Chaetomorpha chlorotica</i> (Mont.) Kützing 7 -----	n.r.
<i>Chaetomorpha crassa</i> (C.Ag.) Kützing 2,7 -----	n.r.
<i>Chaetomorpha indica</i> (Kütz.) Kützing 1,2,7 -----	n.r.
<i>Chaetomorpha linum</i> (Müller) Kützing 2,7 -----	n.r.
<i>Chaetomorpha mediterranea</i> (Kütz.) Kützing 7 -----	n.r.
<i>Chaetomorpha melogonium</i> (Web. et Mohr) Kützing 7 -----	n.r.
<i>Chaetomorpha princeps</i> Kützing 1,2 -----	
<i>Chaetomorpha torulosa</i> (Zan.) Kützing 7 -----	n.r.
<i>Chaetomorpha urbica</i> (Zan.) Kützing 7 -----	n.r.
<i>Cladophora</i> Kützing 1843 -----	
<i>Cladophora albida</i> (Huds.) Kützing 7 -----	
<i>Cladophora catenata</i> (J. Ag.) Hauck 1 -----	
<i>Cladophora dalmatica</i> Kützing 7 -----	n.r.
<i>Cladophora globulina</i> (Kütz.) Kützing 7 -----	n.r.
<i>Cladophora glomerata</i> (Linn.) Kützing 7 -----	n.r.
<i>Cladophora nigrescens</i> Zan. ex Frauenfeld 6 -----	n.r.
<i>Cladophora pellucida</i> (Huds.) Kützing 7 -----	n.r.
<i>Cladophora prolifera</i> Kützing 6,7 -----	n.r.
<i>Cladophora ramulosa</i> Meneghini 1, -----	n.r.
<i>Cladophoropsis</i> Børgesen 1905 -----	n.r.
<i>Cladophoropsis modonensis</i> (Kütz.) Børgesen 1,2,7 -----	n.r.
<i>Codium</i> Stackhouse 1797 -----	
<i>Codium bursa</i> (Linn.) C. Agardh 7,8 -----	
<i>Codium coralloides</i> (Kütz.) C. Agardh 4 -----	n.r.
<i>Codium corymbosum</i> Nizamuddin 4 -----	
<i>Codium decorticatum</i> (Woodw.) Howe 4,7 -----	n.r.
<i>Codium difforme</i> (Kütz.) Kützing 6 -----	n.r.
<i>Codium tomentosum</i> (Huds.) Stackhouse 1,4,7 -----	n.r.

Abbr. n.r. = new record; L = from literature; MS = manuscript. p.r. = previously reported.

<i>Codium vermilara</i> (Olivi) Delle Chiaje 7	n.r.
<i>Dasycladus</i> C. Agardh 1828	
<i>Dasycladus vermicularis</i> (Scop.) Krasser 1,4,5,6,7,12,13	n.r.
<i>Enteromorpha</i> Link 1820	n.r.
<i>Enteromorpha clathrata</i> (Roth) Greville 1,7	
<i>Enteromorpha compressa</i> (Linn.) Greville 3,7	
<i>Enteromorpha linza</i> (Linn.) J. Agardh	
<i>Enteromorpha linza</i> var. <i>crispata</i> J. Agardh 7	
<i>Enteromorpha intestinalis</i> (Linn.) Greville 3,7	
<i>Enteromorpha prolifera</i> (Muller) J. Agardh 7	n.r.
<i>Flabellia</i> Reichenbach 1841	
<i>Flabellia petiolata</i> (Turra) Nizamuddin (Reported as <i>Udotea petiolata</i> (Turra) Borgesen 5,6,7,8,13	
<i>Halimeda</i> Lamouroux 1816	
<i>Halimeda tuna</i> (Ellis et Soland.) Lamouroux 1,3,4,5,6,7,8,12,13	
<i>Microdictyon</i> Decaisne 1839	
<i>Microdictyon tenuius</i> (C. Ag.) Decaisne 13	L.
<i>Ochlochaete</i> Thwaites et Harvey 1849	L.
<i>Ochlochaete hystrix</i> Thwaites et Harvey 7	
<i>Phaeophila</i> Hauck 1885	L.
<i>Phaeophila dendroides</i> (Crouan et Crouan) Batters 7	L.
<i>Pseudobryopsis</i> Berthold in Oltmanns 1904 (= <i>Trichosolen</i> Montagne 1860)	n.r.
<i>Pseudobryopsis myura</i> (J. Ag.) Berthold in Oltmanns 4	n.r.
<i>Rhizoclonium</i> Kützing 1843	n.r.
<i>Rhizoclonium implexum</i> (Dillw.) Kützing 7,8	
<i>Rhizoclonium kochianum</i> Kützing 7,8	
<i>Ulva</i> Linnaeus 1753	
<i>Ulva fasciata</i> Delile 7	
<i>Ulva lactuca</i> Linnaeus 1,2,3,4,6,7	
<i>Ulva rigida</i> C. Agardh 3,4,7	n.r.
<i>Ulva rigida</i> var. <i>cribrosa</i> J. Agardh 3,4	n.r.
<i>Ulva taeniata</i> (Setch.) Setchell et Gardner 7	n.r.
<i>Ulvella</i> Crouan et Crouan 1859	n.r.
<i>Ulvella lens</i> Crouan et Crouan 7	n.r.
<i>Valonia</i> C. Agardh 1823	
<i>Valonia aegagropila</i> C. Agardh 2,7	n.r.
<i>Valonia macrophysa</i> Kützing 2	
<i>Valonia utricularis</i> (Roth) C. Agardh 7, 13	
PHAEOPHYCEAE	
<i>Cladostephus</i> C. Agardh 1817	
<i>Cladostephus verticillatus</i> (Lightf.) van Reine 7	
<i>Colpomenia</i> (Endl.) Derbes et Solier 1851	
<i>Colpomenia sinuosa</i> (Mert. ex Roth) Derbes et Solier 1,4,7	
<i>Cystoseira</i> C. Agardh 1820	
<i>Cystoseira barbata</i> (Gooden. et Woodw.) J. Agardh 6,7	
<i>Cystoseira compressa</i> (Esper) Gerloff et Nizamuddin 4,6,7	

<i>Cystoseira crinita</i> (Desf.) Duby 7 -----	
<i>Cystoseira cinitophylla</i> Ercegovic 7 -----	
<i>Cystoseira discors</i> (Linn.) C. Agardh <i>emend.</i> Sauvageau 1,4,7,13 -----	
<i>Cystoseira humilis</i> (Schousb.) Kützing -----	n.r.
<i>Cystoseira mediteaneava</i> var. <i>valiantei</i> Sauvageau 4,8 -----	
<i>Cystoseira susanensis</i> Nizamuddin 4,7 -----	
<i>Dictyopteris</i> Lamouroux 1809 -----	
<i>Dictyopteris membranacea</i> (Stackh.) Batters 1,4,7,13 -----	
<i>Dictyopteris polypodioides</i> Lamouroux 7 -----	
<i>Dictyopteris tripolitana</i> Nizamuddin 6,7 -----	
<i>Dictyota</i> Lamouroux 1809 -----	
<i>Dictyota affinis</i> Kützing 7 -----	
<i>Dictyota dichotoma</i> (Huds.) Lamouroux 1,4,7 -----	
<i>Dictyota linearis</i> (C. Ag.) Greville 7,13 -----	
<i>Dilophus</i> J. Agardh 1882 -----	
<i>Dilophus fasciola</i> var. <i>repens</i> (J. Ag.) Feldmann 1,4 -----	
<i>Dilophus spiralis</i> (Mont.) Hamel 1,4,7 -----	
<i>Ectocarpus</i> Lyngbye <i>emend.</i> Hamel 1939 -----	
<i>Ectocarpus confervoides</i> (Roth) Kjellman 6 -----	
<i>Hincksia</i> Gray 1864 -----	n.r.
<i>Hincksia sandriana</i> (Zan.) Silva -----	n.r.
<i>Hydroclathrus</i> Bory 1825 -----	n.r.
<i>Hydroclathrus clathratus</i> (C. Ag.) Howe 7 -----	n.r.
<i>Halopteris</i> Kützing 1843 -----	
<i>Halopteris filicina</i> (Grat.) Kützing 6 -----	n.r.
<i>Halopteris scoparia</i> (Linn.) Sauvageau 1,4,7,13 -----	
<i>Padina</i> Adanson 1763 -----	
<i>Padina gymnospora</i> (Kütz.) Vickers 2,7 -----	
<i>Padina pavonia</i> (Linn.) Lamouroux 1,4,7,8,12,13 -----	
<i>Padina tenuis</i> Bory 6 -----	
<i>Petalonia</i> Derbes et Solier 1851 -----	
<i>Petalonia fascia</i> (Muller) Kuntze 1,7 -----	
<i>Sargassum</i> C. Agardh 1820 -----	
<i>Sargassum acinarium</i> C. Agardh 6,7,13 -----	
<i>Sargassum boryanum</i> Montagne 9 -----	n.r.
<i>Sargassum hornschurchii</i> C. Agardh 5 -----	
<i>Sargassum ramentaceum</i> Zarmouh <i>et</i> Nizamuddin 3,7 -----	
<i>Sargassum vulgare</i> J. Agardh 7 -----	
<i>Scytosiphon</i> C. Agardh 1820 -----	
<i>Scytosiphon lomentaria</i> (Lyngb.) Lamouroux 1,5,7 -----	
<i>Sphacella</i> Reinke 1890 -----	n.r.
<i>Sphacella subtilissima</i> Reinke 1,7,8 -----	n.r.
<i>Sphacelaria</i> Lyngbye 1819 -----	
<i>Sphacelaria cirrosa</i> (Roth) C. Agardh 7,8 -----	n.r.
<i>Styopodium</i> Kützing 1843 -----	
<i>Styopodium tubregense</i> Nizamuddin <i>et</i> Godeh 1,7 -----	

<i>Taonia</i> J. Agardh 1848 -----	
<i>Taonia atomaria</i> (Woodw.) J. Agardh 4,6,7 -----	
<i>Taonia atomaria</i> f. <i>atomaria</i> J. Agardh 4 -----	
<i>Taonia atomaria</i> f. <i>ciliata</i> * (Lamx.) Nizamuddin (v. Nizamuddin, 1981: 37) 4 -----	
<i>Zonaria</i> C. Agardh 1817 -----	
<i>Zonaria flava</i> (Clem.) C. Agardh -----	4
RHODOPHYCEAE	
<i>Achrochaetium</i> Nägeli 1862 -----	
<i>Achrochaetium savianum</i> (Menegh.) Nägeli 1 -----	L.
<i>Acrodiscus</i> Zanardini 1860 -----	L.
<i>Acrodiscus vidivichii</i> (Menegh.) Zanardini 7 -----	
<i>Acrosorium</i> Zanardini 1869 -----	
<i>Acrosorium aglaophylloides</i> Zanardini 7 -----	n.r.
<i>Acrosorium uncinatum</i> (J. Ag.) Kylin 7 -----	
<i>Acrosorium verulosum</i> (Zan.) Kylin 7 -----	n.r.
<i>Alsidium</i> C. Agardh 1827 -----	n.r.
<i>Alsidium corallinum</i> (Tour.) Kützing 6 -----	
<i>Alsidium helmisthocorton</i> (Tour.) Kützing 6 -----	n.r.
<i>Botryocladia</i> Kylin 1931 -----	
<i>Botryocladia botryoides</i> (Wulf.) Feldmann 7,13 -----	
<i>Brongniartella</i> Bory 1822 -----	
<i>Brongniartella byssoides</i> (Gooden. et Woodw.) Schmitz 1.7. -----	
<i>Callithamnion</i> Lyngbye 1819 -----	
<i>Callithamnion granulatum</i> (Ducluz.) C. Agardh 7 -----	
<i>Centroceras</i> Kützing 1841 -----	n.r.
<i>Centroceras clavulatum</i> (C. Ag.) Montagne 7 -----	n.r.
<i>Ceramium</i> Roth 1797 -----	
<i>Ceramium ciliatum</i> (Ellis et Soland.) Ducluzeau 7 -----	n.r.
<i>Ceramium tenuissimum</i> (Roth) J. Agardh 7 -----	L.
<i>Chondria</i> C. Agardh 1817 -----	
<i>Chondria coerulescens</i> (Thur.) Falkenberg 6 -----	n.r.
<i>Chondria oppositoclada</i> Dawson 7 -----	n.r.
<i>Chondriopsis</i> J. Agardh 1863 (<i>Carpocaulon</i> Kützing 1843) -----	n.r.
<i>Chondriopsis mediterranea</i> (Kütz.) J. Agardh (<i>Carpocaulon mediterranea</i> Kützing) 5,6 --	
<i>Chrysmenia</i> J. Agardh 1842 -----	
<i>Chrysmenia ventricosa</i> (Lamx.) J. Agardh 6 -----	
<i>Chylocladia</i> Greville 1833 -----	n.r.
<i>Chylocladia mediterranea</i> J. Agardh 7,8 -----	n.r.
<i>Corallina</i> Linnaeus 1758 -----	
<i>Corallina granifera</i> Ellis et Solander 3 -----	L.
<i>Corallina officinalis</i> Linnaeus 7 -----	
<i>Corallina squamata</i> Ellis et Solander -----	n.r.
<i>Cottoniella</i> Børgesen 1915-20 -----	

* Basionym: *Dictyota ciliata* Lamouroux (i) 1809:41 (ii) 1809: 331 (i) Jour. de Bot. 2: 38-44. (ii) Nouv. Bull. Sci. Soc. Philom. 1: 330-333, Pl. 6, f. 2 (May).

<i>Cottoniella fusiformis</i> Børgesen 7	n.r.
<i>Cottoniella libyensis</i> Nizamuddin et Godeh 1-8	n.r.
<i>Dasya</i> C. Agardh 1824	
<i>Dasya arbuscula</i> C. Agardh 7	
<i>Dasya lallemandii</i> Montagne 6-7	
<i>Dasya punicea</i> Meneghini 7	n.r.
<i>Dasya rigidula</i> (Kütz.) Ardissonne 6,8	n.r.
<i>Dasya villosa</i> Harvey 6	n.r.
<i>Digenia</i> C. Agardh 1822	
<i>Digenia simplex</i> (Wulf.) C. Agardh 7	
<i>Gastroclonium</i> Kützing	
<i>Gastroclonium clavatum</i> (Roth) Ardissonne 7	
<i>Gastroclonium ovatum</i> (Huds.) papufuss 7	
<i>Gastroclonium salicomia</i> Kützing 7	n.r.
<i>Gelidium</i> Lamouroux 1813	n.r.
<i>Gelidium pusillum</i> (Stackh.) Le Jolis 7	n.r.
<i>Gigartina</i> Stackhouse 1809	
<i>Gigartina acicularis</i> (Wulf.) Lamouroux 7	n.r.
<i>Goniotrichum</i> Kützing 1843	
<i>Goniotrichum alsidii</i> (Zand.) Howe 7	
<i>Gracilaria</i> Greville 1830	
<i>Gracilaria verrucosa</i> (Huds.) Papenfuss 7	
<i>Gracilaria verrucosa</i> var. <i>ramulosa</i> 7	n.r.
<i>Griffithsia</i> C. Agardh 1817	
<i>Griffithsia barbata</i> (Huds.) C. Agardh 6,7	n.r.
<i>Griffithsia irregularis</i> C. Agardh 7	n.r.
<i>Griffithsia schousboe</i> Montagne 7	
<i>Halodictyon</i> Zanardini 1843	
<i>Halodictyon mirabile</i> Zanardini 8	
<i>Halopitys</i> Kützing 1849	
<i>Halopitys incurvus</i> (Huds.) Batters 6	
<i>Halurus</i> Kützing 1843	n.r.
<i>Halurus equisetifolius</i> (Lightf.) Kützing 6	n.r.
<i>Herposiphonia</i> Nägeli 1846	
<i>Herposiphonia secunda</i> (C. Ag.) Ambronn 6,7,8	
<i>Hypnea</i> Lamouroux 1813	
<i>Hypnea musciformis</i> (Wulf.) Lamouroux 1,3,4,6,7,13	
<i>Hypoglossum</i> Kützing 1843	
<i>Hypoglossum crispum</i> Kützing 7	n.r.
<i>Janczewskia</i> Solms-Laubach 1877	n.r.
<i>Janczewskia verrucaeformis</i> Solms-Laubach 6	n.r.
<i>Jania</i> Lamouroux 1812	n.r.
<i>Jania adhaerens</i> Lamouroux 7	n.r.
<i>Jania longifurca</i> Zanardini 1,7	n.r.
<i>Jania rubens</i> (Linn.) Lamouroux 1,7,8	
<i>Laurencia</i> Lamouroux 1813	

<i>Laurencia intricata</i> Lamouroux, <i>prox</i> 8	-----	n.r.
<i>Laurencia laxa</i> Kützing 7,8	-----	n.r.
<i>Laurencia obtusa</i> (Huds.) Lamouroux 7	-----	
<i>Laurencia obtusa</i> var. <i>gracilis</i> Harvey 7	-----	n.r.
<i>Laurencia oophora</i> Kützing 6	-----	n.r.
<i>Laurencia paniculata</i> (C. Ag.) Kützing 13	-----	n.r.
<i>Laurencia papillosa</i> (Forsk.) C. Agardh 4,6,7	-----	n.r.
<i>Laurencia pinnatifida</i> (Huds.) Lamouroux 4,6,7	-----	n.r.
<i>Liagora</i> Lamouroux 1812	-----	
<i>Liagora viscida</i> (Forsk.) C. Agardh 1,4,6,7,12,13	-----	
<i>Lithophyllum</i> Philippi 1837	-----	
<i>Lithophyllum solutum</i> (Fosl.) Lemoine 13	-----	
<i>Lophocladia</i> Schmitz 1896	-----	
<i>Lophocladia lallemandii</i> (Mont.) Schmitz 3,13	-----	L.
<i>Lophosiphonia</i> Falkenberg 1897	-----	
<i>Lophosiphonia cristata</i> Falkenberg 1	-----	L.
<i>Peyssonnelia</i> Decaisne 1841	-----	
<i>Peyssonnelia rubra</i> (Grev.) J. Agardh 13	-----	
<i>Peyssonnelia squamaria</i> (Gmel.) Decaisne 7	-----	
<i>Plocamium</i> Lamouroux 1913	-----	
<i>Plocamium cartilagineum</i> (Linn.) Dixon 6	-----	
<i>Polysiphonia</i> Greville 1830	-----	
<i>Polysiphonia elongella</i> Harvey 7,8	-----	n.r.
<i>Polysiphonia macrocarpa</i> Harvey 7	-----	n.r.
<i>Polysiphonia pulvinata</i> Sprengel 7	-----	n.r.
<i>Polysiphonia subulifera</i> (C. Ag.) Harvey 8	-----	
<i>Porphyra</i> C. Agardh 1824	-----	
<i>Porphyra linearis</i> Greville 7	-----	n.r.
<i>Porphyra umbilicalis</i> (Linn.) J. Agardh 1	-----	
<i>Pseudolithophyllum</i> Lemoine 1913	-----	
<i>Pseudolithophyllum expansum</i> (Philp.) Lemoine 3,13	-----	L.
<i>Pterocladia</i> J. Agardh 1851	-----	
<i>Pterocladia capillacea</i> (Gmel.) Bornet et Thuret 1	-----	
<i>Pterosiphonia</i> Falkenberg 1897	-----	n.r.
<i>Pterosiphonia pennata</i> (J. Ag.) Falkenberg 8	-----	n.r.
<i>Rhizophyllis</i> Kützing 1845	-----	
<i>Rhizophyllis squamaria</i> (Menegh.) Kützing 1	-----	L.
<i>Rhodochorton</i> Nägeli 1862	-----	
<i>Rhodochorton floridulum</i> (Dillw.) Nägeli 6	-----	n.r.
<i>Ricardia</i> Derbes et Solier 1856	-----	
<i>Ricardia montagnei</i> Derbes et Solier 6	-----	
<i>Rytiphlaea</i> C. Agardh 1824	-----	
<i>Rytiphlaea tinctoria</i> (Clem.) C. Agardh 3,5,6,7,13	-----	
<i>Scinaia</i> Bivona 1822	-----	
<i>Scinaia forcellata</i> (Turn.) Bivona 7	-----	
<i>Spyridia</i> Harvey in Hooker 1833	-----	

<i>Spyridia filamentosa</i> (Wulf.) Harvey 1,7,8 -----
<i>Vidalia</i> Lamouroux 1822 -----
<i>Vidalia volubilis</i> (Linn.) J. Agardh 6,7,13 -----
<i>Wrangelia</i> C. Agardh -----
<i>Wrangelia penicillata</i> (C. Ag.) C. Agardh 6,7,8 -----

Discussion

The preliminary survey of the eastern coast of Libya (Cyrenaica) showed the occurrence of 169 species of algae comprising 26 genera, 56 species (33.14%) and 2 varieties of Chlorophyceae; 19 genera, 37 species (21.89%) and 2 varieties of Phaeophyceae and 51 genera, 76 species (44.97%), 2 varieties of Rhodophyceae (Table 1). The R/P ratio was 2.05 which agrees with the findings of Güven & Öztig (1971) for the Turkish coast where R/P ratio is also 2.0 which is lower than the northern Greece (Haritonidis & Tsekos, 1975) where R/P ratio is 2.7.

The coast is also represented by marine Phanerogams, *Posidonia oceanica* (Linn.) Delile, *Cymodocea nodosa* (Ucria) Ascherson and *Halophila stipulacea* (Forsk.) Ascherson on sandy, muddy substrates and more common in lagoons. The number of phaeophycean species is lower than the rhodophycean i.e., R/P = 2.05 but the occurrence of the former is more outstanding. Along the coasts of Susa, Tolmeta and Tocra the large phaeophycean members form pure communities i.e., *Cystoseira susanensis* Nizam., and *Cystoseira discors* (Linn.) C. Agardh which cover a large area. Filamentous and crustose rhodophycean, a number of chlorophycean and phaeophycean algae are always found growing as epiphytes. Each biotope is a mixture of a great number of algal species.

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Table 1. A summary of the record of marine algae from Cyrenaica.

Class	Genus		Species		Species		Species		Var.		Form		Form		Species	
	p.r.	n.r.	p.r.	n.r.	nov.	Total	p.r.	n.r.	p.r.	n.r.	p.r.	n.r.	p.r.	n.r.	Total	reported in L
<i>Chlorophyceae</i>	20	6	23	32	1	56	2	-	2	-	-	-	-	-	-	5
<i>Phaeophyceae</i>	15	4	24	12	1	37	1	1	2	2	-	-	2	-	-	-
<i>Rhodophyceae</i>	43	8	38	37	1	76	-	2	2	-	-	-	-	-	-	6
Total	78	18	96	81	3	169	3	3	6	2	-	-	2	2	-	11

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