Book Reviews

Lesins, K.A., Lesins, I.: Genus Medicago (Leguminosae). A Taxogenetic study
The Hague: Dr. W. Junk bv 1979. XII/228 pp., 72 figs., 3 tabs. Hard bound $ 52.65

Due to the awareness of an increasing risk of gene erosion and the consequent intensification of stock preservation in gene banks, systematic agrobotany has undergone a renaissance. The Lesins contribute to this by summarizing their wide experience with luzerne in a monograph. This assiduous couple became interested in luzerne in the 1930's, continued their research first in Sweden in 1945-1955 and after that in Edmonton, Alberta.

Their book is mainly taxonomic but also reflects their deep knowledge of genetics. Their conclusions are based predominantly on living material, much of it brought together by their own expeditions to various areas. Apart from comparative morphological studies, they have traced the presence of isolating mechanisms and interpreted their role in the speciation process. This profound approach makes the monograph not only reliable but also interesting.

The genus *Medicago* originates from the Mediterranean region, cannot be considered extremely old, and is closest related to *Trigonella* and *Melilotus*. Besides the basic chromosome number n = 8, some diploid *Medicago* types occur with n = 7, presumably developed by the union of two chromosomes under loss of one centromere region. An evolution of autopolyploids and autoallopolyploids (2n = 32, 48), generally resulting in more competitive and wider adapted types, has occurred only in the 16-chromosome group. A development from shrubby perennials to herbaceous annuals is accompanied by an increased tendency towards self-pollination, a process thought to have started one and a half million years ago. The luzerne flower is adapted to be opened (tripped) and pollinated by ground-nesting bees, but self- (i.e. automatic) tripping is a constant feature in annual *Medicago* species.

With growth habit, flower and pod characteristics as major taxonomic markers, the Lesins distinguish four sections and 56 species in the genus *Medicago* (1 shrubby perennial, 21 herbaceous perennials, and 34 herbaceous annuals). A key, detailed descriptions, and illustrative photographs reveal solid knowledge of the subject and a provident and thoughtful classification.

J. MacKey, Uppsala

G. Jones: Vegetation Productivity. Topics in Applied Geography
London, New York: Longman 1979. 100 pp., 21 figs., 11 tabs. Soft bound £ 3.95

Dr. Gareth Jones' book on vegetation productivity is comprehensive, easy to read and basically well written. It has only two shortcomings: a clearly stated purpose is missing and it is about five years too late. Eyre (1978), Cooper (1975), Lieth and Whittaker (1974) had not been seen by the author at the time the manuscript was finished; no mention is made of the other volumes of the IBP series published by Cambridge University press or of the ecological studies series by Springer Verlag, both of which cover related material in great detail. Chapter 5 is a valued contribution to the biogeographer: it is a case study calculating a site production index in Cwm Cadian. However, the last important step, the conversion to gram dry matter per m^2 produced in one year is missing. The use of models in the chapters dealing with silviculture and agriculture leads in both cases to yield figures rather than productivity values. 'Methods' according to this author is the numerical evaluation of data, rather than the actual sampling procedure.

For all its short-comings regarding the choice of topics, primary literature and goals, the book does show the honest attempt of a biogeographer to cope with the subject matter within a framework of about 90 pages. A young reader may indeed, become stimulated to commence upon further studies. For that purpose an updating paragraph on suggested reading would have been helpful. For the geneticist it may be noteworthy to read that no genetics has been touched upon in the book. This in itself can be regarded as an encouragement to the readers of this journal, because a well-founded treatise of 'genetics and primary productivity' would have been most welcome to production biologists. H. Lieth. Osnabrück