BRYOLOGICAL BIOLOGY, INTRODUCTION AND DIVERSE BRANCHES


This book was published last year by the Academia Sinica in Beijing. It is edited by Prof P.-C. Wu, a respected and experienced Chinese bryologist in mainland China. Both the editor and many of the chapter contributors are staff of the Institute of Botany in Beijing.

The new publication, which has seventeen chapters, deals with almost all aspects of bryology and is dedicated to Prof Pan-chieh Chen, the founder of modern Chinese Bryology. In addition, it has Chinese and English forewords written by the most senior Chinese cryptogam botanist, Prof. Cheng-kui Zeng of the Institute of Oceanography of Chinese Academy of Sciences, and by the editor. The large volume concludes with a combined index to the scientific names of bryophytes and English and Chinese botanical terms mentioned in the text. The main text, however, is written in Chinese. I recollect that the book was ready for publication in the early 90's. The delay was due to the policy change of Chinese publishing houses that gave priority to more profitable books. Consequently, the review of the literature in several chapters does not include publications dated after 1994.

That the new book was finally published is indeed a great accomplishment. Each of the seventeen chapters aims to provide a comprehensive review of the history and a summary of the progress and the state-of-the-art in all branches of modern bryology, with special focus on Chinese accomplishments. In that sense, the book is fittingly the first manual of bryology written in Chinese.

The published titles of the various chapters of the new book and their respective authors are as follows: 1. Brief History of Bryological Research (Peng-cheng Wu); 2. Taxonomy and Systematic Arrangement of the Primary Taxa of Bryophytes (Peng-cheng Wu); 3. The Fundamental Structure of the Gametophytes and Sporophytes of Bryophytes (Jiang-xin Luo); 4. Spore Morphology of Bryophytes (Yu-long Zhang); 5. Chromosomes and Cytotaxonomy of Bryophytes (De-yuen Hong); 6. Physiology and Biochemistry of Bryophytes (Ding-ji Shi); 7. Molecular Biology of Bryophytes (Ding Shi); 8. Physiological Ecology of Bryophytes (Yan-hong Li); 9. Chemical Constituents of Bryophytes (Guan-fu He); 10. Reproductive Characteristics of Bryophytes (Yu Jia); 11. Tissue Culture of Bryophytes (Mei-zhi Wang); 12. Bryophyte Ecology (Yan-hong Li); 13. Flora, Communities and Distribution of Bryophytes in Antarctica (Shun-
shi Hu); 14. Bryoflora and Its Geographical Distribution Patterns (Peng-cheng Wu); 15. Fossils of Bryophytes (Jiun-rong Tao and Peng-cheng Wu); 16. Bryophyte Indicators for Environment (Ming-jou Lai); and 17. Relationship Between Bryophytes and Man (Peng-cheng Wu).

Seven of the seventeen chapters are contributed not by professional bryologists but by well-known Chinese angiosperm specialists in the areas. It is a laudable effort for these non-bryologist authors to produce such a readable review of the development of a particular field of bryology. Nonetheless, in terms of volume editorship, depth of information and quality of graphic presentation, the new book pales somewhat in comparison with the 1984 edition of The New Manual of Bryology edited by Prof. R. M. Schuster and published in English by The Hattori Botanical Laboratory in Japan.

After a quick perusal, I am quite impressed by the informative contents of the chapters on ecology, metabolic physiology, cytology, spore morphology and fossils of bryophytes. The two chapters on the biochemistry and chemical constituents of bryophytes also look good to a non-chemist like me. However, the book is somewhat spoiled by its lack of essays on the recent developments in molecular systematics, the origin and evolution of bryophytes and the ontogenetic development of spores and protonema of bryophytes.

Since there is no other bryological book covering a similar broad range of topics as yet published in China, this new book becomes the de facto authoritative reference on bryology inside China. As an encyclopaedic source of information about bryophytes, it definitely meets the needs of the Chinese bryological community, including the amateur, student and professional groups. And, because it is written in Chinese, it easily fills a relevant niche in the publication markets inside and outside China, such as in Hong Kong, Taiwan and Singapore, where there is a large Chinese-language population of plant hobbyists who have difficulty reading non-Chinese botanical publications.

The new manual, together with a previous textbook, Bryology, written by Prof. Ren-liang Hu, which was published by the Advanced Education Publisher in 1987 (also in Chinese), will, for many years to come, continue to educate, stimulate and promote interest in the study of bryophytes in China.

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Here are the different branches of biology (or divisions of biology) and their definitions & their related resources. Anatomy. Anatomy is the branch of biology that deals with the study of the structure of organisms and their parts. Biochemistry. Biochemistry is the branch of biology concerned with the chemical and physiochemical processes that occur within living organisms. Biophysics.