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Supplementary Notes (No. 2) On The Marine Algæ Of The Orkney Islands

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MEETING OF THE SOCIETY,

Thursday, January 10, 1895.

Professor F. O. BOWER, President, in the Chair.

Mr. R. STEWART MACDOUGALL, B.Sc., was elected Resident Fellow of the Society.

Intimation was made of the death of Lady HENRY GROSVENOR, Resident Fellow of the Society.

Mr. DUNN exhibited branches of *Cedrus Libani*, with cones, from Dalkeith Gardens; also fruits of *Amygdalus communis*, from open air at Dalkeith.

Mr. R. TURNBULL exhibited specimens of a hybrid between the swede turnip and the green kail.

Surgeon-Major H. H. JOHNSTON exhibited specimens of *Hieracium auratum*, Fr., from Orkney, a plant new to its flora.

Specimens of inflorescence of *Musa coccinea*, and of species of *Hæmanthus*, were exhibited from the Royal Botanic Garden.

The following papers were read:—

SUPPLEMENTARY NOTES (No. 2) ON THE MARINE ALGÆ OF THE ORKNEY ISLANDS. By GEORGE WM. TRAILL.

ISLAND OF NORTH RONALDSAY.

(“*Rinansey*” of the *Saga*.)

This is the most northerly of the Orkney group, and is about fifteen miles in circumference, measuring by the shore line. The coast is, in general, rocky and exposed, and is surrounded on all sides by rapid currents.

Issued November 1895.

The locality is of great interest to the Algologist, and is well deserving of being thoroughly explored, not only on account of the luxuriance of the Algæ, but for the information to be gained relative to the geographical distribution of species. The species will often be found to have different habitats,—as well as different host-plants,—from those commonly observed in the southern islands, and in Scotland generally. They are altogether more northern in character.

At the west of the island, where the dip of the argillaceous-sandstone strata is at a gentle angle to the west, the pools between tide marks are numerous at all levels, and are of greatly varying depths. In these pools, especially, the Algæ are to be found growing in luxuriance, representing many species.

Notwithstanding indifferent health and failing sight, I succeeded in collecting 123 distinct species, including many rarities, in the course of a fortnight's work last August; but that number would doubtless have been considerably increased had my time been less limited. Of these, the following ten have not hitherto been observed in Orkney:—

1. *Dictyosiphon Chordaria*, Aresch.; *forma gelatinosa*, Reinke.—In shallow pools at a high level. Not uncommon at Risegjo, also at Noustar, and at South Bay, S.E. from Howmae, sometimes in bushy, robust specimens. Mr. E. Batters, to whom I am greatly indebted for his kindness in examining part of my North Ronaldsay collection, and in identifying this, amongst other doubtful species, informs me that these correspond with the specimens gathered by Reinke and sent out by him in the "Phycotheca Universalis," and that they, probably, should be referred to his *forma gelatinosa*, which comes very near to *Dictyosiphon Mesogloia*, Aresch., and forms a connecting link between the two species. *Dictyosiphon Chordaria* was first found in Britain by Mr. Batters at Berwick-on-Tweed, and he subsequently found it at Cumbræ, while on the British Museum Working Committee, which was formed for the investigation of the Marine Flora of western Scotland. It is properly a Scandinavian species.

2. *Codiolum pusillum* (Lyngb.), Fosl. (*non* Kjellm. Alg. Arct. Sea).—In shallow pools between tide marks, at a high level, near the "Natural Bridge," in abundance; also at Scarvigjo.

This *Codiolum*, after a careful examination, by Messrs. Batters and Foslíe, has been referred to *C. pusillum* (Lyngb.), Fosl. The so-called species of *Codiolum*, however, run into each other in a very puzzling manner. They differ chiefly in measurements, and—as Mr. Batters remarks—measurements are somewhat uncertain tests, especially if taken, as in the present case, from barren plants.

Mr. Foslíe writes to me as follows:—"In my opinion your *Codiolum* is most nearly related to *C. pusillum* (Lyngb.), Fosl. (*non* Kjellm. Alg. Arct. Sea). It differs from *C. gregarium*, according to A. Braun's description in 'Alg. Unicell.,' in that the stipe most often passes into the club without any limit, and the latter thinner in proportion to the length than in *C. gregarium*. It is slightly larger than the form of *C. pusillum* collected by Lyngbye at the Farøe Islands, and agrees better with the form of that species found in Finmarken, and recorded by me in 'Contrib.' I., p. 151, and not identical with the species mentioned by Kjellman under the same name in 'Alg. Arct. Sea,' which I have called *C. cylindraceum*. These two species are certainly nearly related, but cannot in my opinion (and Kjellman's) be considered as forms of *C. gregarium*."

Professor Kjellman, in "Alg. Arct. Sea," p. 319, writes:—"The genus *Codiolum* has shown itself of late to possess, in the northern seas, a considerable number of forms that are only slightly differentiated, and should possibly be justly regarded as forms of one and the same species. It is evidently a genus in the course of developing species. Nevertheless, the species distinguished ought to be kept up until more forms shall have been discovered at other places. This will, no doubt, happen now, since more attention has been directed to these small and easily overlooked Algæ."

3. *Hydrocoleum lyngbyaceum*, Kütz., *forma rupestris*, Kütz.—At Noustar, in shaded crevices, at a high level.

This form has been found only at two other localities, namely, Berwick and Cumbræ, by Mr. Batters; but the typical form is found at several stations along the coast.

4. *Ceramium circinnatum* (Kütz.), J. Ag.—In pools between tide marks at Risegjo, Noustar, etc., sometimes epiphytic on *Codium tomentosum*, and other small Algæ; also in caverns, and damp shaded places.

5. *Cladophora utriuscula*, Kütz.—In clear shaded pools between tide marks at a high level, with *Lithothamnium* and *Corallina officinalis*; especially in the vicinity of Risegjo. Common.

6. *Enteromorpha minima*, Näg.—On rocks between tide marks, at a high level, at Sealskerry; at the Lighthouse pier; and at the north end of the Island, generally.

7. *Phyllophora Traillii* (Holm.), Batt.—On rocks north of the lighthouse at low water, in the shade, in abundance, and often in well-grown specimens; also at Noustar, in dark crevices. All the year. Fruits in winter.

8. *Ectocarpus erectus*, Kütz.—Growing out of minute cracks or flaws in the smooth rock at the bottoms of shallow pools, at Noustar, near high-water mark.

9. *Ectocarpus terminalis*, Kütz.—Epiphytic on *Corallina officinalis*, *Cladophora rupestris*, etc., in pools between tide marks. Risegjo, etc.

10. *Polysiphonia pulvinata*, Phyc. Britt.—In pools between tide marks at the "Natural Bridge," rare.

Ectocarpus velutinus (Grev.), Kütz. (*Elachista velutina*, Fries.).—Epiphytic on *Himanthalia lorea*; usually associated with *Elachista scutulata*. Annual. June to October. Fruits usually in July and August. Omitted in my South Ronaldsay list.

The following, though not new, are deserving of mention as specialties of the island:—

Ceramium ciliatum, Ducluz.—In shallow pools at a high level, a little to the north of Risegjo; common, but of small size. This species was included in my "Marine Algæ of Orkney," on Harvey's authority, but no definite locality has been recorded until now.

Desmarestia ligulata (Light.), Ag.—Cast ashore in considerable abundance after gales, and often of large size. Fronds from 3 to 6 feet long.

Cladophora arcta (Dillw.), Kütz.—Abundant everywhere, and in various forms, in pools between tide marks.

Callithamnion tetragonum (With.), Ag.—Cast ashore at the west of the island, after gales, in great abundance, and in fine specimens; epiphytic on *Laminaria hyperborea*. These specimens are often associated with a *Porphyra* considered by Mr. Batters to be a variety of *P. miniata*, J. G. Ag.; non *Diploderma miniata*, Kjellm.

After giving effect to the ten new species before mentioned, and to those which I found in South Ronaldsay on a former occasion, the total for Orkney now amounts to 253.

GNAPHALIUM UNDULATUM, L., A CUDWEED NEW TO THE "LONDON CATALOGUE," FROM JERSEY. By A. SOMERVILLE, B.Sc., F.L.S.

During the past summer (1894) there has been found growing on the island of Jersey a composite, *Gnaphalium undulatum*, not included in our Floras nor in the "London Catalogue" of British vascular plants. As it seemed quite naturalised where met with, it may probably hereafter be included as an addition to the British flora. I have received dried specimens both from Miss Dawber, of Guernsey, and from the Rev. J. D. Gray, author of a "Flora of Suffolk," and these I have the pleasure to show to-night.

Specimens of the plant have been submitted to Mr. J. G. Baker, F.R.S., Keeper of the Herbarium at the Royal Gardens, Kew. He confirms their identification, and in writing of the species says: "It is a native of the Cape of Good Hope. We have a French specimen labelled 'A plant indigenous to the Cape of Good Hope, naturalised now for forty years at Plouescat, and beginning to spread along the coast.'"

On a reference to Nyman's "Conspectus of the Floras of Europe," I find *G. undulatum*, L., stated to be a Cape plant, but also now a colonist on the western coast of France, occurring at Cherbourg, Lannevez, and elsewhere.