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A Checklist of the Trees, Shrubs, Herbs, and Climbers of Myanmar, by W. J. Krees, R. A. DeFilipps, E. Farr, and Daw Yin Yin Kyi. Contributions from the United States National Herbarium 45 (2003), Smithsonian Institution, Washington, DC., USA; 590 pages, free. Website: http://persoon.si.edu/myanmar/

This is the 5th and completely revised edition of a series initially published in 1912. Further editions were published in 1921, 1961 and 1987. The first edition included 2483 species and subsequent editions gradually increased this number to over 11,800 species in this newest edition.

The first and only flora for the country was the 2 volume *Forest Flora of British Burma* by S. Kurz published in 1877. This was incorporated in the *Flora of British India* (7 volumes, 1872–1879). Floras of adjacent countries (China, Laos, Thailand, India and Bangladesh) as well as *Flora Malesiana* include some species also know from Myanmar, but these are only peripheral references and only of partial value when working with Myanmar plants. This new edition is a most welcome addition to my library and a valuable contribution to the knowledge of the vascular flora of Myanmar. The 5th edition satisfies a need for an updated plant list for the country. Compared to the 3rd and especially 4th editions which I have used periodically in the past, the new edition has received a thorough revision which will certainly be of great importance to botanists, plant geographers, ecologists, and many other researchers.

The authors have relied on many botanists for assistance in many families, hence the quality and accuracy of the new edition is generally good. The book includes "A Brief Review of the Geology, Climate, and Vegetation of Myanmar", maps, 26 colour photos of some vegetation types and plants/flowers, the checklist (gymnosperms, monocotyledons, and dicotyledons), which is arranged alphabetically by family in each main section; common names, an 11-page list of names of uncertain status, and indices to families and scientific names. My original 3rd and 4th editions were both printed in Rangoon on poor-quality paper and were of limited distribution. The 5th edition is more widely accessible and is printed on art paper. The new book has streamlined the information found in the older editions for each species where the botanical name, authority, habit, and distribution inside and outside Myanmar are included. My two previous editions included synonyms under each species while the 5th edition has deleted these and added the name cited in the older editions. Infraspecific taxa have been avoided, although many could have confidently been listed.

The review of the geology, climate, and especially the vegetation is variously inaccurate, incomplete, or inadequate. The vegetation part is based mostly on Kurz and Stamp's analysis of 1924. Unfortunately, this information has not been revised or reconsidered. It, as most vegetational analyses, is all based on trees without consideration of other plants, rainfall, bedrock, elevation, i.e. a holistic approach. There is, in fact, a more modern analysis of the vegetation of Myanmar which, fortunately, was overlooked (WIKRAMANAYAKE *ET AL.*, 2002). Cumbersome and often misleading terms such as wet dipterocarp, wet evergreen, semi-evergreen, moist teak, and dry deciduous forest without teak merely serve to obscure the actual situation in the country. The terminology could have have been simplified in conjunction with an elaboration of the climatic features of Myanmar which, like Thailand, has distinct seasonality. Terms such as primary, seasonal, evergreen; mixed evergreen + deciduous, deciduous, secondary, and tertiary vegetation,

which I advocate, could be used to replace wet, dry, scrub, and other words which have no ecological value (MAXWELL, 2001).

The checklist is rather thorough and accurate. Liliaceae has been inconveniently split into segregates (Alliaceae, Aloaceae, Aspagaceae, Convollariaceae, etc.) as well as Costaceae from Zingiberaceae, while bamboos have been scrambled with Poaceae (Gramineae), and Leguminosae divided into Fabaceae (Papilionoideae), Mimosaceae, and Caesalpiniaceae. Avicennaceae has been separated from Verbenaceae which, fortunately, has not been lumped with Lamiaceae (Labiatae). Hypericaceae is listed instead of Guttiferae, *Desmodium* (Fabaceae) has, fortunately, not been split into 6 other genera; *Meliosma* split from Sabiaceae (Meliosmaceae), *Eugenia* sunk in *Syzygium* (Myrtaceae)—a situation which I will never accept, and *Kyllingia* tragically broken from *Cyperus* (Cyperaceae).

Most families have been carefully checked, but Juglandaceae, Leeaceae, Loranthaceae, Melastomataceae, Meliosmaceae, and Myristicaceae have unacceptable amounts of errors. Some of these include:

Euphorbiaceae

Emblica officinalis Gaertn. = *Phyllanthus emblica* L. (also photo 26)

Juglandaceae

Engelhardia "acerifolia Bl." = *E. sicata* Lechen. *ex* Bl. var. *aceriflora* (Reinw.) Koord. & Val.

E. colebrokeana Lindl. = *E. spicata* var. *integra* (Kurz) Mann.

E. wallichiana Lindl. (*ex* C. DC.) = *E. roxburghiana* Lindl. *ex* Wall.

Leeaceae

Leea acuminata Wall., *L. cocinea* Pl., *L. laeta* (sic. laetae) all = *L. guineensis* G. Don

Lardizablaceae

Parvetia brunoniana Decne. = *Stauntonia brunoniana* Wall. *ex* Hemsl.

Loranthaceae

Loranthus brandisiana Kurz = *Macrosolen brandisianus* (Kurz) Tiegh.

Loranthus coccineus Jack = *Helixanthera coccinea* (Jack) Dans.

Melastomataceae

Allomorphia hispida Kurz has uncertain status

A. umbellulata Hk. f. = *Oxyspora umbellulata* (Hk. f. *ex* Tr.) Maxw.

Anplectrum barbatum Triana = *Diplectria barbata* (Wall. *ex* Cl.) Franken & Roos

Melastoma normale D. Don = *M. malabathricum* L. ssp. *normale* (D. Don) K. Mey.

Oxyspora rupicola Lace = *O. paniculata* (D. Don) DC. var. *rupicola* (Lace) Maxw.

O. serrata Diels = *Anerincleistus esquirolii* (Levl.) Maxw.

Pternandra capitellata Jack = *P. coerulescens* Jack

Meliosmaceae

Meliosma arnottiana Walp. & *M. colletiana* King = *M. pinnata* (Roxb.) Maxim. ssp. *arnottinana* (Wight) Beus.

M. beaniana Rehd. & Wils. = *M. alba* (Schlech.) Walp.

M. laui Merr. = *M. simplicifolia* (Roxb.) Walp. ssp. *laui* (Merr.) Beus.

M. mannii Lace = *M. henryi* Diels ssp. *mannii* (Lace) Beus.

Myrsinaceae

Ardisia colorata Roxb. = *A. sanguinolenta* Bl. var. *sanguinolenta*

Myristicaceae

Myristica amygdalina Wall. = *Horsfieldia amalygdalina* (Wall.) Warb.

M. kingii Hk. f. = *Horsfieldia kingii* (Hk. f.) Warb.

M. prainii King = *Endocomia macrocoma* (Miq.) de Wilde ssp. *prainii* (King) de Wilde

Tiliaceae

Burretiodendeon siamense Kosterm. = *B. esquirolii* (Levl.) Rehd.

Viscaceae

Viscum japonicum Thunb. = *Korthasella japonica* (Thunb.) Engl.

Proper author citations, an exacting and necessary refinement, are mostly accurate, but I have found a few that have required correction:

Dipterocarpus obtusifolius Teijsm. *ex* Miq. (Diptercarpaceae)
Disporum calcaratum Wall. *ex* D. Don (Convalliaraceae)
Jasminum glandulosum Wall. *ex* G. Don (Oleaceae)
Irvingia malayana Oliv. *ex* Benn. (Irvingaceae)
Maesa ramentacea (Roxb.) A. DC. (Myrsinaceae)
Premna pyramidata Wall. *ex* Schauer (Verbenaceae)
Protium serratum (Wall. *ex* Colebr.) Engl. (Burseraceae)
Rinorea bengalensis (Wall.) O.K. (Violaceae)
Viscum ovalifolium DC. (Viscaceae)
Vitex limoniifolia Wall. *ex* Kurz (Verbenaceae)

The 5th edition provides an excellent foundation for revisional work in Myanmar. Provided that herbarium specimens in Myanmar can be examined and field work conducted there, it will be possible to do a proper revision of Kurz's flora. Myanmar is the only country in SE. Asia that does not have a modern flora project. More knowledge about the plants of Myanmar will enable botanists, ecologists, and others to get better idea of plants and their distributions there. It is recommended that corrections and additions be produced and circulated so that botanists, such as myself interested and actually working with Myanmar's flora are periodically updated (e.g. MAXWELL, 2001a).Further encouragement should be given to the sponsors and authors of the book to compile a list of pteridophytes (and possibly other plants and fungi) for Myanmar.

REFERENCES

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