# REVIEWS

**Supplement to Duthie's Flora of the Upper Gangetic Plain and of the Adjacent Siwalke and Sub-Himalayan Tracts.** By M. B. Raizada. (Bishen Singh, Mahendra Pal Singh, Dehra Dun), 1976. Pp. vii + 355. Price not given.

This book is an outcome of the author's realisation of the imperative need for bringing Duthie's Flora up-to-date. The author has maintained as far as possible Duthie's work in its original form and has taken pains to present the whole literature on the new species of the upper Gangetic plain in detail. He has rightly stated that "the supplement does not claim to be perfect nor complete; but every effort has been made to present as completely and reliable a list of plants of the upper Gangetic plain as was possible with the means available". A book of this type is always most welcome, because Flora's are referred to constantly by the teachers, students and research workers both in the class room and in the field. In a developing discipline where the concepts and nomenclatures appear to change often, supplements and new editions which include newer plant species and the latest nomenclature of the old species will be highly beneficial for all the workers in the field.

The book primarily deals with the enumeration of the plant species available in the upper Gangetic plain. It would have been much more useful and helpful had there been a taxonomic key of the genera and the species particularly for those which have been described anew. Also illustrations of some of the important species could have been included.

The book deserves to be patronised by the systematic botanists as it will be very useful at both the Graduate and Post-Graduate level of teaching and research.

R. A. SRIMATHI.

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**The Mathematical Theory of Electricity and Magnetism.** By D. K. Sinha and R. Bandyopadhyaya. (Published by Macmillan Company of India), Pp. 525. Price Rs. 45·50.

This book is supposed to be dealing with the mathematics of the theory of electricity and magnetism. However a subject like this cannot avoid physics altogether. Wherever the authors try to talk about the physical aspects of the various problems, they have given wrong statements and interpretation with a few exceptions. Even the mathematical aspect of the book is poorly done. The end product is neither good mathematics nor good physics. The students would be wasting their money in purchasing this book as many better texts are available in the market.

Most chapters start with a historical background of the subject. As a consequence the reader gets a feeling that the authors are going to give a very serious minded treatment, but soon after that one begins to get disappointed. If the teachers and students do not observe caution they are going to end up with learning wrong concepts. In the early part of the book mention is made of MKS units before the introduction of natural units. The authors should not have talked about MKS units, (because in its absence it would have simply implied the use of natural units only) as no chapter on the units appears in the book. There is a big chapter covering about 46 pages on special functions. But a very negligible part of it has really been applied in solving problems. Where is the need for such a chapter particularly when the material given therein can be found in many other books?

Even simple definitions of pulse, and standing waves have been given incorrectly or without any reference to the foregoing. I could go on and list number of other basic errors but that is not my job to correct a book written by others. The book has no value for the mathematics students as it contains no unsolved problems on the subject.

SOM KRISHAN.

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**Soil Science,** Chemical Properties No. 5 in Text Book Series in Agricultural Chemistry. By. Dr. A. Sankaram. (Published by The Bangalore Printing and Publishing Company Limited, Mysore Road, Bangalore 560018), 1977. Pp. 184. Price: Rs. 16/-.

Among the environmental components of greatest significance in agricultural production, soil and water play a major role. A myriad of chemical reactions occur in soil under the influence of agricultural inputs and management practices. Fertilizer, pesticide and microbial inoculation technologies are constantly advancing and these are applied to soil for enhanced crop production. In order to assess the contribution from each of these factors, a thorough understanding of the chemical transformations in soil is essential for students of Agricultural Sciences.

In the book, aspects of chemical composition of soil, structure and properties of inorganic and organic constituents of soil have been dealt with in an elaborate manner laying emphasis on the methods of analysis

and the concepts involved. For a proper understanding of soil chemistry, the most reactive substances, *viz.*, clay and soil organic matter deserve to be discussed from all aspects and this has been done giving sufficient tabulated material and structural diagrams. Illustrations of the type of spherical bodies with cut faces making three dimensional coordination to convey the idea of clay mineral structure are widely used in literature and such types of figures are not given in the book.

Haworth and Flaig have elucidated the structure and composition of humic substances and reference to their work is lacking in the book. Although reference to recent literature on soil acidity and liming is made, findings reported under International Soil Testing Programme issued by North Carolina Agricultural Experiment Station do not appear to have figured in the book. There are a few more errors apart from those listed in the errata. The indexing of important topics covered in the text should have been a little more imaginative and elaborate.

In spite of the few shortcomings, useful data from Indian Soils is collected and presented. Quantitative data presented in the form of equations, tables and curves are quite handy for interpretations and end-use application for interested students of soil science.

P. B. DESHPANDE.

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**Application of Vegetation Science to Grassland Husbandry** (*Handbook of Vegetation Science*, Vol. 13). Ed. W. Krause. (Dr. W. Junk, b.v. Publishers, the Hague, Netherlands), 1977. Pp. xx + 550, 60 figs., 10 photographs and 10 tables. Price : Dutch Guilders 150.00.

This is the fourth volume published so far in the *Handbook of Vegetation Science* series, and like the other volumes constitutes a useful addition to the scientific literature. However, as with all such edited volumes, the subject-matter receives a rather uneven coverage, with wide variation in the depth and thoroughness with which a given topic is revieved. The primary emphasis is on phytosociology, and there are papers on phytosociology of the grasslands of Canada, of Greenlands, of Mediterranean basin, of Alpine regions and the African range lands. There is a contribution to plant productivity and leaf area of grasslands, and reviews of game and domestic animals on African grasslands and reindeer pastures.

The articles particularly likely to interest the Indian readers are a review of the analysis and management of tropical grazing lands by R. O. Whyte and a review of farming regions in the tropics by B. Andreae. Whyte, in an authoritative review of over a hundred pages, traces the history of tropical grasslands. Many of them, including all the grasslands on the Indian sub-continent, are secondary communities created by human pressures. These grasslands, created in the first place through overexploitation of the climax vegetation, are being further degraded all over India through continued overexploitation. At the present, we seem entirely helpless to deal with the situation except in small pockets where commercial fodder cultivation can be taken up. Andreae's review of tropical farming systems is a brilliant exposition of the ecological basis of tropical agriculture. He demonstrates that the optimum farming systems tend to be of the same physiognomy as the climax vegetation. Thus plantations are the optimal farming systems in heavy rainfall regions, particularly on the slopes ; grazing lands managed at moderate herbivore densities, the optimum farming systems in semi-arid regions and so on. Andreae's arguments deserve careful consideration in the process of land use planning, and so do Whyte's. The book therefore contains significant material not only for professional ecologists, but also for those concerned with larger issues of natural resource management.

MADHAV GADGIL.

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## *ERRATA*

With reference to the note "An Improved and Simple Leucocyte Culture Technique for Chromosomal Preparations from Albino Rat" by Usman M. Adhami, S. Tariq M. Haqqi (*Curr. Sci.*, 1977, Vol. 46, p. 502) : In place of Fig. 1, published, which is incorrect, the following figure has to be substituted. The authors regret for the error.

*EDITOR* : Gross negligence of this type by the authors is strongly resented.

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