*Notes R.B.G. Edinb.* 38(2):296 (1980)

BOOK REVIEW

**Dutch comfort—a declining flora portrayed.** This *Atlas** is the culmination of nearly 80 years of floristic mapping in the Netherlands initiated by Goethard & Jongmans, later carried on by the Institute for the Investigation of the Vegetation of the Netherlands (IVON) and most recently by members of the Department of the Netherlands Flora at the Rijksherbarium, Leiden, under the direction of Dr J. Mennema. When complete, the *Atlas* will provide maps for all 1,554 species in the *Standaardlijst van de Nederlandse Flora 1975* (Arnolds & van der Meidjen, 1976).

Subtitled 'Extinct and very rare species', the first volume acts as a visual 'Red Data Book', documenting the 332 rarest members of the Dutch flora—those now present in ten or fewer of the 1,677 grid squares of 5 × 5 km covering the country.

The seven introductory chapters are mostly lucidly written. The weakest is unfortunately the first, which immediately introduces British readers to unfamiliar terms such as 'hour square' and 'IVON' that are not defined until much later. A far better 'Introduction' is the third chapter, 'History of Phytogeographical Investigation in the Netherlands' by P. Smit and B. Verschoof. This has been so skilfully translated by Miss S. McNab that it reads as though she wrote the original. It is a pity that the accompanying illustrations, confined to the wide left hand margin, are so small. Some diagrams are difficult to interpret because of the subtle fine green shadings used. For example, in Fig. 6 (Phytogeographical Districts) the Dune, Haff, Subcentral-European and Loess Districts are practically indistinguishable.

The maps are attractively arranged, two per page, with accompanying Dutch text and English summary. The former gives details of the first record for each species in the Netherlands, possible reasons for its extinction, decline or expansion, and information on doubtful records. The English summaries are, however, tantalisingly brief.

Two different maps have been used by Dutch botanists. The earlier system, using a grid of 5 × 4·18 km, was replaced after 1950 by one based on a 5 × 5 km grid. This change posed considerable difficulties in compiling the maps. The problems have been more or less successfully overcome. Pre-1950 records are shown by a green symbol, post-1950 ones in black. Legibility is generally good, although the black symbols are sometimes obscured by topographical details, as in the map of *Lactuca tatarica*, where the single black star is almost invisible. The choice of 1950 as the major date line, necessitated by the change in grid, also makes it difficult to correlate the maps with those in the corresponding Atlases for the British Isles (Perring & Walter, 1962) and Belgium & Luxembourg (van Rompaey & Delvosalle, 1972), both of which use 1930 as their date line. For orientation, the diagrams of pre- and post-1950 map sheets provided on a loose card would have been even better on transparent overlays.

Even a quick perusal of the maps shows how great has been the decline of the native flora. Some 60 species became extinct before 1950; eleven disappeared between 1950 and 1970; at least two more have gone since. Comparison with the Belgian and British atlases shows that many species, e.g. *Centaurea calcitrapa*, have declined in all three territories. It is sad to read so often that regression has been caused by man's interference with the habitat. Reclamation, drainage, herbicides and—most inexcusable of all—digging up by tourists, are only some of the reasons cited for the decline of such beautiful species as *Pulsatilla vulgaris*, as well as agricultural denizens such as *Melampyrum arvense*.

The book is strongly bound and clearly printed on high quality paper. There are few notable errors. *Sedum forsteranum* and *Hieracium peleteranum* are both given intrusive '*i*'s contrary to Art. 73.10 of the Code. The publication date of *Flora Europaea* vol. 5 is cited throughout—perhaps understandably—as 1979, the year it was expected to appear.

But these are very minor blemishes. They do not detract in any way from this beautifully produced, aesthetically appealing yet thought-provoking *Atlas*. To quote from the foreword by C. Kalkman, 'Much has doubtlessly been lost . . . But pessimism need not prevail. Much can still be saved, or again return—if we are sensible.' May this volume, and the two to follow, prove a stimulus to sensible thinking, so that what is left may be enjoyed by future generations.

R. R. MILL

* *Atlas of the Netherland Flora I. Extinct and very rare species*. English edition. J. Mennema, A. J. Quene-Boterenbrood and C. L. Plate (Eds.). 226 pp., 16 figs, 333 maps. 1980. Dr W. Junk bv, P.O. Box 13713, 2501 ES The Hague, The Netherlands. [ISBN 90 6193 605 5]. Price Dutch Guilders 125/U.S. $ 65.