

CONTRIBUTIONS OF J. S. GAMBLE AND C. E. C. FISCHER TO THE FLORA OF
ERSTWHILE MADRAS PRESIDENCY

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INTRODUCTION

The biographic and bibliographic accounts of J. S. Gamble and C. E. C. Fischer have been dealt with in a masterly fashion in several publications, viz. Anonymous (1925, 1954, 1964), Barnhart (1965), Bossert (1972), Britten and Boulger (1931), Burkill (1951, 1965), Lindau and Sydow (1908-1909), Merrill & Walker (1938), and Rendle (1926). While Narayanaswamy (1961) and Santapau (1958) dealt only with the bibliography, Daniel Sundararaj (1958) has given an account of the details about the preparation of the Flora of the Presidency of Madras. For a consolidated and detailed account of references Stafleu & Cowan (1976) may be consulted. The present attempt is to highlight their floristic studies and publications concerned with Madras Presidency alone.

LIFE SKETCH OF J. S. GAMBLE

James Sykes Gamble (1846-1925) was born in London on 2nd July, 1846, and graduated with honours in Mathematics from Oxford in 1869. Then, he studied Forestry at the Ecole Nationale des Eaux et des Forests at Nancy from 1869 to 1871. As a student, he displayed keen interest in systematic botany and collecting plant specimens. In 1871, he arrived in India and his first assignment in the Indian Forest Service was in

Burma, but within a year he was posted in Bengal. Here, he compiled *A List of the Trees and Shrubs Found in the Darjeeling District*, in 1878 which was revised in 1896. During his tenure (1877-1879) as Personal Assistant to the Inspector General, he prepared the first edition of his *Manual of Indian Timbers*. After 1879, he was posted as Conservator of Forests in Bengal for three years, later in the Madras Presidency and then in Uttar Pradesh with the Directorship of the Imperial Forest College as part of his duties. In 1882, when he was in the Madras Presidency, he was responsible for the foundation and future policy of the Forest Department, particularly for the extension of *Eucalyptus* plantations in the Nilgiris. In 1890, he became the Director of the Forest School at Dehradun, and retired in 1899 from the Indian Forest Service. He preserved a large number of collections from India and according to Sir George King "was probably having the largest collection of plants ever owned in India". The retirement set him free from administrative duties and he collaborated with Sir George King's *Materials for a Flora of the Malay Peninsula*, which he continued even after King's death. In 1915, he commenced the work on the Flora of the Presidency of Madras and his death interrupted the work in 1925.

GAMBLE'S COLLECTIONS

Gamble made intensive collections in Gumsoor tract of Ganjam District (now in Orissa), Northern Circars, (East Godavari, West Godavari, Srikakulam and Visakapatnam districts), Ceded districts (present Anantapur, Chittoor, Cuddapah and Kurnool districts) and Nilgiris. He has also made a few collections from Wynaad, Trichur (Kerala), Anamalai, Killai in South Arcot, Cape Comorin (Tamil Nadu), etc. All these enabled him to obtain a good idea of the varied flora of the Madras Presidency. Hill (1935) aptly pointed out that Gamble was remarkably well qualified owing to the exceptional knowledge of the flora, he had acquired during his long service in the Presidency as a Conservator of Forests. Stafleu & Cowan (1976) have listed Gamble's collection of herbarium specimens and types in the Berlin Museum (B), British Museum, London (BM), Central National Herbarium, Howrah (CAL), Forest Research Institute Herbarium, Dehradun (DD), Botanical Museum, Univ. of Helsinki, Finland (H), Rijksherbarium, Leiden, Netherlands (L), Druce Herbarium, Dept. of Botany, Oxford (OXF) and U.S. National Herbarium, Smithsonian Institute, Washington (US). A large number of his collections are also available in the Madras Herbarium, Botanical Survey of India, Coimbatore (MH).

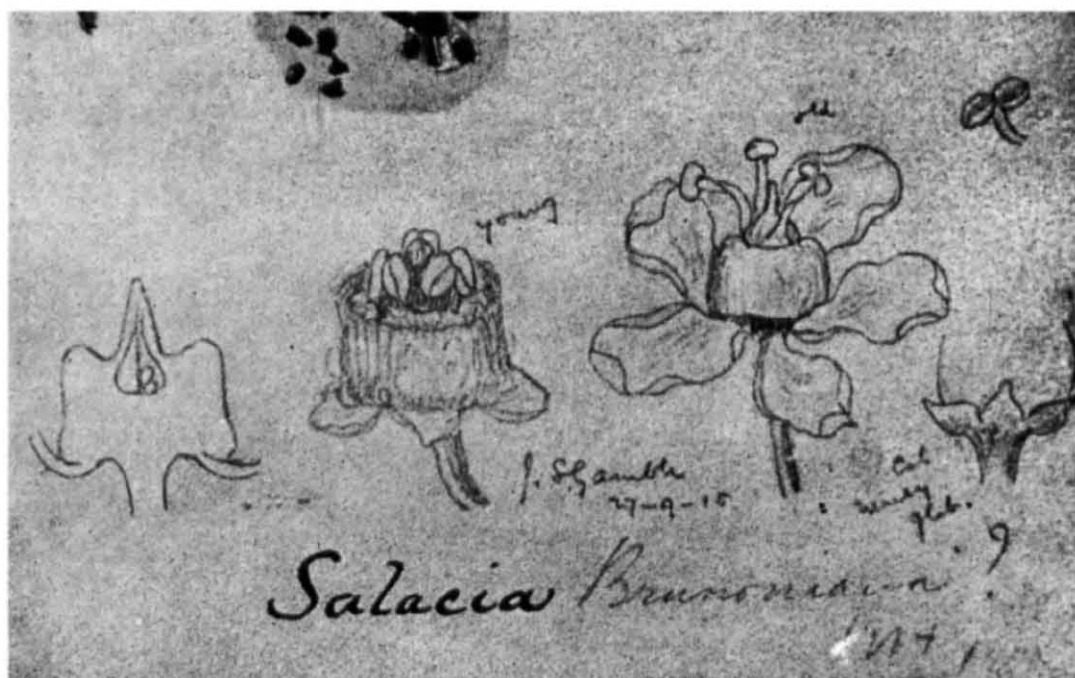
GAMBLE'S CONTRIBUTION TO THE FLORA OF THE PRESIDENCY OF MADRAS

The work on the publication of the Flora of the Presidency of Madras engaged the attention of three eminent botanists, Dunn, Gamble and Fischer. The draft of the first 182 pages were prepared by Dunn who relinquished his share in the work, in 1915. Gamble prepared the accounts from Rutaceae to Eu-

phorbiaceae and a few genera in the Ulmaceae. Apart from the above, his publications on the forests of Northern Forest Circle of the Madras Presidency (1884), preliminary list of the trees and shrubs of Ceded districts (1884-1885), revised lists of trees and shrubs of the Northern Circle of the Madras Presidency (1884-85), Ferns of Mahendragiri (1892), and notes on Nilgiri *Strobilanthes* (1888), *Phyllanthus wightianus* in Madras (1901) and new Lauraceae members from South India (1925) are noteworthy. His notes on the Flora of Madras (1918a, b, 1920, 1921, 1924) are of considerable importance to botanists. Besides these, he has described about 130 plant novelties from the Madras Presidency alone.

GAMBLE'S CRITICAL STUDIES

In the Flora of the Presidency of Madras, Gamble has efficiently and effectively used descriptive keys. This has helped in condensing the flora, and also facilitated fixing of the correct identity of the plant. Gamble's critical examination of herbarium sheets and dissection of floral parts along with careful drawings and remarks on the sheets are *par excellence*. These should serve as models to all those, who undertake floristic or taxonomic studies. A number of sheets or at least one or two sheets in each species dealt with by him for the Madras flora have his drawings or dissections or remarks attached to them when they were examined in the Kew Herbarium for preparing the flora. Daniel Sundararaj (1956) has remarked "on this account alone, it may be said that Gamble's work in the Kew Herbarium is about the best and most critical; certainly not so much detailed examination was made in the preparation of other provincial Indian floras"



The photograph depicts an example of Gamble's dissections and drawings found on MH sheets.

Samples of his critical remarks on the Madras Herbarium (MH) sheets are furnished below :

1. *Ampelocissus arnottiana* Planch.

(= *Vitis indica* Linn.)

Collector : R. Wight 412 (acc. no. 10913 MH)

Remarks by J. S. Gamble :

"This is quoted by W. & A. as their *V. indica* Linn. WI : 202. *V. indica* L. Ed. 3 : 293 Fol. cord. dent. subt. ill. with racemiferos = Rheede VII6, must see specimens at Linn. Soc. & in Hermann's Herb."

HERB. HORT. BOT. REG. KEW

I have seen the Hermann's Herbarium specimens—they are undoubtedly this plant. I have also seen the Linnean specimens—it is not this at all, nor is it *V. erioclada* as Planchon suggests. I believe it to be *Cissus glauca* Roxb. This is, however, the *V. indica* of Linn. Fl. Zeyl.

Sd. J. S. Gamble
8.8.17

2. *Helichrysum perlanigerum* Gamble

Anamallays 6—7000 ft. (acc. no. 27949 MH)
not *H. wightii* but a n. sp.?

HERB. HORT. BOT. REG. KEW

There is no specimen of this at Kew and the present sheet seems unique though it may be at Br : mus. at any rate the plant is a very interesting one and should be carefully searched for and further specimens secured.

Sd. J. S. Gamble Kew, 22.9.20

Helichrysum perlanigerum Gamble n. sp.
Flora of Madras Det. J. S. Gamble 1920.

C. E. C. FISCHER—LIFE SKETCH

Cecil Ernest Claude Fischer (1874-1950) was born in Bombay on July 9, 1874. He had part of his education in Switzerland and England and part at Cooper's Hill College, Englefield, Green. He also had training at Nancy in France, where he learned Forestry and entered the Indian Forest Service in 1895 and

did the whole of his service in the Madras Presidency except for a short spell of teaching at Forest Research Institute, Dehradun. He became the Divisional Forest Officer in 1909 and later in 1915 Principal of the Madras Forest College. He became Conservator in 1920 and continued till his retirement. When he was stationed at Coimbatore from the year 1911 onwards, he botanized in areas like Anamalais and North Coimbatore. During his forest service itself he was in touch with the Botanic Garden at Calcutta and was sending botanical specimens. After his retirement from India, he became Assistant for India in the Kew Herbarium (1925-1937) and did most valuable work, including the completion of Gamble's unfinished Flora of the Presidency of Madras (8 to 11 parts).

FISCHER'S COLLECTIONS AND CONTRIBUTIONS TO THE FLORA OF THE PRESIDENCY OF MADRAS

Stafleu & Cowan (1976) have listed his collections of herbarium specimens and types in Kew Herbarium (K), Central National Herbarium, Howrah (CAL), Herbarium of the Royal Botanic Garden, Edinburgh (E) and Swedish Museum of Natural History, Stockholm (S). Apart from this, his duplicate collections are deposited in the Forest Research Centre, Coimbatore, and a few collections in the Madras Herbarium, Botanical Survey of India, Coimbatore (MH). In the Madras Herbarium, his few collections are from the localities of upper Nilgiris, Pulneys, Anamalais and North Coimbatore (now partly in Tamil Nadu and partly in Karnataka) of Tamil Nadu, Simhachalam Hills, Andhra Pradesh and Ganjam District, Orissa.

He has published about 80 papers, all connected with the vegetation of India and

Burma, of which about 33 papers are connected with the erstwhile Presidency of Madras. Burkill (1951) has aptly mentioned these works "scrupulously accurate". His contributions on the flora of Northern Ganjam (1904 & 1905), shrubs and trees of the evergreen sholas of North Coimbatore (1906), preliminary notes on the flora of the Anamalais (1918), flora of Anamalai Hills (1921) and descriptive list of the forest flora of east central Madras (1923) covering forest tracts in Nellore, Cuddapah, Chittoor, Chingleput and the northern part of the North Arcot are valuable. In addition to these, his notes on "Dodda Sambagai"—*Michelia* (1907), *Semecarpus anacardium* (1910), *Ximenia americana* (1918b), *Santalum album* (1922), *Pyrenacantha volubilis* (1921, 1926), *Scoparia dulcis* (1921), South Indian Loranthaceae and their host plants (1923, 1926), *Habenaria decipiens* (1927), *Cryptocoryne consobrina* (1937) and *Belosynapsis* (1928) are worth mentioning. He has also reviewed (1938) Barne's work on the supplements to the flowering plants of Madras City and its immediate neighbourhood. His publication (1932) about Koenig's collection in the Lund Herbarium furnishes details on the characteristic flora of the coastal plains of Coromandal region of Peninsular India. Apart from this, his notes on the Flora of the Presidency of Madras for parts 8-10 (1928, 1931 and 1935) faithfully following Gamble, are remarkable.

Fischer was undoubtedly the most competent man at that time or the "only man" to complete the unfinished Flora of the Madras Presidency. According to Hill (1935) it was fortunate to have entrusted Fischer, the completion of the Flora because he had many years of

experience in the Madras Presidency, and the change in authors has most fortunately affected very little the character of the work. Though there was some criticism that careful dissections, drawings and remarks were missing in his studies of herbarium specimens compared with that of Gamble, his critical publications under "New and little known plants from South India" (1932-1940) in the Kew Bulletin enrich considerably, the floristic knowledge of Madras Presidency. He had dealt with 97 plants of which 45 were new to Science.

Thus the contributions of J. S. Gamble and C. E. C. Fischer to the Flora of the erstwhile Madras Presidency will remain in the history of Indian botany as monumental works.

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