

日本藻類圖譜

第七卷 第二集

理學博士 岡村金太郎著

ICONES OF JAPANESE ALGÆ

Vol. VII, No. II

BY

K. Okamura *Rigakuhakushi*

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Published

by

THE AUTHOR

December, 1933.

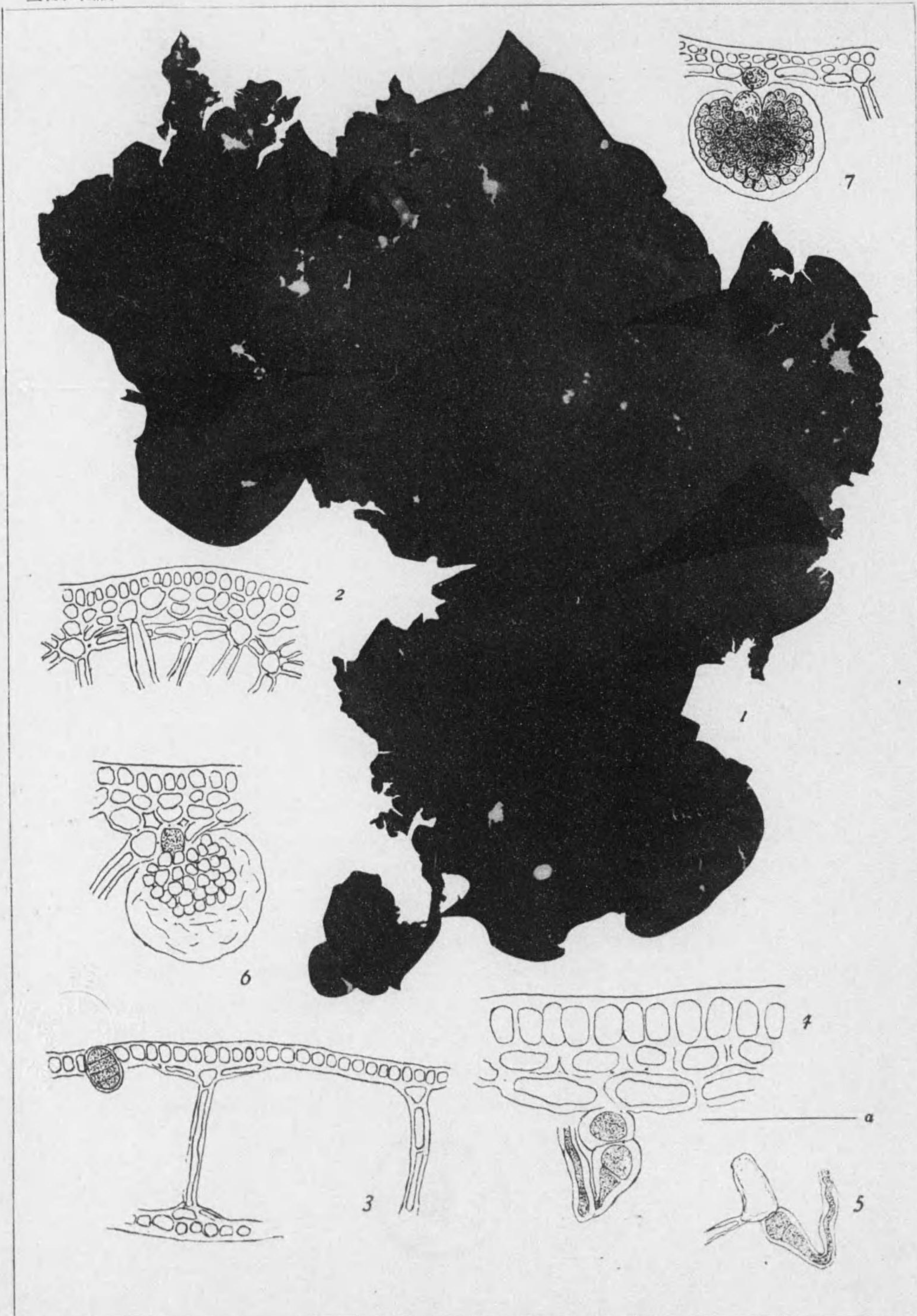
Tokyo

(水産同人寄贈記念品資金出版)



始





Halarachnion latissimum sp. nov. すゝかけべに

29-110

Halarachnion latissimum sp. nov.

Nom. Japon.: *Susukakebeni*.

Pl. 306.

Diagn. Fronds membranaceous, in general roundish or oblong, and cuneate, subcordate or broadly round at base, abruptly tapering to a very short, flat stem, 10-30 cm high, and almost equally broad, consisting of 1-3 cells-thick cortical layer, loosely traversed by very few slender filaments; cystocarps globular; tetrasporangia zonately divided, developed from cortical cells; colour dusky red; substance lubricous.

Hab.: On stones and shells in deeper waters; Enoshima, Gulf of Tateyama, Takahama (Prov. Iyo).

Descr.: Fronds membranaceous, suddenly tapering below to a very short, slender, cuneate, flat stem, rising from a small scutate disc, usually roundish and broadly round, cuneate or subcordate at base, undulato-folded and often lobed, with entire margin, 10-30 cm high or more, 10-20 cm broad; surface even and flat, sometimes rugose. Frond bearing carpogonium composed of 2-3-cells thick cortical layer, of which the inner 1-2 cells are larger and transversely stretched, and the epidermal cells angular and somewhat vertically elongated, and that bearing tetraspores of almost one cell thick layer. Thickness of the tetrasporic frond measures some 120 μ (fig. 3). Few slender filaments loosely traverse within the frond. *Carpogonium* made of 2-3 cells, hanging down from the inner side of inner cortical cells to the cavity of the frond. Auxiliary cell is formed from one of inner cells of infra-cortical layer. *Cystocarps* globular surrounded by mucous, hanging down from the cortical layer. *Tetrasporangia* oblong, zonally divided, densely scattered over the surface of frond. *Colour* dusky purplish red. *Substance* lubricous and rather thickish, becoming very thin in drying, and the plant firmly adheres to paper in drying.



A distinct species with affinity unknown.

Pl. 306. Fig. 1: Frond of *Halarachnion latissimum* sp. nov. attached on other alga, $\frac{2}{3}$ nat. size.—Fig. 2: Portion of the cross section of the cortical layer of cystocarpic frond, $\frac{245}{1}$.—Fig. 3: Cross section of the tetrasporiferous frond, $\frac{245}{1}$; (thickness of the frond 120μ , that of the cortical layer 20μ ; tetraspore $28 \times 20\mu$).—Fig. 4: Three celled carpogonium, $\frac{500}{1}$.—Fig. 5: Two celled carpogonium *in situ*; *a*, outer limit of the cortical layer, $\frac{245}{1}$.—Fig. 6-7: Cystocarps; cells with granular contents showing auxiliary cells, $\frac{245}{1}$.

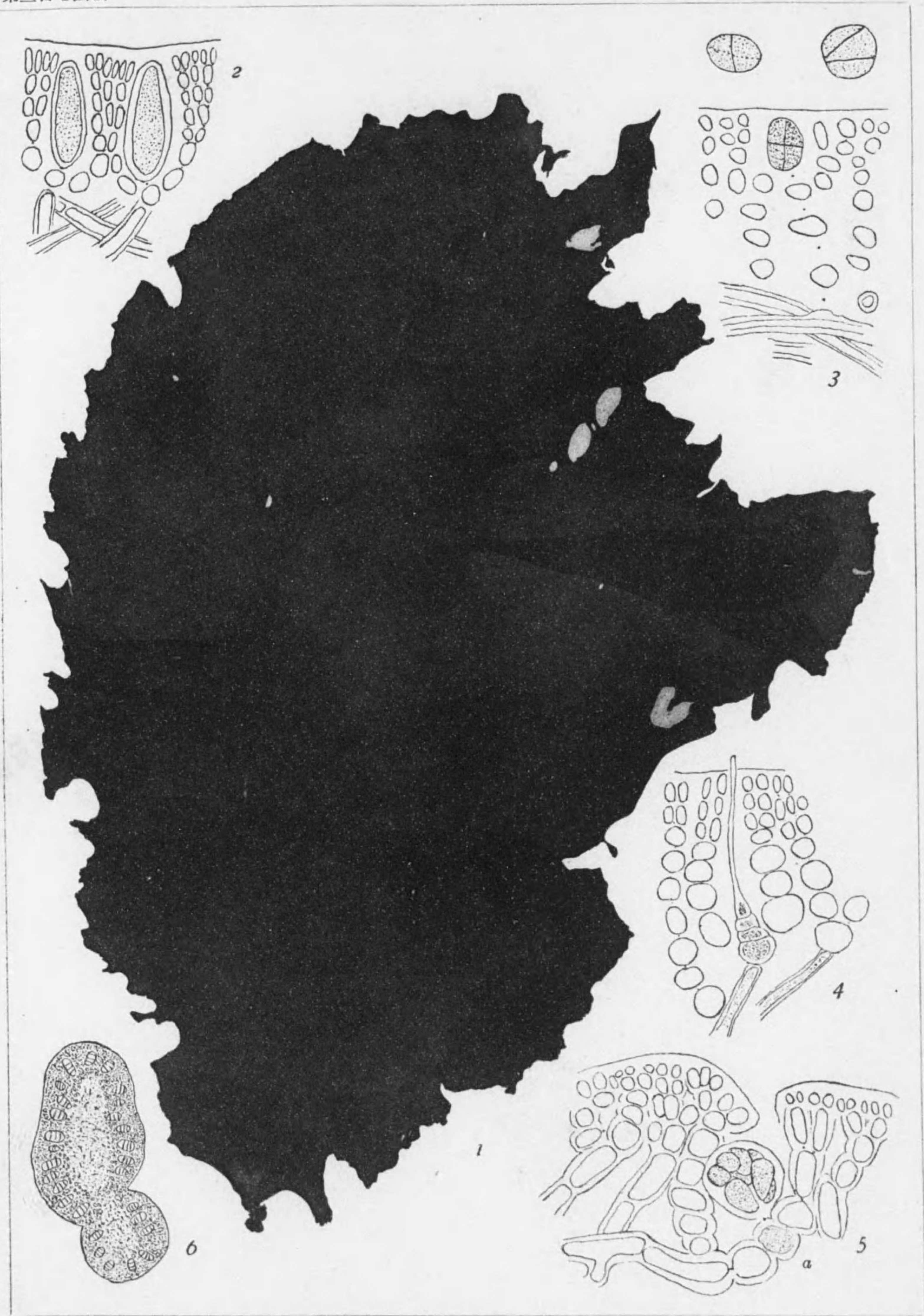
Schizymenia Dubyi (Chauv.) J. Ag.

Nom. Japon.: *Benisunago*.

Pl. 307, fig. 1-5; Pl. 308, fig. 12.

Schizymenia Dubyi (Chauv.) J. Ag. Sp. II, p. 171, Epicr. p. 123; Yamada Mar. Alg. Mutsu Bay. II., 1928, p. 532, f. 24. *Iridæa elliptica* Kuetz. Tab. Phyc. XVII, t. 4. *Iridæa Montagnei* Kuetz. l. c. XVII, t. 5, f. a-b. *Euhymenia Dubyi* Kuetz. l. c. XVII, t. 80. *Kallymenia Dubyi* Harv. Phyc Brit. t. 123.

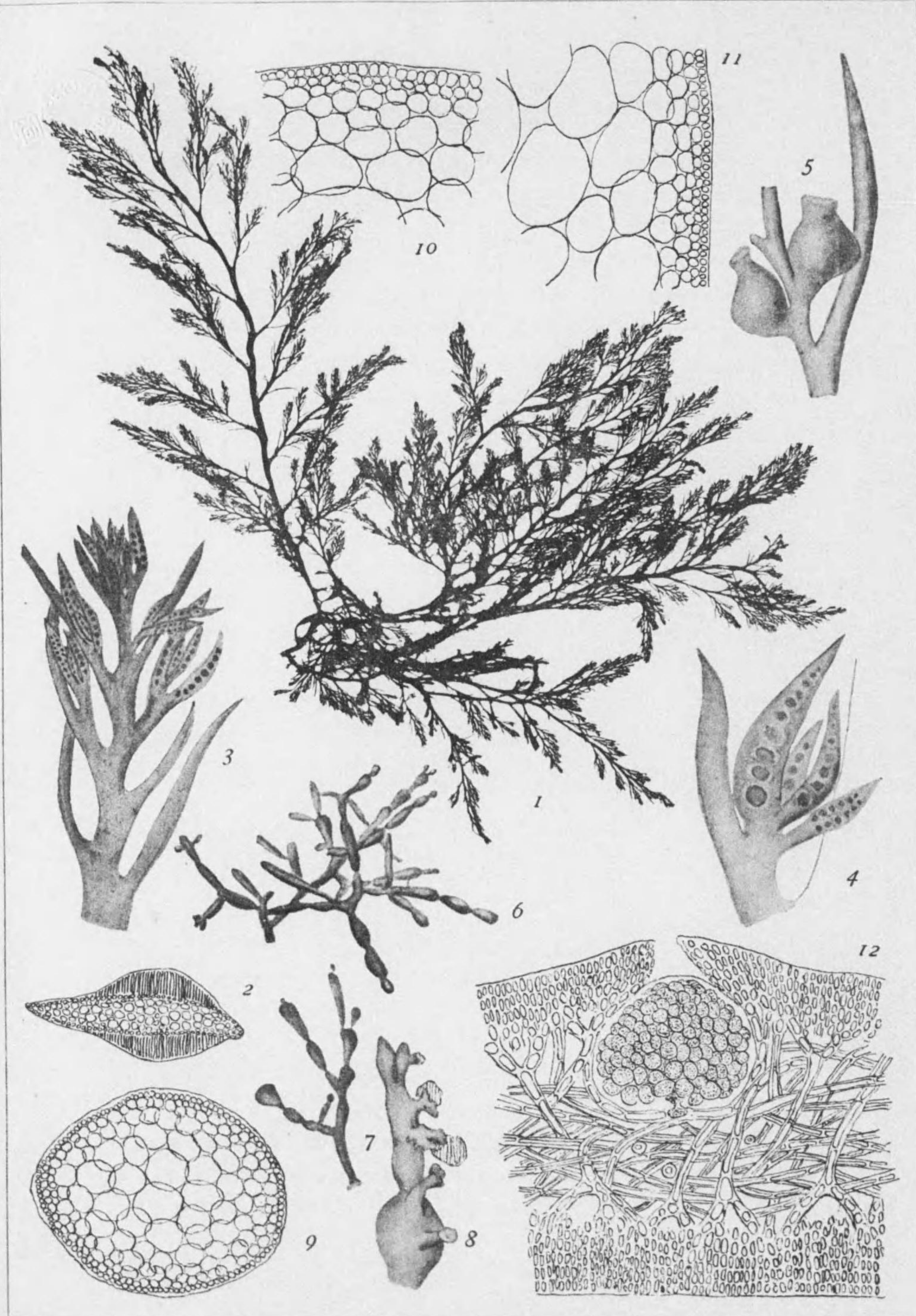
Fronds thickish-membranaceous, oblong or obovate, with very short, cuneate and compressed stem, soon expanding into the cuneate or unequally cuneate, cordate or broadly roundish base, rising from a small scutate disc, 10-25 cm high or more, 5-20 cm wide, somewhat undulate at margin, broadly at apex and tapering at base; simple, rarely cloven. Thickness of frond varies $140-550\mu$, mostly some 230μ , and cystocarpic frond is thicker than the tetrasporic. Frond internally consisting of rather thickish densely interwoven, thick walled branching filaments which pass to inner cells of the cortical filaments. The cells of cortical filaments larger and globular below, becoming gradually smaller upward, and evidently arranged in dichotomous anticlinal rows. Among cortical filaments are large elongato-



Schizymenia Dubyi (Chauv.) J. Ag. べにすなご Fig. 1-5.

Tichocarpus crinitus (Gmel.) Rupr., Tetrasporangia of.

かれきぐさノ四分胞子囊



Odonthalia Lyallii (Harv.) J. Ag. らいあるのこぎりひば Fig. 1-5.
 Corallopsis Opuntia J. Ag. ふしくれのり Fig. 6-11.
 Schizymenia Dubyi (Chauv.) J. Ag. べにすなご Fig. 12

ovate or subcylindrical gland cells which are of equal length as that of cortical filaments. *Carpogonial branch* made of 4 cells in a longitudinal row. One of lower cells of the cortical filaments is transformed to an auxiliary cell. *Cystocarps* very minute dot-like visible to the naked eyes, immersed in the substance of frond, with spherical or roundish ovate nucleus, furnished with a narrow ostiole; densely scattered over the whole frond, becoming more prominent and coarse to touch in drying. *Tetrasporangia* densely scattered over the whole surface of frond, globular or oblong, cruciate and often irregularly divided. *Colour* deep purplish red, turning to dull red when dried. *Substance* thickish membranaceous, becoming thicker in age, and the plant adheres to paper in drying except older ones.

Hab.: On rocks between tide marks: Prov. Kii, Hatidyo-dima, Boshyu, Enoshima, Okinosima (Pref. Fukuoka), Etchyu.—Spring.

Pl. 307, fig. 1-5. Fig. 1: Frond of *Schizymenia Dubyi* (Chauv.) J. Ag. bearing cystocarps, little smaller than $\frac{2}{3}$ nat. size.—Fig. 2: gland cells (plant from Okinosima, Fukuoka Pref.), $\frac{500}{1}$.—Fig. 3: Tetraspores; annexed with two irregularly divided ones, 20μ thick, $\frac{500}{1}$.—Fig. 4: Car-pogonium, $\frac{500}{1}$.—Fig. 5: Auxiliary cell, *a*, and young cystocarp (from Gulf of Tateyama), $\frac{500}{1}$.

Pl. 308, fig. 12. Cystocarp and cross-section of the frond from Hatidyo-dima, $\frac{245}{1}$.

Tichocarpus crinitus (Gmel.) Rupr., Tetrasporangia of.

Pl. 307, fig. 6.

Addition to the descriptions of *T. crinitus* (Icones Vol. III, p. 79, Pl. CXXI—CXXIII, f. 1-8).

As far as the writer awares the tetrasporangia of *Tichocarpus crinitus* were not known up to date. He was fortunate enough to detect them on

the material collected at Bayôtô, Tyosen, in summer 1928.

Tetrasporangia oblong and zonately divided, and immersed among cortical layers densely scattered almost all over the whole surface of the frond leaving basal portion alone sterile.

Pl. 307, fig. 6. Cross section of frond of *Tichocarpus crinitus* (Gmel.) Rupr. bearing tetrasporangia, ca. $22/1$.

***Odonthalia Lyallii* (Harv.) J. Ag.**

Nom. Japon.: *Lyall-nokogirihiba*.

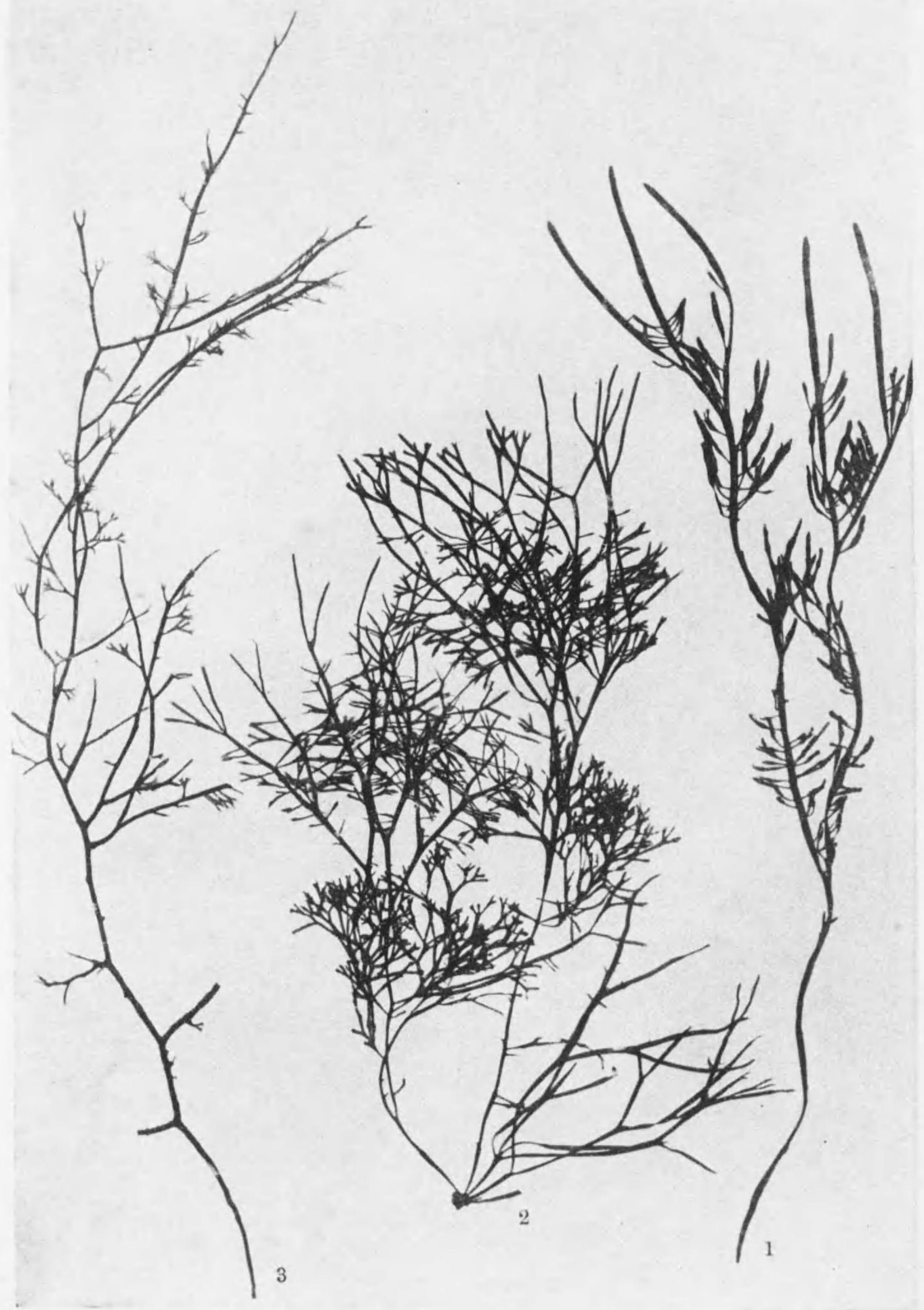
Pl. 308, fig. 1-5.

Od. Lyallii (Harv.) J. Ag. Sp. II, p. 894. *Rhodomela Lyallii* Harv. Notice coll. Alg. N.-W. coast N. Am., chiefly at Vancouver's Island, 1862, p. 168.

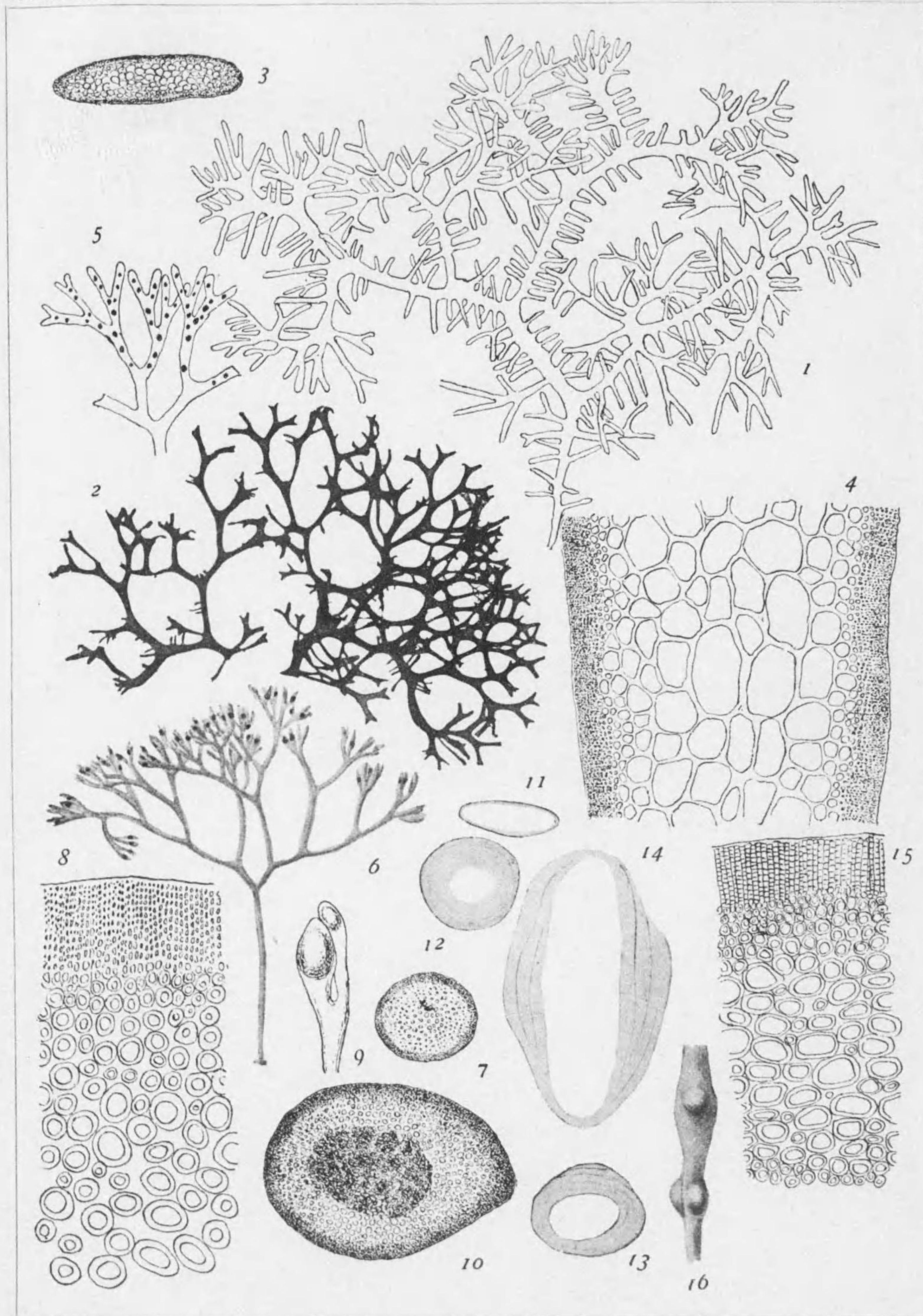
Frond 18-20 cm long, quite regularly decomposito-pinnate, 3-4 times alternato-distichous, all the divisions lanceolate (not corymbose or fastigate) in outline; the ramuli of the minor pinnulae subulate, incurved, subequal, 2 mm in length, the lowest not conspicuously longer than the rest, subsimple, the median one decompound, or transformed to cystocarps, and superior one subsimple and subulate. Rachis complanato-flat, slightly flexous, 1-1.5 mm broad, slightly thickened below along the median line like midrib. In fruit, every ramulus of each ultimate plumule is generally converted into either a cystocarp or a stichidium, without any shortening of the rachis; hence, the arrangement is racemose, rather than corymboso-fasciculate. *Cystocarps* ovate with very short thickish pedicel, formed on median ramuli, provided with slightly prolonged carpostome, ecalcarate. *Stichidia* transformed from the upper ramuli, somewhat corymbose. *Colour* beautiful red. *Substance* membranaceous.

Hab.: Shimushu Island, Shinshiru Island.

By the racemose arrangement of ramuli and more compressed frond



Ahnfeltia paradoxa (Sur.) Okam. はりがね



Gymnogongrus divaricatus Holm. おほまたおきつり Fig 1-5.

Ahnfeltia furcellata sp. nov. ふきさいみ Fig. 6-10.

Ahnfeltia paradoxa (Sur.) Okam. はりがね Fig. 11-16.

this plant differs from *Odonthalia ochotensis*.

Pl. 308, fig. 1-5. Fig. 1: Tetrasporic frond of *Odonthalia Lyallii* (Harv.) J. Ag., $\frac{1}{1}$.—Fig. 2: Cross section of the lower portion of frond, $\frac{40}{1}$.—Fig. 3: Tetrasporic pinnulae, $\frac{14}{1}$.—Fig. 4: Stichidium, $\frac{45}{1}$.—Fig. 5: Cystocarps, $\frac{12}{1}$.

***Coralloopsis Opuntia* J. Ag.**

Nom. Japon.: *Fusikurenori*.

Pl. 308, fig. 6-11.

C. Opuntia J. Ag. Epicr. p. 409; Yamada Notes on Some Japan. Alg., V. p. 280. (Journ. Fac. Sc., Hokkaido Imp. Univ., Ser. V, Vol. II, n. 3).

Fronde 3-5 cm high, cylindrical and not constricted below, irregularly and divaricately dichotomo-decompound, with upper branches more or less evidently articulo-constricted, with articulations obovate, obcuneate, oblong or subpyriform, 1.5-4 mm broad, 1-3 times long as broad. Some branches form root-like discs on the apices of ramuli or on margins, by which frond attaches to the substratum. *Colour* fleshy red. *Substance* soft cartilaginous.

Hab.: Ryukyu, Amami-Ohsima.

Pl. 308, fig. 6-11. Fig. 6-7: Fronds of *Coralloopsis Opuntia* J. Ag., $\frac{1}{1}$.—Fig. 8: Portion of frond forming root-like discs, $\frac{3}{1}$.—Fig. 9: Cross-section of frond, $\frac{28}{1}$.—Fig. 10: Portion of cross-section of frond, $\frac{100}{1}$.—Fig. 11: Portion of longitudinal section of frond, $\frac{100}{1}$.

***Ahnfeltia paradoxa* (Sur.) Okam. nov. comb.**

Nom. Japon.: *Harigané*.

Pl. 309; Pl. 310, fig. 11-16.

Gymnogongrus? paradoxus Sur. Illustr. (1874) II, p. 13, t. VIII-IX

(XXI—XXII); Hariot Alg. de Yokoska, p. 221.—*G. furcellatus* J. Ag. var. *japonicus* Holm. On Mar. Alg. fr. Japan (1895), p. 256, t. XI, f. 2.

Diagn. Fronds high, linear, compressed, becoming subterete in age in stem, distantly or more or less closely dichotomous, with short simple or bifid lateral proliferations, which often grow up to furcellately decompound dichotomous branches; branches patent, bifid or blunt at apices; cystocarps hemispherical on both surfaces of ramuli or almost globular all round.

Hab.: On rocks between tide marks near low tide; from Str. of Tsugaru to the Prov. Sima and Kii.

Descr.: Fronds perennial, high, complanated in main branches in the first year fronds, gradually corticated with many cortical layers and thus becoming tereti-compressed or almost cylindrical, distantly dichotomous, some with simple elongated main branches, others more or less decompound-dichotomous above. Branches of every order patent and end in bifid or blunt apices. In some, lateral proliferations arise pinnately seriated along both sides of elongated main branches which remain either simple or once or twice forked; in others, they elongate to normal branches, and furcellately ramified in widely parted dichotomous segments. *Cystocarps* swollen out on both surfaces of ultimate or penultimate segments of ramuli, single or 2-3 or more seriated one after another with certain intervals in one row, sometimes two transversely posited side by side at the same height. Those formed on narrower ramuli seem to be almost spherical vulging out all round. *Colour* purplish red. *Substance* cartilaginous.

Remarks. On referring the present plant to *Ahnfeltia* instead of *Gymnogongrus*, the writer takes the difference of the structure of frond into consideration. In *Gymnogongrus* he thinks that the inner cells having very wide calibres are mixed with those of smaller ones and reticulately constructed like parenchymatic tissue. In *Ahnfeltia*¹⁾ the cross section of younger portion presents, in some measures, the structure like that of

1) Comp. Wille Bidr. t. Algern. physiol. Anat., 1885, p. 13, Pl. II, f. 12 and Rosenvinge the Mar. Alg. Denm. Pt. IV, 1931, p. 557, f. 546-547.

Gymnogongrus, but in older portions, cells which are much smaller than those of *Gymnogongrus* are all cylindrical and greater part is of almost uniform size, having the diameter of 20-30 μ in general (the largest 46 μ) and they seem as if densely imbedded in intercellular matrix, not being reticulately constructed, though they are mutually connected by pit-formations.

The plant named by Suringar as *Gymnogongrus paradoxus* has compressed frond having cystocarps swollen out on the surfaces of branches, and that named by Holmes as *G. furcellatus* var. *japonicus* has cylindrical stem and cystocarps globularly swollen out all round the branchlets. Those two species seem to me to be one and the same. As a matter of fact, the northern part of this country, where the present plant is supposed perhaps to have originated, predominates in forms having cylindrical stem and the southern in compressed one. Even in the northern forms, stem alone is subcylindrical, branches and lesser sorts of them remaining compressed. These differences of habit I think to be due to the difference of climatic or other physical conditions between southern and northern parts. In the fronds of southern part cortical layer has the tendency to become many layered in the stem of the first year frond (fig. 14), but in that part few of them survive beyond the winter, many being uprooted in autumn; rarely there are fronds having subterete stem in those localities (fig. 12), while in northern those having subcylindrical stem are more usual (fig. 13).

Pl. 309. Fig. 1: *a*, frond of *Ahnfeltia paradoxa* (Sur.) Okam. bearing cystocarps, from Enoshima, ¹/₁; *b*, fertile frond having dichotomous branches, from Enoshima, ¹/₁; *c*, older frond from Cape Inuboe, ¹/₁.

Pl. 310, fig. 11-16. Fig. 11-14: Cross sections of fronds from several localities; 11, young frond (from Prov. Sima), 1.2 mm broad; 12, older portion (from Prov. Sima), 1.4 mm broad, slightly magd.; 13, older portion from Pref. Miyagi, 1.7 mm broad, ¹⁴/₁; 14, 1st year frond from Chikura, Prov. Boshyu, ⁴⁰/₁.—Fig. 15: Portion of the cross section of frond, ²⁴⁵/₁.—Fig. 16: Cystocarps, ⁷/₁.

Gymnogongrus divaricatus Holmes.

Nom. Japon.: *Ohmata-Okitsunori*.

Pl. 310, fig. 1-5.

G. divaricatus Holmes on Mar. Alg. from Japan (1895), p. 255, t. VII, f. 3, *a-b*.

Fronds rather thick coriaceous, broadly linear, compressed, dichotomoflabellate, with segments very widely parted throughout, 5-10 cm long; forks standing close to each other and usually provided with proliferations, arising on one or both sides, simple or once or twice forked, and of almost equal length; segments 1.5-2 mm broad, with bifid apex. *Cystocarps* prominent on both surfaces, mostly 3 or more seriated in a longitudinal row on upper segments.

Hab.: Prov. Kii, Shimoda, Misaki, Prov. Tôtômi.

Pl. 310, fig. 1-5. Fig. 1-2: Fronds of *Gymnogongrus divaricatus* Holm., $\frac{1}{1}$.—Fig. 3: Cross section of frond illustrated in fig. 2, $\frac{14}{1}$.—Fig. 4: Portion of fig. 3, $\frac{100}{1}$.—Fig. 5: *Cystocarps*, $\frac{1}{1}$.

Ahnfeltia furcellata sp. nov.

Nom. Japon.: *Fusa-saimi*.

Pl. 310, fig. 6-10.

Diagn. Fronds caespitose, rising from callus disc, almost cylindrical, with lower portion stem-like for more or less long distance, with branches widely parted, decompound-dichotomous, with forks becoming gradually closer to each other and fastigiato-furcellate above, usually without lateral proliferations, ending in blunt apices; *cystocarps* swollen out, immersed in the ultimate divisions.

Hab.: On rocks between tide marks; Owase, Prov. Tosa, Iyo, Nūdima.

Descr. Fronds caespitose forming hemispherical tuft, almost terete, lower portion naked appearing like stem, regularly dichotomo-decompound, widely parted, with forks becoming gradually closer to each other above, all branches ending in equal height, furcellate, and fastigiata in ultimate segments, 7-10 cm high. *Cystocarps* swollen, immersed in the terminal segments. *Colour* dark purplish red. *Substance* cartilaginous.

Pl. 310, fig. 6-10. Fig. 6: Frond of *Ahnfeltia furcellata* sp. nov., bearing *cystocarps*, $\frac{1}{1}$.—Fig. 7: Cross section of frond, $\frac{68}{1}$.—Fig. 8: Portion of fig. 7, $\frac{245}{1}$.—Fig. 9: *Cystocarps*, $\frac{7}{1}$.—Fig. 10: Cross section of *cystocarp*, $\frac{40}{1}$.



Halarachnion latissimum 新種

すゝかけべに 岡村 稱

第306圖版

體ハ膜狀,規則トシテ圓形又ハ長橢圓形ニシテ基部楔形,稍心臟形又ハ廣キ圓形ヲナシ急ニ甚ダ短クシテ扁キ莖トナリ,高サ10-30cm,幅略之ト同ジク,1-3個細胞ノ厚サヲ有スル皮層ヲ爲シ,甚ダ僅少ナル細キ絲ヲ以テ緩ク體ノ内部ニ錯綜ス;囊果ハ球狀;四分胞子囊ハ環狀ニ分裂シ皮層細胞ヨリ形成セラル;色ハ煤色ヲ帶ビタル紅色ナリ;質ハ粘滑ナリ.

產地:深處ノ介殼,岩石等ニ附着ス;江ノ島,館山灣,横濱,伊豫高濱.

體ハ膜狀ニシテ下部急ニ甚ダ短キ細キ扁キ楔形ノ莖トナリ,小サキ盤狀根ヲ以テ立ツ.體ハ通常圓ク時ニ長橢圓形,基部廣キ圓形,楔形又ハ稍心臟形ニシテ波狀ノ襞ヲナシ往々裂片ヲ有ス,縁邊全縁ニシテ,高サ10-30cm又ハ夫レ以上アリ,10-20cm廣シ;表面ハ平坦,時トシテハ小皺ヲナス. Carpogonium ヲ有スル體ハ2-3個細胞ノ厚ミヲ有スル皮層ヲ爲シ,其1-2層ノ皮下細胞ハ稍大ニシテ横ニ伸ビ,表皮細胞ハ角張リテ稍縦ニ長シ,四分胞子ヲ有スルモノハ殆ド1個細胞ノ厚ミノ皮層ヨリ成ル.絲ハ少數ニシテ細ク緩ク體內ヲ走リテ多少錯綜ス. Carpogonium ハ2-3個細胞ヨリ成リ内部ノ皮下細胞ノ内側ヨリ體ノ内腔ノ方ニ懸垂ス.助細胞ハ皮下層ノ内側ノ細胞ノ一ツヨリ作ラル.囊果ハ球狀ニシテ粘膜ヲ以テ圍マレ,皮層ヨリ垂下ス,四分胞子囊ハ長橢圓形ニシテ環狀ニ分裂シ,密ニ體ノ表面ニ散布ス.色ハ煤色ヲ帶ビタル紅色ナリ,依テ名ヅク.質ハ粘滑ニシテ幾分厚味ヲ有シ,乾燥スルトキハ甚シク薄ク,體ハ紙ニ密着ス.

既知ノ種類トノ類縁ヲ詳ニセザレドモ明ニ一新種タリ.

第306圖版. 1: *Halarachnion latissimum* Okam. 新種, すゝかけべに,

ノ體ニシテ他ノ藻ニ附着ス(館山灣), 約 $\frac{2}{3}$ 縮圖。—2: 囊果ヲ有スル體ノ皮層ノ横断面ノ一部, $\frac{245}{1}$ 。—3: 四分胞子囊ヲ有スル體ノ横断面, $\frac{245}{1}$; (體ノ厚サ 120μ ; 皮層ノ厚サ 20μ ; 四分胞子囊 $28 \times 20\mu$)—4: 3 個細胞ヨリ成レル carpogonium, $\frac{500}{1}$ 。—5: 2 個細胞ヨリ成レル Carpogonium ノ自然ノ位置ニ在ルモノ; a, 皮層ノ外面, $\frac{245}{1}$ 。—6-7: 囊果; 顆粒狀ノ内容ヲ有スル細胞ハ助細胞ヲ示ス, $\frac{245}{1}$ 。

Schizymenia Dubyi (Chauv.) J. Ag.

べにすなご 岡村 稱

第 307 圖版, 1-5 圖; 第 308 圖, 12 圖

體ハ稍厚キ膜質ニシテ, 長楕圓形又ハ倒卵形ヲナシ, 甚ダ短キ楔形ノ扁平ナル莖ヲ有シ, 急ニ楔形又ハ不正形ノ楔形若クハ心臟形或ハ廣キ圓形ノ基部ニ擴ガリ, 小サキ盤狀根ヲ以テ直立ス。高サ $10-25\text{cm}$ 又ハ尙ホ高ク, 幅 $5-20\text{cm}$ アリ, 縁邊稍波狀ニ襲ヲナシ, 頂端鈍圓ニシテ基部ノ方ニ細ク, 單條ニシテ稀ニ裂片ヲナス。體ノ厚サハ $140-550\mu$ ニ變ジ, 大抵約 230μ ニシテ, 囊果アルモノハ四分胞子ヲ有スルモノヨリ厚シ。體ノ内部ハ幾分太味アル且ツ厚キ細胞膜ヲ有スル分岐セル絲ヲ以テ密ニ錯綜シ, 絲ハ皮層ヲナセル同化絲ノ内部ノ細胞ニ連ナル。皮層絲ノ細胞ハ下方ノモノハ稍大ニシテ球狀ヲナシ漸次上方ニ小サク明ニ叉狀ニ分岐シテ體ノ表面ニ直角ニ連鎖ス。皮層絲ノ間ニ大ナル長卵形又ハ稍圓柱狀ノ腺細胞アリテ無色ノ物質ヲ含ミ, 皮層絲ト同一ノ長サヲ有ス。Carpogone 枝ハ縦列セル 4 個細胞ヨリ成ル。助細胞ハ皮層絲ノ下部ノ細胞ノ一ヨリ變ズ。囊果ハ肉眼ニ見得ベキ甚ダ小サキ點ニシテ, 體內ニ埋ニ在シ, 球狀又ハ圓キ卵形ノ仁ヲ爲シ, 狭キ果孔ヲ開ク, 而シテ體ノ全面ニ密ニ散在シ, 乾燥スルトキハ少シク隆起シテ粗キ手

觸リヲ覺ユ。四分胞子囊ハ密ニ體ノ全面ニ散在シ, 球狀又ハ長楕圓形ニシテ十字様ヲナシ又往々不規則ニ分裂ス。色ハ濃キ紫紅色ニシテ乾燥スルトキハ鈍キ紅色トナル。質ハ稍厚キ膜質ニシテ老成スルトハ更ニ厚ク, 體ハ老成者ニ非ルモノハ紙ニ附着ス。和名ハ紅砂子ノ意ナリ。

產地: 潮線間ノ岩礁ニ在リ; 土佐, 伊豫, 紀伊富田, 巖島, 八丈島, 相模, 房州, 館山灣, 小名濱, 福岡縣沖ノ島, 島根縣, 越中氷見, 秋田縣。

分布: 英國, 佛國, スペイン, 地中海。

第 307 圖版, 1-5 圖。1: 囊果ヲ有スル *Schizymenia Dubyi* (Chauv.) J. Ag., べにすなご, ノ體, $\frac{2}{3}$ ヨリ稍小。—2: 腺細胞(福岡縣沖ノ島産), $\frac{500}{1}$ 。—3: 四分胞子囊; 傍ニ 2 個ノ不規則ニ分レタル胞子ヲ添フ, 徑 20μ , $\frac{500}{1}$ 。—4: carpogonium, $\frac{500}{1}$ 。—5: 助細胞, a, ト幼キ囊果(館山灣産), $\frac{500}{1}$ 。

第 308 圖版, 12 圖。囊果及體ノ横断面(八丈島産), $\frac{245}{1}$ 。

Tichocarpus crinitus (Gmel.) Rupr., Tetrasporangium of.

かれきぐさノ四分胞子囊

第 307 圖版, 6 圖

圖譜 III 卷, 79 頁, 121-123 圖版, 1-8 圖, *T. crinitus*, かれきぐさ, ノ追加。

予ノ知ル範圍ニテハ本植物ノ四分胞子囊ハ今日迄知ラレザリシガ, 余ハ幸ニ昭和三年(1928), ノ夏朝鮮咸鏡南道馬養島ニテ採集シタル材料ニ於テ之ヲ發見スルコトヲ得タリ。

四分胞子囊ハ長楕圓形ニシテ環狀ニ分裂シ, 皮層中ニ埋マリ體ノ基部ヲ除ク外殆ト體ノ全部ニ存ス。

第 307 圖版, 6 圖。 *Tichocarpus crinitus* (Gmel.) Rupr., かれきぐさ, ノ體ノ横断面, $\frac{245}{1}$ 。

Odonthalia Lyallii (Harv.) J. Ag.

らいあるのこぎりひば 岡村稱

第308圖版, 1-5圖.

體ハ18-20cm長ク, 3-4回正シク複羽狀ニ兩縁ヨリ互生シ, 各部ノ枝(即チ羽枝及小羽枝)ハ輪廓披針狀(繖房狀又ハ直上形ナラズ)ナリ; 小羽枝ノ小枝ハ錐狀ニシテ内方ニ屈曲シ, 略同長ニシテ2mm長ク, 最下部ノモノハ, 殘餘ノモノヨリ目立チテ長キコトナク, 中央ノモノハ更ニ枝ヲ分チ或ハ囊果ニ變ジ上部ノモノハ稍單條ニシテ錐狀ナリ. 主軸ハ扁平-扁壓ニシテ少シク屈折シ, 幅1-1.5mmニシテ中央線ニ沿フテ中肋ノ如ク少シク増厚ス. 實ヲ有スルニ到レバ小羽枝ノ各小枝ハ一般ニ囊果又ハ四分胞子托ニ變ジ, 其部ノ脊軸ノ短縮スルコトナシ, 故ニ小枝ノ並ビ方ハ總狀ニシテ繖房狀ナラズ. 囊果ハ卵形ニシテ甚ダ短キ稍太キ柄ヲ有シ, 小羽枝ノ中央部ノ小枝ニ形成セラレ, 果孔ハ一輪挿ノ壺ノ口ノ如ク少シク伸ビ, 距ヲ具フルコトナシ. 四分胞子托ハ上部ノ小枝ヨリ變ジ稍繖房狀ニ集ル. 色ハ鮮紅色ナリ. 質ハ膜質ナリ.

産地: 占守島(遠藤), 新知島(北大農).

分布: Atka(小林), Vancouver Island, Fucea Strait; Victoria.

小枝ノ總狀配置ヲナスコト、扁キ體ヲ有スルコト、ヲ以テ *Odonthalia ochotensis* ト區別スベシ.

第308圖版, 1-5圖. 1: *Odonthalia Lyallii* (Harv.) J. Ag. ノ四分胞子ヲ有スル體, $\frac{1}{1}$ —2: 體ノ下部ノ横斷面, $\frac{40}{1}$ —3: 四分胞子ヲ有スル小羽枝, $\frac{14}{1}$ —4: 胞子托, $\frac{28}{1}$ —5: 囊果, $\frac{12}{1}$.

Corallopsis Opuntia J. Ag.

ふしくれのり 山田稱

第308圖版, 6-11圖

體ハ3-5cm高ク, 圓柱狀ニシテ下部ハクビル、コトナク, 不規則ニ且擴ガリテ複叉狀ニ分岐シ, 上部ノ枝ハ多少明ニクビレヲ以テ關節シ, 節間部ハ倒卵形, 倒楔形, 長楕圓形或ハ稍洋梨果狀ヲナシ, 幅1.5-4mmアリ, 太サノ1-3倍長シ. 枝ハ所々小枝ノ頂端又ハ縁邊ニ盤狀ノ根ヲ作リテ他物ニ附着シ傾臥ス. 色ハ肉色. 質ハ軟キ軟骨質ナリ.

産地: 琉球, 奄美大島.

分布: Madura Island (Java, 齋藤), Ceylon 島.

第308圖版, 6-11圖. 6-7: *Corallopsis Opuntia* J. Ag., ふしくれのり, ノ體, $\frac{1}{1}$ —8: 根ノ如キ盤ヲ作レル體ノ一部, $\frac{3}{1}$ —9: 體ノ横斷面, $\frac{28}{1}$ —10: 横斷面ノ一部, $\frac{100}{1}$ —11: 縦斷面ノ一部, $\frac{100}{1}$.

Ahnfeltia paradoxa (Sur.) Okam. 新種.

はりがね, はちじやうふのり, すじふのり.

第309圖版; 第310圖版, 11-16圖.

體ハ高ク, 線狀, 扁壓, 老成スルトキハ莖ハ稍圓柱狀トナリ, 遠ク又ハ相接シテ叉狀ニ分岐シ, 短キ單條又ハ二ニ分レタル副枝ヲ枝ノ兩側ヨリ出ス. 副枝ハ往々扇狀ニ複叉狀ニ細ク分岐セル枝トナル; 枝ハ廣開シ, 頂端二裂シ又ハ鈍頭ナリ; 囊果ハ小枝ノ兩面ニ半球狀ニ膨出シ或ハ枝ノ全周圍トモ球狀トナル.

産地: 潮線間ノ低潮線附近ノ岩礁ニ在リ; 津輕海峡ヨリ志摩紀伊ニ到ル.

體ハ多年生ニシテ高く、初年ノ體ノ主枝ハ扁壓シ、漸次數層ノ後生の皮層ヲ以テ被ハレ扁圓又ハ略圓柱狀トナリ、遠ク距リテ又狀ニ分岐シ、或モノハ單條ニシテ伸長セル主枝ヲ有シ、他ノモノハ上部多少複又狀ヲナス。各部位ノ枝ハ廣開シ、枝端二裂シ又ハ鈍頭ナリ。或體ニテハ副枝ハ長キ主枝ノ兩側ニ羽狀ニ並ビテ出デ、此等ノ副枝ハ單條ニ止マリ又ハ1-2回又狀ヲナシ、他ノモノニテハ常態ノ枝トナリ、廣ク開キテ密ニ分レタル又狀ヲナス。囊果ハ小枝ノ最末部又ハ其一回前ノ部分ノ兩面ニ膨大シ、1個又ハ2-3乃至數個1列ニ少距離ニ列シ、時トシテハ同一ノ所ニ横ニ2個並ブコトアリ。細キ小枝ニ囊果ヲ生ズルトキハ其全周ニ球狀ニ膨大ス。色ハ紫紅色ナリ。質ハ軟骨質ナリ。

本植物ヲ *Gymnogongrus* トセズシテ *Ahnfeltia* ニ收ムルニ就テハ予ハ體ノ構造ノ差ヲ以テ之ガ論據トナス。 *Gymnogongrus* ニテハ内部ノ細胞ハ廣キ徑ヲ有スルモノト其細キモノト混在シテ網ノ如ク結ビテ parenchyme 狀ニ結合ス。 *Ahnfeltia* ニテハ幼キ部分ノ横斷面ハ幾分 *Gymnogongrus* ト同様ノ構造ヲ呈スルコトアリト雖モ、老成部ニアリテハ細胞ハ *Gymnogongrus* ノモノヨリ遙ニ小徑ニシテ大部分略同様ノ太サアル圓柱狀細胞ヨリ成リ、直徑 20-30 μ ヲ普通トシ(最大 46 μ)、恰モ密ニ細胞間物質ノ中ニ埋マリタルガ如キ觀アリテ互ニ原形質連絡孔ヲ以テ連絡スト雖モ網ノ如ク連結セラルハコトナシ。

Suringar ノ *Gymnogongrus paradoxus* ト命ジタル植物ハ扁壓セル體ヲ有シ、囊果ハ枝ノ兩面ニ膨レ、*Holmes* ノ *G. furcellatus* var. *japonicus* トシタルモノハ圓柱狀ノ莖ヲ有シ枝ノ全周ニ球狀ニ膨レタル囊果ヲ有ストセリ。此等二種ノ植物ハ予ハ同一種ナリト思惟ス。實際ニ於テ、本邦北部ニハ圓柱狀ノ莖ヲ有スルモノ多ク、北部地方ハ多分本種ノ發源地ナルベシト想像セラル、而シテ南方ノ水ニハ扁壓セル莖ヲ有スルモノ多シ。北地ノモノト雖モ

獨リ莖ノミ稍圓柱狀ニシテ、枝及小枝ハ扁壓ナリ。此等ノ差ハ予ハ南地ト北地トノ季候其他ノ原因ニ歸セントス。南地ノモノハ體ニテモ初年ノモノハ皮層ハ數層ナラントスルノ傾向ヲ有スレドモ(14圖)、此等ノ地方ニテハ越年スルモノ少ナク多數ハ秋季根ヨリ離レテ流失ス；然レドモ稀ニハ夫等ノ地方ノモノニテモ幾分圓柱狀ヲナスモノアリ(12圖)、北部ノモノニテハ稍圓柱狀ノ莖ヲ有スルヲ普通トス(13圖)。

第 309 圖版. 1a 囊果ヲ有スル, *Ahnfeltia paradoxa* (Sur.) Okam. ノ體(相模, 江ノ島産), $\frac{1}{1}$; b, 又狀ノ枝ヲ有スル實アル體(相模, 江ノ島産), $\frac{1}{1}$; c, 犬吠岬産ノ老成セル體, $\frac{1}{1}$.

第 310 圖版, 11-16 圖. 11-14: 各地産ノ體ノ横斷面; 11, 幼キ體, 幅 1.2mm, 志摩國崎産 廓大; 12, 老成セル部, 幅 1.4mm (同上), 廓大; 13, 老成部, 幅 1.7mm, 宮城縣本吉郡産, $\frac{14}{1}$; 14, 初年ノモノ, 安房千倉産, $\frac{40}{1}$.—15: 横斷面ノ一部, $\frac{26}{1}$.—16: 囊果, $\frac{7}{1}$.

Gymnogongrus divaricatus Holmes.

おほまたおきつのもり 岡村稱

第 310 圖版, 1-5 圖

體ハ稍厚クシテ硬ク、廣キ線狀、扁壓、又狀ニシテ扇狀ヲナシ、各部全體ニ甚シク廣開ス、高サ 5-10 cm アリ；分岐ハ互ニ接近シ通常枝ノ兩側又ハ片側ヨリ副枝ヲ出ス；副枝ハ單條又ハ 1-2 回分又シ、略同一ノ長サヲ有ス；各部ノ幅 1.5-2mm, 枝端二裂ス。囊果ハ枝ノ兩面ニ隆起シ、大抵上部ノ枝ニ 3 乃至數個縦ニ 1 列ニ列ス。和名おほまたハ大股ノ意ニシテ枝ノ廣開スルヨリ名ヅク。

產地：紀伊、遠江、下田(齋田)、三崎。

第310圖版, 1-5圖. 1-2: *Gymnogongrus divaricatus* Holm., おほまた
おきつのもり, ノ體, $\frac{1}{1}$.—3: 2圖 = 示シタル體ノ横斷面, $\frac{14}{1}$.—4: 3圖ノ一部,
 $\frac{100}{1}$.—5: 囊果, $\frac{1}{1}$.

Ahnfeltia furcellata 新種.

ふささいみ 岡村稱.

第310圖版, 6-10圖

體ハ叢生シ, 殼狀根ヨリ立チ, 殆ド圓柱狀, 下部多少長距離ノ間莖ノ如ク,
枝ハ廣開シ 複叉狀 = 分岐シ, 分岐ハ漸次互ニ接近シテ密ニ叉狀ヲナシ上部
ハ直上ス. 通常兩側ヨリ出ル副枝ナク枝端ハ鈍頭ニ了ル; 囊果ハ最末枝ニ
埋入シテ周圍ニ膨起ス.

產地: 潮線間ノ岩礁ニ在リ; 紀伊尾鷲(川口氏), 土佐, 伊豫, 新島.

體ハ半球狀ヲナシテ叢生シ, 殆ド圓柱狀, 下部ハ裸出シテ莖ノ如ク, 正シク
複叉狀 = 分岐シ, 枝ハ廣開シ, 分岐ハ上方ニ移ルニ從テ互ニ接近シテ密ニ叉
狀ヲナシ, 枝皆同一ノ高サニ達シ最末ノ枝ハ直上ス, 體ノ高サ7-10cmアリ.
囊果ハ上部ノ枝ニ埋入シ周圍ニ隆起ス. 色ハ暗紫紅色. 質ハ軟骨質ナリ.

第310圖版, 6-10圖. 6: *Ahnfeltia furcellata* 新種, ふささいみ, ノ囊果ヲ
有スル體, $\frac{1}{1}$.—7: 體ノ横斷面, $\frac{18}{1}$.—8: 7圖ノ一部, $\frac{245}{1}$.—9: 囊果, $\frac{7}{1}$.—10:
囊果ノ横斷面, $\frac{40}{1}$.

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Price (exclusive of postage) of the ICONES which contains 5 plates in every number is ¥ 2.00.

Remittances from abroad to be made by Postal Money Order, payable to Z. P. MARUZEN CO., No.6, Nihonbashi Tori Ni-chome, Tokyo.

改正定價 各集圖版五枚ニ就キ壹部金貳圓 (外ニ郵税)

昭和九年二月一日發行
昭和九年一月廿五日印刷

不許複製

著作者兼發行者 岡村金太郎
小石川區高田豐川町四十二番地
印刷者 濱野英太郎
東京市麴町區紀尾井町三番地
印刷所 東京印刷麴町出張所
株式會社 東京市麴町區紀尾井町三番地
發賣所 丸善株式會社
東京市日本橋區通二丁目
神田, 大阪, 京都, 福岡, 仙臺, 橫濱
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