

FLORA OF
ASSAM

Vol. III

By:

U.N. Kanjilal

F.L.S.

Late Extra Deputy Conservator of Forests, Assam

ALLIED BOOK CENTRE

15A, Rajpur Road,
Dehradun-248001 (INDIA)



FLORA OF ASSAM

U. N. KANJILAL, F.L.S.,

Late Extra Deputy Conservator of Forests, Assam.

A. DAS, I.F.S. (Retd.), F.L.S.

P. C. KANJILAL, I.F.S.,

Deputy Conservator of Forests, U. P.

&

R. N. DE, I.F.S.,

Botanical Forest Officer, Assam.

VOL. III.

CAPRIFOLIACEÆ TO PLANTAGINACEÆ

ALLIED BOOK CENTRE
DEHRADUN (INDIA)

CES
A

PUBLISHED BY
ALLIED BOOK CENTRE
15-A, RAJPUR ROAD
DEHRADUN-248 001

NE
581-954162
FLO-3;4

CEHU LIBRARY

Acc No... 189433 ✓

Acc By... *hs*

Date... 6/2/09

Class by... *Amul*

EDITION : 1991

Sub.Heading by... 09/07/09

Enter by... *gm*

Transcribed by... *Amul*

COMPUTERISED

Printed At
SUPER PRINTERS
E-53A, South Anarkali,
DELHI-110 051

F237
1041

FOREWORD.

It is with much pleasure that Volume III of the Flora of Assam is published. This brings us to the end of Gamopetalæ. Steps will be taken to get Volume IV published from the beginning of the next Financial year.

The late Rai Bahadur U. N. Kanjilal made a comprehensive collection of materials for this Volume, but many Forest Officers and others have also made material contribution by sending specimens.

The draft has been revised and edited by Mr. A. Das, I.F.S., now retired, and I as Botanical Officer alone had to go through the proofs and make some additions and alterations. My Botanical Assistant, Babu Banka Bihari Syam, has been of great help to me in correcting the proofs and in other ways and I gladly acknowledge his services. The Volume has run up to over 500 pages, much beyond anticipation, but no pains have been spared to avoid mistakes.

Shillong,
The 15th February, 1939.

R. N. De, I.F.S.
Botanical Forest Officer.

PREFACE

The third Volume of the "Flora of Assam" (Gamo-petalæ) is now put before the public. The original manuscript of this Volume was completed by me, before my retirement in December 1934. (Ericaceæ—P. C. Kanjilal).

I had to take up this work again by the end of 1937, thoroughly revising and editing my original draft which extended over a period of more than 12 months and involved several references to Kew, Edinburgh, Sibpur and DehraDun and necessitated many personal visits to the herbarium of the Royal Botanic Garden, Calcutta, at my own cost, as in the prolonged period intervening between the original draft and the present publication, considerable changes in nomenclature have taken place, new species have been discovered and described and species have been newly recorded from the region of this "Flora".

I have since described several species (previously not included) which have in certain cases been embodied in small type in this work or included in the addenda with short descriptions. In some instances the original Key to the species or even to the genus had to be revised and altered. Considerable alterations in nomenclature had to be resorted to in view of recent advancement.

It is not realised by critics that the compilation of the "Flora of Assam" could not be comprehensive as the orders of the Government of Assam on the subject were quite distinct. The original idea was therefore to prepare a "Forest Flora" for the region administered by the Forest Department and generally to exclude the herbs unless of great economic importance. I have tried to include on my own initiative whatever additional materials I have been able to obtain in India by personal visit to Sibpur herbarium or by correspondence with DehraDun, Kew and Edinburgh.

An attempt has however been made to bring this Volume, as far as practicable up-to-date, but in the absence of

facilities for ready reference, it is impossible to do justice to a work of this nature. Omission in including a few species of trees, shrubs and many herbs could not however be avoided.

It now remains to acknowledge thanks and indebtedness to all those who have rendered assistance in various ways in the compilation of this Volume.

(1) Prof. Sir W. W. Smith, Regius Keeper, Royal Botanic Garden, Edinburgh.

(2) Mr. C. E. C. Fischer, Royal Botanic Gardens, Kew.

(3) Director, Royal Botanic Garden, Kew.

(4) Superintendent, Royal Botanic Garden, Sibpur.

(5) Forest Botanist, Forest Research Institute, Dehra-Dun.

(6) Mr. M. V. Narayanswami, Royal Botanic Garden, Sibpur.

(7) Mr. D. Chatterjee, M.Sc., Royal Botanic Garden, Edinburgh.

I am personally indebted to Mr. R. N. De, B.Sc., I.F.S., for his hearty co-operation in all matters and to my friend Dr. K. P. Biswas, M.A., D.Sc., F.R.S.E., Superintendent, Royal Botanic Garden, Sibpur, for his ungrudging help in all possible directions and also to Babu Banka Bihari Syam, Botanical Assistant, Forest Botanist's Office, Shillong, who is associated with this work from its very inception.

In spite of repeated proof-reading it has not been practicable to avoid printer's mistakes.

A. DAS.

Shillong,
The 21st February, 1939.

INTRODUCTION.

In this Volume 36 families 345 genera and about 1,100 species and the following new species have been included (*vide* the Assam Forest Records Volume I, 1934, and Notes Royal Botanic Garden, Edinburgh. No. XCV, July 1938).

Agapetes Kanjilali *Das*.

Maba cacharensis *Das et. Kanjilal*.

Chirita mishmiensis *Debbarman ex Biswas*.

Strobilanthes furcatus *Biswas*.

Acrocephalus verbenafolius *Watt Mss. descript. Mukherjee*.

Scutellaria assamica *Mukherjee*.

It has been exceedingly difficult for me to keep in touch with the modern nomenclature. Mr. Fischer of Royal Botanic Gardens, Kew, Dr. K. P. Biswas and Mr. Narayanswami of Royal Botanic Garden, Silpur and Mr. D. Chatterjee, M.Sc., now working at the Royal Botanic Garden, Edinburgh, have rendered invaluable assistance in this connection. As far as practicable, the changes in modern nomenclature have been adopted. In some instances the modern name has been inserted after the old name as otherwise it would have necessitated the alteration of a large bulk of the manuscript and in consequence delayed this publication considerably.

It is my intention to discuss concisely the modern adoption in nomenclature in the following pages.

Cephalanthus occidentalis *Linn* has been introduced in this Volume as synonymous with *C. naucleoides* *DC* after Brandis, but there is a good deal of controversy on this. Craib (*Flora Siamensis Enumeration* Volume II, 1932, p. 8) considers it rather unnatural to make the East Asiatic *C. naucleoides* *DC* synonymous with the North American *C. occidentalis* *Linn*.

The genus *Wendlandia* has been thoroughly revised by Dr. Cowan (*Notes Royal Botanic Garden, Edinburgh, No. LXXX, October, 1932*) it has not been quite practicable to

take advantage of this publication. I have generally followed Brandis and put a concise note on the additional species after Dr. Cowan.

A good deal of difference of opinion exists among botanists at present about the synonymy of the genera *Hedyotis* and *Oldenlandia*. It is considered best to retain the name *Oldenlandia* following the views of a number of systematist. This change could not be made in time in the body of this Volume.

The generic name *Mycetia Reinw* (1826) has been retained for *Adenosacme Wall* (1832) for the sake of priority.

The genera *Webera Schreb.*, *Tarenna Gærtn* and *Chomelia Linn.* are synonymous. There is a suggestion from Kew that the generic name *Tarenna* should be substituted for *Webera*.

Mr. D. Chatterjee, Edinburgh, suggests that the name *Chomelia (Linn)* should be retained from the point of view of priority.

- (i) *Chomelia Linn* (1737) (non-*Chomelia Jacq* (1763)).
- (ii) *Webera (Schreb)* (1791) = *Chomelia Linn.*
- (iii) *Tarenna Gærtn* (1788) = *Chomelia Linn.*

Gamble in *Flora of Madras* has changed to *Chomelia* and Craib has retained *Tarenna* in "*Flora Siamensis*."

It appears that the *new combinations* of the species of *Webera* recorded from Assam have not yet been made, the generic name *Webera* and the old specific names have therefore been retained in this Volume.

Crabi dendron W. W. Smith (Record of Botanical Survey of India, Vol. IV, 1911, p. 276). *C. Mannii Smith* and *C. Henryi Smith* were described in Notes Royal Botanic Garden, Edinburgh, 1912, pp. 158 & 159 from Jowai and Yunnan respectively on very imperfect materials. Dr. Bor's Naga Hills specimens (Nos. 6271 and 2828) has now definitely proved that they are the same plant and the name *C. Henryi Smith* should be retained.

Mr. Chatterjee, Royal Botanic Garden, Edinburgh, has made new combinations as given below for *Sideroxylon* which name however has been retained in this work.

Sideroxylon Hookeri Clarke = *Planchonella Hookeri* (Clarke)

S. grandifolium Wall = *P. grandifolia* (Wall) Chatterjee Comb. Nov. Mss.

S. assamicum Clarke = *P. assamica* (Clarke) Chatterjee Comb. Nov. Mss.

***Parameria pedunculosa* Benth** should now be named *P. glandulifera* Benth. Mez in *Pflanzenreich* calls *Embelia Nagushia* Don, *E. undulata* as he identifies *E. Nagushia* Don with *E. vestita* Roxb. In this work Brandis has been followed.

A considerable discussion has been raised in *Bot. Mag.* (1896) and the name *Wattakaka volubilis* (Linn) Stapf. has been restored as a new combination by Stapf. for *Dregea volubilis* Linn.

Crawfordia (Gentianaceæ) has been included under *Gentiana* by Marquand. *Limnanthem cristatum* Griseb is now known as *Nymphoides cristata* (Griseb) O. Ktze.

The generic name *Trichospermum* Don has been introduced by Dr. O. Kuntze for *Æschynanthus* Jack (Revision of *Gen. Plant.* pt. II, p. 475). After necessary investigation the conclusion arrived at is that the name *Æschynanthus* Jack is very well established, valid and universally accepted and should therefore be retained.

[Vide (a) D. C., *Monograph Phanerogam.* V (1883), 18. (b) Hooker, *F. B. I.*, Vol. IV, (1884) 377. (c) Ridley, *Flora of Malay Peninsula*, Vol. II (1923), 196. (d) Handel Mazete, *Symbolæ sinicæ*, Vol. II (1936) 324. (e) Smith, *Record Bot. Survey of India* (1913) 101. (f) Anthony Notes, Royal Botanic Garden, Edin. (1934) 191, 192. (g) Fischer, *Kew Bulletin* (1934) 320, 321.]

The name *Haplophragma* P. Dop. has been introduced for the genus *Heterophragma* DC. as the correct name.

Davdalacanthus Anders has been changed to *Eranthemum* Linn. and *Eranthemum* Linn. of C. B. Clarke (F.B.I.) is now known as *Pseuderanthemum* Radlkf. Genus *Ebermaiera* Nees has been changed to *Staurogyne* Wall and *Asystasia* to Mackaya.

The following species has appeared in the body in their old nomenclature which could not be corrected in time.

MODERN NAME	NAME USED IN THIS VOLUME
Premna corymbosa (Burm. f.) <i>Rottl. et Willd.</i>	Premna longifolia Roxb.
Clerodendron indicum (Linn.) <i>O. Ktze.</i>	C. Siphonanthus Br.
C. glandulosa <i>Colebr ex Wall.</i>	C. Colebrookiana <i>Wall.</i>
Sphenodesma involucrata (<i>Presl.</i>) <i>Robinson.</i>	S. unguiculata Schau.

Numerous specific names have undergone changes also.

Herbs, which have been collected in this herbarium, have been generally described and included in this Volume.

Shillong,
The 22nd February, 1939.

A. Das.
