

## Book reviews

STEINDÓR STEINDÓRSSON: Studies on the Mire-Vegetation of Iceland. Vísindafélag Íslendinga (Soc. Sci. Isl.) 41, 1975; 226 pp.

No one has devoted so much of his time to study the Icelandic plant communities as the author of this book, Steindór Steindórsson. His results have been presented in many articles, in which he has circumscribed the different communities in Icelandic vegetation, and classified them. Only those who are familiar with plant sociological work do realize, what a tremendous work this can be, with the endless variability and complexity involved in the structures of the plant communities in Iceland. His work has already served as a basis for the classification used in the vegetation maps of Iceland, produced by the Agricultural Research Institute in Reykjavík.

Under the title Studies on the Mire-Vegetation of Iceland, we find the first exhaustive treatment specially devoted to the mire vegetation of Iceland. It is based on experience gathered in many expeditions in the period 1930-1967, covering almost the entire country. Some parts of this work have been published before in some form, as a part of the author's treatments on the Vegetation of the Central Highlands of Iceland (The Botany of Iceland 1945, Flóra 1964-1967).

In the introducing chapters the author deals with the general characteristics of the Icelandic mires and their classification. The main part contains descriptions of 100 plant sociations with notes on their relationships, their habitats and their variability. References are made to 417 analyses which appear at the end of the book.

When the author started his plant sociological work in 1930, he adopted the analytical methods of Raunkjær, which have been used consistently throughout the work. The classification and demarkation of sociations is based on dominants, usually a combination of a few of the main dominants. This results in a rather narrow definition, and relatively small vegetation units, but large in number.

This book is a fundamental reference work for all those who deal with the vegetation of Iceland on a sociological basis, or those working on arctic and subarctic mires in general. It is distributed through Bókaverzlun Snæbjarnar, Reykjavík. Its price is \$ 25.

ÁSKELL LÖVE & DORIS LÖVE: Cytotaxonomical Atlas of the Arctic Flora. J. Cramer, Vaduz, 1975. 598 pp.

Even though several regional floras of the arctic countries have been published, there has been a lack of manuals covering the whole arctic. The only connecting link between these regions is the circumpolar arctic flora of Polunin, 1959.

Since an interregional view is very important to every one seriously studying a regional flora, a modern circumpolar checklist like the Cytotaxonomical Atlas

of the Arctic Flora is a most welcome addition to the botanical library. It is intended to list all indigenous families, genera, species and subspecies of the whole district, with numerous synonyms. It includes information on their geographical distribution, based on subdivision into 12 regions within the area. The chromosome number is given for all taxa, where it is known, with a voluminous reference list to chromosome counts.

Like in their previous publications, the Löves are also here pioneers in the revision of classification and nomenclature. As far as the Icelandic flora is concerned, there are not less than 44 alterations of names from the Icelandic excursion flora by Á. Löve 1970, or almost 9%. A few of these, to the relief of the more conservative botanists, are reverse changes to a previous status.

A great deal of these name changes are due to a narrower genus concept adopted by the authors, than generally has been recognized. As an example, genera like *Gnaphalium*, *Veronica*, *Gentianella*, *Cochlearia*, *Minuartia*, *Sagina* and *Cerastium* have all been split apart. It remains always a matter of opinion, whether such changes are an improvement or not, but they add a great deal to the nomenclatural confusion, so long they are used side by side with the nomenclature of modern, but more conservative manuals.

The authors present their arguments to their nomenclatural changes in an article published in *Botaniska Notiser* 1976, where they are validated.

STURLA FRIDRIKSSON: Surtsey, evolution of life on a volcanic island. Butterworth, London, 1975. 198 pp.

Ever since the island of Surtsey emerged from the sea through a volcanic eruption in 1963, scientists have been engaged in various geological, and later biological research on the Island. The colonization by plants and animals has been observed in detail. The numerous immigrants, successful colonizers as well as casual migrants, have been carefully recorded. Never before has such an immense information been gathered to follow the primary colonization of a new born, in the beginning completely sterile island. The close cooperation of many specialists in different fields of botany and zoology did ensure as far as possible for a careful and reliable work.

As a result of this, a great number of articles have been published in the various disciplines, both in the Surtsey Research Progress Reports, as well as in various periodicals appearing throughout the world. Consequently there has been an increasing need for some general survey bringing together the results obtained so far. This book of Sturla Friðriksson is the first attempt to summarize the whole story of the island, with detailed descriptions of the biological events. It covers the first ten years of the existence of the island.

The book commences with a broad background of the formation and the geomorphological development of Surtsey and her two sister islands, which were soon broken down after they appeared. It is amazing, how drastic and rapid changes have taken place in Surtsey itself after its formation, by the natural forces, sea and wind.

The name of the book, evolution of life on a volcanic island, is somewhat misleading in its biological sense. The main subject of the book is the colonization of the island by organisms, even though one chapter is devoted to the question, whether life can originate and evolve on an island like Surtsey or not. Even though spontaneous synthesis of simpler organic substances like amino acids may occur under natural conditions, like those leading to the creation of Surtsey, there is a long way to the genesis of life, which presumably requires prolonged

accumulation of complex organic substances in an aquatic milieu, without the interference of already existing organisms. These conditions seem to be inconceivable in a sea full of life, and surrounded by an active dispersal agent, the air.

One of the most valuable biological contribution of this book, is the rich variety of well documented events, which demonstrate the dispersal methods used by plants and animals that reach the island. Many examples are brought about how various animals or plants were transported to the island by sea currents, by various floating objects, by wind, by birds or insects, and by man. Very illustrative is the large number of transported species compared to the relatively low number of successful, permanent establishment of organisms on the island. Special parts are devoted to the marine algae, marine fauna, the bacteria, terrestrial algae, lichens, mosses, vascular plants, the microfauna, the terrestrial invertebrates and the birds.

A complete reference list to the publications on Surtsey follows every chapter. It would have given the book more scientific value, if direct quotations had been given to the list, by small numbers in the text. It is not always easy to trace the source of information, or separate facts from the personal view of the author.

The book can be recommended not only to biologists and biology students, but also to general public with interest in fascinating natural events like here described, since it is written in a popular style and decorated with mythic epigrams as well as with numerous drawings and photographs, partly in color. Since the book is not commonly seen on the Icelandic book market, those who are interested should be referred to *Bókaverzlun Snæbjarnar* or *Bókaverzlun Sigfúsar Eymundssonar*, Reykjavík, which will order it from the publishers. Its price is f 5.00.

*H. Kr.*