
BOOK REVIEWS

Indian Gentianaceae (A Check-list) by Sunita Garg (*nee* Agrawal), (Published by Northern Book Centre, 4221, I, Ansari Road, Daryaganj, New Delhi 110 002), 1988, pp. xiv + 42, Price Rs. 40.

The Gentianaceae are cosmopolitan in distribution, better represented in the temperate zones and in the montane regions of the tropics. Many taxa are of medicinal importance and systematic information on this family will be highly useful. Check-lists of the present type and other floristic works, like district floras, will ultimately help in the publication of the long-awaited revised *Flora of India*.

The Check-list under review is based on exhaustive literature survey and studies in major Indian herbaria by the author. The book provides correct nomenclature, synonyms and world-wide distribution of 153 species and 43 varieties included in 17 genera. The nomenclature of 4 taxa have been updated and 4 new combinations have been effected. A list of 54 species regarded as endemic and their distribution are provided with dates of first description. A table providing a comparative account of the taxa dealt with in Hooker's *Flora of British India* and those in the present Check-list is also provided. Each genus has the original citation and a reference to the *Flora of British India* (FBI). The species under each genus have the original citation, reference to FBI and important synonyms, followed by the distribution of the species in India and in the world. An appendix providing the list of species from Jammu and Kashmir which were not available for studies and a bibliography are provided at the end.

Some of the drawbacks of the book are: 1. The current geographical names for places should have been used. 2. Authorities in some synonyms like *Erythraea roxburghii* (p. 3), *Gentiana decemfida* (p. 9) are not given. 3. The new combinations are not provided with the requisite details. 4. One of the locations included under distribution of *Gentiana quadrifaria* Bl. var. *zeylanica* (Griseb.) Kushn. is given as "chiefly in Bangalore on hills"; this requires checking. 5. Citations for synonyms would have been more useful (though not obligatory in a check-list). 6. Though the Bibliography is adequate, some of the important floras pertaining to Karnataka, like the *Flora of Bangalore district*, *Flora of Mysore district* and *Flora of Chikmagalur district*, which

include many taxa of this family, do not find a place. 7. There are many print errors, including a few in the Foreword. 8. The technical language and presentation should have been better.

In general, the book provides useful information on the Gentianaceae of India and will be of interest to taxonomists and to all those interested in this family. The get-up of the book is satisfactory but the cost is on the higher side.

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Annual Reports in Medicinal Chemistry, Vol. 23, 1988, pp. 390, (ed.) Richard C. Allen, (Published by Academic Press Inc. 1250, Sixth Avenue, San Diego, California 92101, USA), Price: \$ 55.

Wide range of topics are covered in the thirtythree chapters of this volume. Traditional annual updates include antihypertensives, analgesics, new NCE introductions, β lactam antibiotics and quinoline antibacterials. Complementing the latter two topics is a contribution on novel approaches to the discovery of antibacterial agents. Current status of AIDS research is shown in a chapter on antiviral agents as well as in one on the disease itself. Companion chapters treat immunomodulatory and arachadonic acid cascade-based approaches to the treatment of rheumatoid arthritis. Modulators of this cascade, among other agents, are also covered in a review on pulmonary and antiallergy agents. Use of chemically modified antibodies in cancer chemotherapy and metabolic basis of anticancer drug resistance are reviewed. Other reviews cover 'metabolic enzymes and their implications in the drug design process' and 'application of enzymes in organic media as synthetic tools'.

Chapters on 'Central serotonin receptors—opportunities for drug discovery' 'antipsychotics'

'anxiolytics' 'obesity' and 'gastrointestinal motility' vividly present the increasingly recognized role of serotonin in biological actions.

The ubiquitous neuromodulator adenosine is also a subject of review. Complementary chapters treat both the central (cognitive disorders) and peripheral applications of cholinergic agents.

Reviews on 'vasopressin antagonists' 'plasminogen activators' and 'LHRH', underscore the importance of peptides in therapy and as models for non-peptidergic drugs. These aspects are also considered in companion chapters dealing with NMR protein structure determination and search strategies for determining bioactive conformers of peptides. An overview of our current understanding of important drug receptors and aspects of signal transduction is presented in the three chapters 'G protein receptor structure' 'G proteins' and 'protein kinase C'. 'A look beyond receptors as drug targets' is the subject of a provocative article on antisense oligonucleotides as inhibitors of gene expression.

The volume index has been expanded to include selected citations as well as compound names and code numbers, and a cumulative NCE introductions index.

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Stainless Steels '87, Proceedings of the Conference organized by the Ironmaking and Steelmaking, Metal Science and Corrosion Committees of the Institute of Metals, held at the University of York, 14-16 September 1987, (Published by the Institute of Metals, 1 Carlton House Terrace, London SW17 5DB) 1988, pp. 567, Price: UK £ 45; USA \$ 94.50.

Although it is not mentioned or highlighted in the book, its year of publication coincides with the 75th anniversary or the platinum jubilee year of the development of stainless steel. Both this coincidence and the book itself are significant.

It was in August 1913 that a Sheffield metallurgist, Harry Brearley, prepared a steel containing 12.8% Cr and 0.24% C, which did not rust in a scrap heap and was not attacked by acids as fast as other types of steel were. Harry Brearley coined the term

"Stainless Steel". Since then, up to the present time, research and development activities on various aspects of stainless steels have been widespread. Newer varieties have been introduced for a variety of applications, better process and fabrication methods have been found, and better techniques have been used for gaining better insight into the properties and behaviour of stainless steel. These activities do not seem to be abating, and will continue for four main reasons.

First, there is every incentive to develop cheaper stainless steels that will have similar strength and corrosion properties. For example, a lot of work is centred around duplex stainless steels that are considered as alternatives to the more conventional and more expensive austenitic stainless steels. There are some excellent papers in the book on various aspects of duplex stainless steel.

Secondly, the present economic climate demands that energy-efficient process and fabrication techniques be used. This would be possible if stainless steels with appropriate composition and microstructure are led through optimum production routes. The first two chapters on processing and fabrication exemplify the status in this regard and point to possible future directions.

Thirdly, corrosion and mechanical properties of stainless steels in relation to microstructure are not yet fully understood. Chapters 3, 4, 5 and 6 are devoted to these aspects. It cannot be said that the coverage is exhaustive, but a significant range has been covered.

Fourthly, newer techniques made available to research workers are prompting investigations to gain better insight into the properties and behaviour of stainless steels. There are papers in the book on the use of STEM (with EDAX) to characterize the microprecipitates which affect the properties of stainless steels significantly. There is also one paper on the use of ESCA for the characterization of passive films on stainless steels.

Apart from the four main reasons mentioned above, there is another interesting reason, which sometimes inspires more work. It has often been found that when a problem is solved, a new problem crops up. Thus, when it was found that the problem of hot cracking in austenitic stainless steel weldment could be solved by the introduction of a small percentage of delta ferrite in the weld microstructure, the new problem was to obtain a trouble-free weldment for which a fully austenitic microstructure is essential. There is a very good paper in the book

on a fully austenitic weld metal. There are several other similar examples which can be cited from the book.

All in all, the book will be useful to a broad spectrum of metallurgists and engineers working in the areas of design, process, fabrication and planning and in basic research. It is a well-produced book, with contributions from authors representing the major countries of Europe, and Japan, USA, Australia, South Africa, Canada and India.

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Alternatives to Synthetic Insecticides in Integrated Pest Management Systems, (ed.) R. Reuben, (Published by Centre for Research in Medical Entomology, Madurai 625 003), 1987, pp. 240, Price: Not mentioned.

This publication brings out the Proceedings of a Symposium held at Madurai, during March 30–31, 1987, sponsored by the Indian Council of Medical Research and the Department of Science & Technology, New Delhi. Integrated Pest Management (IPM) aims at a judicious and harmonious combination of chemical, biological, cultural and other ecologically sound strategies to suppress pests and other harmful organisms, such as disease vectors, both in agriculture and public health. Synthetic chemical insecticides that played a dominant role in crop protection and vector control programmes for over three decades after the Second World War are known to have led to undesirable consequences, such as pest resurgences and elimination of beneficial organisms in the ecosystem. The high cost of

synthetic pesticides has also proved to be another major hurdle. The symposium provided a forum for scientists to discuss these issues.

Following the keynote address by Prof. S. Jayaraj, the 28 papers presented at the symposium are arranged under five major group headings: Chemistry of candidate plant products; Plant products in control of paddy pests; Physiological approach for pest control; Control of insects of public health importance; and Alternative strategies for pest control. The first group includes four contributions to our knowledge of the chemistry and antifeedant or insecticidal activity of plant products, notably azadirachtin, nicotine, rotenoids and furanocoumarins. The possibilities of using plant products in IPM on rice are discussed in the second group of four papers. The next five papers grouped under 'Physiological approach' to pest control, also deal mostly with phytochemicals and their impact on the feeding, digestive and reproductive activities of insects. Diverse aspects of control of insects of public health importance are considered in the following ten papers. These include three contributions on Japanese encephalitis. Two papers in the last group discuss, respectively, the future prospects of indigenous plant products as alternatives to synthetic pesticides, and the use of organic amendments to control plant parasitic nematodes. One considers the effect of juvenile hormone analogues and the remaining two the use of neem derivatives and of a fungal pathogen in the control of agricultural pests.

The resolutions and recommendations of the symposium are listed in a separate section preceding the valedictory address by Prof. S. Krishnaswamy.

A species index of the various organisms mentioned in the papers would have greatly added to the usefulness of this publication.

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