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理學博士 岡村金太郎著

ICONES OF JAPANESE ALGÆ

Vol. VII, No. IV

BY

K. Okamura *Rigakuhakushi*

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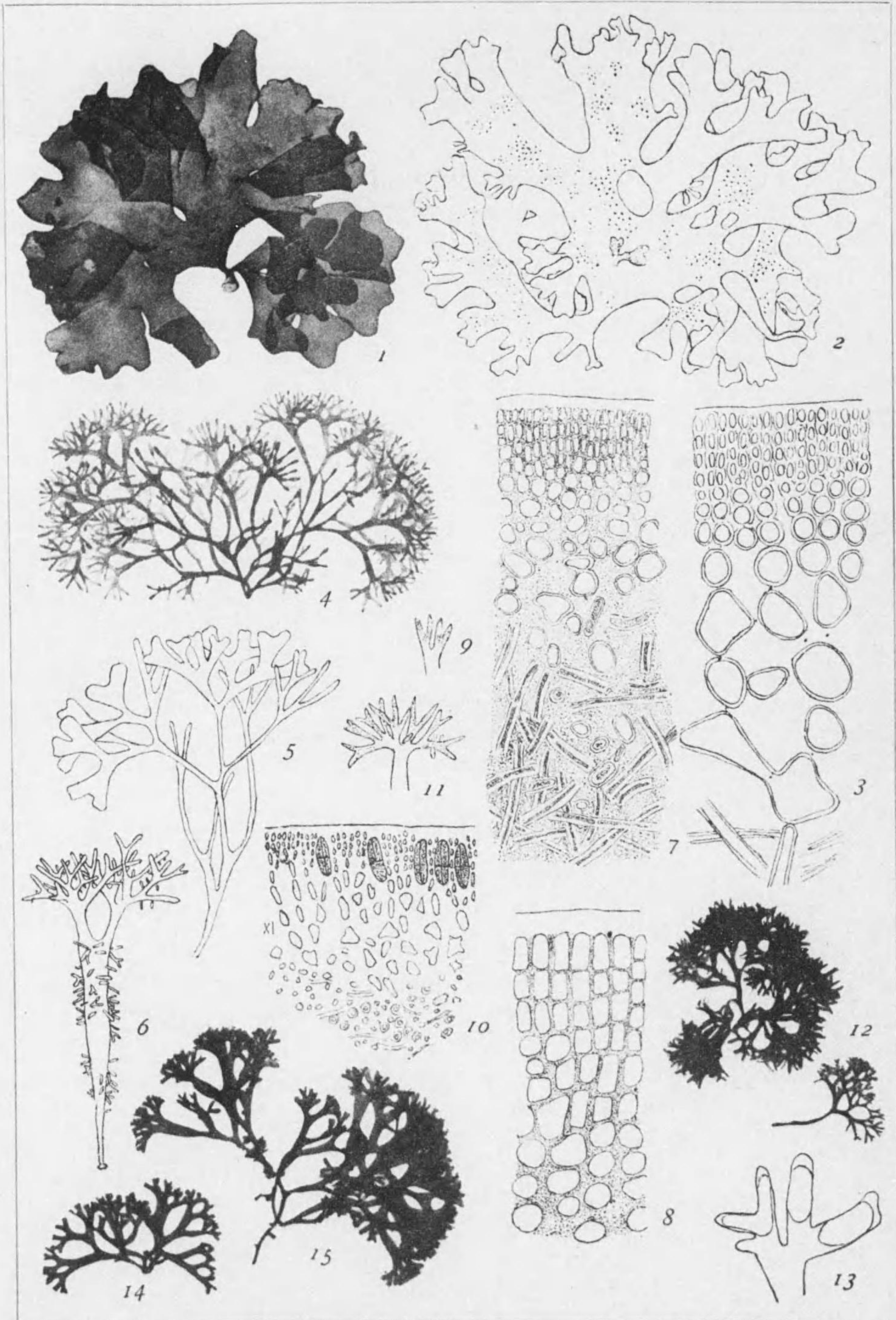
October 1934

TOKYO



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Grateloupia imbricata Holmes. さくらのり. Fig. 1-3.
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39-110

Grateloupia imbricata Holm.

Nom. Japon.: *Sakuranori*.

Pl. 316. fig. 1-3.

Grateloupia imbricata Holm. On Mar. Alg. from Japan (1895), p. 255, t. VIII, f. 2 a-b; De Toni Syll. Alg. IV, p. 1562; Okam. Nippon Sorui Me-i p. 109.

*Fronde*s shortly stipitate, flat, broadly cuneate at base, dichotomo-flabellate, with broadly cuneate, more or less imbricated segments, ending in sinuato-lobed or bifid apices. Fronds 6-10 cm high, 7-10 mm broad in segments, sometimes with minute proliferations from margins and surfaces. *Tetraspores* and *cystocarps* densely scattered all over the surfaces. Structure of frond that of the genus, but cortical moniliform filaments either loosely united or firmly coalesced, probably due to the external conditions of the surroundings. *Colour* purplish red or fading to pale greenish or yellowish, sometimes somewhat variegated. *Substance* soft cartilaginous rather gelatinous, and the plant more or less closely adhering to paper in drying.

Hab.: On rocks between tide marks; common along the Pacific and the Japan Sea; Chosen.

f. *flabellata* n. f. Segments narrower than the original species and not imbricated, flabelliform.

The form from the Japan Sea has more narrow and not imbricated segments than the plant of the Pacific coast, often resembling *Chondrus ocellatus* f. *crispus* Okam. (Icones VI, p. 85, Pl 292, f. 2-4).

Pl. 316, fig. 1-3: Fig. 1: Sterile frond of *Grateloupia imbricata* Holm., 1/1.—Fig. 2: Cystocarpic frond, 1/1.—Fig. 3: Portion of cross section of the frond, 500/1.

Carpopeltis affinis (Harv.) Okam. nov. nom.

Nom. Japon.: *Matsunori*.

Pl. 316, fig. 4-15.

Grateloupia affinis (Harv.) Okam. Contrib. to the Phycol. of Japan (Bot. Mag. Tokyo, VII, 1893, p. 67, t. V, f. III-V; Nippon Sorui Mei-i p. 106. *Gigartina affinis* Harv. Char. new. alg. C. Wright, n. 31.

Fronde densely cespitose forming roundish clusters, stipitate, linear, more or less subterete below, compressed above, many times dichotomoflabellate, patent, with upper segments more closely forked; segments more or less cuneate, slightly or sometimes definitely expanding beneath forks, with linear or expanded blunt apical segments, and with small proliferations sometimes from margins and surfaces. Frond attaining the height of 5-7 cm and the breadth of 2-5 mm. *Cystocarps* and *tetraspores* forming sorus beneath apex of terminal segments. Structure of frond that of the genus, having firmly coalesced, anticlinal, dichotomous rows of cortical cells, united so as to form parenchymatic tissue. *Colour* purplish red, often fading to pale green. *Substance* cartilaginous and the plant not adhering to paper in drying.

Hab.: On rocks between tide marks near high tide; widely found from Muroran to Kagoshima along the Pacific side and from the southern part as far north as Oshoro, Hokkaido, in the Japan Sea.

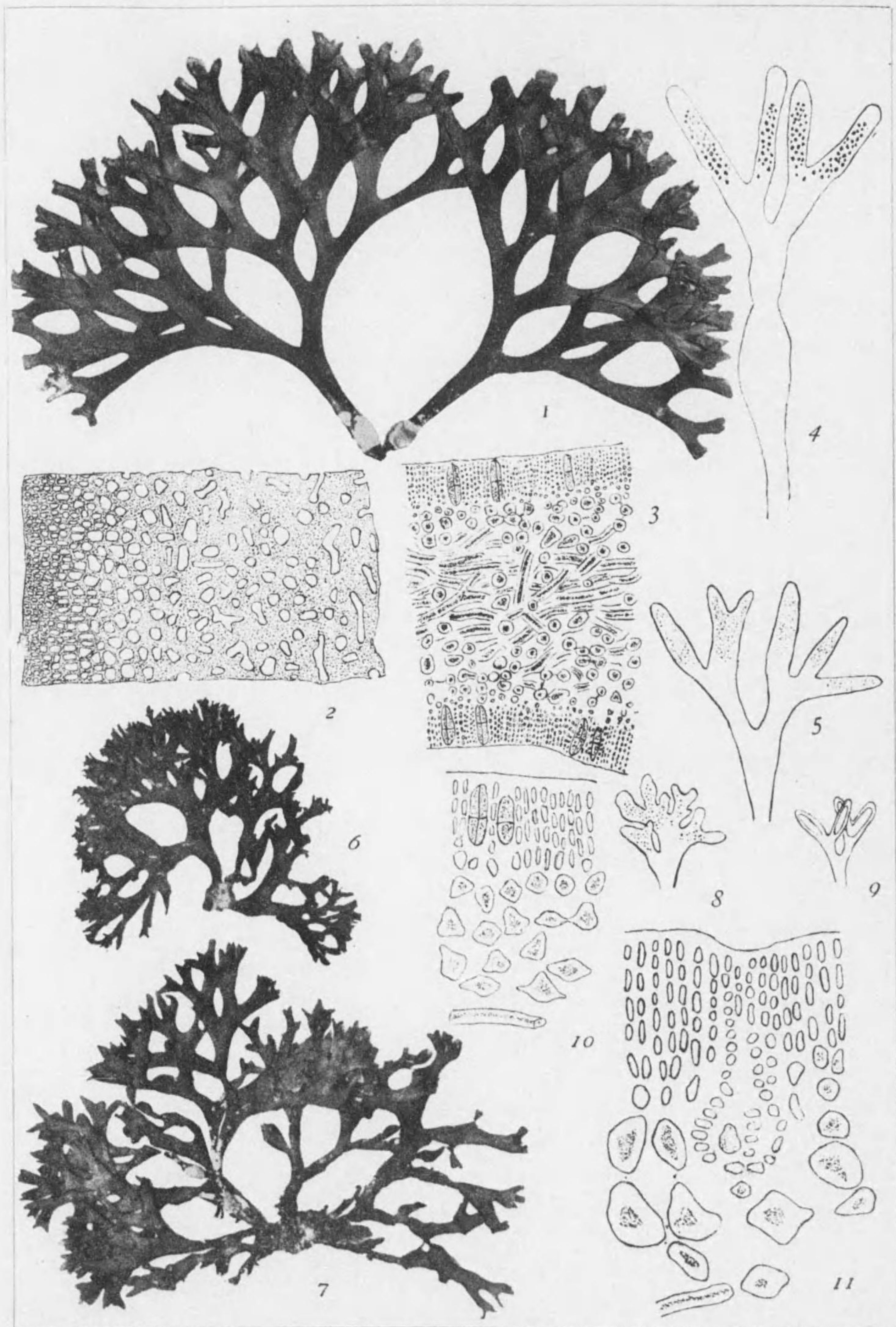
f. minuta Okam. nob. comb. Pl. 316, fig. 12-14.

Grateloupia japonica (*dichotoma* var?) Grun. in Holm. *l. c.* p. 259, t. XII, f. 4; Okam. Nippon Sorui Mei-i p. 107.—*G. acutiuscula* Grun. in Holm. *l. c.*, p. 259, t. XII, 5; Okam. *l. c.*

Frond dwarf, linear, flabellato-fastigiate, acute or blunt at apex, otherwise same as the original species.

Hab.: Prov. Kyusyu, Iyo; Rishiri, Hokkaido (Yendo herb).

f. minuta seems to me to be the minute form of *Carpopeltis affinis* mostly found in the southern or warmer parts of the country, chiefly in Shikoku and Kyusyu Islands.



Carpopeltis divaricata sp. nov. ひとつまつ. Fig. 1-5.
Carpopeltis crispata sp. nov. とさかまつ. Fig. 6-11.

Pl. 316, f. 4-15. Fig. 4: Sterile frond of *Carpopeltis affinis* (Harv.) Okam. from Hakodate, 1/1.—Fig. 5: Sterile frond with apical segments both dilated and non-dilated, 1/1.—Fig. 6 and 15: Different forms of fronds, 1/1.—Fig. 7: Portion of cross-section of cystocarpic frond, 500/1.—Fig. 8: Cortical portion of the same as fig. 7, 745/1.—Fig. 9: Apical segments with tetraspores, 1/1.—Fig. 10: Portion of cross section bearing tetraspores, magd.—Fig. 11: Apical segments bearing cystocarps, 1/1.—Fig. 12 and 14: Two fronds of *f. minuta* nov. comb., 1/1; 12 from Prov. Iyo; 14, from Yobuko, Kyushyu.—Fig. 13: Tetrasporic sori of the fronds shown in fig. 12, 7/1.

Carpopeltis divaricata Okam. nov. nom.

Nom. Japon.: *Hitotsu-matsu*.

Pl. 317, f. 1-5.

Grateloupia lata Okam. (partim.), and *Gr. affinis* var. *lata* Okam. (partim) (as syn. of *G. flabellata* Holm.) Okam. Nippon Sorui-Mei-i, p. 107. *Prionitis australis* (non J. Ag.) Yendo Notes on Alg. new to Japan. V, p. 263 (Bot. Mag., Tokyo, Vol. XXX, 1916 (partim)).

Diagn.: Fronds solitary or few coespitose, broadly linear, compressed, dichotomo-flabellate on one plane, patent, blunt or bifid; sori of tetraspores and cystocarps oblong beneath apex.

Descrip.: Fronds solitary or few cespitose, erect, cartilaginous, standing from a callous disc, very shortly stipitate, soon compressed above to more or less long linear basal portion of frond, branched to broadly linear, compressed, decompound, dichotomo-flabellate segments on one plane, ending in bifid or blunt apex. Lower forks more or less distant, gradually parting closer above with patent and round axils, with entire margins. Frond attaining the height of 8-12 cm with the breadth of 3-5 mm. *Tetraspores* and *cystocarps* forming oblong sorus beneath apex. *Colour* deep purplish red often fading to pale greenish or yellowish. *Substance* rigid cartilaginous, and the plant not adhering to paper in drying.

Hab.: On rocks between tide marks in crevices where waters rush in; Pov. Ki-i, Shima, Idzu, Sagami, Bosyu.

Pl. 317, fig. 1-5. Fig. 1: Sterile frond of *Carpopeltis divaricata*, Okam. nov. nom., 1/1.—Fig. 2: Cross section of frond, 500/1.—Fig. 3: Tetrasporic sori, 7/1.—Fig. 4: Cross section of tetrasporic sorus, 200/1.—Fig. 5: Cystocarpic sori, 7/1.

Carpopeltis crispata Okam. nov. nom.

Nom. Japon.: *Tosaka-matsu*.

Pl. 317, f. 6-11.

Grateloupia lata Okam. (partim), and *G. affinis* var. *lata* (partim) Okam. Nippon Sorui-Mei-i, p. 107. *Prionitis australis* (non J. Ag.)? Yendo Notes on alg. new to Japan, V, p. 263 (Bot. Mag. *l. c.*) (partim).

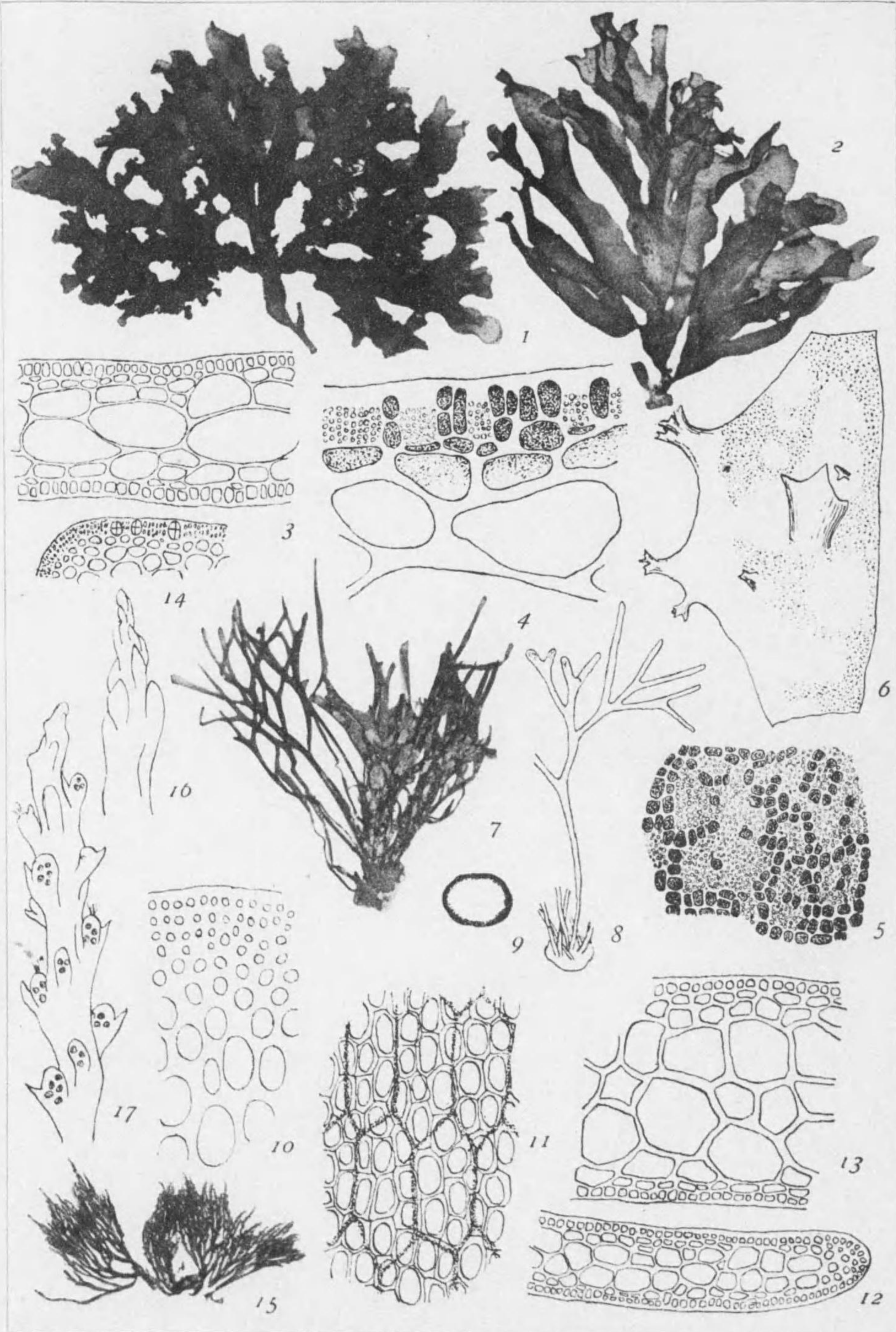
Diagn. Fronds forming hemispherical tuft, rigid cartilaginous, broadly linear, compressed, dichotomo-decompound, flabellate, crisped, ending in bifid or blunt apex; *tetraspores* and *cystocarps* collected beneath apex.

Hab.: On rocky shores and in tide pools on those shores where waters break; Prov. Ise, Sagami, Bosyu.

Fronds densely cespitose, forming hemispherical tuft, rigid cartilaginous, standing from callous disc, very shortly stipitate, soon compressed above to short basal portion of linear frond, branched to broadly linear, flabellately dichotomo-decompound, crisped segments, ending in bifid or roundish apex. Frond attaining 4-6 cm in height, with the breadth of 2-3 mm. *Tetraspores* and *cystocarps* collected beneath apex. Colour purplish red, often fading to pale green or yellowish. Plant not adhering to paper in drying.

Plant closely resembles *Carpopeltis divaricata* Okam. from which it is often difficult to distinguish, except at natural habitat, though the present plant somewhat differs in clustered and crisped habit, and in rather smaller size from the allied species. The present plant prefers rocky shores where waters break, while *C. divaricata* Okam. stands in crevices where water rushes in.

Pl. 317, fig. 6-11. Fig. 6-7: Two cystocarpic fronds of *Carpopeltis crispata* Okam. from Misaki, 1/1.—Fig. 8: Cystocarpic sori, 1/1.—Fig. 9: Tetra-



Rhodymenia spinulosa sp. nov. とげいつとぎぬ. Fig. 1-6.
 Rhodymenia liniformis sp. nov. ほそだるす. Fig. 7-14.
 Acanthopora Aokii sp. nov. ひめとげのり. Fig. 15-17.

sporic sori, 1/1.—Fig. 10: Portion of cross section of tetrasporic frond, 240/1.
 —Fig. 11: Auxiliary cell, 500/1.

Rhodymenia spinulosa sp. nov.

Nom. Japon.: *Toge-itsutsuginu*.

Pl. 318, fig. 1-6.

Diagn.: Fronds membranaceous, irregularly dichotomo-flabellate, with erecto patent, broadly linear segments, slightly undulato-crisped, with minute spinules at margins; tetraspores dispersed over surfaces forming cloud-like sori; antheridial crypts densely scattered over surfaces.

Hab.: Tainan, Taiwan (Aoki).

Descr.: Only two herbarial specimens before us. Fronds membranaceous, rather thickish (about 300 μ), erect, standing on a small scutate disc, shortly stipitate, irregularly dichotomo-flabellate, with erecto-patent segments, slightly undulato-crisped and somewhat canaliculated, furnished with minute spinules which arise from margins and often from intra-marginal surfaces. Small roundish spots viewed insignificantly scattered over the surface on upper portion of frond. Frond internally consisting of mostly one or two layers of almost empty larger cells surrounded by one or two layers of cortical cells, 6-7 cm high, 7-8 mm broad. Colour purplish red with a little rosy tint. Substance membranaceous and the plant imperfectly adheres to paper in drying except thicker older ones.

The present plant shows a close affinity with *Rhodymenia punctata* Okam. (Icones Vol. VI, n. 2, p. 13, pl. 258), from which it differs in having marginal spinules.

Pl. 318, fig. 1-6. Fig. 1: Tetrasporic frond of *Rhodymenia spinulosa* sp. nov., 1/1.—Fig. 2: male frond; 1/1.—Fig. 3: Cross section of the frond, 100/1.—Fig. 4: Cross section of frond bearing antheridial crypts, 500/1.—Fig. 5: Surface view of the frond bearing antheridial crypts, 245/1.—Fig. 6: Marginal portion of frond having tetrasporic sori, 14/1.

Rhodymenia liniformis sp. nov.

Nom. Japon.: *Hosodarusu*.

Pl. 318, fig. 7-14.

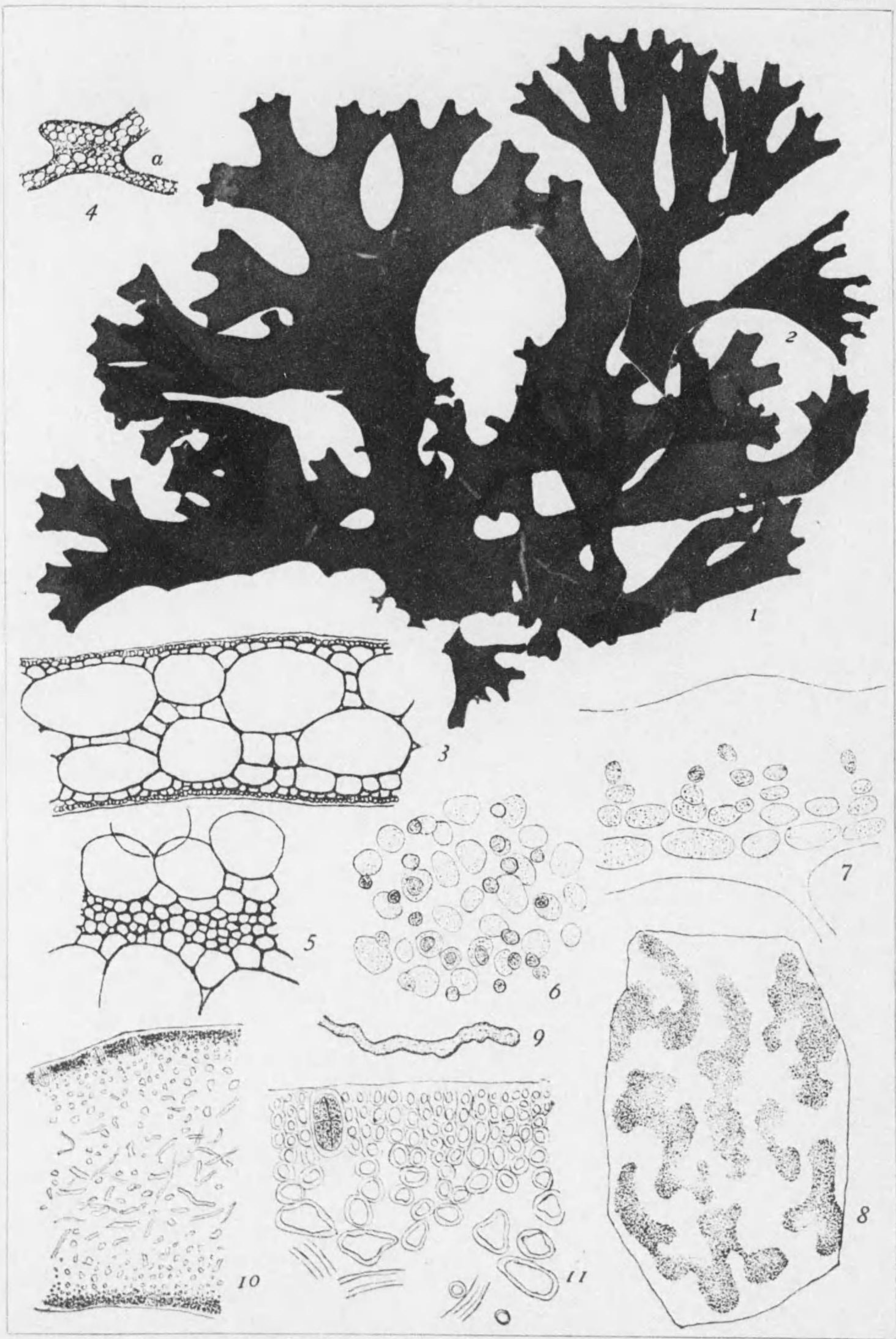
Diagn.: Fronds narrow linear, compressed, flat, decomposito-dichotomous, having cuneate outline, with segments slightly dilated cuneately beneath forks; *tetraspores* forming roundish sorus beneath apex.

Hab.: Cast up ashore, perhaps in deeper waters; rare; Enoshima.

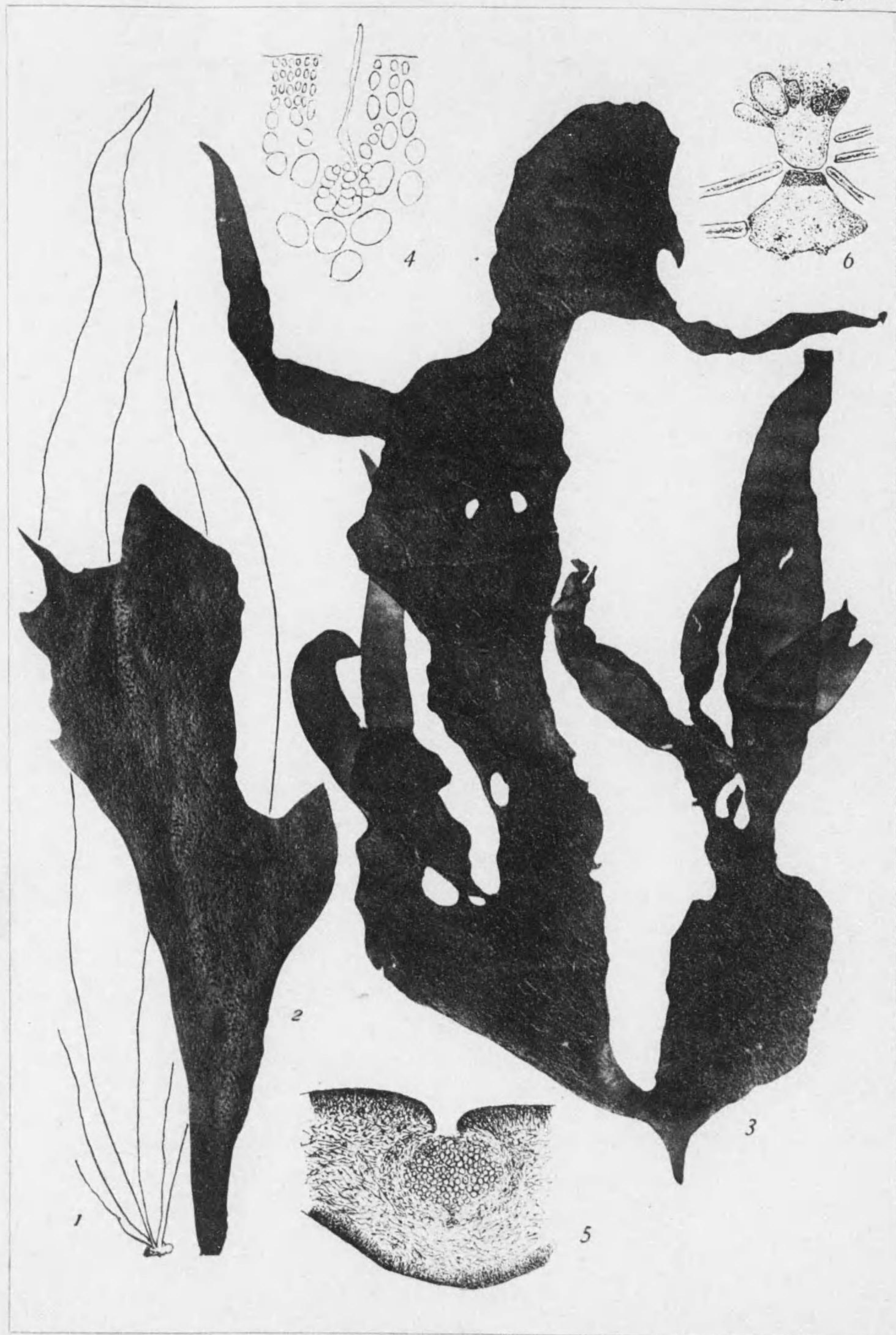
Descr.: Fronds few cespitose, rising from broadly roundish scutate disc, with elongated subcylindrical stem, narrow-linear, compressed, flat, decomposito-dichotomous, ending in blunt apex; segments slightly widened in cuneate manner beneath forks, with patent axils, and general outline of the frond rather cuneate. Plant 5-6 cm high, 1-2 mm broad with the thickness of 150-180 μ with diameter of stem *ca* 1 mm. Fronds internally consisting of 2-3 layers of polygonal cells with thick wall, covered by one or two layers of cortical and infra-cortical cells. Surface cells longitudinally arranged and the inner cells disposed in similar manner as seen through the cortical layer. Cortical portion of stem made of very many layers of thick walled cells. *Tetraspores* forming semicircular sorus beneath apex. *Colour* faded to yellowish red in drying. *Substance* submembranaceous except stem which is more cartilaginous.

Plant belonging under the section *Palmetteae* De Toni in the vicinity of *R. Palmetta* or *R. ligulata*.

Pl. 318, fig. 7-14. Fig. 7: Tetrasporic fronds of *Rhodymenia liniformis* sp. nov., 1/1.—Fig. 8: One of the fronds detached, 1/1.—Fig. 9: Cross section of stem, 14/1.—Fig. 10: Portion of cross section of stem, 245/1.—Fig. 11: Surface view of frond, with the longitudinal arrangement of cells of the inner layer viewed through the surface, 500/1.—Fig. 12-13: Cross section of frond; 12, 100/1; 13, 240/1.—Fig. 14: Portion of cross section of tetrasporic sorus near the left corner, 100/1.



Rhodymenia adnata sp. nov. かさねいつとぎぬ. Fig. 1-7.
 Cyrtymenia sparsa sp. nov. ひぢりめん. Fig. 8-11.



Cyrtomenia sparsa sp. nov. ひぢりめん

Acanthophora Aoki sp. nov.

Nom. Japon.: *Hime-togenori*.

Pl. 318, f. 15-17.

Diagn.: Fronds minute, erect, filiform, cylindrical, dichotomo-alternate, erecto-fastigiata, naked below in stem and main branches, tapering toward the apex, spirally surrounded by very minute spine-like ramuli; *stichidia* globular, oblong, formed on the apex of ramulus, armless or sometimes furnished with a single or rarely two, short spines.

Hab.: Tainan, Taiwan (Aoki), Kôtdôsho (K. Segawa).

Descr.: Fronds dwarf, 2-2.5 cm high, erect, filiform or cylindrical, about 0.5 mm thick below, gradually narrowing toward apex, dichotomo-alternate, erecto-fastigiata, naked below in stem and main branches, surrounded spirally with very short spine-like ramuli. *Stichidia* ovato-globose or little oblong, formed on the apex of ramulus or sometimes furnished with a single and simple spine, rarely with two. *Colour* purplish red. *Substance* membranaceous and the plant firmly adheres to paper in drying.

When sterile the apical portion of branches appears like a young shoot of *Asparagus* having adpressed ramulus arising from a furrow. When there is only one spine, stichidium appears as if arising from its axil.

A distinct species having some affinity with *Acanthophora muscoides*.

Pl. 318, f. 15-17. Fig. 15: Fronds of *Acanthophora Aoki* sp. nov., 1/1.—Fig. 16: Apical portion of frond, 12/1.—Fig. 17: Apical portion of branch bearing stichidia, 14/1.

Rhodymenia adnata sp. nov.

Nom. Japon.: *Kasané-itsutsuginu*.

Pl. 319, f. 1-7.

Diagn.: Fronds flat membranaceous, thickish, sessile, decumbent, attaching to the substratum and to each other by forming adhesive discs from the surface, many times dichotomo-fiabellate, standing on patent and

round axils, with upper lacineae erecto-patent, ending in bifid apex; margin entire, often with proliferated segments; *antheridial crypts* densely scattered; *tetraspores* and *cystocarps* unknown.

Hab.: In deeper waters; Gulf of Tateyama.

Descr.: *Fronds* flat membranaceous, thickish, sessile, decumbent, attaching to the substratum by forming adhesive discs from the surface, or uniting to each other by union of cortical layers; segments many times dichotomo flabellate on patent and round axils, with upper lacineae often erecto-patent, ending in bifid apex. Margin entire, often with proliferated lobes. Young *antheridial crypts* densely scattered over the surface. *Tetraspores* and *cystocarps* unknown. *Colour* light purplish red often variegated with pale yellowish tint. *Substance* membranaceous and the plant closely adheres to paper in drying.

Plant closely resembling *Rhodymenia cuneifolia* Okam. (Notes on algae dredged from the Pacific Coast of Tiba Pref.¹⁾ p. 16, Pl. VII, from which it differs in having adhesive habit. Further, the present plant differs from that by being rather narrower and in the colour of frond.

Pl. 319, fig. 1-7. Fig. 1: Antheridial frond of *Rhodymenia adnata* sp. nov., 1/1.—Fig. 2: Apical portion of another frond, 1/1.—Fig. 3: Portion of cross section of frond, 40/1.—Fig. 4: Two fronds united together by adhesion of cortical layers, 7/1.—Fig. 5: United portion of the two fronds, 120/1.—Fig. 6: Surface view of young antheridial crypts, 500/1.—Fig. 7: Cross section of the same as fig. 6, 500/1.

***Cyrtymenia sparsa* sp. nov.**

Nom. Japon.: *Hizirimen*.

Pl. 319, f. 8-11; Pl. 320.

Diagn.: *Fronds* thin leathery, broadly lanceolate, shortly stipitate, even at surface at beginning, becoming more or less rugose when fertile; *tetraspores* and *cystocarps* densely scattered over the surface; *cystocarps*

1) Records Oceanogr. Works in Japan, Vol. VI, No. 1, 1934.

dot-like, without definite order, with large nucleus half immersed in medullary layer, with reticular investment.

Hab.: On rocks between tide marks; Onahama.

Descr.: *Fronds* narrow-lanceolate at beginning, tapering to both ends, rarely remaining in simple broadly lanceolate form with round base, furnished with short stem, more usually becoming broadly expanded, irregularly lobed and proliferated, with similarly shaped lobes. Frond attaining 30 cm or more in length and 3-7 cm in breadth. Surface even and smooth when young, but when fertile becoming more or less densely rugose, having tetraspores and cystocarps evenly scattered over the surface. *Cystocarps* dot-like arranged without definite order. Nucleus large, and half immersed to the medullary layer with reticular investment. *Colour* atropurple or vinosus, turning to darker with vernish-like shining luster. *Substance* thin leathery and the plant closely adheres to paper in drying.

Present plant is quite similar to *Cyrtymenia hieroglyphica* J. Ag. in external habit, from which, however, it differs by not having linear arrangement of group of cystocarps.

Pl. 319, fig. 8-11. Fig. 8: Surface view of rugose frond of *Cyrtymenia sparsa* sp. nov., bearing tetraspores, 7/1.—Fig. 9: Cross section of the same frond as fig. 8, 11/1.—Fig. 10: Portion of the same magnified, 100/1.—Fig. 11: Cross section of frond to show the cortical structure and tetraspore, 240/1.

Pl. 320. Fig. 1: Young fronds, 1/1.—Fig. 2: Portion of cystocarpic frond (3-7 × 30 cm), 1/1.—Fig. 3: Tetrasporic frond with densely rugose surface, 1/1.—Fig. 4: Carpogonium, 500/1.—Fig. 5: Portion of cross section of frond bearing cystocarps, 200/1.—Fig. 6: Placental cell, 200/1.

Grateloupia imbricata Holm.

さくらのり

第316圖, 1-3圖.

體ハ短莖ヲ有シ, 扁平, 基部廣キ楔形ヲナシ, 叉狀様一扇狀ニ分岐シ, 各部ハ廣キ楔形ニシテ多少重疊シ, 波狀ニ分裂又ハ二裂シタル頂端ヲ有ス. 體ハ高サ 6-10 cm, 幅 7-10 mm, 時ニ兩縁及ビ表面ヨリ小副枝ヲ存ス. 四分胞子及ビ囊果ハ密ニ體ノ表面ニ散在ス. 體ノ構造ハ屬ノ性質ヲ有スレドモ, 念珠狀ニ連ナレル皮層絲ハ緩ク結合スルカ又ハ固ク固着ス, 其斯クノ如クナルハ蓋シ周圍ノ狀況ニ因ルモノナラン. 色ハ紫紅色ニシテ淡綠色又ハ稍黃色ニ變ジ時トシテハ稍斑狀ヲ呈ス. 質ハ柔キ軟骨様ニシテ, 稍粘質ヲ帶ビ, 乾燥スルトキハ多少密ニ紙ニ附着ス.

產地: 潮線間ノ岩礁ニ在リ; 紀伊, 志摩, 伊豆, 相模, 房州, 犬吠崎.

f. *flabellata* 各部狭クシテ重疊セズ, 扇狀ニ分岐シ開張ス.

體形往々 *Chondrus ocellatus* f. *crispus*, とちやか, ニ類ス.

產地: 日本海沿岸, 但馬竹野, 能生, 氷見, 唐島.

第316圖版, 1-3圖. 1: *Grateloupia imbricata* Holm., さくらのり, ノ中性ノ體, 1/1.—2: 囊果アルモノ, 1/1.—3: 體ノ横断面ノ一部, 500/1.

Carpopeltis affinis (Harv.) Okam.

まつのり又てんぼそ

第316圖版, 4-15圖.

體ハ密ニ叢生シテ團塊ヲナシ, 莖ヲ有シ, 線狀ニシテ下部多少圓柱狀ヲナシ, 上部扁壓シ數回叉狀様扇狀ニ分岐シ, 廣開シ, 上部ニ移ルニ從テ漸次接近シテ分岐ス, 各部ハ多少楔形, 僅ニ又ハ時トシテ明ニ分岐點ノ下ニ擴ガリ, 上部ハ線狀又ハ擴ガリタル部分ヲナシ, 鈍頭ニ終リ, 兩縁及ビ兩面ヨリ時トシテハ小サキ副枝ヲ出ス. 體ノ高サ 5-7 cm 幅 25 mm アリ. 囊果及ビ四分胞

子ハ頂端ノ下ニ群生ス。體ノ構造ハ屬ノ性質ニ同ジク、皮層細胞ノ表面ニ直角ニ連ナレル又狀ノ列ハ固ク固着シテ宛モ parenchyma 組織ノ如ク成レリ。色ハ紫紅色、往々淡綠色ヲナス。質ハ軟骨質ニシテ體ハ乾燥スルトキハ紙ニ附着セズ。

產地：高潮線ニ近ク潮線間ニ在リ；鹿兒島灣、長崎、福岡、小倉、對馬、伊豫、紀伊、伊豆、房、總、相、常、福島、宮城、岩手、青森、函館、室蘭；萩、越中唐島、越後、秋田、龍飛、淺虫、渡島、忍路、朝鮮清津。

f. *minuta* n. f. 體ハ矮小、線狀、扇狀ニ分岐シ、直立廣開シ、頂端尖リ又ハ鈍頭ナリ。

產地：肥後、野母、茂木、志賀島、呼子、唐津、臼杵、伊豫；北海道利尻島(遠藤)。

f. *minuta* ハ *Carpopeltis affinis* ノ小形ノ體ニシテ專ラ南方暖海ニ産シ概ネ四國及ビ九州ニ在リ。

第 316 圖版、4-15 圖。4: *Carpopeltis affinis* (Harv.) Okam., まつのりノ體(函館産), 1/1.—5: 頂端ノ擴ガレルモノト否ヲザルモノトフーツノ體ニ有スルモノ, 1/1.—6, 15: 種々ノ形態, 1/1.—7: 囊果アル體ノ横斷面ノ一部, 500/1.—8: 7 圖ト同ジモノノ皮部, 745/1.—9: 四分胞子ヲ有スル頂部, 1/1.—10: 四分胞子ヲ有スル横斷面ノ一部, 廓大.—11: 囊果ヲ有スル頂部, 1/1.—12, 14: f. *minuta* ノ 2 個體, 1/1; 12, 伊豫産; 14, 呼子産.—13: 12 圖ニ示シタル體ノ四子胞子群, 7/1.

Carpopeltis divaricata Okam. 新種

ひとつまつ 岡村稱

第 317 圖版、1-5 圖

性質：體ハ單獨又ハ僅ニ叢生シ、廣キ線狀ニシテ硬キ軟骨質、扁壓、又狀様扇狀ニ同一面上ニ擴ガリ、廣開シ、枝端鈍圓又ハ二裂ス；四分胞子及ビ囊果ハ頂端下ニ長楕圓形ノ群ヲナス。

產地：潮線間ノ岩礁ニアリテ岩ノ裂罅ノ如キ波浪ノ激スル所ニ在リ；紀伊、志摩、伊豆、相模、房、總。

體ハ單獨又ハ數莖僅ニ叢生シ、軟骨質、殼狀根ヨリ直立シ、極メテ短キ莖ヲ

有シ、直ニ上部扁壓シ、體ノ多少長キ下部トナリ、上部ハ廣キ線狀ニシテ扁壓セル複又狀扇狀ニ分岐セル部分トナリ、二裂セル又ハ鈍頭ナル頂端ヲ爲ス。下部ノ分岐ハ多少距リ上方ニハ漸次接近シ、各部廣開シ圓キ腋ヲ以テ立チ、縁邊平坦ナリ。體ノ高サ 8-12 cm., 幅 3-5 mm. アリ。四分胞子及ビ囊果ハ頂端下ニ長楕圓形ノ群ヲナス。色ハ紫紅色、往々淡綠又ハ黃色ヲナス。質ハ硬キ軟骨質ニシテ體ハ乾燥スルトキハ紙ニ附着セズ。一和名ハ三階松ノ一ニ類スル故ニ名ヅク。

第 317 圖版、1-5 圖。1: *Carpopeltis divaricata* Okam., ひとつまつ、ノ實ナキ體, 1/1.—2: 體ノ横斷面, 500/1.—3: 四分胞子群, 7/1.—4: 四分胞子群ノ横斷面, 200/1.—5: 囊果ノ群, 7/1.

Carpopeltis crispata Okam. 新種

とさかまつ 岡村稱

第 317 圖版、6-11 圖。

性質：體ハ半球狀ノ團塊ヲナシテ叢生シ、硬キ軟骨質ニシテ、廣キ線狀ヲナシ、扁壓、複又狀様扇狀ヲナシ、捻レ、頂端二裂シ又ハ鈍頭ナリ；四分胞子及ビ囊果ハ頂端下ニ密集ス。

產地：波浪ノ打チテ壞ル、潮線間ノ岩盤又ハ其處ニアル潮溜リニ在リ；和具、三崎、安房。

體ハ密ニ叢生シテ半球狀ノ團塊ヲナシ又ハ數莖疎ニ立チ、軟骨質ニシテ硬ク、殼狀根ヲ以テ附着シ、甚ダ短キ莖ヲ有シ、上部直ニ扁壓シテ線狀ノ短キ基部トナリ、上方ニハ廣キ線狀ノ複又狀様扇狀ニ分岐シ、捻レテ各方面ニ向キ、頂端二裂又ハ圓形ヲナス。體ノ高サ 4-6 cm., 幅 2-3 mm. アリ。四分胞子及ビ囊果ハ頂端下ニ密集ス。色ハ紫紅色、往々淡綠又ハ黃色トナル。體ハ乾燥スルトキハ紙ニ附着セズ。

本種ハ *Carpopeltis divaricata* Okam., ひとつまつ、ニ酷似シ現場以外措葉ニテハ往々區別スルコト困難ナリ；尤モ本種ハ團塊ヲナスコトト、枝捻テ

レテ各方面ニ向クコト並ニ稍小形ナルトヲ以テ之ト區別スルヲ得ベシ。本種ハ波浪ノ打チテ壞ル、岩盤及ビ其所ニアル潮溜リニ在レドモ、ひとつまつの裂罅ノ如キ浪ノ強キ所ヲ好ム。

第317圖版, 6-11圖. 6-7: *Carpopeltis crispata* Okam., とさかまつ, ノ囊果アル體(三崎産).
—8: 囊果ノ群, 11. —9: 四分胞子群, 1/1. —10: 四分胞子ヲ有スル體ノ横断面, 240/1. —11: 助細胞, 500/1.

Rhodymenia spinulosa 新種

とげいつゝぎぬ 岡村稱

第318圖版, 1-6圖

性質. 體ハ膜質, 不規則ニ又狀様扇狀ニ分岐シ, 直立廣開セル廣キ線狀ノ枝ヲ有シ, 枝ハ少シク波狀ニウネリ又ネヂレ, 縁邊ニ小刺ヲ存ス; 四分胞子ハ雲狀ノ群ヲナシテ表面ニ散在ス; 精子窠モ同様密ニ表面ニ散布ス。

產地: 臺南(青木)

記載: 今唯指葉品2個アルノミ。體ハ膜質稍厚味アリ(約300 μ), 直立シ, 小圓盤狀附着器ヲ有シ, 短莖アリ, 不規則ニ又狀-扇狀ニ分岐シ, 各部直立廣開シ, 少シクウネリ, 縮レ, 溝狀ニ反リ, 縁邊ヨリ並ニ往々縁邊ニ近キ表面ヨリ小刺ヲ出ス。體ノ上部ノ表面ニ不判明ナル小サキ圓キ斑點散在ス。體ハ高サ6-7 cm, 幅7-8 mm; 内部ハ大抵1-2層ノ殆ンド空虚ナル大ナル細胞ヨリ成リ, 兩面ニ1-2層ノ皮層細胞ヲ以テ蔽ハル。四分胞子ハ雲狀ノ集リヲ作リテ表面ニ散在ス。精子窠ハ兩面ニ密ニ散布ス。色ハ紫紅色ニシテ稍薔薇色ヲ含ム。質ハ稍厚キ膜質ニシテ乾燥スルトキハ紙ニ附着スルコト密ナラズ。

本種ハ *Rhodymenia punctata* Okam., といつゝぎぬ, (VI, 258圖版)ト密ナル類縁ヲ有スレドモ縁邊ニ小刺アルヲ以テ異ナリトス。

第316圖版 1-6圖. 1: *Rhodymenia spinulosa* 新種, ノ四分胞子ヲ有スル體, 11. —2: 雌性體, 1/1. —3: 體ノ横断面, 100/1. —4: 精子窠ヲ有スル體ノ横断面, 500/1. —5: 同上ノ表面, 245. 1. —6: 四分胞子群ヲ有スル體ノ縁邊部, 14/1.

Rhodymenia liniformis 新種

ほそだるす 岡村稱

第318圖版, 7-14圖.

性質. 體ハ狭キ線狀ニシテ扁壓, 扁平, 複又狀ニ分岐シ楔形ノ輪廓ヲナシ, 各部ハ分岐點ノ下ニ少シク楔形ニ擴ガル; 四分胞子ハ頂端下ニ圓形ノ群ヲナス。

產地: 打揚ゲ, 多分深所ニ産スルナルベシ, 稀ナリ; 相模江ノ島。

記載: 體ハ數莖叢生シ, 廣キ圓盤狀根ヨリ立ち, 長キ稍圓柱狀ノ莖ヲ有シ, 狭キ線狀ニシテ, 扁壓扁平複又狀ニ分岐シ, 鈍頭ニ了ル; 枝ハ分岐點ノ下ニ僅ニ擴ガリ, 廣開シ, 全體ノ輪廓ハ寧ロ楔形ナリ。體ハ高サ5-6 cm, 幅1-2mm, 厚サ150-180 μ ニシテ莖ノ直徑ハ約1mmアリ。體ハ内部厚キ膜ヲ有スル多角形ノ2-3細胞ノ層ヨリ成リ, 皮層及ビ1-2層ノ皮下層細胞ヲ以テ蔽ハル。表面ヨリ見ルニ細胞ハ縦ニ並ビ, 内部ノ細胞モ表面ヲ透シテ見ルニ亦同様ニ並ブ。莖ノ皮部ハ厚キ膜ヲ有スル多數ノ細胞ノ層ヨリ成ル。四分胞子ハ頂端下ニ半月形ノ群ヲナス。

本種ハ *Section Palmettae* De Toni ニ入ルベク *Rhodymenia Palmetta* 若クハ *R. ligulata* ノ附近ニ置カルベシ。

第318圖版, 7-14圖. 7: *Rhodymenia liniformis* 新種, ほそだるす, ノ四分胞子ヲ有スル體, 1/1. —8: 體ノ一ヲ離シタルモノ, 1/1. —9: 莖ノ横断面, 14/1. —10: 同上ノ一部, 245/1. —11: 體ノ表面觀ニシテ, 皮層ヲ透シテ見タル内部細胞ノ縦列スルヲ示ス, 500/1. —12-13: 横断面; 12, 100/1; 13, 240/1. —14: 四分胞子群ヲ有スル枝ノ左ノ隅ノ断面, 100/1.

Acanthophora Aokii 新種

ひめとげのり 岡村稱

第318圖版, 15-17圖

性質. 體ハ小ニシテ, 直立, 線狀-圓柱狀, 又狀-互生シ, 枝ハ束狀ニ直立シ

莖及ビ主枝ノ下部ハ枝ナク,先端ノ方ニ細ク,極メテ小ナル刺狀小枝ヲ螺旋狀ニ存ス;四分胞子托ハ球狀-長楕圓形ニシテ小枝ノ頂端ニ作ラレ無刺又ハ時ニ1個稀ニ2個ノ短キ刺ヲ存ス.

產地:臺南(青木),紅頭嶼(瀬川孝).

體ハ矮小,2-2.5 cm 高ク,直立シ,絲狀-圓柱狀,下部約 0.5 mm 太ク,漸次頂端ノ方ニ細ク,又狀様互生シ,直立狀ニ集リテ分岐シ,莖及ビ主枝ノ下部枝ナク,甚短キ刺狀小枝ヲ以テ螺旋狀ニ圍マル.四分胞子托ハ球狀,卵形乃至少シク長楕圓形ニシテ小枝ノ頂端ニ形成セラレ時ニ1個單條ノ刺ヲ存シ稀ニ2個ヲ存ス.色ハ紫紅色.質ハ膜質ニシテ乾燥スルトキハ紙ニ密着ス.

中性ノ體ニ於テハ枝ノ頂端ハ宛モ Asparagus ノ新芽ノ如キ觀ヲ呈シ小サキ窪ミヨリ出ル小枝ハ密ニ莖ニ接シテ相重疊ス.四分胞子托ハ若シ唯1個ノ刺ヲ有スルトキハ宛モ刺ノ腋ヨリ出ル如ク見ユ.

Acanthophora muscoides ノ近所ニ置カルベキ明ナル一新種ナリ.

第 318 圖版,15-17 圖. 15: Acanthophora Aokii, ひめとげのり, ノ體, 1/1.—16: 體ノ頂部, 12/1.—17: 四分胞子托ヲ有スル枝ノ頂點, 14/1.

Rhodymenia adnata 新種

かさねいつゝぎぬ 岡村稱

第 319 圖版,1-7 圖

性質. 體ハ扁平,膜狀,稍厚ク,無柄,傾臥シ,表面ヨリ盤狀附着器ヲ以テ他物ニ附着シ,又互ニ接着ス,數回又狀-扇狀ニ分岐シ,廣開セル圓キ腋ヲ以テ立ち,上部ノ裂片ハ二裂シ又ハ直立廣開ス;縁邊全縁,往々副枝ヲ存ス;精子窠ハ密ニ表面ニ散布ス;四分胞子及ビ嚢果ハ知ラレズ.

產地:深所ニ産ス;館山灣.

體ハ扁平,膜質,稍厚ク,無柄ニシテ表面ヨリ盤狀附着器ヲ作リテ他物ニ附着シ,傾臥シテ斜上ス,又皮層ノ癒合ニヨリテ互ニ附着ス;枝ハ數回又狀様

扇狀ニ廣開シ,腋圓ク,上部ノ裂片ハ往々直立-廣開シ頂端ニ裂ス;縁邊全縁,往々小裂片ヲ副出ス.幼キ精子窠ハ密ニ體ノ表面ニ散在ス.四分胞子及ビ嚢果ハ知ラレズ.色ハ淡紫紅色ニシテ往々淡黃色ヲ以テ斑ノ如ク成レリ.質ハ膜質ニシテ乾燥スルトキハ密ニ紙ニ附着ス.

本種ハ Rhodymenia cuneifolia Okam. (Notes on Alg. dredged from the Pacif. coast of Tiba Pref., p. 16, Pl. VII) ニ酷似スト雖モ互ニ附着スル性質ヲ有スルヲ以テ之ト異ナリトス.又本種ハ該種ヨリハ幾分幅狭ク色亦彼ノ如ク鮮紅色ナラズ.

第 319 圖版,1-7 圖. 1: Rhodymenia adnata 新種,かさねいつゝぎぬ,ノ精子アル體,1/1.—2: 別ノ體ノ頂部,1/1.—3: 體ノ横斷面ノ一部,40/1.—4: 皮層ノ癒着ニヨリ互ニ接着シタル 2 個體,7/1.—5: 2 個體ノ癒着シタル部分,120/1.—6: 幼キ精子窠ノ表面觀,500/1.—7: 幼キ精子窠ノ横斷面,500/1.

Cyrtymenia sparsa 新種

ひぢりめん 岡村稱

第 319 圖版,8-11 圖; 320 圖版

性質. 體ハ薄キ革質ニシテ廣キ披針狀ヲナシ,短莖ヲ有シ,始メ表面平滑ニシテ實ヲ結ブニ到レバ多少皺ヲナス;四分胞子及ビ嚢果ハ密ニ表面ニ散在ス;嚢果ハ點狀ニシテ一定ノ規則ナク散在シ,仁ハ大ニシテ半ハ髓層中ニ埋マリ,網狀組織ヲ以テ圍繞セラル.

產地:潮線間ノ岩盤ニ在リ;小名濱.

體ハ初メ細長キ披針狀ニシテ兩端ニ細ク,後迄罕ニ單條ニシテ廣キ披針狀ヲナシ基部圓ク短莖ヲ有スル形ニ止マレドモ,大抵ハ廣ク擴ガリテ不規則ニ分裂シ又同様ノ形セル裂片ヲ副出ス.體ノ高サ 30 cm 又ハ夫以上ニ達シ幅 3-7 cm アリ.表面ハ幼時ハ平滑ナレドモ,實ヲ熟スルニ到レバ多少密ニ皺ヲ生ジ,密ニ表面ニ散在セル四分胞子及ビ嚢果ヲ生ズ.嚢果ハ點狀ニシ

テ一定ノ規則ナク散布ス。仁ハ大ニシテ半ハ髓層ニ埋マリ網狀組織ヲ以テ
圍繞セラレ。色ハ濃キ紫紅色又ハ葡萄紅ニシテ後稍黒味ヲ帯ビ漆ノ如キ強
キ光澤ヲ存ス。質ハ薄キ鞣革ノ如ク、乾燥スルトキハ密ニ紙ニ附着ス。

本種ハ *Cyrtymenia hieroglyphica* J. Ag. ニ酷似スレドモ彼ノ如ク線狀
ニ集マレル囊果ヲ有セスシテ一面ニ散在スルヲ以テ異ナリトス。

第319圖版, 8-11圖. 8: *Cyrtymenia sparsa* 新種, ひぢりめん, ノ四分胞子ヲ有スル體ノ縮ミ
タル表面ヲ示ス, 7/1.—9: 同上ノ横断面, 11/1.—10: 同上ノ一部, 100/1.—11: 皮部ノ構造ト四分
胞子トヲ示ス横断面, 240/1.

第320圖版. 1: 幼キ體, 1/1.—2: 囊果ヲ有スル體ノ一部(3-7×30cm), 1/1.—3: 密ニ皺ヲ有ス
ル四分胞子ノアル體, 1/1.—4: *Carpogonium*, 500/1.—5: 囊果ヲ有スル體ノ横断面ノ一部, 500/1.
—6: 胎座, 500/1.

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