

TAXONOMIC LITERATURE

INTRODUCTION

The taxonomic literature of varied type provides description, illustrations and identification keys that are useful for proper identification of unknown plants. For any practical taxonomist, literature on taxonomy is a guideline and firsthand information. Taxonomy is a descriptive science and its literature is vast, varied and versatile. Taxonomic literature like Flora, Manuals, Monographs, Revisions, Botanical serials, (Periodicals and Bulletin), Index, Dictionaries, Rules, Maps, Cartography, Popular treatments, Classic (Work of Theophrastus, Linnaeus, John Ray, Cordus etc.) and Reference books are fundamentals of Taxonomy.

FLORAS

The plants of an area, in the aggregate are referred to as the flora. The listing and comprehensive description of the plants growing in a particular area is known as floras. Floras are of immense value to conceive the knowledge about the plants growing in a particular area. Following are some important features of floras -

- 1) Floras are accompanied by illustrations which help in the identification of plants.
- ii) They also facilitate the study of plant communities in relation to environments.
- iii) Floras provide keys for identification of plants and descriptions of relevant representatives.
- iv) Floras give details of plants of selected area; plants of a part of country, a state, a valley.
- v) Floras give specific descriptions of plants, their correct botanical names, authors citation, synonyms, distribution of plant species etc.

A flora is an inventory of the plants of a defined geographical area. Depending on the scope and the area covered the floras are categorized as

- 1) **Local Flora**- It covers limited geographical area i.e. a state, country, city, valley or small mountain range. e.g.
Flora of Delhi by J. K. Maheshwari (1963)

Flora of Missouri by J.A. Steyermark (1963)

Flora of Central Texas by R.G. Reeves (1972)

Flora of Osmanabad by V.N. Naik (1979)

Flora of Pachgani by E. Blatter (1909)

Flora of Presidency of Bombay (3 Volumes) by T. Cook (1908)

Flora of Western Ghats of India by H. Santapau (1960)

- 2) Regional Flora:** It includes a larger geographical area. e.g. A country of large Botanical region. e.g.

Flora of British India by Sir J.D. Hooker (1872-97)

Flora of USSR by V.L. Kumarav and R. B. Shishkin (1934-64)

Flora of Malesiana by C.G. Steenis (1948)

It is called **National Flora**

- 3) Continental Flora-** It covers entire continent. e.g.

Flora Europea by T.G. Tutin et al (1964-1980)

Flora Australiensis by G. Bentham (1863-78)

- 4) Comprehensive Treatments-** They have broader scope having world wide view. e.g.

Genera Plantarum by G. Bentham and J.D. Hooker (1862-1903)

Die Natrulichen Pflanzon familien of A. Engler and K. A. Prantl (1887-1915)

MANUALS

It includes exhaustive list of wild or both cultivated and wild plants. Manuals are as mentioned below-

Manual is very exhaustive treatment than flora. It provides keys for identification, description and glossary but generally covering specialized groups of plants. e.g.

Manual of cultivated plants by L.H.Bailey (1949)

Manual of cultivated Trees and Shrubs in North America by A. Rehder (1940)

Manual of Aquatic plants by N.C. Fassett (1957)

MONOGRAPHS AND REVISIONS

A monograph is a treatise covering a family or a genus with valuable information of morphological or taxonomical nature. A monograph should embrace anatomy, cytology, embryology, morphology, palaeobotany, palynology, ecology of the group together with its taxonomy.

Monograph also represents an analysis and synthesis of existing taxonomic knowledge of that taxon in addition to the results of original research. Monograph covers all types of investigations concerned with a taxon (i.e. Genus, family etc). Monograph has world wide scope.

Thus monographs provides following things –

- i) A total taxonomic history or review of the group,
- ii) Review of important revisions about a taxon.
- iii) Monographs includes information regarding nomenclature, designated types, key, exhaustive description, full synonymy and citation of specimens examined.
- iv) Importance of various morphological characters in taxonomy,
- iv) Detailed descriptions of all the species, subspecies, varieties and forms mentioning original publications.
- v) Keys, local names, the list of specimens examined, distribution and ecological notes, economic importance of the species,
- vi) Monograph gives some critical taxonomic notes, discussions on some important findings, some interesting observations, local uses etc. Some of the well known monographs are as below -

- * A Monograph on Bambuseae- Munro , W. (1866)
- * A Monograph on Burmaniaceae - Jonkar, F. P. (1938)
- * A Monograph on Wheat (ICAR) - Pal, B. P. (1966)
- * A Monograph on Genus **Pinus** by N.T. Mirov (1967)
- * A Monograph on Genus **Avena** by B.R. Baum (1977)
- * A Monograph on Genus **Datura** by A.F. Blakeslee et al (1959)

Revision is less comprehensive than Monograph. It incorporates less introductory material and also includes synoptic literature review. Revision includes a complete synonymy but the descriptions are shorter and often confined to diagnostic characters. The geographical scope is

usually worldwide. The term revision is usually applied to taxonomic treatment limited to a continent or a small area. It is based on herbarium specimens. Another term conspectus is used which is an effective outline of a revision, listing all the taxa, with all or major synonyms, with or without short diagnosis and with a brief mention of the geographical range e.g. **Species Plantarum** by C. Linnaeus (1753).

JOURNALS

Journal is a taxonomic literature that published at regular intervals, called Periodical. Each issue is given with a volume number (all issues in the year bear the same volume number), issue number (numbered within a volume, a monthly journal would have 12 issues, quarterly four issues and so on) and page number on which particular article appears etc. Floras and Manuals have huge taxonomic input. Journals provide information of the results on ongoing taxonomic research. It gives information on update on additional taxa described or reported from a region, nomenclatural changes. Journals appear biweekly, monthly, quarterly. They are published by well known Scientific body, Society, University, Institutions etc. Journals include research papers of investigators with some definite format as their original research work with materials and methods, analysis, discussions, results and conclusions. Following are some taxonomy oriented journals -

- * Annals of Royal Botanic Gardens, Kolkata.
- * Bulletin of Indian Botanical Survey of India, Kolkata.
- * Indian Forester, Dehradun.
- * Journal of Bombay Natural History Society, Bombay.
- * Botanical Journal of Linnaean Society, London
- * Kew Bulletin, (Royal Botanical Garden) Kew, U.K.
- * Taxon, (International Association of Plant Taxonomy, Berlin)
- * Journal of Arnold Arboretum (Harvard)
- * Journal of Linnean society, Sweden.
- * Plant Systematics and Evolution, Denmark
- * Botanical Magazine, Tokyo

* Systematic Botany, New York

PERIODICALS

These are Botanical Serials. A huge amount of taxonomic literature comes out in the serial publications of educational institutions, learned societies and other organizations. Periodicals come out at regular intervals while those which are at irregular intervals called Bulletins. There are more than 1000 serials publishing articles on Plant Taxonomy. e.g. Baileyana, Brittonia, Kew Bulletin, Madrono, Taxon, Torreya, Rhodora etc.