

Bibliographical Notes.

Dr. C. A. BACKER, *Verklarend Woordenboek van wetenschappelijke plantennamen* (Explanatory dictionary of scientific plantnames) — Noordhoff-Kolff, Groningen-Batavia, 1936 — XII + 664 — Price: flh. 19.50.

Many botanists and also sylvic, hortic- and agriculturists and almost all taxonomists are, in the course of their daily task, meeting plant-names, the exact meaning, signification or derivation of which is not immediately clear to them. Being an intelligent and studious man, he often feels the desire to know more of a name than just its orthography and so he makes a grab at one of those books written to spread more knowledge about the matter. If it is the name of a genus or of a subgenus, WRTSTEIN'S „Handwörterbuch“ is the book he needs, although it yields no help for genera younger than 1852 (date of preface). If it is a specific name or a latin or latinized botanical term, BISCHOFF is his man, either by his „Handbuch der botanischen Terminologie“ of 1833—1844 or by his smaller „Wörterbuch der beschreibenden Botanik“, of 1857 (2nd Ed.). In case these books cannot meet his wishes, on account of their age or merely out of deficiency, our present-day investigator will try to find the name in one of the more recent lists: BAILEY'S „Companion for the Queensland student of plant life“ of 1893; SALOMON-SHELLE, Wörterbuch der botanischen Kunstsprache, 1904; KANNGIESSER, Etymologie der Phanerogamen-Nomenclatur, 1908 (mainly generic names); VOSS, Botanisches Hilfs- und Wörterbuch (6th ed. 1922); etc.

It is probable that in many cases the information thus obtained is either none, or at least unsatisfactory. Now the book announced here is only covering Phanerogams and ferns growing or grown in the Netherlands and in the Netherlands Indies but it may be readily accepted that this entails that it is usable for almost the whole of western Europe and of South-East-Asia. There is, however, a but, viz. in that the book is written in the Dutch language. This difficulty for foreign readers may, however, be compensated by two features; first of all by the name of the author who is known not only as one of the best connoisseurs of the Javan flora but also as a writer whose methods of investigation are exceedingly accurate and thorough; and secondly by the nature of the about 22500 items in this glossary, implying that most things can be understood with the help of a dictionary and many even without that.

I therefore recommend here with confidence this excellent book also for the use of non-Dutch botanists, horticulturists, etc. BACKER, who is an autodidact, is as keen in botany as in the comparative knowledge of languages and in history. As far as possible all names have been traced back to their very origin. Therefore BACKER is very often more than a mere recorder, since he repeatedly corrects older etymologies or wittily satyirizes ridiculous mistakes. The prospectus of this book says that BACKER for some 5 years carried a both extensive and intensive correspondence in order to

obtain biographical particulars of about 2700 private persons whose names are connected with plant-names.

The proper list is preceded by a preface and an explanation; the latter is, except for a list of abbreviations, of little use for foreigners as it mainly contains notes on the (Dutch) pronunciation. The work terminates with a list (30 pages) of the principal author's names, their abbreviations and — as far as not mentioned in the main list — a short elucidation. The result of all this painstaking work, accomplished with the help of many, is a splendid book, which I would also like to see in the hands of all foreign taxonomists, for their own profit as well as for the fame of the botanical research in the Netherlands and its colonies.

Few people indeed will have the patience and the perseverance to go through an almost endless number of publications, ancient and recent (many of which being, moreover, by no means easily attainable), and to do it so thoroughly that, apparently, very few names are omitted, and that those inserted are accurately checked.

H. J. LAM.

W. FEEKES, *De ontwikkeling van de natuurlijke vegetatie in de Wieringermeerpolder, de eerste groote droogmakerij van de Zuiderzee* (The development of the natural vegetation in the „Wieringermeerpolder”, the first large land reclamation of the Zuyder Zee; doctor's thesis) — *Nederl. Kruidk. Arch.* 46, 1936, 1—294, with maps, figures and plates (text in Dutch).

This investigation, being a part of the program of the Committee for the botanical investigation of the Zuyder Zee and environment, established by the Netherlands Botanical Society, was carried out during the years 1931—1935, with the purpose to study the development of the natural vegetation on the new land, concerning matters of biological dispersal, sociology and floristics. The polder, which was dammed up in the years 1927—1929, was reclaimed in 1930 and has an area of 200 km².

This new land consists of diluvium in the N.E. part and is further formed by old marine clay („fossil” saltings), divided into two parts by a „fossil” muddy shallow. Soon immigration of Angiosperms into the new land was stated; characteristic processes were the projection of vast populations of *Aster Tripolium* from foci on the coast and also aggregation of seedlings around the mother plants. Moreover, the sea bottom before reclamation was not at all a virgin one, as was proved by the examination of soil samples, which may be explained by the action of seawater as a means of transportation of seeds from the neighbouring coasts over great distances. On the other hand, the salinity of the soil must have been the factor to set bounds to the establishment of several species, which fact, however, considerably clouded the insight in the local migration conditions. Therefore experiments on germination and on mortality of germs were carried out. Rainwater appeared to be responsible for the transport over small distances only.

The number of anemochores was not so great as could be expected; only with extreme anemochores as *Aster Tripolium*, *Senecio vulgaris*, *Phragmites communis*, the action of wind was really effective. So it was in several *Chenopodiaceae* which form

„rolling plants”. Transportation by birds also played its part (species near the fresh-water wells; introduction of plants from the dunes). The number of anthropochores was particularly large (93 species). The author found himself to have unintentionally carried with his clothes and boots on 11 trips in the polder about 2000 diaspores, belonging to 57 species! The total amount of Angiosperm species occurring in the polder up to 1934 was 354; 221 more species, known from the neighbouring country, did not penetrate into the polder. Many of these species are rare in the surrounding regions or do not possess effective means of dispersal. The others may be considered as kept away by the salt. In the beginning the number of annual and biennial hibernating species was high, later on the number of hemicyptophytes and especially of geophytes increased. Of the 261 naturally introduced species 50 developed socially; only a small number of these became dominant and covered vast areas: *Aster Tripolium*, *Atriplex hastatum*, *A. littorale*, *Suaeda maritima*, *Senecio vulgaris*, *Poa annua*. Several species in the polder showed a remarkable polymorphism, e. g. *Salicornia herbacea*, *Spergularia salina* and *Aster Tripolium*. Of *Salicornia herbacea* 16 forms are described and partly pictured; 3 subspecies could be distinguished, viz. *stricta* DUM., *ramosissima* WOODS and *arborea* FEEKES. Dominance of a small number of species over large areas was very striking in the first vegetation (investigated according to the Netherlands-Scandinavian method), as has been often stated in similar conditions.

In the succession a hydrosere and a xerosere could be distinguished (Scheme I, p. 105—107); the hydrosere consisted of *Chlorophyceae* and a few Angiosperms; the xerosere could be subdivided into 1. a stage of *Cyanophyceae* and *Diatomeae*, 2. a stage of annuals, 3. a stage of species of more generations pro year and of biennials and perennials, 4. the natural pasture. Maps show the situation of the associations. The species-area curve of the vegetation corresponds with the formula of ARRHENIUS, except in very salty habitats, where the saturation curve of KYLIN was found. The frequency curve culminates in the sporadic species; on early desalted habitats a second culmination point is found in the most frequent species. By early desaltation less diaspores are kept away. Especially the uppermost layers of the soil are of importance for the development of seedlings. The dominant halophytes appeared to be more or less hygrophytic in their seedling-stage, viz. *Aster Tripolium*, *Suaeda maritima*, *Salicornia herbacea*, *Atriplex littorale*, *A. hastatum*. On dry, quickly desalted soil the annual halophytes seldom formed associations. Curves show the correlation between the occurrence, the average and the maximum degree of covering of the simple associations and the concentration of salt in the layers of 0—10 and 10—25 cm. In scheme II, p. 188, the degree of salt tolerance of a number of species is indicated. The selection of ecotypes may appear to be important for judging the sequence in the scheme mentioned.

A further factor of importance was the nitrogen. The first nitrophilous vegetation, being very luxuriant, was followed by a much less vital one. It was striking that several halophytes of the surroundings did not occur in the polder. Perhaps the factor N is giving the explanation here.

Bryophytes appeared especially after heavy rains and often suddenly covered large areas. Diversity in salt tolerance is also evident in several mosses. Bryophytes found in the polder are enumerated as are the Fungi and Algae.

The fauna of the new land was also submitted to a discussion. Typical for the new land was the appearance of large quantities of certain species of insects.

A separate chapter is devoted to the results of these investigations useful for practice.

It may be of interest in connection with the future reclamation of other parts of the Zuyder Zee to study the question whether and how far the first vegetation can be tolerated in other projected polders and how far the dispersal of the species could prognosticate about the nature of the soil.

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