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BOOK REVIEW

POSTGATE, J.: **Nitrogen Fixation.** — Studies in Biology No. 92.— Edward Arnold (Publishers) Ltd., London 1978. Pp. 68. Paperback £ 1.50, hard covers 3.20.

Owing to the fundamental importance of the biological dinitrogen fixation in the biosphere much research has been devoted to the problem and during the last five years several comprehensive books, proceedings of symposia and reviews were published.

The author — professor of microbiology and assistant director of the A.R.C. Unit of Nitrogen Fixation, University of Sussex — having pedagogical erudition and being topmost experienced in the dinitrogen fixation research, cuts a long story short but covers all the main dinitrogen fixation aspects on up-to-date level. The first chapter is devoted to the main biological nitrogen conversion in the nitrogen biological cycle and to their relationships. The second chapter describes the “nitrogenase”, enzyme responsible for N_2 reduction, its unusual properties, substrates and cofactors. In the third — “Physiology” — chapter, the sensitivity of nitrogenase to oxygen, different ways of how microbes scavenge oxygen from nitrogen-fixing site, biological reductants, ATP-ase and hydrogenase activities of nitrogenase, and the regulation of the nitrogenase synthesis and activity are mentioned. In the selected lists of the next two chapters the free living dinitrogen fixers and plant-microbes associations are summarized and their dinitrogen fixation efficiency and agronomic importance is estimated. In the last two chapters — “Genetics and Evolution” and “The Future” the now very popular aspects of dinitrogen fixation research, *i.e.* *nif* gene cluster, genetic map of *nif*, genetic regulation of *nif*, *nif* plasmids, and artificial *nif* plasmids are discussed briefly, showing not only how much improvement is already feasible through the application of existing knowledge, but also the possible risks and hazards resulting *e.g.* from the transfer of bacterial *nif* genes to a crop plant or microbe.

A conclusion may be drawn that the thin booklet, which is published above all for the use of “teachers and students at school, college and university” provides valuable introductory information.

V. ŠKRDLETA (Praž))