
Book Reviews

Sengbusch, P. von: Einführung in die Allgemeine Biologie. Berlin, Heidelberg, New York: Springer 1977. 527 p., 328 figs. Soft bound US \$ 21.20.

This textbook initially arose from lectures and seminars held by the author in introductory lectures in biology and, in comparison to the first edition, it has been substantially expanded and actualized. The book wants to encourage students to tackle biological questions without gaining the impression of having understood all aspects in biology, as the author pointed out in the preface of the first edition. The book will certainly fulfil this task though it is not arranged in a conventional and systematic way (such a textbook was recently brought out by the same publishing house). As a consequence of its subjectively selected topics and the varying thoroughness of its presentation, the book does not give a well-balanced and comprehensive picture of up-to-date biology. It is, however, written in a very fascinating style that will attract the beginner.

In five sections, which are again divided into 66 chapters with references at the end of each chapter, the reader will find a lot of interesting facts, results, problems, and experimental methods, which make the book particularly valuable for advanced students. The problem of subjective topic selection becomes already apparent in the introduction where in the presentation of fundamental biological methods higher plants are referred to as objects without including the essential morphological knowledge. The latter are not even included in the subsequent chapters since botany is not represented to the required extent. The emphasis of the presentation doubtlessly lies on fields of molecular biology and microbe genetics where the reader is led into questions of modern research.

The Section 'Organization at the Cellular Level', with 29 chapters, has been only slightly changed relative to the first edition. Some new pictures have been added to the all together excellent illustrations, and 4 chapters about energy yield, organization of the eucariotic genome, chromatin, and genetic engineering were revised or rewritten. In the remaining 25 chapters components,

structure, and function of the cell are treated, with particular reference to the genetic aspect. These chapters are informative and favorably arranged. However, this cannot be said in the same way for those chapters dealing with photosynthesis, catalysis, energy yield and enzyme mechanisms. Here we find in addition to unskillfully arranged presentations, some false information. As an example we will cite the transformation of equations for Michaelis-Menten-kinetics on page 200. There are several other mistakes which could confound the beginner.

In contrast to this are some brilliant pictures: for example the scanning microphotography of the impregnation of the sea-urchin ovum and the development of the frog ovum in the section 'Multicellular Organizational Level'. Although not to the same extent, the reviewer – as a botanist – can agree with the chapters about generation sequences of plants and the development of angiosperms. This is also true for the part about hormones in plants in chapter 42. Six chapters describe the organization and efficiency of the neural system, where such aspects as learning, memory and thinking are considered. The organizational level 'Society' is divided into 6 chapters and mainly deals with fundamental ecological problems. Growth models, population development and food supply, mainly in developing countries, were discussed without regard of political topics.

Nine chapters of the section 'Evolution' – 6 of them included in this edition for the first time, deal with populations, problems of evolution, selection and changes in genetic information, questions of social behavior, tribe history and taxonomy, as well as the evolution of man.

Author index and subject index conclude the book. There can be no doubt that this textbook will again be given attention by students of life sciences. We would suggest for further editions a more balanced presentation and in some cases more details, especially on fields, which are not so near to the author.

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