
 Book Reviews

Hiesey, W.M.; Nobs, M.A.: Experimental Studies on the Nature of Species. VI. Interspecific Hybrid Derivatives between Facultatively Apomictic Species of Bluegrasses and their Responses to Contrasting Environments. Publication no. 636. Washington, D.C.: Carnegie Inst. of Washington 1982.

As the title indicates, this is the sixth volume in a series of experimental studies on the nature of species, initiated and carried out by Drs. Jens Clausen, David Keck, William Hiesey in cooperation with A. Nobs and O. Björkman. The studies have dealt with the experimental taxonomy, cytology and genetics of wild phanerogam species, primarily of North-American origin. The founder of the group was the Danish botanist and cytogeneticist Jens Clausen from Copenhagen and generously supported by the Carnegie Institution. The group has its headquarters at Stanford, California.

This famous experimental work has now reached its final state. It is with great admiration one looks back and surveys these six volumes with their enormous outdoor and laboratory work. At an earlier time the Swedish botanist Göte Turesson of Lund-Uppsala was involved in the tenants of this long-lasting work with regard to environmental/population interactions in the formation of ecotypes, ecospecies, coenospecies etc.

Except for an introductory chapter on working principles, methods and materials the two authors of Volume VI concentrate their experimental studies on hybridization, chromosome analyses and breeding work to the blue-grass genus *Poa*, with its agriculturally important forage species. The enormous multitude of different biotypes is grouped into complexes characterized by varying degrees of apomixis, built on vegetative reproduction by stolons in combination with asexually formed seeds by apospory and parthenogenesis as well as by partial sexuality. The chromosome numbers of the genus vary from $2n=14$ (in *Poa trivialis* for example) to $2n=42, 56, 70, 90$ (in complexes related to *Poa pratensis*) up to $2n=260-265$ (in the species *Poa literosa* from the Auckland islands). The chromosomal complexity of the genus is indeed outstanding.

Artificial crosses between biotypes and species have been carried out, with careful taxonomical and morphological analysis, also involving plant-breeding aspects. The genus *Poa* reacts like several other complex groups of phanerogam genera such as *Rubus*, *Potentilla*, *Alchemilla*, *Hieracium*, *Taraxacum*, etc., with their huge variation in morphology and cytology. Surprisingly little, however, has come out of direct plant breeding. The authors discuss the importance of in-

cluding wild materials in the international world gene banks. They also recommend the preservation of wild areas in different kinds of world environments, of prime importance for the combined success of agricultural plant breeding – “an activity that can never end as long as man depends on plants for food”.

The two authors and the Carnegie Institution are to be congratulated on the completion of a highly successful and penetrating enterprise dealing with the hereditary constitution of complex phanerogam species in response to widely varying environmental conditions.

Å. Gustafsson, Lund

Parks, J.R.: A Theory of Feeding and Growth of Animals. Advanced Series in Agricultural Sciences II. Berlin, Heidelberg, New York: Springer 1982. x+332 pp., several figs., several tabs. Hard bound DM 118,-.

Friends of Mr. John R. Parks will be delighted to find that his views of growth have now reached definitive form and have appeared between hard covers. It would be impossible to do justice with Mr. Parks' thesis within the compass of a short review. Briefly, he visualises growth as what he calls a “trace” in three dimensional space, where the axes are liveweight, cumulative food consumption and time. The familiar plot of weight against time, for instance, is just one of the three possible projections of the trace. Much else follows from this, and not everyone will necessarily agree with all of it. For instance, on page 31 we have a formula which implies clearly that daily food consumption asymptotes as the animal ages, and then stays at its maximum. This does not always happen, though it is only fair to add that the evidence best known to me was not published until the book had probably gone to the printer.

There is a great deal in the book that will promote discussion, and hopefully some experimentation. As such, it deserves to be widely read. It is a pity that the references are given at the end of each chapter, and not gathered into one bibliography. This makes it difficult to find a reference when first encountered in the text, and more difficult still to relocate it afterwards. This detracts somewhat from the value of the book as a source of reference; even an author index would have helped. But the book does not deserve carping criticism. I read it with enjoyment, and commend it to others.

R. C. Roberts, Edinburgh