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Marine Algae of the Oshika Peninsula.

I. Chlorophyceae and Phaeophyceae

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Summary

This paper, dealing with the marine algae of Chlorophyceae and Phaeophyceae, is based on a small collection made by the authors from the coast of Oshika Peninsula in the northeastern part of Japan. Fiftysix species, 1 variety and 2 forms are listed, 4 of which are new records for that coast.

The Oshika Peninsula is located in the south of the Sanriku coast in the northeastern part of Japan, facing the Pacific Ocean. The waters around this peninsula are known as a good area for fishing, because they are influenced by both the Kuroshio warm current and the Oyashio cold current. Indeed, detailed knowledge of Oshika Peninsula's algal flora should be of great interest from the view point of the geographical distribution of the marine algae, but little attention has been given to the marine flora of Oshika Peninsula. While the Sanriku coasts of Iwate and Aomori Prefectures (1-10) and Matsushima Bay (11, 12) have inspired phycological works, the coast of Oshika Peninsula has remained phycologically uncharted until now, except for Kinkazan Island (13).

This work was designed with the following objectives: 1) to determine the species growing on the coast of Oshika Peninsula, 2) to observe the seasonal occurrence and reproductive periodicity. Seventeen sites were selected as algal collection stations (Fig. 1). These stations were sampled at about monthly intervals, except from January to March when the water was cold and it was stormy, over a 18 month period from April, 1975 to October, 1976. Algal collections were made from the sublittoral zone reached by skin diving, as well as the littoral zone.

In this paper are listed 17 species of the Chlorophyceae and 39 species, 1 variety and 2 forms of the Phaeophyceae, and some indefinite species remain. In another paper the authors will represent the species belonging to the Rhodophyceae.

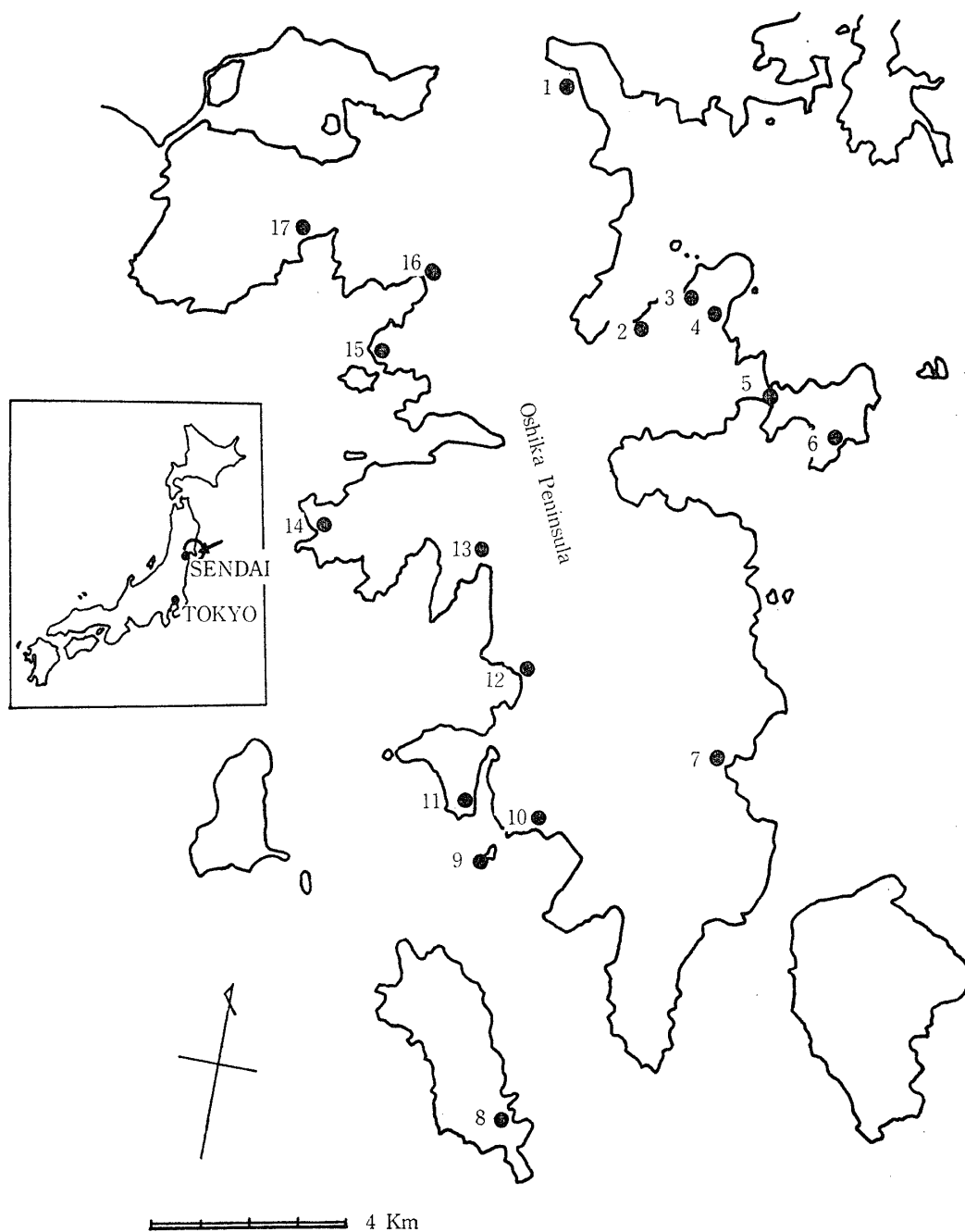


FIG. 1. Map of the Oshika Peninsula, showing algal collecting localities; numbers indicate collection stations. 1. Konorihama, 2. Iigohama, 3. Tsukahama, 4. Koyatori, 5. Maeami, 6. Yoriisozaki, 7. Niiyamahama, 8. Ajishima, 9. Samejima, 10. Shirahama, 11. Kobuchi, 12. Oohara, 13. Koamikura, 14. Kitsunezaki, 15. Tsukinoura, 16. Momonoura, and 17. Orihama, respectively.

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CHLOROPHYCEAE

Monostromaceae

Monostroma sp.

Collection: Maeami (May, '75)

Ulvaceae

Ulva pertusa Kjellman

Japanese Name: Ana-aosa

Collections: Konorihama (July, '76), Koyatori (Oct., '75 and July, '76), Shirahama (Aug., '75), Tsukahama (July, '76), Tsukinoura (Oct., '75).

Enteromorpha linza (Linné) J. Agardh

Japanese Name: Usuba-aonori

Collections: Konorihama (June, '76), Momonoura (May, '75)

Enteromorpha prolifera (Müller) J. Agardh

Japanese Name: Suji-aonori

Collections: Maeami (May, '75), Tsukahama (Aug., '76)

Enteromorpha compressa (Linné) Greville

Japanese Name: Hira-aonori

Collections: Konorihama (June, '76), Samejima (Oct., '75), Tsukahama (July and Aug., '76)

Enteromorpha intestinalis (Linné) Link

Japanese Name: Bou-aonori

Collections: Konorihama (June, '76), Koyatori (July, '76)
Tsukahama (Aug., '76)

Cladophoraceae

Chaetomorpha moniligera Kjellman

Japanese Name: Tama-juzumo

Collections: Koyatori (July and Aug., '76), Tsukahama (July, Aug., and Sept., '76)

Chaetomorpha crassa (Agardh) Kützing

Japanese Name: Hoso-juzumo

Collection: Koamikura (May, '75)

Cladophora densa Harvey

Japanese Name: Asamidori-shiogusa

Collections: Koyatori (July, '76), Samejima (Aug., '75 and Oct., '76)

Cladophora albida (Huds.) Kützing

Japanese Name: Wata-shiogusa

Collections: Tsukinoura (Oct., '75 and Oct., '76)

Cladophora rudolphiana (Agardh) Harvey

Japanese Name: Tamari-shiogusa

Collection: Kobuchi (June, '76)

Cladophora rugulosa Martens

Japanese Name: Kuro-shiogusa

Collection: Niiyamahama (May, '76)

Cladophora opaca Sakai

Syn.: *Cladophora glaucescens* (Harvey) Yendo

Japanese Name: Tsuyanashi-shiogusa

Collections: Koyatori (June, '76), Samejima (Aug., '75), Tsukahama (Aug., '76)

Bryopsidaceae

Bryopsis plumosa (Hudson) C. Agardh

Japanese Name: Hanemo

Collections: Koyatori (July, '76), Niiyamahama (Aug., '75) Samejima (Aug., '75), Tsukahama (July and Aug., '76)

Bryopsis hypnoides Lamouroux

Japanese Name: Obana-hanemo

Collections: Koyatori (July, '76), Samejima (Aug., '75)

This species is a new record for the Sanriku coast.

Codiaceae

Codium adhaerens (Cabrera) C. Agardh

Japanese Name: Haimiru

Collections: Niiyamahama (Aug., '75 and May, '76), Samejima (Aug., '75), Tsukinoura (Dec., '75), Yoriisozaki (July, '76)

Codium fragile (Suringar) Hariot

Japanese Name: Miru

Collections: Koyatori (July, '76), Shirahama (Aug., '75), Tsukahama (July and Aug., '76), Tsukinoura (Oct., '75), Yoriisozaki (July, '76)

PHAEOPHYCEAE

Sphacelariaceae

Sphacelaria variabilis Sauvageau

Japanese Name: Matazaki-kurogashira

Collection: Shirahama (Aug., '75)

Plurilocular sporangium: August

Dictyotaceae

Dictyota dichotoma (Hudson) Lamouroux

Japanese Name: Amijigusa

Collections: Shirahama (Aug., '75), Tsukinoura (Oct., '76), Tsukahama (July and Aug., '76)

Tetrasporangium: August

Dilophus okamurai Dawson

Japanese Name: Fukurinamiji

Collections: Ajishima (Oct., '75), Koyatori (July, '76), Samejima (Apr., June, Aug., and Oct., '76), Tsukinoura (June, '76)

Tetrasporangium: August and October

Pachydictyon coriaceum (Holmes) Okamura

Japanese Name: Sanadagusa

Collection: Shirahama (Aug., '75)

Tetrasporangium: August

Spathoglossum pacificum Yendo

Japanese Name: Komongusa

Collection: Koyatori (July, '76)

Antheridium: July

Dictyopteris divaricata (Okamura) Okamura

Japanese Name: Yezoyahazu

Collections: Kobuchi (June, '76), Tsukahama (Aug., '76) Tsukinoura (Apr., June and Aug., '76)

Tetrasporangium: August

Padina arborescens Holmes

Japanese Name: Umiuchiwa

Collection: Tsukinoura (Aug., '76)

Tetrasporangium: August

This species is a new record for the Sanriku coast.

Leathesiaceae

Leathesia difformis (Linné) Areschoug

Japanese Name: Nebarimo

Collections: Iigohama (May, '75), Kitsunozaki (May, '75) Koyatori (June and July, '76), Maeami (May, '75) Momonoura (May, '75), Orihama (May, '75)

Petrospongium rugosum (Okamura) Setchell et Gardner

Japanese Name: Shiwanokawa

Collections: Koamikura (May, '75), Oohara (May, '75), Tsukinoura (Apr., '76)

Chordariaceae

Elachista fucicola (Vell.) Agardh

Japanese Name: Namimakura

Collection: Kobuchi (June, '76)

Chordaria flagelliformis (Müller) Agardh

Japanese Name: Nagamatsumo

Collection: Kobuchi (June, '76)

Tinocladia crassa (Suringar) Kylin

Japanese Name: Futomozuku

Collection: Samejima (June, '76)

Sphaerotrichia divaricata (Agardh) Kylin

Japanese Name: Ishimozuku

Collections: Niiyamahama (Aug., '76), Samejima (Aug., '75)

Analipus japonicus (Harvey) WynneSyn. *Heterochordaria abietina* (Ruprecht) Setchell et Gardner

Japanese Name: Matsumo

Collections: Iigohama (May, '75), Koyatori (June and July, '76) Maeami
(May, '75), Tsukahama (May, '75), Yoriisozaki (May, '75)*Myelophycus simplex* (Harvey) ParpenfussSyn. *Myelophycus caespitosus* (Harvey) Kjellman

Japanese Name: Iwahige

Collections: Samejima (Dec., '75 and Apr., '76)

Ishigeaceae

Ishige okamurai Yendo

Japanese Name: Ishige

Collections: Kitsunozaki (May, '75), Oohara (May, '75)

This species is a new record for the Sanriku coast.

Ishige sinicola (Setchell et Gardner) ChiharaSyn. *Ishige foliaceae* Okamura

Japanese Name: Iroo

Collection: Oohara (May, '75)

Desmarestiaceae

Desmarestia viridis (Müller) Lamouroux

Japanese Name: Ke-urushigusa

Collections: Koamikura (May, '75), Samejima (Apr., '76), Tsukinoura (Apr., '76)

Desmarestia ligulata Lamouroux

Japanese Name: Urushigusa

Collections: Orihama (May, '75), Samejima (Apr., '76)

Scytosiphonaceae

Colpomenia sinuosa (Roth) Derbès et Solier

Japanese Name: Fukuronori

Collections: Momonoura (May, '75), Tsukinoura (June, '76)

Colpomenia bullosa (Sanders) Yamada

Japanese Name: Watamo

- Collections: Niiyamahama (May, '76), Tsukinoura (Dec., '75)
Scytosiphon lomentarius (Lyngbye) J. Agardh
 Japanese Name: Kayamonori
 Collections: Iigohama, Kitsunozaki, Maeami, Momonoura, Orihama,
 Tsukahama and Yoriisozaki (May, '75)

Punctariaceae

- Punctaria latifolia* Greville
 Japanese Name: Habamodoki
 Collection: Samejima (Apr., '76)

Chordaceae

- Chorda filum* (Linné) Lamouroux
 Japanese Name: Tsurumo
 Collections: Kobuchi (Aug., '75 and June '76)
 Zoosporangium: June

Laminariaceae

- Laminaria japonica* Areschoug f. *membranacea* Miyabe et Nagai
 Japanese Name: Doteme
 Collections: Konorihama (Oct., '76), Tsukinoura (Aug., '76)
Laminaria religiosa Miyabe
 Japanese Name: Hosome-konbu
 Collections: Iigohama (May '75), Konorihama (June, '76), Niiyamahama
 (Aug., '75)
Costaria costata (Turner) Saunders
 Japanese Name: Sujime
 Collection: Niiyamahama (June, '76)
Eisenia bicyclis (Kjellman) Setchell
 Japanese Name: Arame
 Collections: Koyatori (June, Aug., and Oct., '75 and '76), Samejima (Oct.
 Dec., '75; Apr. and June, '76)

Alariaceae

- Undaria pinnatifida* (Harvey) Suringer
 Japanese Name: Wakame
 Collections: Konorihama (June and July, '75 and '76), Koyatori (July, '76),
 Tsukahama (July and Aug., '76)
Undaria pinnatifida (Harvey) Suringer f. *distans* Miyabe et Okamura
 Japanese Name: Nanbu-wakame
 Collections: Kobuchi (June, '76), Koyatori (June, '76), Niiyamahama (May
 and June, '76)

Undaria peterseniana (Kjellman) Okamura

Japanese Name: Ao-wakame

Collection: Tsukinoura (July, '75)

This species is a new record for the Sanriku coast.

Sargassaceae

Myagropsis myagroides Fensholt

Syn. *Cystophyllum sisymbrioides* J. Agardh

Japanese Name: Jyromoku

Collections: Tsukinoura (Oct. and Dec., '75; Apr. and June, '76)

Receptacle: June

Hijikia fusiforme (Harvey) Okamura

Japanese Name: Hijiki

Collections: Ajishima (Oct., '75), Koyatori (July and Aug., '76), Maeami (May '75), Tsukinoura (Dec., '75; Apr. and June, '76), Yoriisozaki (July, '76)

Receptacle: June to August

Sargassum piluliferum C. Agardh

Japanese Name: Mamedawara

Collections: Ajishima (Oct., '75), Tsukinoura (Oct. and Dec., '75)

Sargassum horneri (Turner) C. Agardh

Japanese Name: Akamoku

Collections: Kobuchi (June and Oct., '76), Niiyamahama (June and Oct., '76), Samejima (Oct. '75; Apr. and June, '76) Tsukinoura (Oct., '75)

Receptacle: May to August

Sargassum tortile C. Agardh

Japanese Name: Yoremoku

Collections: Tsukinoura (Aug. and Dec., '75; May, June and Sept., '76)

Receptacle: June

Sargassum sagamianum Yendo var. *yezoense* Yamada

Japanese Name: Yezono-nejimoku

Collections: Koyatori (May to Oct., '75 and '76), Niiyamahama (Aug., '75; May to Oct., '76), Samejima (Aug. and Oct., '75; Apr. to Oct., '76), Tsukinoura (Apr. and June, '76)

Receptacle: July and August

Sargassum confusum C. Agardh

Japanese Name: Fushi-sujimoku

Collections: Kobuchi (Aug., '75; June, Aug., and Oct., '76), Koyatori (May to Oct., '76), Shirahama (Aug., '75), Tsukinoura (Oct. and Dec., '75; Apr., June, Aug., and Sept., '76)

Receptacle: June and July

Sargassum thunbergii (Mertens) O. Kuntze

Japanese Name: Umi-torano-o

Collections: Koyatori (July, '76), Orihama (May, '75), Samejima (Dec., '75; June, '76), Tsukahama (July and Aug., '76), Tsukinoura (Oct., '75; Apr. and June, '76)

Sargassum kjellmanianum Yendo

Japanese Name: Hahakimoku

Collections: Koyatori (July, '76), Tsukahama (July, '76)

Receptacle: July

Sargassum hemiphyllum Agardh

Japanese Name: Isomoku

Collection: Orihama (May, '76)

Receptacle: May

Sargassum micracanthum (Kützinger) Yendo

Japanese Name: Togemoku

Collections: Kobuchi (Apr. and June, '76), Koyatori (July, '76), Tsukahama (July and Aug., '76)

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