

FUTURE STRATEGIES IN BOTANICAL EXPLORATION AND FLORA WRITING ACTIVITY IN INDIA

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The Botanical Survey of India has come of age. In its reorganised form, it has crossed the 21-year mark and can now be expected to embark on a Flora writing programme. We have, therefore, to take stock of the situation and propose the line of future action. A word of caution, however, must be sounded at the very outset. Whatever we propose should be realistic and within the possibility of accomplishment in a reasonable period of time and with the available resources in men and material. The best among them must be utilised for the purpose. I have given this subject very serious thought and am taking this opportunity to emphasize some of the aspects which could form the bases for a meaningful discussion. It is not proposed to discuss here the technical aspects like the modalities of the preparation of taxonomic accounts, the format of the Flora etc., these have already been dealt by me in a paper presented to the Golden Jubilee Symposium of the Indian Botanical Society some years ago under the title 'Designing a modern Flora of India'. Detailed instructions in this regard have also been circulated by the Department from time to time.

1. *Future Explorations* : The 21 years that have passed have brought in hundreds of specimens from various parts of the country. These explorations have highlighted the areas which have a potential for the discovery of plants new to science. In future, exploration parties should be sent out in strength, say, with 3 or 4 senior scientists and with adequate equipment to such selected areas and the party should spend as much time as possible combing that area thoroughly. Specialised exploration parties should also be sent for the collection of specific groups of plants, a family or a genus or even a scarce species. To cite just one example : there is lot of interest evinced by various botanists in the material of Zingiberaceae from the monsoon forests of South India, whose taxonomy is not very clear. The specimens in the Herbaria need to be replenished and there is the possibility of finding some taxa new to science. The family is also of economic importance. We should, therefore, concentrate only on exploration for such specific purposes and in selected areas. General collections should be suspended for the time being. The Circles should identify such areas and groups of plants and special expeditions mounted for the purpose. The Universities should be supported by providing research scholars and

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contingency grants for experimental and bio-systematic investigations. The Department itself should not engage itself in such studies.

2. *Determination of specimens* : It has been the experience of all Circles that quite a large percentage of the specimens gathered in the past has remained unidentified. A task force should be set up in each Circle to undertake the determination of all such specimens. The necessary expertise should be available in the respective Circles and all the scientists, not otherwise engaged in the exploration programme referred to above, should be mobilised for this task. Individual projects and investigations not connected with the Flora Programme should be kept in abeyance.

3. *Publications* : i) A stock taking of the current position in regard to the floristic composition is imperative. I would suggest the preparation of an annotated list of all Indian plants (here we may initially consider only the flowering plants). The correct name of the plant with authority and literature citation, followed by the basionym and important synonyms, vernacular name, if known, distribution, brief notes on habitat, flowering and fruiting time and economic uses, if any, should be furnished for each species. This, by itself, will be a stupendous task. A similar annotated list prepared by R. R. Stewart for a smaller country and with much smaller number of species ran to nearly 1000 pages (R. R. Stewart, *Flora of West Pakistan*. An annotated catalogue of the vascular plants of West Pakistan and Kashmir, 1972). If all the units of the Department pool their resources, this publication could be brought out in a reasonably short span of time. The Central National Herbarium should coordinate this work and technical and secretarial assistance provided for build-

ing up a card index. This list will prove a boon to a wide circle of users with varied interests. Not only that, it will also help the users to point out the omissions/corrections/changes that may be needed. I may also refer here to a very interesting article which appeared in a recent issue of the *Scientific American*, (May 1977). The authors undertook an unusual investigation. They screened all the herbarium sheets housed in a big herbarium like that of the New York Botanic Garden and arrived at a surprising wealth of information about the economic possibilities of the plants from the field notes on the sheets. It may be worthwhile assigning a few research scholars for a programme like this in our major Herbaria.

ii) It is learnt that some district Floras and accounts of families prepared for the Flora of India Project are nearly ready for publication. Arrangements for their publication should be made expeditiously. Regarding the family accounts, these may be initially published as supplements to the Departmental Bulletin and after eliciting international opinion regarding the format, technical content etc., the final revised accounts may be published in the form of fascicles. Here there are two alternatives—a synoptic Flora on the lines of *Flora Europea* without illustrations or separate illustrated fascicles for the individual families. The Editorial Board has to take a decision in this regard.

iii) We have our Regional Floras and these are now available as reprinted editions. Supplements should be prepared for each of these giving reference to the page number of the existing Flora, the correction, addition, deletion, nomenclatural changes and literature references and any other relevant information. If possible these correction lists should

be printed in a 'tear off' form so that the individual sheets or slips could be pasted on the corresponding page of the original Flora by the user.

The above suggestions do not exhaust the possibilities but, as stated earlier, they have been made with the sole purpose of initiating a discussion on the subject.