

Algal flora of Okinoshima-island in Boso peninsula, Japan

Masahiko Miyata

Department of Plant Sciences, Natural History Museum & Institute, Chiba
955-2 Aoba-cho, Chuo-ku, Chiba 260, Japan

Abstract A total number of the taxon of the algal flora of Okinoshima-island are 204, belonging to 115 genera and 60 families, of which 1 form, 1 variety, 32 species, 13 genera and 11 families to Chlorophyceae, 1 subspecies, 52 species, 30 genera and 16 families to Phaeophyceae, 1 form, 117 species, 66 genera and 32 families to Rhodophyceae. 3 genera and 4 species to seagrass (*Halophila ovalis*, *Phyllospadix japonicus*, *Zostera marina*, *Z. japonica*) are reported, too. The algal flora is composed of temperate species, which contain several species in subtropical southern Japan, *Asparagopsis taxiformis*, *Martensia denticulata*, *Caulerpa brachypus*, *Distromium decumbens*, etc. 14 taxa, the type locality of which is Okinoshima-island and its vicinity in Tateyama bay, are given.

Key words: Algal flora, Okinoshima-island, Boso peninsula, Japan, Chlorophyceae, Phaeophyceae, Rhodophytceae

Okinoshima-island (34°59'N, 130°50'E) is approximately located at the center of Tateyama Bay in Boso peninsula, and is exposed to Uragasuido and Pacific Ocean. Then Okinoshima-island's coastal algal flora is strongly influenced by warm current (Kuroshio). A yearly mean surface temperature range from 16 to 26°C.

Until now there are several reports on the marine algal flora of Boso peninsula, especially on Tateyama bay and its vicinity, (Okamura, 1934; Higashi, 1935; Chihara, 1958; Chihara and Numata, 1960; Oonisi, 1975; Konno, 1988; Ohba *et al.* 1988). In these reports, however, the marine algal flora at Okinoshima-island has not been investigated.

The purpose of this study is survey algal flora at southern part of Boso peninsula. This study is a part of Research Project on algal flora at Boso peninsula in Natural History Museum & institute, Chiba.

Materials and Methods

Okinoshima-island, which connect with landward by sandbar, and its vicinity are sampling sites. Collected algal specimens are from intertidal and subtidal zones from 1991–1994. In addition, Subtidal collections down to 10 m depth were made by SCUBA divers. The specimens collected are deposited in the Herbarium of Algology in Natural History Museum & Institute, Chiba (CBM-BA).

Results and Discussion

As a results, a total number of the taxa of the algal flora of Okinoshima-island are 204, belonging to 115 genera and 60 families, of which 1 form, 1 variety, 32 species, 13 genera and 11 families to Chlorophyceae, 1 subspecies, 52 species, 30 genera and 16 families to Phaeophyceae, 1 form, 117 species, 66 genera and 32 families to Rhodophyceae. 14 taxa, the type locality of which is Okinoshima-island and its vicinity in Tateyama bay, are given. 3 genera and 4 species (*Halophila ovalis*, *Phyllospadix japonicus*, *Zostera marina*, *Z. japonica*) to seagrass (Monocotyledoneae, Spermatophyta) are reported, too.

The algal flora is composed of temperate species, which contain subtropical species in southern Japan, *Asparagopsis taxiformis*, *Galaxaura falcata*, *Martensia denticulata*, *Scinaia japonica*, *Tylotus lichenoides*, *Caulerpa brachypus*, *Codium coactum*, *C. latum*, *Distromium decumbens*, *Padina crassa*, etc. Tateyama bay and its vicinity is considered as the northern limit of distribution of these subtropical species and *Halophila ovalis* in comparing algal floras between Okinoshima-island and different areas in Boso peninsula (Chihara, 1958; Chihara and Numata, 1960; Oonisi, 1975; Konno, 1988; Ohba *et al.* 1988).

In the following list, orders and families are

arranged in the systematical order after Yoshida *et al.* (1990) and Silva & Johansen (1986), especially Chihara (1979) in Chlorophyta, Clayton (1988) in Phaeophyta and Kylin (1956) in Rhodophyta. Genera are listed alphabetically under each family, and species are listed alphabetically under each genus. Japanese names are given and specimens number are added. Taxa marked with an asterisk are new to science, which have been collected at Okinoshima-island and its vicinity in Tateyama Bay. Crustose coralline algae (Corallinales, Rhodophyta) are reported in another papers.

Systematic List

CHLOROPHYCEAE CHLOROSPHAERALES

Collinsiellaceae

Collinsiella cava (YENDO) PRINTS CBM-BA-3001

Shiwaransomodoki

C. tuberculata SETCHELL et GARDNER CBM-BA-3002

Ransomodoki

ULOTRICHALES

Ulotrichaceae

Ulothrix flacca (DILLWIN) THURET CBM-BA-204

Hibimidoro

ULVALES

Capsosiphonaceae

Capsosiphon fulvescens (C. AGARDH) SETCHELL CBM-BA-3005

Kapusaaonori

Monostromataceae

Monostroma nitidum WITTROCK CBM-BA-193

Hitoegusa

Ulvaceae

Enteromorpha compressa (LINNAEUS) NEES CBM-BA-183

Hiraaonori

E. intestinalis (LINNAEUS) NEES CBM-BA-186

Boaonori

E. linza (LINNAEUS) J. AGARDH CBM-BA-3008

Usubaaonori

E. prolifera (MÜLLER) J. AGARDH CBM-BA-3009

Sujiaonori

Ulva arasaki CHIHARA CBM-BA-205

Nagaaosa

U. conglobata KJELLMAN CBM-BA-214

Botanaosa

U. fasciata DELILE CBM-BA-216

Ribonaosa

U. japonica (HOLMES) PAPENFUSS CBM-BA-218

Yaburegusa

U. pertusa KJELLMAN CBM-BA-276

Anaaosa

U. sublittoralis SEGAWA CBM-BA-356

Ooaosa

CLADOPHORALES

Cladophoraceae

Chaetomorpha crassa (C. AGARDH) KÜTZING CBM-BA-3015

Hosojuzumo

Cladophora conchopheria SAKAI CBM-BA-3018

Kaigoromo

C. rudolphiana (C. AGARDH) KÜTZING CBM-BA-3019

Tamarishiogusa

C. wrightiana HARVEY CBM-BA-59

Chashiogusa

SIPHONOCLEDALES

Siphonocladaceae

Cladophoropsis zollingeri (KÜTZING) REIBOLD CBM-BA-3022

Midorige

CODIALES

Bryopsidaceae

Bryopsis maxima OKAMURA CBM-BA-3026

Oohanemo

B. plumosa (HUDSON) C. AGARDH CBM-BA-1

Hanemo

Caulerpaceae

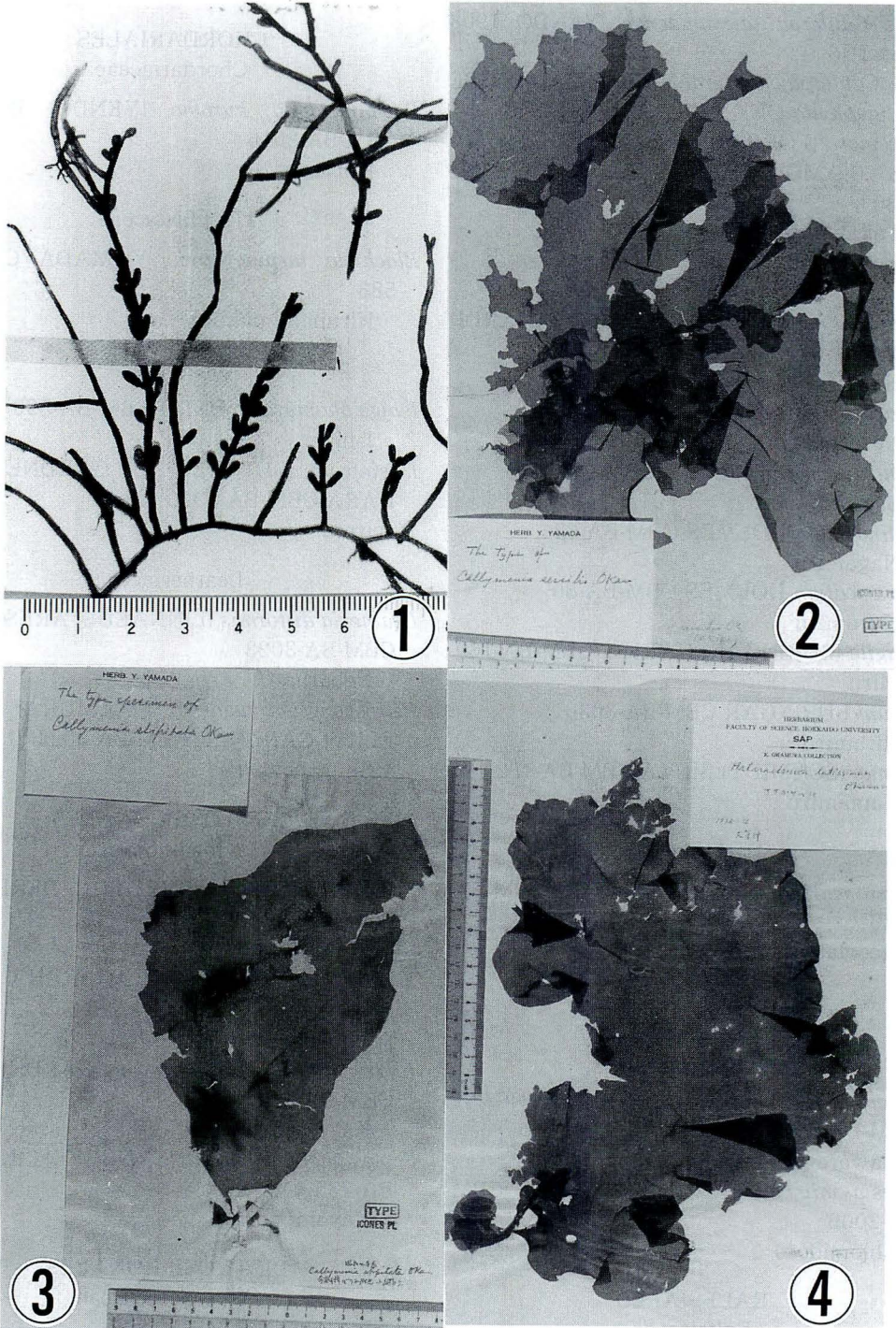
Caulerpa brachypus HARVEY CBM-BA-3

Heraiwazuta

C. okamurae WEBER-VAN BOSSE f. okamurae CBM-BA-3029

Fusaiwazuta

- *[as *Caulerpa tateyamaensis* YENDO 1903
(Fig. 1)]
*[as *Caulerpa okamura* WEBER-VAN BOSSE
f. *oligophylla* OKAMURA 1916]
C. racemosa (FORSSKAL) J. AGARDH var. *pel-*
tata (LAMOUROUX) EUBANK CBM-BA-
3030
Takatsukizuta
- Codiaceae
- Codium adhaerens* (CABRERA) C. AGARDH
CBM-BA-62
Haimiru
- C. coactum* OKAMURA CBM-BA-3034
Nezashimiru
- C. contractum* KJELLMAN CBM-BA-3035
Sakibutimiru
- C. cylindricum* HOLMES CBM-BA-63
Nagamiru
- C. divaricatum* HOLMES CBM-BA-80
Kuromiru
- C. fragile* (SURINGAR) HARIOT CBM-BA-169
Miru
- C. latum* SURINGAR CBM-BA-3036
Hiramiru
- C. minus* (SCHMIDT) SILVA CBM-BA-182
Tamamiru
- Derbesiaceae
- Derbesia marina* (LYNGBYE) SOLIER CBM-BA-
3040
Hosotsuyunoito
- PHAEOPHYCEAE
ECTOCARPALES
Ectocarpaceae
- Ectocarpus siliculosus* (DILWYN) LYNGBYE
CBM-BA-3003
Tawaragatashiomidoro
- Hincksia mitchellae* (HARVEY) SILVA CBM-
BA-3006
Shiomidoro
- RALFSIALES
Ralfsiaceae
- Ralfsia verrucosa* (ARESCHOUG) ARESC-
HOUG CBM-BA-3010
Isohanmon
- CHORDARIALES
Chordariaceae
- Papenfussiella kuromo* (YENDO) INAGAKI
CBM-BA-3016
Kuromo
- Elachistaceae
- Elachista taeniaeformis* YAMADA CBM-BA-
583
Hirunamimakura
- Ishigeaceae
- Ishige okamurae* YENDO CBM-BA-590
Ishige
- I. sinicola* (SETCHELL et GARDNER) CHI-
HARA CBM-BA-3020
Iroto
- Leathesiaceae
- Leathesia difformis* (LINNAEUS) ARESCHOUG
CBM-BA-3023
Nebarimo
- Petrospongium rugosum* (OKAMURA) SETCH-
ELL et GARDNER CBM-BA-3024
Shiwanokawa
- SCYTOSIPHONALES
Scytosiphonaceae
- Colpomenia sinuosa* (ROTH) DERBES et
SOLIER CBM-BA-363
Fukuronori
- Endarachne binghamiae* J. AGARDH CBM-BA-
584
Habanori
- Hydroclathrus clathratus* (C. AGARDH) HOWE
CBM-BA-634
Kagomenori
- Scytosiphon lomentaria* (LYNGBYE) LINK CBM-
BA-735
Kayamonori
- DICTYOSIPHONALES
Asperococcaceae
- Myelophycus simplex* (HARVEY) PAPENFUSS
CBM-BA-654
Iwahige



Figs. 1-4. Holotype of taxa, the type locality of which is Okinoshima-island and its vicinity in Tateyama Bay, Boso peninsula. These type specimens are deposited in the Herbarium, Department of Botany, the Hokkaido University (SAP) without *Caulerpa tateyamaensis* YENDO in the Herbarium, Department of Botany, the University Museum, the University of Tokyo (TI): 1. *Caulerpa tateyamaensis* YENDO 1903 (= *Caulerpa okamurae* WEBER VAN BOSSE f. *okamurae*). 2. *Kallymenia sessilis* OKAMURA 1934. 3. *Kallymenia stipitata* OKAMURA 1934. 4. *Halarachnion latissimum* OKAMURA 1933.

CUTLERIALES

Cutleriaceae

Cutleria cylindrica OKAMURA CBM-BA-375
Muchimo

SPHACELARIALES

Sphacelariaceae

Sphacelaria variabilis SAUVAGEAU CBM-BA-3027
Matasakikurogashira

DESMARESTIALES

Desmarestiaceae

Desmarestia tabacoides OKAMURA CBM-BA-3031
Tabakogusa

LAMINARIALES

Alariaceae

Undaria peterseniana (KJELLMAN) OKAMURA CBM-BA-3037
Aowakame
U. pinnatifida (HARVEY) SURINGAR CBM-BA-742
Wakame
U. undarioides (YENDO) OKAMURA CBM-BA-748
Hirome

Laminariaceae

Ecklonia cava KJELLMAN CBM-BA-442
Kajime
E. kurome OKAMURA CBM-BA-449
Kurome
Eisenia bicyclis (KJELLMAN) SETCHELL CBM-BA-503
Arame

DICTYOTALES

Dictyotaceae

Dictyopteris latiuscula (OKAMURA) OKAMURA CBM-BA-3041
Yahazugusa
D. prolifera (OKAMURA) OKAMURA CBM-BA-392
Herayahazu
D. undulata HOLMES CBM-BA-410
Shiwayahazu
Dictyota dichotoma (HUDSON) LAMOUROUX

CBM-BA-421

Amijigusa

Dilophus okamurae DAWSON CBM-BA-436

Fukurinamiji

Distromium decumbens (OKAMURA) LEVRING

CBM-BA-3136

Futaeogi

Pachydictyon coriaceum (HOLMES) OKAMURA

CBM-BA-659

Sanadagusa

Padina arborescens HOLMES CBM-BA-668

Umiuchiwa

P. crassa YAMADA CBM-BA-705

Konaumiuchiwa

Spatoglossum pacificum YENDO CBM-BA-712

Komongusa

Zonaria diesingiana J. AGARDH CBM-BA-3043

Shimaogi

FUCALES

Cystoseriaceae

Myagropsis myagroides (TURNER) FENSHOLT
CBM-BA-991

Jyromoku

Sargassaceae

Hizikia fusiformis (HARVEY) OKAMURA
CBM-BA-592

Hijiki

Sargassum ammodophilum YOSHIDA et T. KONNO CBM-BA-3045

Sunabikimoku

S. crispifolium YAMADA CBM-BA-967

Kobukuromoku

S. duplicatum J. AGARDH CBM-BA-757

Futaemoku

S. fulvellum (TURNER) C. AGARDH CBM-BA-759

Hondawara

S. giganteifolium YAMADA CBM-BA-760

Oobanokogirimoku

S. hemiphyllum (TURNER) C. AGARDH CBM-BA-780

Isomoku

S. horneri (TURNER) C. AGARDH CBM-BA-793

Akamoku

S. macrocarpum C. AGARDH CBM-BA-835

Nokogirimoku

S. micracanthum (KÜTZING) ENDLICHER
CBM-BA-880

Togemoku
S. patens C. AGARDH CBM-BA-893
 Yatsumatamoku
S. piluliferum (TURNER) C. AGARDH CBM-BA-908
 Mametawara
S. ringgoldianum HARVEY ssp. *coreanum* (J. AGARDH) YOSHIDA CBM-BA-915
 Yanagimoku
S. serratifolium (C. AGARDH) C. AGARDH CBM-BA-939
 Usubanokogirimoku
S. siliquastrum (TURNER) C. AGARDH CBM-BA-941
 Yoremoku
S. tenuifolium YAMADA CBM-BA-979
 Usubamoku
S. thunbergii (ROTH) KUNTZE CBM-BA-944
 Umitorano
S. yendoii OKAMURA et YAMADA CBM-BA-752
 Endomoku

RHODOPHYCEAE
 PORPHYRIDALES
 Erythropeltidaceae

Erythrocladia irregularis ROSENVINGE CBM-BA-3004
 Isohanabi
Erythrotrichia carnea (DILLWYN) J. AGARDH CBM-BA-3007
 Hoshinoito

BANGIALES
 Bangiaceae

Bangia atropurpurea (ROTH) C. AGARDH CBM-BA-1068
 Ushikenori
Porphyra dentata KJELLMAN CBM-BA-3011
 Oniamanori
P. ishigecola MIURA CBM-BA-3012
 Bentenamanori
P. suborbiculata KJELLMAN CBM-BA-3013
 Marubaamanori
P. yezoensis UEDA CBM-BA-3014
 Susabinori

NEMALIALES
 Acrochaetiaceae

Audouinella howei (YAMADA) GARBARY

CBM-BA-3017
 Mirunoben

Bonnemaisoniaceae

Asparagopsis taxiformis (DELILE) TREVISAN CBM-BA-3021
 Kagikenori
Delisea japonica OKAMURA CBM-BA-3025
 Tamaitadaki

Dermonemataceae

Dermonema pulvinatum (GRUNOW) FAN CBM-BA-3124
 Kamogashiranori

Galaxauraceae

Actinotrichia fragilis (FORSSKAL) BORGESAN CBM-BA-3028
 Sodegarami
Galaxaura falcata KJELLMAN CBM-BA-3032
 Hiragaragara
G. fastigiata DECAISNE CBM-BA-3033
 Garagara
Scinaia japonica SETCHELL CBM-BA-3038
 Fusanori
S. okamurai (SETCHELL) HUSIMAN CBM-BA-3039
 Nisefusanori

Helminthocladiaceae

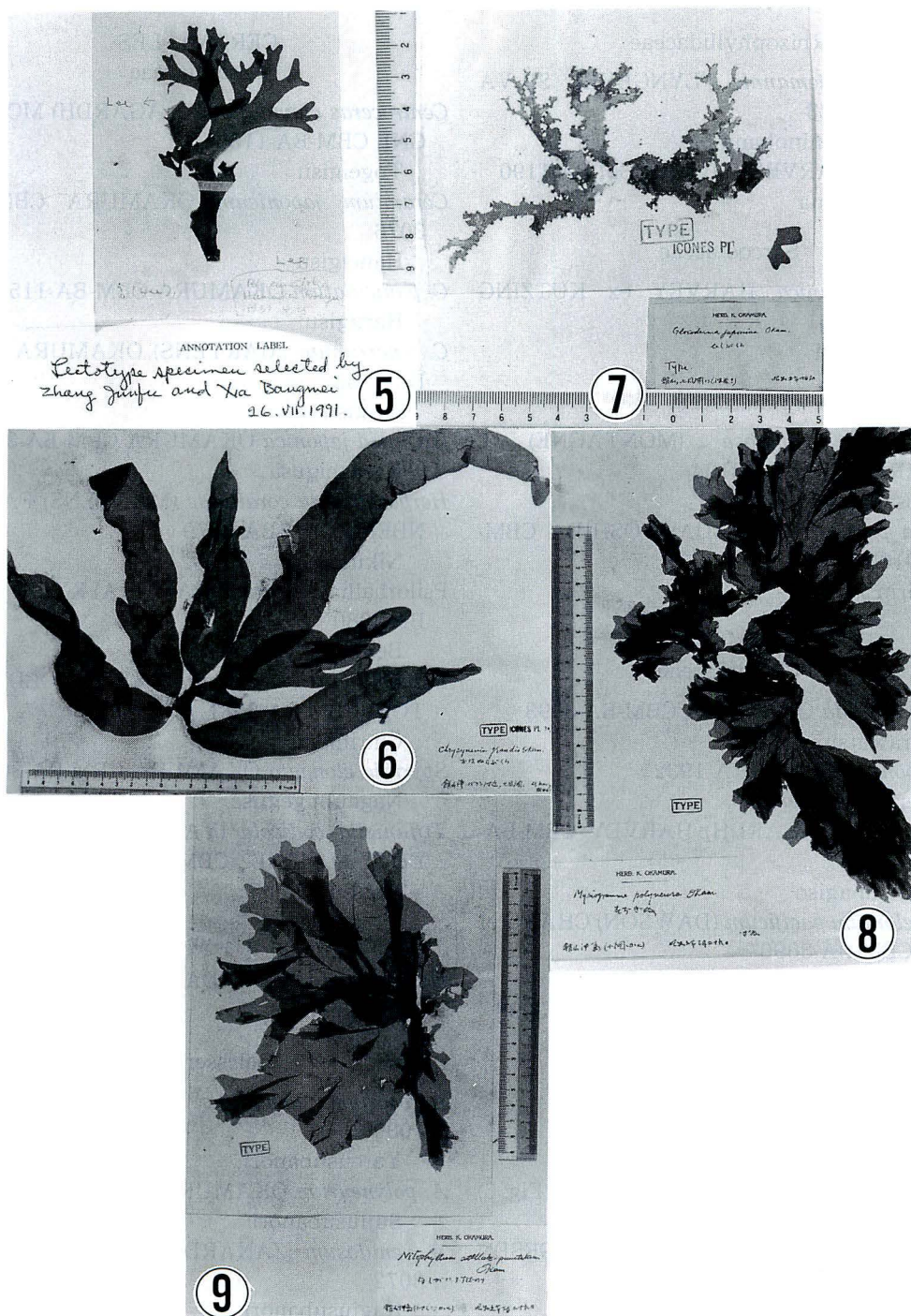
Helminthocladia australis HARVEY CBM-BA-3042
 Benimozuku

GELIDIALES
 Gelidiaceae

Acanthopeltis japonica OKAMURA CBM-BA-3044
 Yuikiri
Gelidium divaricatum MARTENS CBM-BA-3046
 Himetengusa
G. elegans KÜTZING CBM-BA-3047
 Makusa
G. japonicum (HARVEY) OKAMURA CBM-BA-3048
 Onikusa
G. pacificum OKAMURA CBM-BA-3049
 Oobusa
G. pusillum (STACKHOUSE) LE JOLIS CBM-

- BA-3050
Haitengusa
- Pterocladia capillacea* (GMELIN) BORNET CBM-BA-3051
Obakusa
- Ptilophora subcostata* (OKAMURA) NORRIS CBM-BA-3052
Hirakusa
- CORALLINALES
Corallinaceae
- Amphiroa beauvoisii* LAMOUROUX CBM-BA-1067
Usukawakaninote
- A. dilatata* LAMOUROUX CBM-BA-3057
Kaninote
- A. misakiensis* YENDO CBM-BA-3058
Himekaninote
- Calliarthron yessoense* (YENDO)MANZA CBM-BA-3065
Ezoshikoro
- Corallina pilulifera* POSTELS et RUPRECHT CBM-BA-3068
Pirihiba
- Jania adhaerens* LAMOUROUX CBM-BA-3070
Himemosazuki
- Marginisporum aberrans* (YENDO) JOHANSEN et CHIHARA CBM-BA-3073
Fusakaninote
- M. crassissima* (YENDO) GANESAN CBM-BA-3074
Heritorikaninote
- M. declinata* (YENDO) GANESAN CBM-BA-3075
Magarikaninote
- Serraticardia maxima* (YENDO) SILVA CBM-BA-3077
Ooshikoro
- Crustose coralline algae are reported in another papers.
- CRYPTONEMIALES
Endocladiaceae
- Gloiopeltis complanata* (HARVEY) YAMADA CBM-BA-3084
Hanafunori
- G. furcata* (POST et RUPRECHT) J. AGARDH CBM-BA-3085
Fukurofunori
- Halymeniaceae
- Carpopeltis affinis* (HARVEY) OKAMURA CBM-BA-1082
Matsunori
- C. prolifera* (HOLMES) KAWAGUCHI et MASUDA CBM-BA-1141
Komenori
- Grateloupia carnosus* YAMADA et SEGAWA CBM-BA-3087
Nikumukade
- G. filicina* (LAMOUROUX) C. AGARDH CBM-BA-3088
Mukadenori
- G. imbricata* HOLMES CBM-BA-1120
Sakuranori
- G. livida* (HARVEY) YAMADA CBM-BA-3089
Hiramukade
- G. okamuræ* YAMADA CBM-BA-3090
Kyonohimo
- G. sparsa* (OKAMURA) CHIANG CBM-BA-3091
Hijirimen
- G. turuturu* YAMADA CBM-BA-3092
Tsurutsuru
- Pachymeniopsis elliptica* (HOLMES) YAMADA CBM-BA-3094
Tanbanori
- P. lanceolata* (OKAMURA) YAMADA CBM-BA-3095
Fudaraku
- Prionitis angusta* (OKAMURA) OKAMURA CBM-BA-1086
Kintoki
- P. cornea* (OKAMURA) DAWSON CBM-BA-3097
Tsunomukade
- P. crispata* (OKAMURA) KAWAGUCHI CBM-BA-1116
Tosakamatsu
- P. divaricata* (OKAMURA) KAWAGUCHI CBM-BA-1131
Hitotsumatsu
- Hildenbrandiaceae
- Hildenbrandia rubra* (SOMMERFELT) MENEGHINI CBM-BA-3100
Benimadara
- Kallymeniaceae
- Callophyllis crispata* OKAMURA CBM-BA-1071

- Hirohanotosakamodoki
C. japonica OKAMURA CBM-BA-1081
 Hosobanotosakamodoki
 **Kallymenia sessilis* OKAMURA 1934 (Fig. 2)
 Enashikarimenia
 **K. stipitata* OKAMURA 1934 (Fig. 3)
 Etsukitsukasanori
- Peyssonneliaceae
Peyssonnelia caulifera OKAMURA CBM-BA-3102
 Etsukiiwanokawa
P. japonica (SEGAWA) YONESHIGE CBM-BA-3103
 Kainokawa
- AHNFELTIALES
 Ahnfeltiaceae
Ahnfeltia concinna J. AGARDH CBM-BA-1047
 Saimi
- GIGARTINALES
 Caulacanthaceae
Caulacanthus okamurae YAMADA CBM-BA-1149
 Isodantsu
- Furcellariaceae
 **Halarachnion latissimum* OKAMURA 1933 (Fig. 4)
 Susukakebeni
- Gigartinaceae
Chondrus giganteus YENDO CBM-BA-3105
 Oobatsunomata
C. ocellatus HOLMES CBM-BA-3106
 Tsunomata
 **C. verrucosus* MIKAMI 1920
 Ibotsunomata
Gigartina intermedia SURINGAR CBM-BA-3108
 Kainori
G. tenella HARVEY CBM-BA-3109
 Suginori
- Gracilariaceae
Gracilaria asiatica ZHANG et XIA CBM-BA-3111
 Ogonori
G. bursa-pastoris (GMELIN) SILVA CBM-BA-3112
 Shiramo
 **G. cuneifolia* (OKAMURA) LEE et KUROI
 Kinukabanori
 [as *Rhodymenia cuneifolia* OKAMURA 1934 (as Kinудару) (Fig. 5)]
G. incurvata OKAMURA CBM-BA-3113
 Mizoogonori
G. textorii (SURINGAR) HARIOT CBM-BA-3114
 Kabanori
Tylotus lichenoides OKAMURA CBM-BA-3116
 Namiwatake
- Hypneaceae
Hypnea charoides LAMOUROUX CBM-BA-3118
 Ibaranori
H. chordacea KÜTZING f. *simpliciuscula* (OKAMURA) TANAKA CBM-BA-3119
 Kohimoibara
H. japonica TANAKA CBM-BA-3120
 Kagiibaranori
H. saidana HOLMES CBM-BA-3121
 Saidaibara
H. variabilis OKAMURA CBM-BA-3122
 Tachiibaranori
- Nemastomataceae
Schizymenia dubyi (CHAUVIN) J. AGARDH CBM-BA-3123
 Benisunago
- Petrocelidaceae
Mastocarpus mamillosus CBM-BA-3117
 Ikanoashi
- Phylloporaceae
Gymnogongrus flabelliformis HARVEY CBM-BA-1057
 Okitsunori
G. paradoxus SURINGAR CBM-BA-3115
 Harigane
- Plocamiaceae
Plocamium telfairiae (HARVEY) HARVEY CBM-BA-3110
 Yukari



Figs. 5-9. Holotype of taxa, the type locality of which is Okinoshima-island and its vicinity in Tateyama Bay, Boso peninsula. These type specimens are deposited in the Herbarium, Department of Botany, the Hokkaido University (SAP): 5. *Gracilaria cuneifolia* (OKAMURA) LEE et KUROI (as *Rhodomenia cuneifolia* OKAMURA 1934). 6. *Chrysomenia grandis* OKAMURA 1933. 7. *Gloioderma japonicum* OKAMURA 1932. 8. *Myriogramma polyneura* OKAMURA 1932. 9. *Nitophyllum stellato-corticatum* OKAMURA 1932.

Rhizophyllidaceae

- Portieria hornemannii* (LYNGBYE) SILVA
CBM-BA-1183
Hosobanaminohana
P. japonica (HARVEY) SILVA CBM-BA-1190
Naminohana

Sarcodiaceae

- Sarcodia ceylanica* HARVEY ex KUTZING
CBM-BA-3101
Atsubanori

Solieriaceae

- Meristotheca papulosa* (MONTAGNE) J. AGARDH CBM-BA-3104
Tosakanori
Solieria pacifica (YAMADA) YOSHIDA CBM-BA-3107
Mirin

RHODYMENIALES

Champiaceae

- Champia bifida* OKAMURA CBM-BA-3093
Hirawatsunagiso
**C. japonica* OKAMURA 1932
Herawatsunagiso
C. parvula (C. AGARDH) HARVEY CBM-BA-1162
Watsunagiso
Gastroclonium pacificum (DAWSON) CHANG et Xia CBM-BA-3096
Isomatsu
Lomentaria catenata HARVEY CBM-BA-3098
Fushitsunagi
L. hakodatensis YENDO CBM-BA-3099
Kosujifushitsunagi

Rhodymeniaceae

- **Chrysomenia grandis* OKAMURA 1933 (Fig. 6)
Oonurabukuro
Coelarthrum muelleri (SONDER) BORGESSEN
CBM-BA-3086
Fukurotsunagi
**Gloioderma japonicum* OKAMURA 1932 (Fig. 7)
Hishibukuro
**Rhodymenia adnata* OKAMURA
Kasaneitsutsuginu

CERAMIALES

Ceramiaceae

- Centroceras clavulatum* (C. AGARDH) MONTAGNE CBM-BA-1150
Togeigisu
Ceramium japonicum OKAMURA CBM-BA-3076
Haneigisu
C. paniculatum OKAMURA CBM-BA-1152
Hariigisu
C. tenerrimum (MARTENS) OKAMURA CBM-BA-1153
Keigisu
Griffitsia japonica OKAMURA CBM-BA-3078
Kazashigusa
Herpochondria corallinae (MARTENS) FALKE-NBERG CBM-BA-3079
Nikusaeda
Psilothallia dentata (OKAMURA) KYLIN CBM-BA-3080
Benihiba
Reinboldiella schmitziana (REINBOLD) DE TONI CBM-BA-3081
Chirimomiji
Spyridia elongata OKAMURA CBM-BA-3082
Nagaubugegusa
Tiffaniella codicola (YAMADA et TANAKA) DOTY et MENEZ CBM-BA-3083
Miruhibidama

Dasyaceae

- Dasya sessilis* YAMADA
Enashidajia

Delesseriaceae

- Acrosorium flabellatum* YAMADA CBM-BA-1039
Yareusubanori
A. polyneurum OKAMURA CBM-BA-3071
Sujiusubanori
A. venulosum (ZANARDINI) KYLIN CBM-BA-3072
Kagiusubanori
A. yendoi YAMADA CBM-BA-1040
Haiusubanori
Martensia denticulata HARVEY CBM-BA-3069
Ayanishiki
**Myriogramma polyneura* OKAMURA 1932 (Fig. 8)

Sujiginu

**Nitophyllum stellato-corticatum* OKAMURA
1932 (Fig. 9)

Hoshigatausubanori

Rhodomelaceae

Benzaitenia yenoshimensis YENDO CBM-BA-3059

Bentenmo

Chondria crassicaulis HARVEY CBM-BA-1174
Yuna

C. dasyphylla (WOODWARD) C. AGARDH
CBM-BA-1175

Yanaginori

Laurencia intermedia YAMADA CBM-BA-3060
Kurosozo

L. okamurae YAMADA CBM-BA-3061
Mitsudesozo

L. papillosa (C. AGARDH) GREVILLE CBM-BA-3062

Papirasozo

L. pinnata YAMADA CBM-BA-3063
Hanesozo

L. undulata YAMADA CBM-BA-3064
Kobusozo

Polysiphonia fragilis SURINGAR CBM-BA-3066

Kuroitogusa

P. senticulosa HARVEY CBM-BA-3067
Shojokenori

**Symphyocladia marchantioides* (HARVEY)
FALKENBERG CBM-BA-3125

Kozanemo

SPERMATOPHYTA/ANGIOSPERMAE
MONOCOTYLEDONEAE

HELOBIAE

Hydrocharitaceae

Halophila ovalis (R. BROWN) HOOKER F. CBM-BA-3053

Umihirumo

Zosteraceae

Phyllospadix japonicus Makino CBM-BA-3054
Ebiamamo

Zostera marina LINNAEUS CBM-BA-3055
Amamo

Z. japonica ASHERSON et GRABNER CBM-BA-3056

Koamamo

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References

- Chihara, M. 1958. Marine algae of Chiba Prefecture. *In* Numata, M. (ed.), Biological flora of Chiba Prefecture, pp. 59–100, Chiba-ken Seibutsu Gakkai, Chiba (in Japanese).
- Chihara, M. and M. Numata. 1960. Algal flora and communities at Choshi (Preliminary report) coastal and littoral vegetation at Choshi, Chiba Prefecture II. *J. Coll. Arts Sci., Chiba Univ.* 3: 164–170 (in Japanese with English sumuary).
- Chihara, N. 1979. Systematic list of algae. *In* Nishizawa, K. & M. Chihara (eds.), Methods in Phycological Studies, pp. 713–722. Kyoritsu Publ, Tokyo (In Japanese).
- Clayton, M. N. 1988. Phylum Phaeophyta. *In* Margulis *et al.* (eds.), Handbook of Protoctista, pp. 698–714. Jones & Bartlett Publ., Boston.
- Higashi, M. 1935. List of marine algae of Enoshima, Tateyama and its vicinities. (Revised list). *Suisan Kenkyu-shi* 30: 95–102, 148–158 (in Japanese).
- Konno, T., T. Ioriya, H. Ohba and A. Miura. 1988. Marine algae on the vicinity of Kominato marine biological laboratory, Kominato, Chiba Prefecture, Japan. *J. Tokyo Univ. Fish.* 75(2): 393–403.
- Kylin, H. 1956. Die Gattungen der Rhodophyceen. CWK Gleerups, Lund.
- Ohba, H., T. Konno, T. Ioriya, M. Notoya and A. Miura. 1988. Marine algae from Banda, Tateyama, Chiba Prefecture. *J. Tokyo Univ. Fish.* 75(2): 405–413.
- Okamura, K. 1934. Notes on algae dredged from the Pacific coast of Tiba Prefecture. *Rec. Oceanooogr. Works Jap.* 6(1): 13–18.
- Oonisi, K. 1975. A check list of marine algae from the vicinity of Tateyama Marine Laboratory. *Rep. Tateyama Mar. Lab., Ochanomizu Univ.* 2: 17–90 (in Japanese).
- Silva, P. C. and H. W. Johansen. 1986. A reappraisal of the order Corallinales (Rhodophyta). *Br. Phycol. J.* 21: 245–254.

Yoshida, T., Y. Nakajima and Y. Nakata. 1990. Check-list of marine algae of Japan (revised in 1990). Jap. J. Phycol. 38:269–320 (in Japanese).

房総半島・沖の島の海藻相

宮田昌彦

千葉県立中央博物館・植物学研究科
〒260 千葉市中央区青葉町 955-2

1991～1994 年にかけて房総半島館山湾・沖の島の海

藻相を調査し、緑藻 32 種、1 変種、1 品種、30 属、11 科、褐藻 52 種、1 亜種、30 属、16 科、紅藻 117 種、66 属、32 科の合計 204 分類群を報告した。沖の島の海藻相は、黒潮に影響された亜熱帯性要素 (*Asparagopsis taxiformis*, *Martensia denticulata*, *Caulerpa brachypus*, *Distromium decumbens*, etc.) を含む海藻相を示した。そして、館山湾内の沖の島とその隣接地域が基準産地となっている 14 分類群を示し、そのうち 9 分類群の正基準標本を示した。また、海産種子植物 3 属 4 種 (*Halophila ovalis*, *Phyllospadix japonicus*, *Zostera marina*, *Z. japonica*) を報告した。



写真 1 房総半島天津小湊町の岩礁性海岸における潮間帯から漸深帯上部の海藻群落。アラメ *Eisenia bicyclis* (KJELLMAN) SETCHELL は、房総半島の海藻相を特徴づける褐藻であり、漸深帯に群落をつくる。(天津小湊町, 1994 年 5 月 10 日)

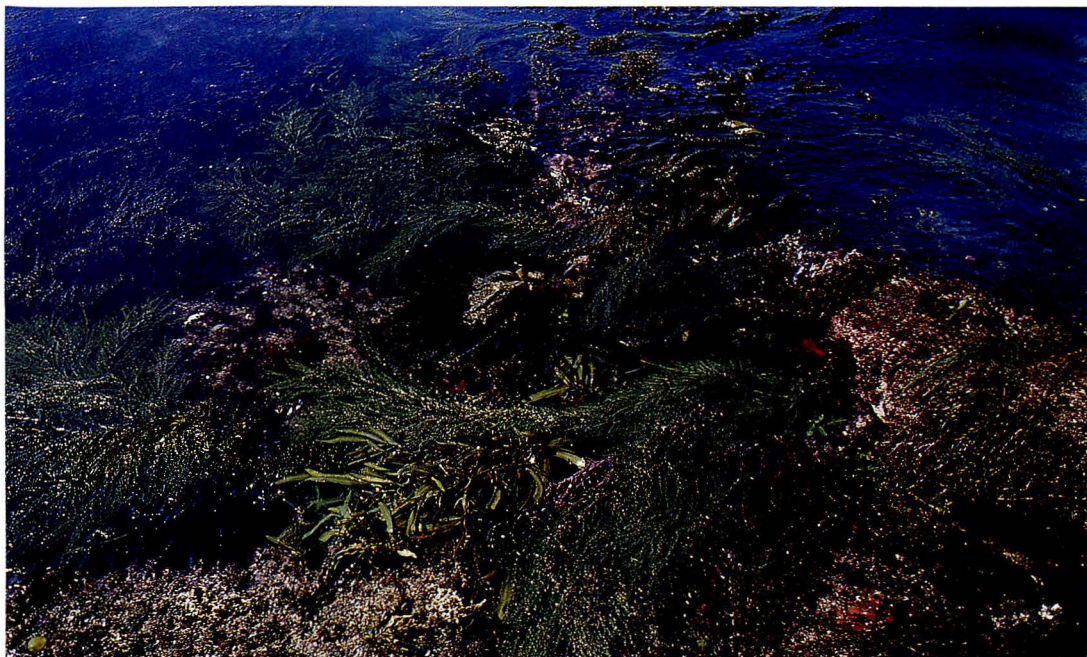


写真 2 房総半島・沖の島の潮間帯にみる海藻群落。紅藻サンゴモ類、褐藻ホンダワラ類が優占する。(館山市沖の島, 1994 年 3 月 30 日撮影)

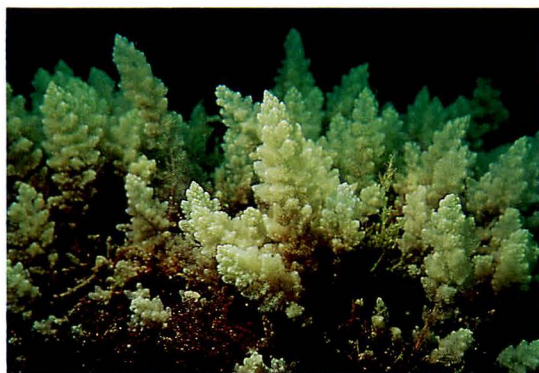


写真 3 カギケノリ *Asparagopsis taxiformis* (DELILE) TREVISAN. 漸深帯に群落をつくる亜熱帯性の紅藻。(館山市沖の島, 1991 年 6 月 30 日)



写真 4 アヤニシキ *Martensia denticulata* HARVEY. 漸深帯に生育する亜熱帯性の紅藻。(館山市沖の島, 1994 年 9 月 20 日)



写真 5 ヘライワズタ *Caulerpa bracyrus* HARVEY. 潮間帯から漸深帯に生育する亜熱帯性の緑藻。(館山市沖の島, 1992 年 8 月 4 日)

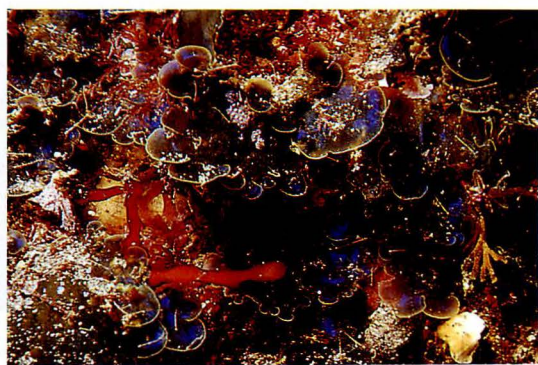


写真 6 フタエオオギ *Distromium decumbens* (OKAMURA) LEVRING. 漸深帯の斜面に群落をつくる亜熱帯性の褐藻。(館山市沖の島, 1994 年 7 月 15 日)