

MARINE BOTANY OF THE KENYA COAST

1. *A First List of Kenya Marine Algae*

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INTRODUCTION

Although there are scattered records of Kenya marine algae in the literature there is only one previous paper known to the author which is specifically on Kenya Marine Algae. This paper was published by Gerloff in 1960 and apart from recording *Lyngbya majuscula* and citing previous records of Cyanophyta, it deals with a collection of Chlorophyceae only (Gerloff, 1960). The list of species from the East African Herbarium, mostly collected by Greenway and Rawlins, and identified by Gerloff is given in an appendix. At present Gerloff's list is published without comment.

It is intended that the following list of Kenya marine algae will be followed by papers dealing more fully with the species and their distribution as well as with additional species.

The plants listed below were all collected by the author and he is responsible for the identifications unless otherwise stated.

Only a minimum of references to literature is included in this paper.

ACKNOWLEDGEMENTS

I wish to thank the Rockefeller Foundation whose financial support has made this work possible.

Thanks are also due to the Botany Dept., British Museum (Natural History) for providing me with working space and facilities in 1966 and for their kindness in providing photo-copies of relevant literature. To the Rijksherbarium, Leiden and to the Kew Herbarium for working space and access to collections also in 1966, thanks are due.

To Dr. William Randolph Taylor, I am indebted for identifying material of *Turbinaria* and describing two new species from the Kenya coast; to Margaret Steentoft for naming material of *Galaxaura*, and *Actinotrichia* and to Sophie Ducker for identifying *Chlorodesmis caespitosa* J. Ag. I also wish to thank Dr. A. B. Cribb for help in identifying some species, confirming my identifications of other species and for helpful discussions while we were both working at the Natural History Museum.

Lastly I wish to thank my wife for her constant help during my collecting excursions and in dealing with the herbarium material collected.

CHLOROPHYCEAE

Ulotrichales

Ulva fasciata Del.

U. lactuca L.

U. reticulata Forsk.

U. rigida C. Ag.

Cladophorales

Chaetomorpha crassa (C. Ag.) Kuetz.

Cladophora patentiramea (Mont.) Kuetz. forma *longiarticulata* Reinb. (Also known as *C. socialis* Kuetz)

C. prolifera (Roth) Kuetz.

Siphonales

Avrainvillea amadelpha (Mont.) A. & E. S. Gepp f. *montagneana* A. & E. S. Gepp

A. amadelpha f. *submersa* A. & E. S. Gepp

A. erecta (Berkeley.) A. & E. S. Gepp

A. lacerata J. G. Ag. f. *typica*

A. lacerata var. *robustior* A. & E. S. Gepp

A. obscura J. Ag.

Bryopsis hypnoides Lamour.

B. pennata Lamour.

B. plumosa (Huds.) C. Ag.

Caulerpa cupressoides (West) C. Ag.

C. fastigiata Mont.

C. lanuginosa J. Ag.

C. lentillifera J. Ag.

C. mexicana (Sond.) J. Ag.

C. pickeringii Harv. & Bail.

C. racemosa (Forsk.) J. Ag.

This is a very variable species. The following varieties have been distinguished on the Kenya coast:—

clavifera (Turn.) Web. v. B.

clavifera f. *macrophysa* Web. v. B.

gracilis (Zan.) Web. v. B.

laetevirens (Mont.) Web. v. B.

occidentalis (J. Ag.) Boergs.

peltata (Lamour.) Eubank

turbinata (J. Ag.) Eubank

uvifera (Turn.) Web. v. B.

C. scalpelliformis (R. Br.) C. Ag. including var.

denticulata (Decne.) Web. v. B.

C. serrulata (Forsk.) J. Ag. emend. Boergs.

C. sertularioides (Gmel.) Howe

C. taxifolia (Vahl) C. Ag.

C. verticillata J. Ag.

C. vickersiae Boergs.

C. webbiana Mont. f. *tomentella* (Harv.) Web. v. B.

Chlorodesmis caespitosa J. Ag. det. Mrs. S. Ducker. For validation of name see Ducker, Williams & Lance (1965).

Codium arabicum Kuetz.
C. capitatum Silva
C. duthiae Silva
C. lucasii Setch. subsp. *capense* Silva
C. prostratum Levr.

Halimeda discoidea Decne
H. incrassata (Ell.) Lamour.
H. macroloba Decne
H. opuntia (L.) Lamour.
H. stuposa Taylor
H. tuna (Ell. & Soland.) Lamour., including f. *platydisca* (Decne) Barton

Udotea flabellum (Ell. & Soland.) Howe
U. indica A. & E. S. Gepp
U. orientalis A. & E. S. Gepp

Siphonocladales

Anadyomene stellata (Wulf.) C. Ag.
A. wrightii Gray

Boergesenia forbesii (Harv.) Feldm.

Boodlea composita (Harv.) Brand

Chamaedoris auriculata Boergs.

Cladophoropsis membranacea (C. Ag.) Boergs.

Dictyosphaeria cavernosa (Forsk.) Boergs.
D. intermedia Web. v. B.
D. versluysii Web. v. B., sens. lat. (Valet, 1966)

Ernodesmis verticillata (Kuetz.) Boergs.

Nereodictyon imitans Gerloff

Struvea anastomosans (Harv.) Piccone
S. ramosa Dickie

Valonia aegagropila C. Ag.
V. macrophysa Kuetz.
V. utricularis (Roth) C. Ag.
V. ventricosa J. Ag.

Valoniopsis pachynema (Mart.) Boergs.

Dasycladales

Neomeris vanbosseae Howe

PHAEOPHYTA

Ectocarpales

Giffordia mitchellae (Harv.) Hamel

Dictyotales

Dictyopteris delicatula Lamour.

Dictyota bartayresiana Lamour.

D. ciliolata Kuetz.

D. dichotoma (Huds.) Lamour.

D. divaricata Lamour.

D. pardalis Kuetz.

D. pardalis f. *pseudohamata* Cribb (1954, p. 22, Plate 3, fig. 10), det. Cribb.

Padina commersonii Bory

P. gymnospora (Kuetz.) Vickers

P. tetrastromatica Hauck

Pocockiella variegata (Lamour.) Papenf.

Stoechospermum marginatum (C. Ag.) Kuetz.

Stypopodium zonale (Lamour.) Papenf.

Punctariales

Colpomenia sinnosa (Roth) Derb. & Sol.

Hydroclathrus clathratus (Bory) Howe

Fucales

Cystophyllum trinode (Forsk.) J. Ag. "Renamed *Cystoseira trinodis* (Forsk.) C. Ag. by Papenfuss (1967)."

Cystoseira myrica (Gmel.) J. Ag.

Hormophysa articulata Kuetz.

H. triquetra (L.) Kuetz. (*H. articulata* is often included in this species).

Sargassum duplicatum J. Ag.

S. latifolium (Turn.) C. Ag.

Turbinaria

The taxa of *Turbinaria* listed below have been named or confirmed by Wm. Randolph Taylor.

- Turbinaria condensata* Sond.
T. conoides (J. Ag.) Kuetz.
T. crateriformis Taylor, 1966
T. kenyaensis Taylor, 1966
T. murrayana Barton
T. ornata J. Ag. including f. *ecoronata* Taylor, f. *evesiculosa* (Barton) Taylor

RHODOPHYTA

Nemalionales

- Actinotrichia fragilis* (Forsk.) Boergs., det. Margaret Steentoft
Asparagopsis taxiformis (Del.) Coll. & Herv.
Galaxaura squalida Kjellm., det. Margaret Steentoft
G. subverticillata Kjellm., det. Margaret Steentoft
Liagora caenomyce Decne
L. ceranoides Lamour. var. *leprosa* (J. Ag.) Yam.
L. ceranoides var. *pulverulenta* (C. Ag.) Yam.
L. mauritiana Boergs. Typically epiphytic on *Cymodocea ciliata* Ehrenb. ex Asch.
L. valida Harv.
Scinaia indica Boergs. Cast up.

Gelidiales

- Gelidiella acerosa* (Forsk.) Feldm. & Hamel
Gelidium caespitosum Kylin
G. crinale (Turn.) Lamour.
G. pusillum (Stackh.) Le Jolis
Pterocladia capillacea (Gmel.) Bornet & Thur.

Cryptonemiales

- A. Corallinaceae.
Amphiroa beauvoisii Lamour., confirmed by A. B. Cribb
Corallina mauritiana Boergs.
Jania capillacea Harv., confirmed by A. B. Cribb
B. Non-Corallinaceae.
Chondrococcus harveyi (J. Ag.) De Toni. On further study this may prove to be a smaller, more delicate form of *C. hornemanni*.
C. hornemanni Kylin

Grateloupia filicina (Wulf.) C. Ag.

Halymenia venusta Boergs.

Gigartinales

Eucheuma denticulatum (N. L. Burman) Coll. & Herv. (Dixon, 1962)

E. horridum (Harv.) J. Ag.

E. serra J. Ag.

E. striatum Schmitz

Gelidiopsis scoparia (Mont. & Mill.) Schmitz

Gracilaria cacalia (J. Ag.) Dawson

G. crassa (Harv.) J. Ag.

G. edulis (Gmel.) Silva

G. millardetii (Mont.) J. Ag.

G. verrucosa (Huds.) Papenf. Cast up.

Hypnea cervicornis J. Ag.

H. cornuta (Lamour.) J. Ag.

H. harveyi Kuetz.

H. musciformis (Wulf.) Lamour.

H. rosea Papenf.

H. valentiae (Turn.) Mont.

Boergesen follows Hauck in that he includes *H. cornuta* in this species. (Boergesen, 1943, p. 59.)

Rhodymeniales

Botryocladia chiajeana (Meneghini) Kylin

B. kuckuckii (Web. v. B.) Yam. & Tanaka

B. leptopoda (J. Ag.) Kylin, det. A. B. Cribb

Champia compressa Harv.

C. globulifera Boergs.

C. parvula (C. Ag.) Harv.

C. vieillardii Kuetz. De Toni (1900:561) included this species in *C. compressa* Harv. but the author concurs with Dawson (1954) in upholding Kuetzing's species.

Coelarthrum boergesenii Web. v. B.

Ceramiales

Acanthophora delilei Lamour. Included, at least in part, by some authors in *A. muscoides*

A. muscoides (L.) Bory

A. spicifera (Vahl) Boergs.

Amanzia glomerata C. Ag.

Centroceras clavulatum (C. Ag.) Mont.

Chondria armata (Kuetz.) Okam. Also known as *Rhodomela crassicaulis* Harv. Okamura (1907; p. 69, pl. 16) maintains that on a structural basis this plant should be regarded as a *Chondria*.

Dasya scoparia Harv.

Dictyurus purpurascens Bory

Digenea simplex (Wulf.) C. Ag.

Laurencia flexilis Setch. det. A. B. Cribb

L. obtusa (Hud.) Lamour., including var. *natalensis* (Kylin) Boerger.

L. papillosa (Forsk.) Grev.

L. perforata (Bory) Mont., det. A. B. Cribb

Leveillea jungermannioides (Mart. & Herv.) Harv.

Martensia elegans Herv.

Neurymenia fraxinifolia (Mert.) J. Ag.

Polysiphonia ferulacea Suhr. ex J. Ag.

P. variegata (C. Ag.) Zan.

Spyridia cupressina Kuetz.

S. filamentosa (Wulf.) Harv.

S. insignis J. Ag.

Vanvoorstia spectabilis Harv.

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APPENDIX

GERLOFF'S LIST OF SPECIES

The species are arranged in order as they appear in his paper but omitting family headings.

Cyanophyta:

Lyngbya majuscula Harv. ex Gomont

Chlorophyta:

Ulvaes:

Ulva lactuca L.

U. rigida (C. Ag.) Thuret

U. reticulata Forsk.

Cladophorales:

Chaetomorpha crassa (Ag.) Kuetz.

Siphonocladales:

Valonia aegagropila Ag.

Dictyosphaeria cavernosa (Forsk.) Boergs.

D. intermedia Web. v. B.

Boergesenia forbesii (Harv.) Feldm.

Chamaedoris delphinii (Hariot) Feldm. & Boergs

Ernodesmis verticillata (Kuetz.) Boergs.

Boodlea composita (Harv.) Brand

Spongocladia vaucheriaeformis Aresch.

Nereodictyon imitans Gerloff spec. nov.

Anadyomene stellata (Wulf.) J. Ag.

Dasycladales:

Neomeris vanbosseae Howe

Caulerpales:

Caulerpa webbiana Mont. f. *tomentella* Web. v. B.

C. scalpelliformis (R. Br.) Web. v. B.

C. sertularioides (Gmel.) Howe

C. serrulata (Forsk.) J. Ag. emend. Boergs.

C. racemosa Forsk. var. *clavifera* (Turn.) Web. v. B.

C. racemosa Forsk. var. *clavifera* f. *macrophysa* (Kuetz.) Web. v. B.

C. racemosa var. *uvifera* (Turn.) Web. v. B.

Avrainvillea erecta (Berkeley) Gepp
A. obscura (Ag.) J. Ag.
Chlorodesmis hildebrandtii A. & E. S. Gepp

Udotea indica A. & E. S. Gepp
U. orientalis A. & E. S. Gepp

Halimeda tuna (Ell. & Soland.) Lamour.
 f. *tuna*
 f. *platydisca* (Decne.) Barton
H. cuneata Hering
H. opuntia (L.) Lamour.
H. opuntia f. *triloba* (Decne.) Barton
H. macroloba Decne.

Codium duthieae Silva
C. dwarkense Boergs.

(Received 1st July, 1967)



Isaac, William Edwyn. 1967. "Marine botany of the Kenya Coast, I A first list of Kenya Marine Algae." *Journal of the East Africa Natural History Society and National Museum* 26, 75–84.

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