



HOKKAIDO UNIVERSITY

Title	On the Marine Algae of Susaki, Prov. Izu, and its Vicinity II
Author(s)	Segawa, Sokiti
Citation	北海道帝國大學理學部海藻研究所歐文報告, 1(2), 175-197
Issue Date	1936-03-30
Doc URL	https://hdl.handle.net/2115/48054
Type	departmental bulletin paper
File Information	1(2)_175-197.pdf



On the Marine Algae of Susaki, Prov. Izu, and its Vicinity II.

By

SOKITI SEGAWA

(Mitsui Institute of Marine Biology, Susaki, near Simoda, Izu, Japan)

Since the writer's first report under the same title was published the collection in the same localities has been continued, and now it is possible to add certain somewhat interesting algae to the Herbarium of the Mitsui Institute of Marine Biology. In the present paper it is the purpose to give an enumeration of those species. Among them some are new to the province, some new to Japan, and some new to science.

From December, 1934, to January of the next year, the writer visited the Island of Miyake, situated half way between the Island of Hatizyô and the Izu Peninsula. So far as the writer is aware no one has previously made any collection of algae in the island, and concerning the flora of the island no report has been published. Phytogeographically the marine flora of the island as well as that of the Island of Hatizyô is very important. In this collection some interesting algae which are common in the Island of Hatizyô, but which had not been found or only rarely in the Izu Peninsula, were found in this island rather commonly, viz. *Anadyomene Wrightii* GRAY, *Chlorodesmis formosana* YAMADA, *Meristotheca coacta* OKAMURA, *Chrysomenia Kaernbachii* GRUN., *Vanvoorstia spectabilis* HARV., etc.

The writer wishes to express his hearty thanks to the late Dr. K. OKAMURA, under whose direction this work has been carried on, and to Prof. Y. YAMADA for his kind encouragement during the course of the present study. Thanks are also due to Mr. K. HAYASI and Mr. H. KURIHARA who helped him with much kindness when he visited the Island of Miyake.

The present study has also been carried out at the Mitsui Institute of Marine Biology. The writer is very pleased to have this opportunity to express his sincere thanks to Mr. T. MITSUI, the director of the institute, for affording him the opportunity for this study.

CHLOROPHYCEAE

TETRASPORACEAE

1. *Collinsiella cava* (YENDO) PRINTZ.

Engler's Nat. Pflanzenfam. (2. Aufl., 1927) p. 78.

Ecballocystis cava YENDO, Three sp. mar. Ecballocystis (Bot. Mag., Tokyo, XVII), 200, pl. VIII, f. 20-26.

Japanese name.

Hab. Susaki; Simoda; Sirahama (Prov. Izu).

The present species is rather common in the upper littoral zone of this district, and the algae could be found not only in the early spring, but even in May, on the seashore of Susaki.

2. *Palmophyllum orbiculare* BORN.

Text-fig. 1.

In Srb. Critt. Ital. II, n. 1251; Hamell., Chlorophycées des cotes Francaises, p. 10, f. 2-A, B.

Japanese name.

Hab. Washed ashore. Miyake-sima.

Thallus dark green, flat, suborbicular, 0.6-1 mm. thick, 1-2 cm. in diameter, adhering to the substratum (rocks or calcareous algae?) with the under surface; upper surface uneven, having no concentric lines; cells grouped in 2 or 4, spherical or oblong, 4-6 μ in diameter, immersed in gelatinous substance, more or less densely aggregated near the upper surface; peripheral cells smaller than internal ones.

In our specimens, gelatinous stalks are not seen as in some species of the genus *Collinsiella*, but entangled threads are seen in the intercellular spaces.

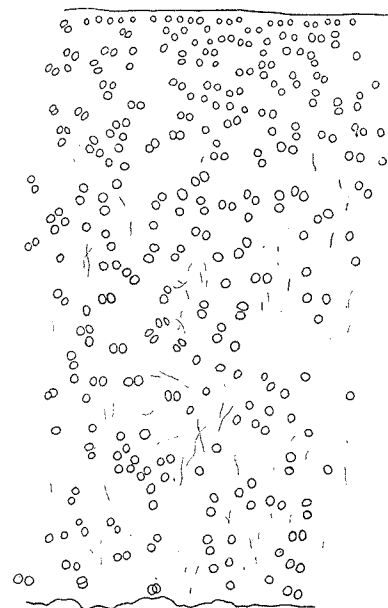


Fig. 1. *Palmophyllum orbiculare* BORN.
Cross-section of the frond. $\times 200$.

In referring the specimens to this species, the writer could not examine any European specimens but in comparison with Hamel's figures it seems to him that there is no important difference between these specimens and the European ones.

MONOSTROMACEAE

3. *Monostroma nitidum* WITTROCK.

Monostr., p. 41, t. II, f. 7; YAMADA, Mar. Chlorophyce. Ryûkyû, p. 34;
SEGAWA, The first part of this report, p. 60.

Japanese name. *Hitoegusa*.

Hab. Susaki; Kisami.

In the specimens from Susaki, the fronds are about $80-33\mu$ in thickness, and in the other ones collected from the Kisami River the thickness varies to 15μ .

ULVACEAE

4. *Ulva spinulosa* OKAMURA et SEGAWA sp. nov.

Text-figs. 2-3.

Frons stipitata vel subsessilis, cito vage expansa, palmatim vel irregulariter lobata, margine plus minus undulata et plicata, hic illie minutissime dentata.

tiliterque dentata.

Japanese name.

Hab. On the rocks near high tide. Miyake-sima.

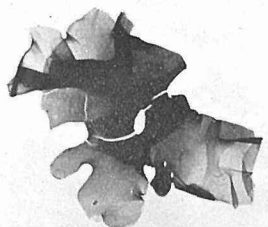


Fig. 2. *Ulva spinulosa* OKAM. et SEGAWA. $\times 1$.

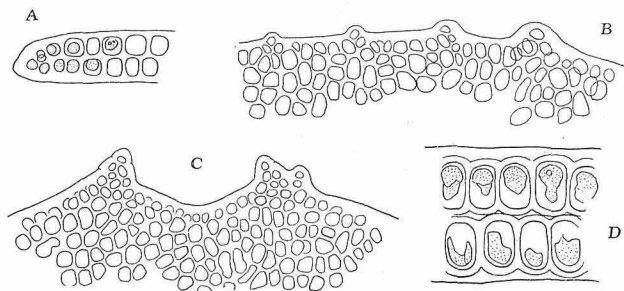


Fig. 3. *Ulva spinulosa* OKAMURA et SEGAWA.

A. Cross-section of the frond through one tooth. $\times 150$.

B, C. Surface-view of the teeth. $\times 150$.

D. Longitudinal section of the upper part of the frond. $\times 250$.

Frond fresh green, minor, 2-3 cm high, 360μ thick at the basal portion, $65-82\mu$ thick at the middle, sessile or having a short stipe, soon expanding upwards in a circular leaflet, dividing palmately or irregularly into some lobes; margins somewhat undulato-plicate, with microscopic teeth here and there; cells polygonal in surface view, roundish rectangular or squarish in cross section, $25-34\mu$ long, $11-23\mu$ wide, with thickened outer wall ($3-6\mu$).

Having the microscopic teeth in the frond, the present species is sufficiently different to be separated from other ones (exclusive of *Ulva reticulata* FORSK.) belonging to this genus. But it must be described provisionally, for the former authors who described the species of *Ulva*, might have overlooked this fine character in their observations.

VALONIACEAE

5. *Anadyomene Wrightii* HARVEY.

Journ. of Bot. (1866) p. 48, t. 44, f. 5; OKAMURA, Icon., I, p. 198, pl. 40, f. 1-6.

Japanese name. *Ukiorisô*.

Hab. Miyake-sima.

Probably the northern limit of distribution in our boundaries.

6. *Struvea japonica* OKAMURA et SEGAWA sp. nov.

Text-figs. 4-5.

Frons ca. 4 cm. alta. Stipes ad basim rugosus, simplex. Flabellum suborbiculatum, 1-2 cm. diam., filis tripinnatis, articulis inferioribus pinnarum 2-3-plo, superioribus 1-2-plo, pinnularum 1-2-plo, diametro longioribus.

Japanese name.

Hab. Tôzi (Prov. Izu).

Frond loosely caespitose, up to 4 cm high; stalk simple, 500-800 μ thick, ca. 17 mm long, composed of two cells: upper short cell and lower long one; lower cell becoming gradually slenderer downwards, with a few corrugations near the base, and with some roots at the base; leaf forming a plane net, nearly round in outline, about 2 cm in diameter, tripinnate; ramuli opposite, usually curved upward, obtuse at apices, usually provided with a small tenaculum; pinnules frequently having no septum.

This interesting alga was found by the writer only once at Tôzi in April, 1935, growing on other alga. Probably they were dredged from the bottom of 10-20 fathoms in depth.



Fig. 4. *Struvea japonica*
OKAM. et SEGAWA. $\times 1$.

From two other *Struvea* already described within our boundaries (*S. tenuis*, *S. delicatula*), the present alga can be easily distinguished by the presence of basal annular constrictions on the stipe. Judging from this character, *Str. ramosa* DICKIE, *Str. elegans* BOERG., *Str. orientalis* GEPP

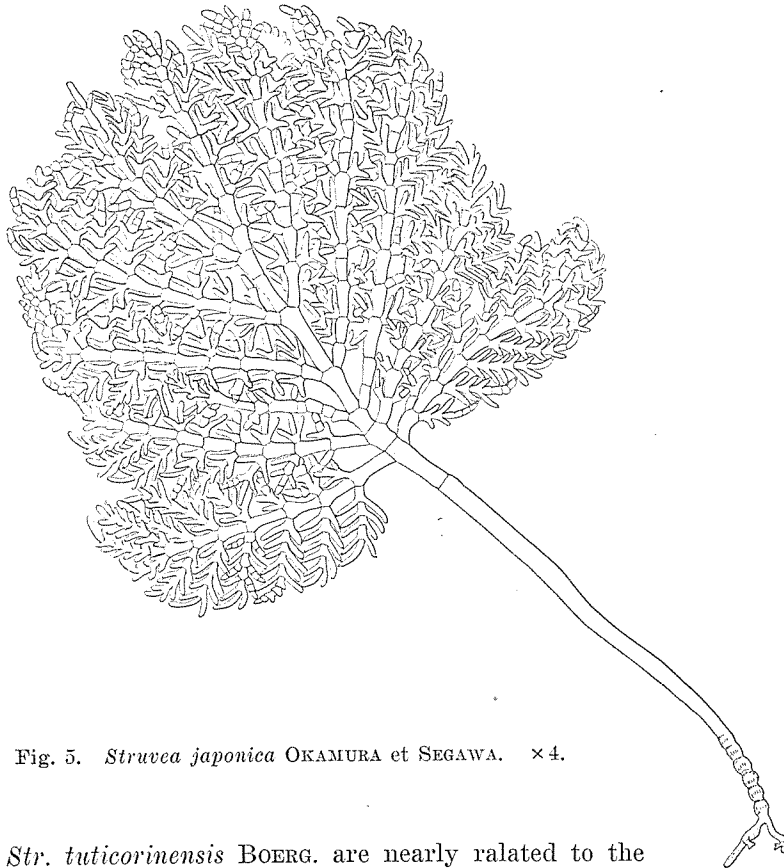


Fig. 5. *Struvea japonica* OKAMURA et SEGAWA. $\times 4$.

and *Str. tuticorinensis* BOERG. are nearly related to the present plant, but as to the leaf they differ from each other.

CAULERPACEAE

7. ***Caulerpa ambigua*** OKAMURA.

On the Alg. from Ogasawara-jima (Bot. Mag., Tokyo, XI) p. 4, pl. 1, f. 3-12; Icon., III, p. 168, pl. 139; YAMADA, Mar. Chlorophyc. Ryûkyû, p. 64, f. 33-34.

Japanese name. *Hime-iwaduta*.

Hab. In the tide pool. Susaki.

CODIACEAE

8. ***Chlorodesmis formosana*** YAMADA.

Stud. über die Meeresalg. von der Insel Formosa, I. Chlorophyceae

(Bot. Mag., Tokyo. XXXIX), p. 92, f. 5, a-b; OKAMURA, Alg. Isl. Hatidyô (Records Oceanogr. Works in Japan, Vol. II, 1930), p. 104.

Japanese name.

Hab. Washed ashore. Miyake-sima.

9. **Codium pugniformis** OKAMURA.

Icon., III, p. 147, pl. 135, f. 6-9.

Japanese name. *Kobusi-miru*.

Hab. Kôzu-sima.

10. **Codium saccatum** OKAMURA.

Icon., III, p. 145, pl. 135, f. 1-5.

Japanese name. *Hukuro-miru*.

Hab. Dredged from the bottom of 10-15 fathoms in depth. Sirahama (Prov. Izu); As an epiphyt on *Gelidium subcostatum*. Kôzu-sima.

11. **Codium tenue** KUETZ.

Tab. Phyc., VI, t. 95; OKAMURA, Icon., IV, p. 61, pl. 165, f. 11-13.

Japanese name. *Ito-miru*.

Hab. Kôzu-sima; Miyake-sima (H. KURIHARA).

PHAEOPHYCEAE

SPOROCHNACEAE

12. **Sporochnus scoparius** HARV.

Phyc. Aust. t. 226; OKAMURA, Icon., IV, p. 177, pl. 195.

Japanese name. *Keyari*.

Hab. Susaki; Tôzi; Sirahama (Prov. Izu).

DICTYOTACEAE

13. **Stypopodium lobatum** KUETZ.

Tab. Phyc., IX, p. 25, t. 63, f. 1; OKAMURA, Icon., I, p. 116, pl. 25, VI, p. 57, pl. 279, f. 10.

Japanese name. *Ziganigusa*.

Hab. Miyake-sima.

FUCACEAE

14. **Cystophyllum sisymbrioides** J. AG.

Sp. I, p. 234; YENDO, Fuc. of Jap., p. 36, pl. III, f. 1-6; OKAMURA,

Icon., V, p. 21, pl. 206.

Japanese name. *Zyromoku*.

Hab. Very common. Susaki.

15. **Sargassum serratifolium** C. AG.

Syst., p. 299; OKAMURA, Icon., V, p. 23, pl. 207.

Japanese name. *Nokogirimoku*.

Hab. Susaki.

RHODOPHYCEAE

Bangiales

BANGIACEAE

16. **Goniotrichum Alsidii** (ZANARD.) HOWE.

Mar. Alg. of Peru, p. 75; K. INAGAKI, Osyrowan oyobi soreni kinsetu seru Engan no Kaisan-kôsôrui (Hokkaidô-Teikoku-Daigaku, Kaisô-kenkyûzyo Hôkoku, No. 2) (in Japanese) p. 12, f. 5.

Japanese name.

Hab. Susaki.

17. **Porphyra dentata** KJELLMAN.

Japan. Art. Porphyra, 1897, p. 13, t. 1, f. 7-8, t. 3, f. 1-4, t. 5, f. 8-13; UEDA, Syst. Stud. Japan. Porphyra (1932) (in Japanese), p. 19, pl. III, f. 6-13, pl. XIII, f. 3-4, pl. XIV, f. 1.

Japanese name. *Oni-amanori*.

Hab. Miyake-sima.

Florideae

BONNEMAISONIACEAE

18. **Ptilonia Okadai** YAMADA.

Notes on some Japanese Algae, V (Journ. Fac. Sci., Hokkaido Imp. Univ., Ser. V, Vol. II, n. 3, 1933) p. 284, pl. XIII, f. 2.

Japanese name. *Hiroha-tamaitadaki*.

Hab. Susaki; Tôzi; Sirahama (Prov. Izu).

19. **Asparagopsis hamifera** (HARIOT) OKAMURA.

Icon., IV, p. 131, pl. 183, f. 10-11, pl. 184, f. 10-16; *Bonnemaisonia hamifera* HARIOT, Alg. de Yokoska, p. 223.

Japanese name. *Kaginori*.

Hab. Susaki.

GELIDIACEAE

20. **Gelidium pusillum** (STACKH.) LE JOL.

List. Alg. Mar. Cherb. p. 139; OKAMURA, Icon., II, p. 11, pl. 54, f. 10-14; Id., On Gelidium and Pterocladia of Japan, p. 50, pl. 17, pl. 31, f. 1-2.

Japanese name. *Hai-tengusa*.

Hab. Susaki.

GRATELOUPIACEAE

21. **Halymenia Agardhii** DE TONI.

Syll. Alg., IV, p. 1542; OKAMURA, Icon., VI, p. 21, pl. 266, f. 1-3.

Japanese name. *Nurakusa*.

Hab. Dredged with "Ebi-ami". Tôzi; Washed ashore. Tago.

22. **Halymenia dilatata** ZANARD.

Plant. Mar. Rubr. Enum., p. 280, t. V, f. 1; OKAMURA, Icon., IV, p. 109, pl. 176, 177, f. 3-4.

Japanese name. *Huirigusa*.

Hab. Cast up ashore. Miyake-sima; Kôzu-sima.

23. **Aeodes lanceolata** OKAMURA.

Icon., VII, p. 42, pl. 322.

Japanese name. *Hudaraku*.

Hab. Susaki.

24. **Carpopeltis elata** OKAMURA.

Icon., II, p. 71, pl. 69; *Prionitis elata* OKAM., Contr. Knowl. Mar. Alg. of Japan, III (Bot. Mag., Tokyo, 1899) p. 4, pl. 1, f. 1-2.

Japanese name. *Naga-kintoki*.

Hab. Susaki.

25. **Cryptonemia Schmitziana** OKAMURA.

Icon., II, p. 77, pl. 71.

Japanese name. *Ôba-kintoki*.

Hab. Cast up ashore. Itô.

DUMONTIACEAE

26. **Baylesia plumosa** SETCHELL.

Alg. nov. et min. cogn. (Univ. Calif. Publ. Bot., Vol. 4, 1912, n. 14)

p. 249, pl. 29; OKAMURA, Icon., V, p. 167, pl. 245.

Japanese name. *Nagaobane*.

Hab. Ôsima (Prov. Izu); Miyake-sima (Collected by K. HAYASI).

RHIZOPHYLLIDACEAE

27. **Chondrococcus japonicus** (HARV.) OKAMURA.

Icon., IV, p. 160, pl. 190, f. 15.

Japanese name. *Naminohana*.

Hab. Susaki; Sirahama (Prov. Izu); Tôzi; Miyake-sima.

CALLYMENIACEAE

28. **Callymenia perforata** J. AGARDH.

Epier., p. 219; YENDO, Notes on Alg. New to Japan, II (Bot. Mag., Tokyo, XXVIII), p. 273; *Callymenia cribrosa* HARV., OKAMURA, Icon., II, p. 127, pl. 86-87; SEGAWA, The first part of this report, p. 79.

Japanese name. *Tukasaami*.

Hab. Tago; Nisina; Ôsima (Prov. Izu).

So far, the northern limit of distribution of this alga has been very uncertain. In April of last year, a few specimens were collected by the writer cast up on the coast of the island of Ôsima. Furthermore, it was possible to obtain a good number of specimens in Tago, last spring. The present species seems to be widely distributed on the west coast of the Izu Peninsula. Probably the northern limit of distribution of this alga is in the Province of Izu.

NEMASTOMACEAE

29. **Platoma japonica** OKAMURA.

Icon., V, p. 181, pl. 246.

Japanese name. *Hônowo*.

Hab. Rather common in the province. Susaki; Kisami.

SOLIERIACEAE

30. **Meristotheca coacta** OKAMURA.

Alg. Isl. Hatidyô (Records Oceanogr. Works in Japan, Vol. II, 1930) p. 97, pl. VII.

Japanese name. *Kiku-tosaka*.

Hab. Miyake-sima.

HYPNEACEAE

31. **Hypnea variabilis** OKAMURA.

Icon., II, p. 21, pl. 56.

Japanese name. *Tati-ibara*.

Hab. Miyake-sima.

PLOCAMIACEAE

32. **Plocamium oviforme** OKAMURA.

In DE TONI, Syll. Alg. IV, p. 590; OKAMURA, Icon., III, p. 12, pl. 103, f. 1-5.

Japanese name. *Hime-yukari*.

Hab. Susaki; Tô; Sirahama (Prov. Izu); Miyake-sima.

GRACILARIACEAE

33. **Gracilaria compressa** (AG.) GREV.

Alg. Brit. p. 125; Harvey, Phyc. Brit., tab. 205; OKAMURA, Icon., V, p. 160, pl. 242.

Japanese name. *Siramo*.

Hab. Kakisaki; Nisina; Tago.

34. **Gracilaria incurvata** OKUMURA.

Icon., VI, p. 41, pl. 273, f. 1-6.

Japanese name. *Mizo-ogonori*.

Hab. Susaki; Ôsima.

35. **Gracilaria Textorii** SUR.

Index praecurs, p. 4; OKAMURA, Illustr. Mar. Alg. Jap., V, Pl. XXIII.

Japanese name. *Kabanori*.

Hab. Susaki.

GIGARTINACEAE

36. **Chondrus elatus** HOLMES.

On Mar. Alg. fr. Japan, p. 252, t. IX, 1; OKAMURA, Icon., IV, p. 38, pl. 160, f. 6-14.

Japanese name. *Kotodi-tunomata*.

Hab. Susaki.

37. **Ahnfeltia concinna** J. AG.

Sp. Alg. II, p. 312; OKAMURA, Icon., IV, p. 173, pl. 191, f. 1-7.

Japanese name. *Saimi*.

Hab. Susaki.

CHAMPIACEAE

38. *Lomentaria rosea* (HARV.) THUR.

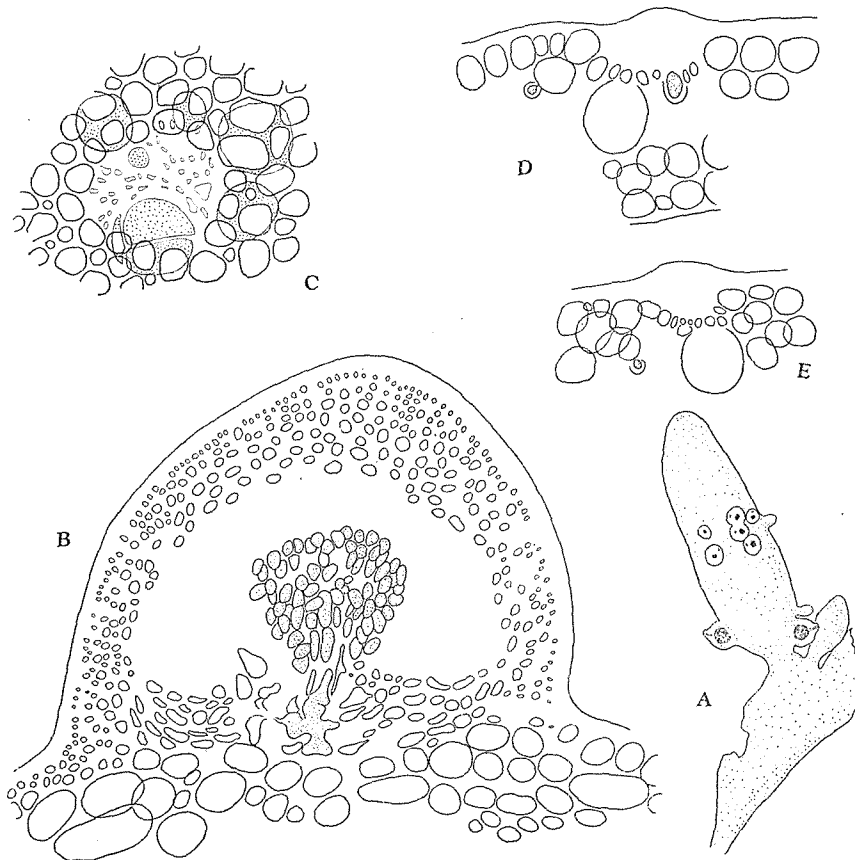
Text-fig. 6.

In FARLOW, Marine Algae of New England, p. 155.

Japanese name. *Hiroha-husitunagi* (OKAMURA).

Hab. Susaki.

Of this rare alga, several authors have reported tetrasporangial plants, but no one has described the cystocarpic individual. In March of last year the writer collected an individual with Cystocarps on *Sargassum* sp.

Fig. 6. *Lomentaria rosea* (HARV.) THUR.A. A part of the frond bearing cystocarps. $\times 6$.B. Cross-section of a young cystocarp. $\times 155$.C. Tetrasporangia seen from above. $\times 155$.D, E. Cross-sections through the frond showing tetrasporangia. $\times 155$.

39. *Coelarthrum coactum* OKAMURA et SEGAWA sp. nov.

Text-fig. 7.

Frons decumbens? teretiusecula, cava, repetite di-polychotome vel irregulariter ramosa, hic illic adnata; articulis sphaericis, ca. 2-3 mm crassis. Membrana intus ex cellulis majoribus, extus cellulis corticalibus minoribus composita. Cellulae glandulosae sphaericae, super cellulis internis constantibus vel cellulis minoribus stellaeformibus(?) ornatae. Cystocarpia hemispherice prominentia. Tetrasporangia ignota.

Japanese name.

Hab. Washed ashore. Miyake-sima.

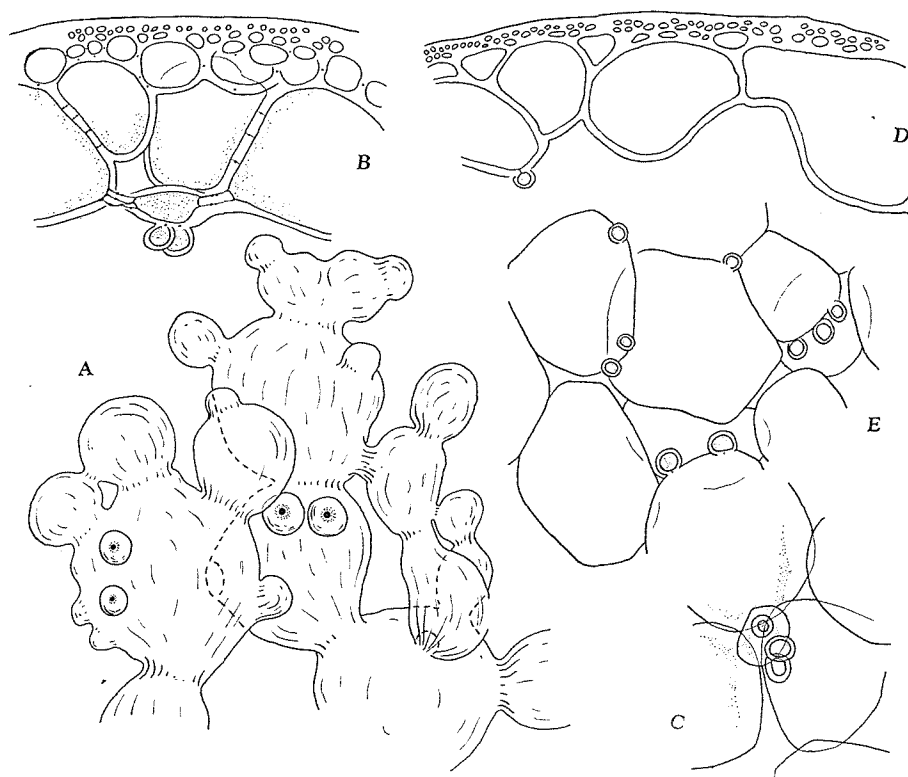


Fig. 7. *Coelarthrum coactum* OKAMURA et SEGAWA.

A. A portion of the frond. $\times 6$.

B, D. Cross sections of the frond. $\times 150$.

C, E. Large cells facing the cavity with gland cells. $\times 150$.

in B, C, showing the gland cells ornated on somewhat smaller cells connected with the adjacent cells.

in D, E, showing the gland cells ornated on normal large cells.

Frond decumbent? terete, articulate, hollow, repeatedly di-polychotomously or irregularly ramified, anastomosing here and there; joint spherical, ca. 2–3 mm in diameter; diaphragms consisting of two or three layers of cells; membrane consisting of two sorts of layers: inner large one-celled layer and cortical small 2–3-celled layer; gland cells spherical or ovate, grouping in 2–3 on normal inner cells or somewhat small cells connected with the adjacent cells toward the cavity; cystocarps hemispherically prominent; tetraspores unknown.

As stated above, in the present species the gland cells appear not only on the small cells which are like stars, but also on normal large ones. Furthermore the mode of ramification of the frond is very irregular. In these respects, the present plant is to be distinguished easily from *C. Boergesenii*.

RHODYMENIACEAE

40. ***Fauchea spinulosa*** OKAMURA et SEGAWA.

The first part of this report, p. 84, pl. 20, 2, text-figs. 4–5; OKAMURA, Icon., VII, p. 52, pl. 330, f. 6–11.

Japanese name. *Toge-madara*.

Hab. Washed ashore. Miyake-sima.

41. ***Chrysomenia polyglandulosa*** OKAMURA.

Text-fig. 8.

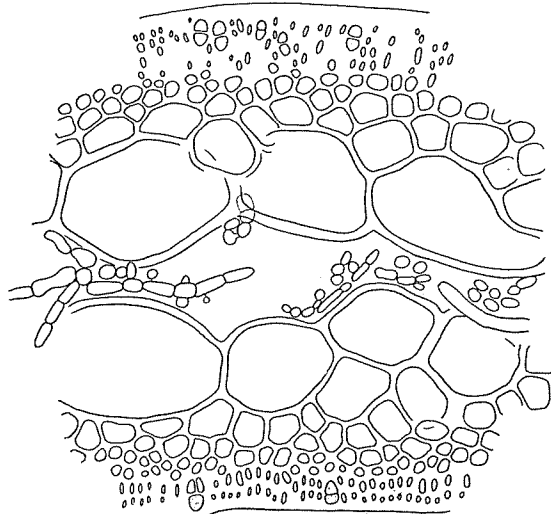


Fig. 8. *Chrysomenia polyglandulosa* OKAMURA.
Cross-section of the frond bearing tetrasporangia. $\times 135$.

Alg. Isl. Hatidyô (Records Oceanogr. Works in Japan, Vol. II, 1930) p. 96, pl. VI.

Japanese name.

Hab. Cast up ashore. Tago (collected by K. TUTIYA); Kôzu-sima.

Plant arising from a scutate disc, soon expansive, without an attenuated base, 4–10 cm high. Frond not so thick, 500μ thick near the base, 300μ near the apex, widely spread in repeatedly and irregularly dichotomopalmate branches; branches broadly linear or somewhat cuneate, with round axilis, ending in an obtuse, ligulate or subacute apex. Glandular cells seen on the medullary rhizoidal filament connecting the two inner layers of the frond. Tetrasporangia scattered over the surface of frond. Substance gelatinose-membranaceous. Colour, when quite fresh, rather yellow brown, and red purple or yellowish red in drying.

In consequence of the comparative study of many specimens collected from Tago and Kôzu-sima, the present alga seems to correspond to *Chrysomenia polyglandulosa* OKAMURA, though the mode of ramification and other characters are very variable.

42. **Chrysomenia Kaernbachii** GRUN.

In SCHUMAN et HOLLR. Flora von Kaiser Wilhelmsland (1889) p. 4; WEBER VAN BOSSE, Liste des Alg. du Siboga, IV, 1928, p. 469, pl. V, f. 1 and f. 202, 203; OKAMURA, Icon., VI, p. 77, pl. 288, f. 1–8.

Japanese name. *Hanasakura*.

Hab. Miyake-sima.

43. **Chrysomenia grandis** OKAMURA.

Icon., VII, p. 1, pl. 301.

Japanese name. *Ônurabukuro*.

Hab. Susaki.

44. **Binghamia californica** FALOW.

K. INAGAKI, Osyorowan oyobi soreni kinsetu seru Engan no Kaisan-Kôshûrui (Hokkaidô-Teikoku-Daigaku, Rigakubu, Kaisô-kenkyûzyo Hôkoku, No. 2) (in Japanese) p. 43, f. 16, a–c, f. 17, a–b.

Japanese name.

Hab. Susaki; Kisami; Sirahama (Prov. Izu).

CERAMIACEAE

45. **Spermothamnion endophytica** OKAMURA.

Icon., VII, p. 41, pl. 321, f. 11–16.

Japanese name. *Miru-hibidama*.

Hab. On the frond of *Codium contractum*. Susaki.

46. **Spermothamnion pusillum** OKAMURA et SEGAWA sp. nov. Text-fig. 9. Planta parva, 1.5 mm alta, ex parte basale repente et filamentis erectis constructa. Pars basalis irregulariter ramosa, implicata, rhizoideis tenuibus adfixa. Filamenta erecta rarissime ramosa, cellulis cylindricis, 18–20 μ crassis, 2-plo diametro longioribus; cellulis apice obtusisimis. Sporangia sphaerica vel ovata, 50–65 μ crassa, breviter pedicellata, lateralia vel terminalia, triangule divisa. Antheridia oblonga, eodem modo ac sporangia disposita. Cytocarpia globosa, pedicellata, remulis paucis involucrata.

Japanese name.

Hab. Tôzi. On the surface of the frond of *Carpopeltis angusta* OKAM. dredged with “Ebi-ami.”

Plants very small, 1.5 mm high, densely caespitose, composed of basal creeping filaments and erect free filaments; horizontally creeping filaments branched irregularly, densely implicated with each other, attached to the substratum by means of thin rhizoids with discoid hapters; erect free filaments with no branch, or rarely branched, 20 μ thick at the base, 18 μ in the upper part, ending in obtuse apices; cells cylindrical in shape, about 2 times as long as thick; sporangia formed with one-(rarely 2-) celled short pedicel on the sides of erect filaments, or sometimes terminal on erect filaments, nearly spherical, 50–65 μ in diameter, tripartite; antheridial receptacles oblong, formed on the similar portion as the sporangia; cystocarps globose, formed on the terminal articulations of 1–3-celled lateral ramules or sometimes on erect filaments themselves, provided with an involucre embracing the gonimoblast made of one (?) nucleolus.

The present plant shows some likeness to *Spermothamnion Cladophorae* YAMADA et TANAKA, reported from Formosa, in the vegetative characters. But in the Formosa alga the sporangia have no pedicel, while the sporangia of this *Spermothamnion* are always pedicellate.

47. **Trailiella intricata** BATTERS.

Some new Brit. Mar. Alg. (Journ. Bot. Vol. 36) p. 10; INAGAKI, Mar. Alg. Recent. Disc. in Japan (Sci. Pap. Inst. Alg. Res., Vol. 1, No. 1) p. 42, f. 1.

Japanese name. *Tamanoito*.

Hab. Susaki.

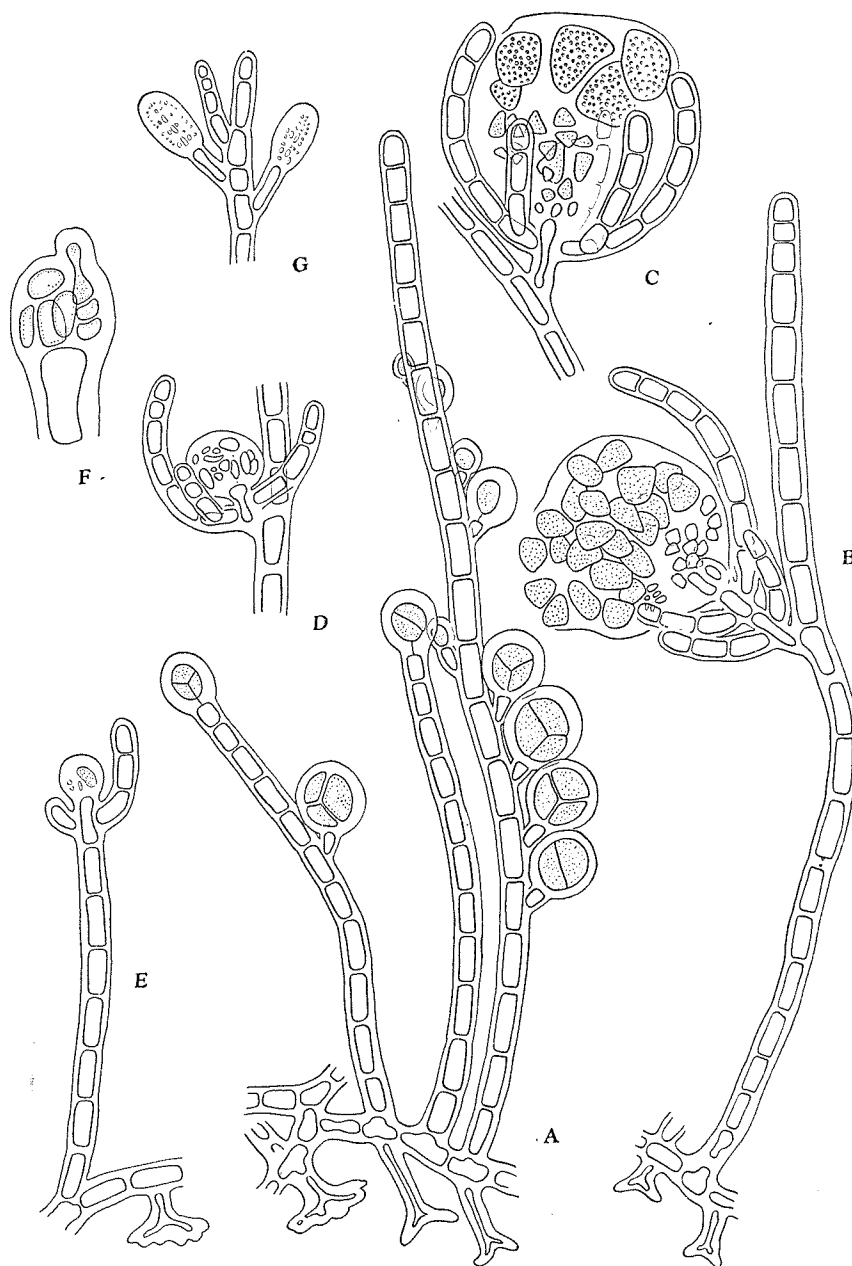


Fig. 9. *Spermothamnion pusillum* OKAMURA et SEGAWA.

- A. A tetrasporic plant. $\times 150$. D-F. Procarps, D, E. $\times 150$; F. $\times 370$.
 B. A cystocarpic plant. $\times 150$. G. Antheridial stands. $\times 150$.
 C. A cystocarp. $\times 150$.

48. **Pleonosporium pinnatum** OKAMURA et SEGAWA sp. nov. Text-fig. 10. Frons parva, 1.5 cm alta, ecorticata, distiche bi-tripinnatim ramosa, flexuosa, ad basin 150μ crassa; cellulis cylindricis, diametro 1.5-plo longioribus, apice obtusis. Sporangia polyspora, ellipsoidea, sessilia, in ramis superioribus frondis lateraliter disposita. Antheridia ovoidea, eodem modo ac sporangia disposita. Cytocarpia super ramulis crassis fere terminalia.

Japanese name.

Hab. Growing on a species of *Sargassum* dredged with "Ebi-ami".
Susaki.

Fronds small, caespitose, consisting of uncorticated filaments, up to 1.5 cm high, fixed to the substratum by means of rhizoidal filaments at the base, ramified distichously and bi-tripinnately, flexuose in the upper parts of the rachis and pinnae; cells short cylindrical in shape, with slight constriction at dissepiments, 150μ thick near the base of the frond, tapering upwards, up to 1.5 times as long as the diameter; sporangia sessile, on the upper sides of cells of branchlets, oblong, 80μ long, 50μ wide, containing 8 spores; antheridial receptacles ovoidal, occupying similar position as tetrasporangia; procarps appearing on the apical cells of the filaments; cystocarps formed on the terminal articulations of very thick branchlets, with no involucre, containing several nucleoli.

Pleonosporium pinnatum differs from *P. pusillum* reported from Ryûkyû by YAMADA, in 1932, in the following respects:

	<i>P. pusillum</i>	<i>P. pinnatum</i>
cells at the base	80–100 μ thick	150 μ thick.
branching	simple pinnate	usually bi-tripinnate.
sporangia	spherical, containing ca. 12 spores	oblong, 8 spores.

49. **Euptilota articulata** (J. Ag.) SCHMITZ.

Klein. Beitr. Florid., VI (1896) p. 7; OKAMURA, Icon., IV, p. 130, pl. 183, f. 1–9.

Japanese name. *Isosinobu*.

Hab. Kôzu-sima; Miyake-sima.

50. **Plumariella Yoshikawai** OKAMURA.

Icon., VI, p. 26, pl. 268.

Japanese name. *Itosinobu*.

Hab. Susaki; Ôsima (Prov. Izu).

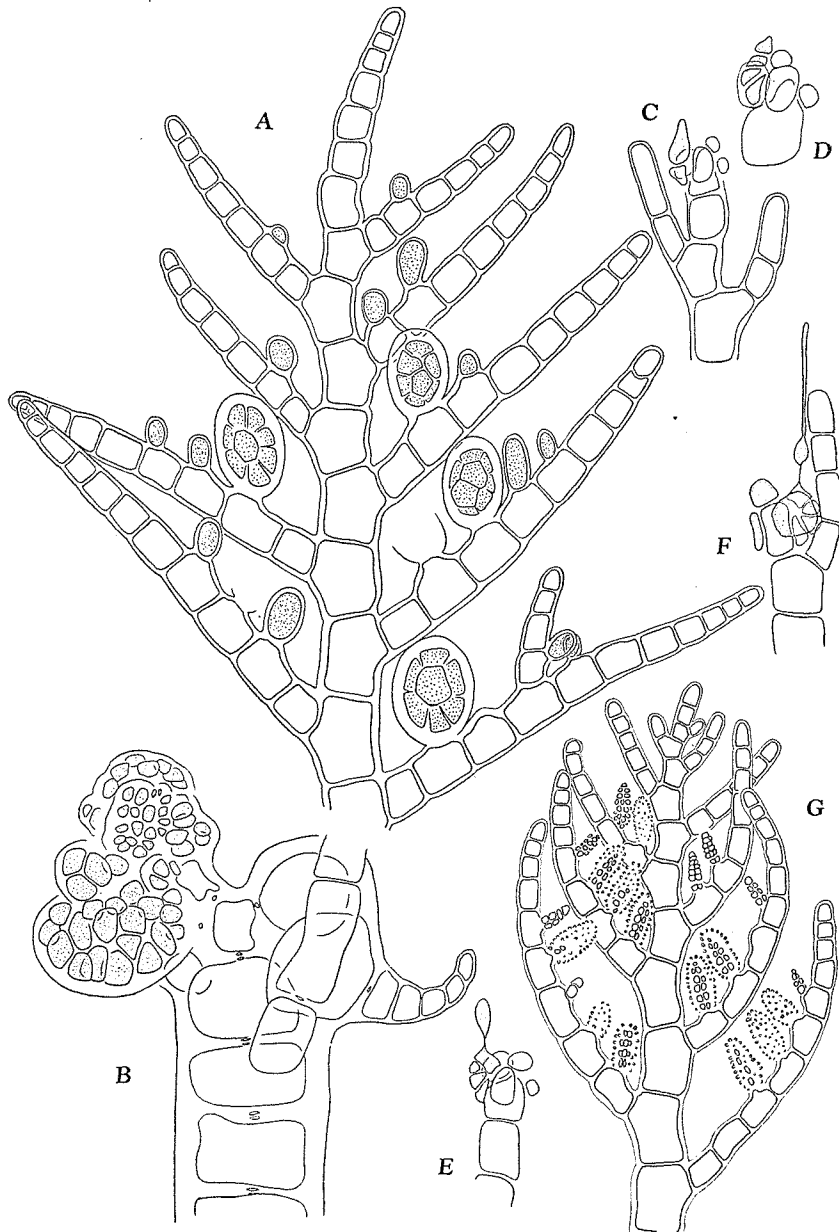


Fig. 10. *Pleonosporium pinnatum* OKAMURA et SEGAWA.

- A. Portion of the sporangial plant. $\times 150$. C-F. Procarps. $\times 370$.
 B. A ripe cystocarp. $\times 150$. G. Portion of the male plant. $\times 150$.

51. **Wrangelia Argus** MONTAGNE.

Text-fig. 11.

Syll. gen. spec. Cryptog., p. 444; OKAMURA, Icon., VII, n. 5, p. 46, pl. 324; SEGAWA, The first part of this report, p. 87.

Japanese name. *Rangeria*.

Hab. Miyake-sima.

Among the specimens collected from the Island of Miyake, many female individuals were found. The accompanied figure shows a vertical longitudinal section of its cystocarps.

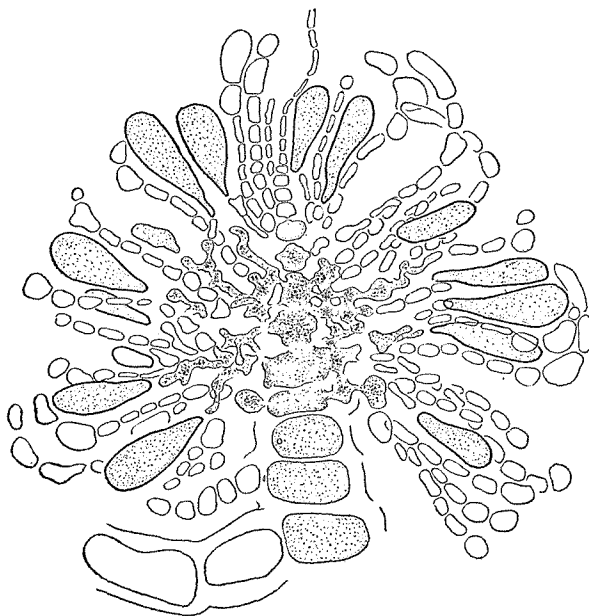


Fig. 11. *Wrangelia Argus* MONT.
Vertical section of a cystocarp. $\times 180$.

52. **Wrangelia Tagoi** (OKAM.) OKAMURA et SEGAWA comb. nov.

Text-figs. 12-13.

Dasyphila Tagoi OKAMURA, Icon., II, p. 132, pl. 88.

Japanese name. *Tagonori*.

Hab. Cast up ashore. Miyake-sima; Kôzu-sima.

Dasyphila Tagoi was described by OKAMURA in his "Icones." But at that time no reproductive organs were observed by OKAMURA. The present specimens from the Island of Miyake coincide very well with OKAMURA's specimens in habit and structure. But judging from the characteristics of the cystocarps and antheridia found in our specimens they seem to the

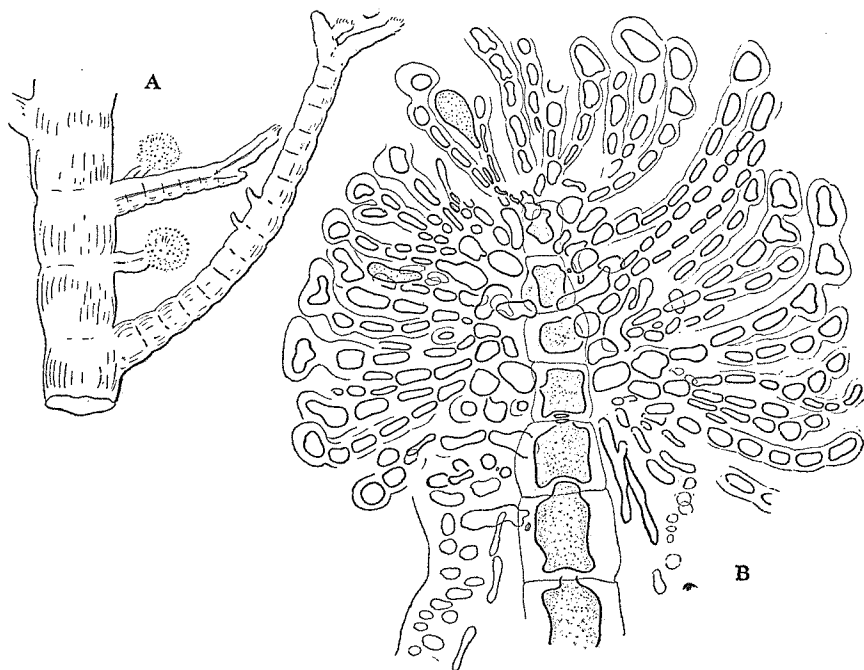


Fig. 12. *Wrangelia Tagoi* (OKAM.) OKAMURA et SEGAWA.
Cystocarps. A. $\times 8$, B. $\times 130$.

writer to belong to the genus *Wrangelia*. Among the species of *Wrangelia* hitherto described, there is no species possessing just the characters of our agla.

DELESSERIACEAE

53. **Hypoglossum barbatum** OKAMURA.
Illustr. Mar. Alg. Japan, Vol. I, n. 2, p. 19, t. VII.
Japanese name. *Hige-beniha-nori*.
Hab. Susaki; Kisami.
54. **Erythroglossum minimum** OKAMURA.
Icon., VI, p. 92, pl. 297, f. 1-16.
Japanese name. *Hime-usubanori*.
Hab. Susaki; Mikomoto; Sirahama (Prov. Izu).
55. **Erythroglossum repens** OKAMURA.
Icon., VI, p. 9, pl. 256, f. 1-10.
Japanese name. *Usubeni*.
Hab. Susaki; Mikomoto.

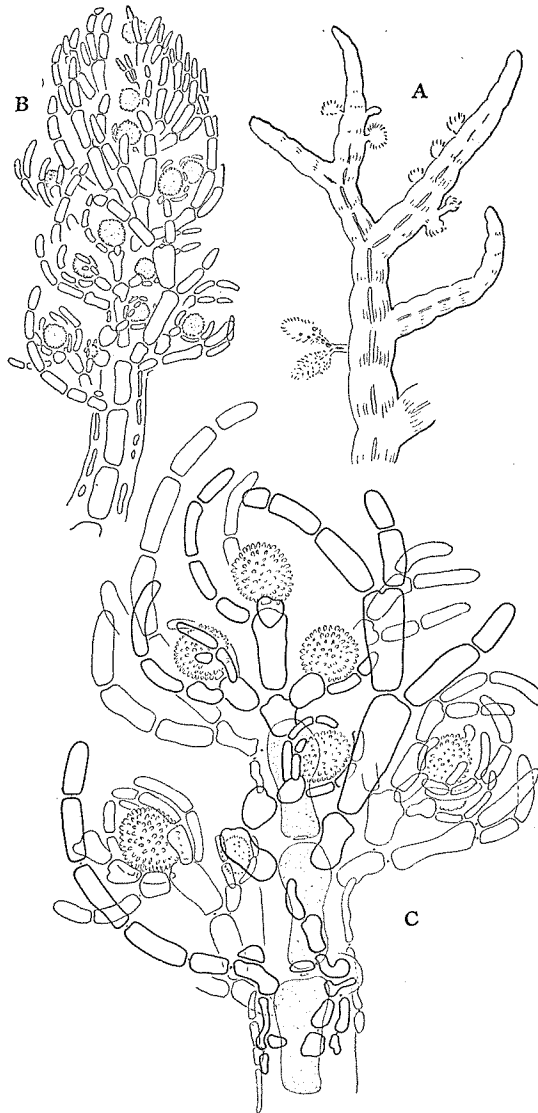


Fig. 13. *Wrangelia Tagoi* (OKAM.) OKAMURA et SEGAWA.
Antheridia. A. $\times 8$, B. $\times 60$, C. $\times 130$.

56. **Myriogramme polyneura** OKAMURA.

Icon., VI, p. 94, pl. 298, 300, f. 1-5.

Japanese name. *Suziginu*.

Hab. Susaki.

57. **Vanvoorstia spectabilis** HARV.

In HOOK. Journ. Bot., Vol. VI, p. 144, pl. 5.

Japanese name. *Karagoromo*.

Hab. Ôsima (Prov. Izu); Kôzu-sima; Miyake-sima. Ôsima is probably the northern limit of distribution of the plant in this country.

DASYACEAE

58. **Heterosiphonia pulchra** (OKAM.) FKBG.

Rhodom., p. 647; OKAMURA, Icon., IV, p. 63, pl. 166.

Japanese name. *Sima-dazia*.

Hab. Susaki; Kisami; Sirahara (Prov. Izu).

RHODOMELACEAE

59. **Laurencia pinnata** YAMADA.

Notes on Laurencia (Univ. Calif. Publ., Bot., Vol. 16, n. 7, 1931), p. 242, pl. 28.

Japanese name. *Hane-sozo*.

Hab. Susaki.

60. **Acanthophora orientalis** J. AG.

Sp. Alg., II, p. 820; OKAMURA, Icon., I, p. 35, pl. 8, f. 1-7.

Japanese name. *Togenori*.

Hab. Miyake-sima.

61. **Symphyocladia linearis** (OKAM.) FKBG.

Rhodom., p. 280; OKAMURA, Icon., II, p. 167, pl. 96.

Japanese name. *Hoso-kozanemo*.

Hab. Susaki.

62. **Isoptera regularis** OKAMURA.

Illustr. Mar. Alg. Japan, Vol. I, n. 3, p. 31, pl. 12.

Japanese name. *Hiyokusô*.

Hab. Susaki; Tôzi.

63. **Herposiphonia insidiosa** (GREV.) FKBG.

Rhodomelac., p. 317; OKAMURA, Icon., VI, p. 25, pl. 264, f. 10-16.

Japanese name. *Kagi-himegoke*.

Hab. On the frond of *Ahnfeltia paradoxa*. Sirahama (Prov. Izu).

64. **Herposiphonia subdisticha** OKAMURA.

Contr. Knowl. Mar. Alg. Japan, III, p. 37, pl. 1, f. 12-14; Id. Icon.,

III, p. 199, pl. 146, f. 11-18.

Japanese name. *Kuro-himegoke*.

Hab. Susaki.

65. **Amansia japonica** (HOLM.) OKAMURA.

Contr. Knowl. Mar. Alg. Japan, III, p. 35, pl. 1, f. 21-22; Id, Illustr.

Mar. Alg. Japan, I, pl. XIV; Id., Icon., I, p. 95, pl. 21, f. 8-10.

Japanese name. *Hiodosigusa*.

Hab. Susaki; Sirahama (Prov. Izu); Kôzu-sima; Miyake-sima.

66. **Enantiocladia Okamurai** (OKAM.) YAMADA.

Notes on some Japan. alg., I (1930) p. 27.

Enantiocladia latiuscula OKAM., Icon., I, p. 42, pl. 9, fig. 1, pl. 10, figs. 1-17.

Japanese name. *Aisomegusa*.

Hab. Sirahama (Prov. Izu); Kôzu-sima.
