

**THE MARINE ALGAE
OF THE FAERÖES.
PP. 339-532**

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The Marine Algae of the Faerøes. pp. 339-532 by F. Børgesen

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INTRODUCTION.

THE earliest contribution to our knowledge of the Marine Vegetation of the Færøes was made, so far as I know, by Jørgen Landt, who in his book »Forsøg til en Beskrivelse over Færøerne«, Kjøbenhavn 1800, mentions about 30 species of which some are easily recognizable, though others of the species which he reports from the Færøes, e. g. *Fucus serratus* and *Conferva corallina*, must undoubtedly be due to some error as they have not been found since; whilst with regard to others again, it is impossible to ascertain with any certainty what is meant.

The next and in every way most important contribution which has hitherto been published was that of the Rev. Hans Christian Lyngbye who visited the Færøes in the year 1817 with the support of the Danish Government. The results of this journey are embodied in his famous work »Tentamen Hydrophytologiæ Danicæ«, published in 1819. In this work, in which Lyngbye describes several new genera and species on the strength of the material collected in the Færøes, some 100 Færøese species and varieties are enumerated. In the case of several of these species the name given by Lyngbye has been retained up to the present time, while others have been re-named. And, more particularly with regard to these latter, the fact that Lyngbye's Herbarium is preserved in the Botanical Museum in Copenhagen, has been of great importance to me, as I have constantly been able to consult the specimens to which he refers in *Hydrophytologia* and to revise his old determinations. While the determinations of the greater part of the species were, on the whole, easy enough to revise, there were some which caused difficulty owing partly to the material of the species contained in Lyngbye's Herbarium being old and decayed, and partly and more

particularly to the material in question being very scanty. In his *Hydrophytologia* Lyngbye also gives accurate and valuable information regarding the habitat and distribution along the Færøese coasts of almost all the species found by him.

Besides the large number of Færøese algæ which are enumerated in Hornemann's »Plantelære»¹ on the authority of Lyngbye's work, a few are added to the list, viz. *Polyides lumbricalis* = *P. rotundus* and *Callithamnion corymbosum* of which I shall give a fuller account later on. Trevelyan's² paper must also be mentioned, though the Færøese algæ reported in it are likewise only an extract from Lyngbye's *Hydrophytologia*.

The next independent work which has increased our knowledge of the Færøese algæ is »Færøernes Flora» published in 1870 by E. Rostrup³, in which he gives the results of a journey made in 1867 to the Færøes in company with C. A. Feilberg. In this work ten new species of marine algæ are added to the flora, among which, however, as I have explained more fully later on, there is some doubt as to whether the species *Chaetopteris plumosa* which Rostrup received from a Mr. Randropp of Thorshavn is really from the Færøes. The total number of species of marine algæ reported by Rostrup is not far from 100. The determinations of the material in question were revised by Professor J. G. Agardh of Lund and Professor J. E. Areschoug of Upsala.

The latest contribution to the marine algæ of the Færøes we owe to Herman G. Simmons who visited several parts of the Færøes in the same year as I had begun my investigations, viz. in 1895, but somewhat later than I. In his work »Zur Kenntnis der Meeresalgen Flora der Færøer»⁴ 125 Færøese species are mentioned, as his list also includes the 16 species (of which 2 are classified as genera only, and 1, *Porphyra miniata*, had been already recorded by J. Agardh as Færøese) which I published in my preliminary list of 1896⁵, together with the *Laminaria lingicuris* var.

¹ Hornemann, I. W.: Forsøg til en dansk økonomisk Plantelære. Kjøbenhavn 1821—37.

² Trevelyan, W. C.: On the Vegetation and Temperature of the Faroe Islands (Edinburgh New Philosophical Journal for January 1835 t. XVIII. Reprinted with corrections, Florence, 1837).

³ Botanisk Tidsskrift, Vol. 4. København 1870—71.

⁴ Hedwigia, 1897, p. 247.

⁵ Bergesen, F. and Ostenfeld Hansen, C.: Planter samlede paa Færøerne i 1895 (Botanisk Tidsskrift, Vol. 20. Kjøbenhavn 1895—96, p. 156).

færoënsis nov. var.¹ which I described in the same year. But various causes such as a different definition of species, or the fact of *Simmons* including some species on the authority of old and according to my opinion incorrect reports of previous writers, have combined to reduce the number of *Simmons's* list which I think ought to be brought down to about 115.

Thus, as may be seen from the above, the investigation of the alga-flora of the Færøese coasts has been far from neglected during the last hundred years; and my researches, which I began as already mentioned in 1895, form the last link in the series. I had for some time been thinking that a closer examination of the marine flora of the Færøese coasts would be of great interest as no algologist had investigated it since Lyngbye visited the islands. So when Herman G. Simmons in the beginning of the year 1895 came one day from Lund and told me of his intention to visit the Færøes during the summer for the purpose of studying the flora of the islands, I at once made up my mind to go there and carry out the investigations I had been contemplating. Thus this, my first visit to the Færøes, came to form a part of the thorough investigation of the Færøese flora set on foot by Professor Warming in the years 1896 and 97. On the 8th of June I arrived at Thorshavn where I stayed mostly during that year's visit, though I had also an opportunity of carrying on my researches in the greater part of Stromø and the nearest adjacent islands. In 1896 I again visited the Færøes in company with Mr. Jensen and stayed there from the beginning of May to the middle of June. This year I stayed for the most part in Trangisvaag. Klaksvig, Ejde, Midvaag and Kvivig; and also paid a visit to Store Dimon. For the purpose of investigating the alga-vegetation in spring I again went to the Færøes in 1898 and stayed there from April 21st to June 16th, and Thorshavn was again my head quarters whence I made longer excursions partly in boats and partly in the steamer »Smiril« to Østerø, Bordø and the Nordreøer. Lastly, in 1899 and 1900, by permission of the Marine Department. I spent about a month in each year on board the man-of-war stationed at the Færøes for the protection of the fisheries, and through the kindness of Captain v. Jessen and Captain Schack I had excellent opportunities of visiting the more remote islands, and places difficult of access, and

¹ Børgesen, F.: En for Færøerne ny *Laminaria* (Botanisk Tidsskrift, Vol. 20. Kjøbenhavn 1895—96, p. 403).

have thereby been able to form a more complete idea of the vegetation as a whole.

This short account of my journeys will show that I visited the Færøes only in the spring and summer months, but as I was anxious to get some collections from the autumn and winter months, Mr. Helgi Jónsson on his return journey from Iceland in the autumn of 1897 very kindly stayed some time in the Færøes for the purpose of collecting, the Carlsberg Fund generously covering the expenses. Jónsson stayed in the Færøes from Oct. 28th to Dec. 9th; he traversed more particularly Nordreøerne, Østerø, Syderø and the environs of Thorshavn, and brought home a considerable collection. Lastly, Mr. Ostfeld brought home some smaller collections especially from Trangisvaagfjord. If we add to this the portions of Lyngbye, Rostrup and Simmons's collections which I have had at my disposal, the material which I have had for examination forms a continuous series from April 21st to Dec. 9th. It has thus been possible with regard to the greater part of the species to form a fairly definite idea of their development at the different seasons, though it has of course been a great drawback to have no material from the 3 winter months proper, a season of the year which is of great importance in arriving at any final conclusion with regard to the development of the algæ.

As Kolderup Rosenvinge has pointed out in his introduction to »Grønlands Havalger«, in order to be able to arrive at a correct conclusion concerning the composition of a flora it is as necessary to exclude those species which have erroneously been referred to it as to include such as really belong to it; consequently, I have omitted those species with regard to which I felt justified in doubting that they really belong to the flora; and in several cases it has been possible for me by the help of the original specimens in the museum in Copenhagen as well as of those kindly lent me from other places to prove the error beyond doubt.

In preparing the following list I have naturally followed Kjellman's »Norra Ishafvets Algflora«, the latter being the standard work more particularly for the Arctic alga-flora, but I differ in some respects from Kjellman's definition of species in which I follow mostly the opinion of other investigators, such as Foslie and more particularly Rosenvinge, as expressed in his well-known work »Grønlands Havalger«. Thus, I have as a rule adopted the view emphasized by Rosenvinge that such forms as are un-

doubtedly connected by intermediate ones ought to be united, and are only to be regarded as forms or varieties of one and the same species. This has naturally reduced the number of the species, but on the other hand so many species new to the flora have been found that they have helped almost to double the number; some I have been obliged to describe as species new to science.

In a later work on the alga-vegetation along the coast of the Færøes, besides the description of the different alga-associations, etc. I hope to be able to give some notes on the plant-geographical position of the Færøese alga-flora compared with those of the nearest adjacent countries.

It is here my pleasant duty to express my sincere gratitude to the many who have in various ways helped me in this work. My thanks are more particularly due to Dr. E. Bornet, who kindly helped me with regard to the determination of some *Callithamnion*; to Mr. M. Foslie, who determined my collection of calcareous algæ; to Dr. Kuckuck, who, during a short visit I paid to Heligoland, gave me valuable advice especially with regard to my Færøese species of *Ectocarpus*; to Professor Sauvageau for his kind assistance in connection with my *Myrionemaceae* and *Sphacelariaceae*; and to Mr. Johs. Schmidt for determining the greater part of my blue-green algæ. Above all I would express my warm thanks to Dr. Rosenvinge for his constant kind assistance which was of great value to me on account of his wide experience and knowledge of the Northern Algæ, especially those of Denmark and Greenland. Lastly, I must mention those who by lending me Exsiccata or original specimens of species which are wanting in the Botanical Museum in Copenhagen, rendered me great help, more particularly Dr. Nordstedt; Major Reinbold; Dr. Rostrup and Professor Wille.

List of abbreviations¹.

J. Ag., Spec. Alg. = J. G. Agardh, Species genera et ordines Algarum.

Aresch., Phyc. Scand. = J. E. Areschoug, Phycæ Scandinavicæ marinæ. Upsaliæ, 1850.

Farl., New Engl. Alg. = W. G. Farlow, Marine Algæ of New England and adjacent coast. Washington 1881.

¹ Of the title of books and of names most commonly used.