

## SOME ADDITIONS TO "FLORA OF THE PRESIDENCY OF MADRAS"

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## ABSTRACT

J. S. Gamble began the compilation of the *Flora of the Presidency of Madras* in the year 1912 and the first part was published in the year 1915. In 1925, after completing part VII Gamble died. The work was then continued by C. E. C. Fischer and finished with part XI in 1935. This monumental work on Systematic Botany deals with 4,516 species of plants from the old Madras Presidency which comprises the present states of Madras, Kerala, parts of Mysore and Andhra Pradesh. During the 26 years that have elapsed since its publication several botanists have studied the Flora of the region and have been able to discover many taxa new to science and several new records. The scattered information on the new taxa described by various authors in different journals and periodicals has been presented in this paper.

The following data are given for each taxon : citation of the original publication, critical notes if any, the place of collection, collector's number and the Herbarium where the *Type* specimen is permanently preserved (if known).

The old Madras Presidency comprising the present states of Madras, parts of Mysore and Andhra Pradesh may be divided roughly into five main floristic regions (Gamble, 1915) as follows:

- i) the *Sal Region* in the North, comprising the districts of Vizag, Ganjam and Godavari
- ii) the *Dekkan Region*, comprising the lower Godavari, Kistna, Guntur, Kurnool, Bellary, Anantapur, Cuddapah, Chittoor, Nellore, Chingleput, North and South Arcot Districts and parts of the Salem and Coimbatore Districts
- iii) the *Semi Desert Region*, comprising the lower parts of the districts of Coimbatore, Salem, Trichy, Madurai and Tirunelveli
- iv) the *Wet Region*, comprising the coastal tracts and the Western Ghats in the districts of South Kanara, Malabar, Nilgiris, Coimbatore and Tirunelveli and Travancore and Cochin States
- and v) the *Alpine Region*, occupying the higher hills of the Nilgiri, Pulney and Anamalai ranges and the higher ranges of Travancore and Tirunelveli above 6,000 ft.

After the publication of *Hortus malabaricus* by Van Rhee, Governor of Malabar between 1678 and 1703, many great botanists like Barber, Barnes, Beddome, Bourdillon, Burmann, Chandrasekharan, Cleghorn, Drew, Elliot, Fischer, Fyson, Gamble, Heyne, Hooker, Jacob, Jivanna Rao, Jowitt, Lawson, Lushington, Mudaliar, Narayanaswamy, Perrottet, Rama Rao, Rangachari, Rottler, Schmid, Sundara Raj, Thompson and Wight made valuable contributions to the rich and varied flora of the Madras Presidency and most of their plant collections were deposited in the Central National Herbarium, Sibpore; the Madras Herbarium, Coimbatore and in the Kew Herbarium, London.

In 1912 J. S. Gamble, late of the Indian Forest

Department, began the compilation of the Flora of the Presidency of Madras. In this connection, most of the specimens from the Madras Herbarium were shipped to Kew, London to be utilised for the compilation of the flora and the first part was published in 1915. In 1925 after completing part 7 of the Flora, Gamble died. The work was then continued by C.E.C. Fischer and completed with part 11 in 1935. The Flora of the Presidency of Madras was a monumental work on Systematic Botany of South India. A total number of 4,516 species of flowering plants have been described in the flora and it is mentioned there, that "this figure might not be accepted as final, further botanical exploration is bound to yield more species new to botanical science".

During the 26 years that have elapsed since the publication of the Flora of the Madras Presidency, our knowledge of Botany of the area has largely increased. Several botanists have studied the flora of this region and have been able to discover many taxa new to science and also several new records. The progress of botanical exploration in the unexplored and under-explored areas of this region, for floristic studies has been speeded up by the establishment of the Southern Circle of the Botanical Survey of India, at Coimbatore in the year 1955 and many new species have been described and several new records have been made by the members of the staff of that organisation.

With a view to facilitate the revision of the Flora of the Presidency of Madras and to provide useful information to various research workers and students of Botany, it was felt necessary to bring together the scattered information on the new taxa described by various botanists in different journals and periodicals, since the publication of the Flora of the Presidency of Madras. The present paper deals with 80 new taxa. For each taxon the following data are given: Citation of the original publication

critical notes if any, the place of collection, collector's number and the herbarium where the type specimen is permanently preserved (if known). The various taxa are demonstrated by type or authentic specimens.

#### NEW TAXA DESCRIBED

##### A. New Species & Varieties

1. *Acrocephalus palniensis* Mukerjee in *Notes of Roy. botanic. Gar. Edinburgh* 95: 303, 1938.

Differs from *A. indicus* O. Kuntze by leaves very scabrid and of somewhat thick texture, leaf-base much broader, upper leaves nearly sessile, spikes usually more elongate and larger bracts.

South India, Upper Palneys, Fischer 3001, 3064.

- \*2. *Alysicarpus beddomei* Schindl. in *Fedde Repert.* 23: 353, 1927, Nilgiris.

3. *Amorphophallus mysorensis* E. Barnes et C.E.C. Fischer in *Kew Bull.* 1939: 661-662, 1940.

Close to *A. silvaticus* (Roxb.) Kunth, but the plant larger, the median segments of the leaves dichotomous; petioles olive-coloured and with dark spots; leaflets linear or linear-lanceolate; spathe larger, purple; neutral organs (sterile flowers) globose, 1-3-seriate, appendage purple, shorter.

Mysore: Billigirirangan Hills; Fls. April, *E. Barnes* 2133 (Type in Kew Herbarium).

4. *Anaphalis barnesii* C.E.C. Fischer in *Kew Bull.* 1939: 249, 1939.

Differs from *A. notoniana* DC. by the larger and glabrous stem, smaller lanceolate leaves recurved on margin, fewer and larger capitula (heads), larger ovate or spatulate white bracts.

Travancore High Range; Fls. & Frs. September; *E. Barnes* 1703, 1704 (type in Kew Herbarium).

5. *Arisaema attenuatum* E. Barnes et Fischer in *Kew Bull.* 1936: 275-277, 1936.

Differs from *A. tylophora* Fischer in the following: Leaflets sessile, nerves more numerous, margins undulate; limb of the spathe elongate-triangular; tail neither of the spathe nor of the spadix head-shaped.

Travancore High Range, near Munnar, 5000 ft., Fls. May; *E. Barnes* 1193 (female, type sheet and inflorescence in spirit in Herbarium, Kew.)

6. *A. auriculata* Barnes in *Kew Bull.* 1946: 44-45, 1946.

Very near to *Arisaema barnesii* Fischer, from which it differs in being larger in all parts, leaf-segments sessile, cuspidate or shortly acuminate, intra-marginal vein extending to two-thirds from the apex, and the limb of the spathe being auriculate at the base.

Nilambur Ghat, Nilgiri, Wynaad, 2500-3000 ft. Fls. July; *E. Barnes*.

7. *A. peltatum* Fischer in *Kew Bull.* 1936: 277-278, 1936.

Similar to *A. barnesii* Fischer, but with sessile and narrower leaflets, smaller spathe, erect

limb; spadices neither fusiform nor capitate; style longer; stigma peltate.

Travancore High Range, near Munnar, 5000 ft.; Fls. May; *E. Barnes* 1147 (male, type in Kew Herbarium).

8. *A. psittacus* Barnes in *Hook. Icon. Pl.* t. 3405, 1940.

Allied to *A. leschenaultii* Bl. but distinguished by the limb of the spathe cucullate, gradually curved and caudate at apex.

Travancore High Range, in shola on side of Chunduvurrai and in Mannavan Shola, 2100-2250 m.; *Barnes* 1576 (type).

- \*9. *A. sarracaenioides* Barnes & Fischer in *Hook. Icon. Pl.* t. 3307, 1936.

Travancore.

10. *Arihrochloa henrardiana* (Bor) Lorch in *J. Indian Bot. Soc.* 39: 490-495, 1960.

The genus differs from the allied genera viz. *Acrachne*, *Eleusine* and *Dactyloctenium* in having many short spikes at several levels, tip of the rachis ending in reduced spikelet or naked, dense spikelets in two rows, persistent lemmas with the surface deeply cross-ridged with a deep dorsal groove.

Ramnad District, Madras: Type—*Daniel and Raju* 20089—Madras Herbarium (not represented).

11. *Barleria morrisiana* E. Barnes et Fischer in *Kew Bull.* 1939: 659-660, 1940.

Close to *B. pilosa* Wall. and *B. lawii* T. And. but differs from the former by the broadly ovate, larger outer sepals; from the latter by the solitary flowers, broadly ovate outer sepals; from both by the much smaller size, by the narrowly oblanceolate to elliptic and almost glabrous leaves.

Mysore State: Billigiriranga hills near Punjur, 900-1100 m., frequent on dry stony hills; *E. Barnes* 2122, 2155 (type in Kew Herbarium) 2166 (fruit).

12. *Begonia aliciae* Fischer in *Kew Bull.* 1939: 247-248, 1939.

Very similar to *B. crenata* Dryand, but differs by the acuminate and hardly cordate leaves, fewer basal nerves, the 6 segments of the female perianth, wings of the capsule decurrent below the ovary, acute, cohering.

Travancore High Range: Kadalaar Valley, 1500 m., in evergreen forests; Fls. Sept., *E. Barnes* 1673, 1674 (type in Kew Herbarium, including material in spirit).

- \*13. *Berberis nilghiriensis* Ahrendt in *J. Asiatic Soc. Bengal* 11: 1, 1945. Nilgiris, Madras State.

14. *Boswellia ovalifoliolata* Bal. et Henry in *J. Bombay nat. Hist. Soc.* 58: 546-549, 1961.

Allied to *B. glabra* Roxb., but differs in the characters as given below: (i) leaves 9-25 cm. long, completely glabrous; leaflets 9-13 per leaf (ii) leaflets ovate-oblong, suborbicular, obtuse or rarely retuse at apex, rounded at base, margins entire (iii) panicles upto 31 cm. long, longer than leaves, much branched, peduncles and pedicels glabrous (iv) sepals

and petals completely glabrous; petals smaller,  $\pm 5 \times 3$  mm., obovate-oblong.

The type of this species was collected in Tirupati Hills, Chittoor District, Andhra Pradesh at an altitude of about 300 m., on 3rd March, 1959 by K. Subramanyam (7836 A-F); the holotype (K. Subramanyam 7836A) has been deposited in the herbarium of the Southern Circle, Botanical Survey of India, Coimbatore under accession number 15373.

\*15. *Burmanna indica* Jonker in *Med. bot. Mus. Herb. Rijks. Univ. Utrecht*, Nr 51: 161, 1938. Travancore.

\*16. *B. stricta* Jonker l.c. 156, 1938. Madras.

17. *Cenchrus glaucus* Mudaliar C. R. & Sundararaj, D. in *J. Bombay nat. Hist. Soc.* 54: 926-927, 1957.

This species differs from the closely allied species *C. ciliaris* Linn. in many distinct morphological characters as given below: (i) the rough glaucous leaves; (ii) stiffer culms; (iii) compactly set spiciform panicles; (iv) rachis of panicle more or less straight with ridges, but not flexuose; (v) the involucre of bristles connate below into a much smaller cup than in *C. ciliaris* and (vi) spikelets smaller and slender.

Coimbatore: Agricultural College, C. R. Mudaliar, Madras Herbarium nos. 93840 a, b and c (type sheet in Madras Herbarium 93840 a).

18. *Centrantherum mayurii* Fischer in *Kew Bull.* 1940: 45, 1940.

Similar to *C. indicum* (Less.) Fischer, but distinguished by the leaves which are elliptic or elliptic-oblancoate, hardly rugose or reticulate and the linear-lanceolate involucral bracts.

Mysore State: Keimangundi Hills. Fls. & Frs.: November; *P. V. Mayuranathan* without number (type in Kew Herbarium).

The species is named in honour of the collector.

19. *Coleus vettiveroides* Jacob in *J. Bombay nat. Hist. Soc.* 42: 320-322, 1941.

Differs from other species in the roots being aromatic when fresh.

The author states in the description that "There is a specimen of this plant in the Madras Herbarium at Coimbatore labelled *Coleus osmirrhizon* Elliot. This name could not be traced in any of the literature available here. The curator of the Herbarium, Royal Botanic Gardens, Sibpur, Calcutta considers it as only manuscript name. This specimen is without flowers".

"This species of *Coleus* which has not so far been correctly named is designated as *Coieus vettiveroides* K. C. Jacob. The specific name *Vettiveroides* is after the most popular name of the plant in places where it is largely cultivated."

Type in Madras Herbarium, Coimbatore (Madras Herbarium no.: 85, 676).

20. *Commelina indehiscens* E. Barnes in *J. Bombay nat. Hist. Soc.* 46: 74-76, 1946.

Similar to *C. nudiflora* Linn., but larger and with an indehiscent, 1-seeded capsular, cleistogamous flowers and subterranean capsule.

Mysore: Billigirirangan Hills; Nilgiris; Travancore High Ranges.

21. *Cordia diffusa* Jacob in *J. Bombay nat. Hist. Soc.* 45: 78-79, 1944.

Differs from the other species of *Cordia* in being shrubby and spreading with the leaves broadly elliptic and beset with rough hairs on both surfaces.

Nanjundapuram, Coimbatore, Madras State. Type in Madras Herbarium, No. 86237; collected by K. C. Jacom on 2-5-1938.

22. *Crotalaria kodaiensis* Debberman & Biswas in *J. Indian bot. Soc.* 16: 59-61, 1937.

Allied to *C. madurensis* Wight and *C. candicans* Wt. & Arn. This species can readily be distinguished by the characteristic bracteoles on the smaller twigs and non-revolute margins of calyx lobes.

Kodaikanal Hills, January 1916; *C. Tomland* 1605.

23. *Cucurbita maxima* Duch. var. *badagarensis* C. R. Mudaliar, var. nov. in *J. Bombay nat. Hist. Soc.* 49: 242-243, 1950.

In general appearance the new variety approaches *C. maxima* Duch. Variety typical; but differs in the following characters, namely, the size colour and shape of fruit, both when tender and when ripe, the time of flowering and the maturity of the fruit, etc.

Madras Herbarium Nos. 93177 and 93178; cultivated commonly in Malabar District. The variety is named after the place, Badagara where it is largely grown.

24. *Cymbopogon travancorensis* Bor in *J. Bombay nat. Hist. Soc.* 52: 174-178, 1954.

Very similar to *C. flexuosus* (Nees) Wats, but differs by their nodes which have tufts of hairs.

Courtallam, Madras State, 11 Nov. 1908, *Bourne* 5309 (type in Kew Herbarium).

\*25. *Cyperus meeboldii* Kük. in *Fedde Repert.* 18: 345, 1922.

Mysore—Badami.

26. *Didymocarpus macrostachya* E. Barnes in *Kew Bull.* 1938: 37, 1938.

Differs from *D. gambleana* Fischer, by the oblong or narrowly ovate and sessile leaves, longer and more robust scape, dichotomous cymes, larger flowers, eglandular scape calyx and capsule and narrower capsule.

Travancore: High Range, on the Ottaparai Ridge, 5500 ft., on rocks exposed for a large part of the year to monsoon conditions, fls. and almost mature capsules in September; *E. Barnes* 1264, 1266 (type in Kew Herbarium).

27. *Dimeria kanjarapallilana* Jacob in *J. Bombay nat. Hist. Soc.* 47: 48-49, 1947.

Comes near to *D. ornithopoda* Trin. but differs from it, in the divaricate spikes which are only 2.

Leaves not hairy but are only sparsely ciliate with bulbous based hairs.

South India, Travancore, Peermade (3200 ft.). Type in Madras Herbarium, Coimbatore (Madras Herbarium No. 86320); collected by K. Cherian Jacob in December, 1941.

28. *Dimeria kurumthotticalana* Jacob in *J. Bombay nat. Hist. Soc.* 47: 49-50, 1947.

Comes near to *D. lawsoni* Fischer, but differs from it, in having the wing confined to a third of the keel of the upper glume towards the top.

South India, Travancore, Peermade (3200 ft.). Type in Madras Herbarium, Coimbatore (Madras Herbarium No. 86320A); collected by K. Cherian Jacob in December, 1941.

29. *Dipcadi madrasicum* Barnes et Fischer in *Kew Bull.* 1940: 301-302, 1941.

Very similar to *D. montanum* (Dalz.) Baker, but distinguished by the longer scape and leaves; the petals hardly glandular at apex; anthers much shorter than the filaments.

Chingleput District: Tambaram, 70 m., Fls.; November; *E. Barnes* 1801 (Type in Kew Herbarium).

30. *Eleusine reniformis* Divak. in *Madras agri. J.* 46: 485-486, 1959.

Allied to *E. coracana* Gaertn. The type was isolated from a sample of Ragi seeds received from East Africa, this type was not observed in several other seed samples got from East Africa and other parts of the African continent. So it is presumed that this type is confined to certain pockets of East Africa only. (Grains reniform—kidney shaped). Cultivated in Agri. Research Stations in Madras State.

31. *Eragrostis unioloides* Nees var. *tremula* Jacob var. nov. in *J. Bombay nat. Hist. Soc.* 47: 51, 1947.

The new variety differs from the species in the following characters: the panicle effuse; branches of panicle long, slender and often nodding. Spikelets oblong, narrow and often 40-70 flowered. Grain ellipsoid and much smaller than that of the species.

South India, Travancore, Tiruvalla (about 100 ft.). Type in Madras Herbarium, Coimbatore, No. 86288 collected by K. Cherian Jacob in November, 1941.

\*32. *Euphorbia mayuranathanii* Croizat in *Hook. Icon. Pl. t.* 3404, 1940.

Madras.

33. *E. senguptae* Bal. & Subr. in *Bull. bot. Surv. India* 2: 175-176, 1960.

Allied to *E. longistyla* Boiss., but differs in the characters as given below: (i) bases of branches not velutinous (ii) leaves acute, ovate-elliptic cordate, auricled on one side (iii) stipules united, interpetiolar, incised deeply (iv) limb of glands broad, entire, minutely sinuate at tip and (v) capsules deeply depressed-keeled.

*Holotype*—Guvvalacheruvu, Cuddapah District, Andhra Pradesh, 800 m., 6-10-1958, deposited in the

Southern Circle Herbarium, Botanical Survey of India, Coimbatore under accession no. 13340.

\*34. *Garnotia aperiens* Santos in *Nat. and Appl. Sci. Bull. Univ. Philipp.* 10: 167, 1950.

Madras.

\*35. *G. geniculata* Santos l.c. 161, 1950.

Nilgiris, Madras State.

\*36. *G. lata* Santos l.c. 165, 1950.

Madras.

\*37. *G. linguiformis* Santos l.c. 119, 1950.

Madras.

\*38. *G. longipila* Santos l.c. 151, 1950.

Travancore.

\*39. *G. palniensis* Santos l.c. 150, 1950.

Madras—Pulneys.

\*40. *G. parvispicula* Santos l.c. 118, 1950.

Coorg, Mysore State.

\*41. *G. puchiparensis* Bor in *Indian For. Rec. n.s. Bot.* 2: 234, 1941.

Madras.

\*42. *G. straminea* Santos in *Nat. and Appl. Sci. Bull. Univ. Philipp.* 10: 168, 1950.

Madras.

\*43. *G. tenuis* Santos l.c. 116, 1950.

Travancore-Cochin.

\*44. *G. thomsonii* Santos l.c. 159, 1950.

Madras.

\*45. *G. verticillata* Santos l.c. 143, 1950.

Madras.

46. *Heteropogon fischerianus* Bor in *Kew Bull.* 1951: 170-171, 1951.

This very distinct and remarkable species of *Heteropogon* was considered by Fischer to be merely a variety of *H. contortus* (Linn.) P. Beauv. to which he gave the name var. *distichus* C.E.C. Fischer. The habit of the species is, however, so unique and moreover, the spikelets smaller than those of *Heteropogon contortus*, that there is no which he gave the name var. *distichus* C.E.C. doubt that this plant merits specific rank. The numerous distichous leaves crowded together in the middle third of the culm distinguishes *H. fischerianus* from all other species of *Heteropogon*.

Madras: Kodaikanal 'Jesmond Hill', 1st July, 1901; *Bourne* 2025 (type in Kew Herbarium).

47. *Isachne deceanensis* Bor in *Kew Bull.* 1949: 95-96, 1949.

Comparable to *Isachne himalaica* Hk. f. but distinguished easily by the erect, hirsute blade of the leaf.

Nilgiris, Ootacamund Downs, August 1884; *Gamble* 15290 (type in Kew Herbarium).

48. *I. fischeri* Bor in *Kew Bull.* 1949: 69-70, 1949.

(Syn. *I. kunthiana* W. & A. var. *nana* Fischer in *Gamble, Fl. Madras* 1796, 1934).

Near to *I. bourneorum* Fischer, but differs greatly by the racemose inflorescence, annual habit, shorter culm.

Anaimudi, Travancore High Range, 2900 m.,

Fls. September 1933; *E. Barnes* (Type in Kew Herbarium).

\*49. *Isachne lutaria* Santos in *J. Wash. Acad. Sci.* 33: 140, 1943. Travancore.

50. *Ischaemum flumineum* Bor in *Kew Bull.* 1949: 572, 1950.

Similar to *I. timorensis* Kunth, but differs from it by the sessile glume of the spikelet, bicuspidate below and aristate, and by the perennial habit.

A perennial with very strong wiry roots growing in the crevices of rock, usually in the bed of streams.

Bombay: Jog, 28th April 1939, *N. L. Bor* 11390 (Type in Kew Herbarium and Dehra Dun Herbarium); Top-slip, Coimbatore, Madras. Nov. 1937, *N. L. Bor* s.n.

51. *Impatiens munnarensis* E. Barnes in *Kew Bull.* 1938: 32-33, 1938.

Related to *I. pusilla* Heyne, but differs in being much larger and more diffuse, with larger flowers, the labellum (lip) grooved in the lower part, ribbed and crested within.

The depression on the underside of the lip appears to be a unique feature in this group of balsams, but it is not easily seen in dried specimens.

Travancore: High range near Munnar, 4000 ft., common on the edges of streams and in marshy places. Fls. and frs. September-December; *E. Barnes* 571, 573, 574, 575, 576, 1275, 1276, 1277 (in *Barnes Herbarium*) 1281, 1282 (type in Kew Herbarium).

52. *I. pandata* E. Barnes in *Kew Bull.* 1938: 33-34, 1938.

Very similar to *I. akka* Bedd., but more robust with leaves glabrous and rounded at apex; scape abruptly deflexed in the upper part; flowers larger, the labellum without a spur.

Travancore: High range, Anaimudi slopes, 8000 ft., on wet rocks, often in cushions of moss. Flowers and fruits September; *E. Barnes* 535, 537 (type in Kew Herbarium).

53. *Jatropha tanjorensis* Ellis et Saroja in *J. Bombay nat. Hist. Soc.* 58: 834-836, 1961.

Allied to *J. glandulifera* Roxb. but differs in having leaves lobed above the middle, stipules shorter with few filiform glandular tipped divisions, flowers polygamous, and petals connate to one-third their length at the base in bisexual flowers.

The types of this species were collected at Kallimedu, Vedharanyam Forest, Tanjore District, Madras State by *J. L. Ellis* 11809 (A-F) and the Holotype (*J. L. Ellis* 11809 A) has been deposited in the Southern Circle, Herbarium, Botanical Survey of India, Coimbatore, South India.

\*54. *Kaempferia evansii* Blatter in *J. & Proc. Asiat. Soc. Bengal* 26: 359, 1931. Madras.

55. *Lagenandra toxicaria* Dalz. var. *barnesii* Fischer, var. nov. in *Kew Bull.* 1938: 126, 1938.

Mature spathe with open and twisted limb and of a colour different from the type.

Nilgiri, Wynaad, near Nadgani, 3000 ft. Fls., June; *E. Barnes* 1523 (type in Kew Herbarium).

\*56. *Lepidagathis submitis* Blatter in *J. & Proc. Asiat. Soc. Bengal* 26: 349, 1931. Madras.

\*57. *Lippia indica* Moldenke in *Phytologia* 1: 427, 1940. Madras.

58. *Lippia unica* V. Ram. in *J. Bombay nat. Hist. Soc.* 54: 925-926, 1957.

Allied to *L. geminata* H. B. & K. but differs in its solitary axillary, condensed, sub-globose spikes, elliptic to elliptic-lanceolate, acute, attenuate based leaves with upper surface villous and in its subcordate, acuminate, ciliate bracts. In *L. geminata* H. B. & K. the spikes are in one or two pairs, cylindric and elongate, the leaves ovate, subobtusate with upper surface scabrous-hispidulous hairs with papillose base and somewhat decurrent and the bracts ovate apiculate.

Coimbatore: Wet lands, Agricultural College Estate, 14-4-1952. *V. Ramakrishnan* Madras Herbarium No. 94281 (type in Madras Herbarium).

\*59. *Neuropeltis malabarica* V. Oost. in *Blumea* 5: 268, 1942. Malabar, Kerala.

60. *Ophiorrhiza barnesii* Fischer in *Kew Bull.* 1939: 248-249, 1939.

Similar to *O. caudata* Fischer, but differs by the larger axillary inflorescence, linear bracteoles, narrowly infundibuliform corolla.

Travancore High Range, Kalaar Valley, Fls. & Frs. September; *E. Barnes* 1753, 1754 (type in Kew Herbarium).

61. *O. caudata* Fischer in *Kew Bull.* 1938: 125-126, 1938.

Allied to *O. pectinata* Arn., but differs by the narrower and often caudate leaves, more shortly petiolate and the infundibuliform corolla.

Travancore High Range, Kalaar in evergreen forest, 4750 ft. Fls. May; *E. Barnes* 1560 (type in Kew Herbarium).

62. *O. incarnata* Fischer in *Kew Bull.* 1938: 124-125, 1938.

Allied to *O. pectinata* Arn., but differs by the smaller and narrowly elliptic leaves, the lateral nerves arising at a broader angle, arched and anastomosing clearly away from the margin, corolla carmine and with glabrous lobes.

Nilgiri Wynaad, near Nadgani, in a Pandanus Swamp, 3000 ft., Fls. June; *E. Barnes* 1559 (type in Kew Herbarium).

63. *O. munnarensis* Fischer in *Kew Bull.* 1938: 35-36, 1938.

Allied to *O. pallida* Thw., but differs in being smaller, leaves narrower and with fewer nerves, ciliolate on margin. Cymes smaller, terminal; bracts much broader; corolla narrower, longer, glabrous at mouth; anthers semi-exserted; filaments shorter; style reaching the base of the filaments.

Travancore: Munnar Ghat Road, 4000-5000 ft.

Fls. & Frs. September; *E. Barnes* 2005 (type in Kew Herbarium).

64. *Oryza malampuzhaensis* Krishnaswamy and Chandrasekharan in *Madras agri. J.* 45: 471-472, 1958.

This species is a naturally occurring tetraploid ( $2n = 48$ ) and does not agree well with the characteristics of the other recorded species of India.

The holotype C.G.I. was collected at Emurbhagavathi Hills, near Malampuzha Reservoir, Palghat District, Kerala State at an altitude of 500 ft. above M.S.L. on 21-8-1956 by N. Krishnaswamy and P. Chandrasekharan and has been deposited in the Herbarium, Southern Circle, Botanical Survey of India, Coimbatore.

- \*65. *Pavetta crassiuscula* Bremek. in *Fedde Repert.* 37: 112, 1934. Madras.

- \*66. *P. paraecox* Bremek. *l.c.* 114, 1934. Madras.

67. *Peperomia cochinchinensis* C.D.C. in *Fedde Repert.* 13: 297, 1915. Cochin.

68. *Pimpinella tirupatiensis* Bal. & Subr. in *Bull. bot. Surv. India* 2: 427-428, 1960.

Allied to *P. candolleana* Wt. & Arn. but differs in the characters as given below: (i) Plant glabrous (ii) basal leaves always simple (iii) upper cauline leaves palmately 3-partite (iv) uppermost leaves sheathing, 3-partite with linear segments and (v) bracts from primary umbels absent.

Type collected on the way to Japalathirtha in Tirupati Hills, Chittoor District, Andhra Pradesh at about 1000 m. on 11th October, 1958 by K. Subramanyam and N. P. Balakrishnan and deposited in Southern Circle Herbarium of the Botanical Survey of India, Coimbatore under accession No. 13487.

- \*69. *Piper pykarahense* C.D.C. in *Fedde. Repert.* 13: 300, 1914.

Pykara, Nilgiris, Madras State.

- \*70. *Pittosporum undulatum* Vent in *Jard. Cels.* Pl. 76, 1800; Gowda, *J. Arn. Arb.* 32: 320, 1951.

Pulneys, Madras State.

71. *Polygala ramaswamiana* Mukerjee in *J. Bombay nat. Hist. Soc.* 53: 55, 1955.

In structure and appearance it approaches *Polygala bolbothrix* Dunn., but differs from it in that the new species is densely hispid, its leaves are smaller and with revolute margins and the median rib depressed above and ridged below.

S. India: Peermade, A. *Meebold* No. 12858 (type in Calcutta Herbarium).

72. *Reidia singampattiana* Sebastine and Henry in *Bull. bot. Surv. India* 2: 437-439, 1960.

Allied to *R. polyphylla* Wight, but differs in having more thickly coriaceous leaves with revolute margins, the shorter male and female pedicels and the more deeply, irregularly dentate calyx lobes.

The holotype of this species was collected by K. M. Sebastine and A. N. Henry at Kakachi, in

Singampatti R. F., Tirunelveli District, Madras State on 15th October, 1957 and is kept in the Southern Circle Herbarium, Botanical Survey of India, Coimbatore under accession No. 23089.

73. *Sarcandra irvingbaileyi* Swamy in *Proc. Nat. Inst. Sci. India* 19: 301-306, 1953.

A vesselless dicot.

This plant is described in the "Flora of the Presidency of Madras" under *Chloranthus brachystachys* Bl.

Habitat: Hills of Malabar, Bolampatti Valley, Anamalais, Pulneys and Tinnevely in moist forests.

74. *Senecio kundaicus* Fischer in *Kew Bull.* 1940: 45-46, 1940.

Very similar to *S. wightii* (DC.) Clarke, but the stems are sparsely puberulous; leaves linear-oblong, obtuse and minutely dentate; involucre bracts, more numerous and penicillate at apex; ligule 4-nerved; pappus present.

Nilgiri Hills, on the Kundahs. Fls., September; P. V. Mayuranathan without number (type in Kew Herbarium).

75. *S. mayurii* Fischer in *Kew Bull.* 1939: 250, 1939.

Very similar to *S. grahmi* HK. f. and *S. belgaumensis* Clarke, but differs from both in having stem, with woolly indumentum, narrower leaves, fewer veins, bracts with scarious margins, shorter ligules; besides differs from the latter by the presence of pappus.

Mysore State: Kemmangandi Hills. Fls. & Frs. November; P. V. Mayuranathan (type in Kew Herbarium).

76. *Sesamum orientale* Linn. var. *malabaricum* Nar. in *Madras agri. J.* 37: 1-4, 1950.

"This wild variety of Malabar does not fully conform to any of the descriptions of the 30 types of *Sesamum* given by Kashi Ram in "Memoirs of the Department of Agriculture in India 18 (5)". The seed only resembles that of type 24 and the plant has the habit of type 25, but the corolla is different".

Its habitat extends from Malabar to parts of Bombay and Central Provinces. The variety is unique in having very long duration and capacity to withstand very heavy rainfall. The seed characters also are quite different from those of cultivated types. Also it has been found gregariously in the wild state.

77. *Sida beddomei* Jacob in *J. Bombay nat. Hist. Soc.* 47: 50-51, 1947.

Allied to *S. veronicaefolia* Lam. and differs from it in its large calyx and corolla, large and acuminate calyx lobes, pedicels jointed near the flower and carpels with flat muticous processes.

Kannoth—Malabar District, type in Madras Herbarium, Coimbatore No. 3611; Collected by K. Cherian Jacob.

78. *Sonerila barnesii* Fischer in *Kew Bull.* 1938: 35, 1938.

Allied to *S. tinnevellensis* Fischer, but distinguished by the quadrangular, grooved branchlets, ovate leaves, rotund at base, longer peduncles, fewer flowers with the calyx tube bare or nearly bare.

Tinnevelli Hills, near Nadugani, 2500 ft., Fls. & Frs. December; *E. Barnes* 1405 (type in Kew Herbarium).

79. *Vateria macrocarpa* B. L. Gupta in *Indian For.* 55: 231-232, 1929.

This species can easily be distinguished from *Vateria indica* Linn. by the larger size of the flowers, smaller, triangular acute, sepals and the larger ovate, shortly acuminate fruit.

Muthukulam, Bolampatty Range, Madras State. Type in Dehra Dun Herbarium, No. 43696.

80. *Youngia nilgiriensis* Babcock in *Kew Bull.* 1939: 662-663, 1940.

Although this plant exhibits much general resemblance to *Y. gracilis* Miq., yet it differs in many details, most notably in the larger, lyrate, caudical leaves, the longer outer involucre bracts, the longer corolla and ligule-teeth, the shorter anther-tube and appendages, and especially in the longer, brown achenes which are not attenuate to the base, and in the more copious pappus.

Madras: Nilgiris area. Sispara, 2060 m.; Fl. November; J. S. Gamble 13341 (Type in Kew Herbarium).

The references of the taxa marked with asterisk are taken from the Records of the Botanical Survey of India (Razi, 1959).

#### B. New Genus

1. *Haplothismia exannulata* Airy Shaw in *Kew Bull.* 2: 277-279, 1952.

It is not only an undescribed species, but it represents a new and very distinct genus of Burmanniaceae. The author states that it represents an isolated type in the family, and appears to require tribal recognition since it evidently cannot be placed in either of the tribes recognised by Jonker (1938, *Mongr. Burmann.*, 10: 52). Therefore he raised

*Haplothismia* to the status of a tribe *Haplothismieae*. "This floral structure of *Haplothismieae* represents the best specialised type found in Burmanniaceae. On the whole it appears to be nearer to that of the *Thismieae* than to the *Burmannieae*, for the absence of the annulus-cum-circumscissile dehiscence, of the perianth makes for a fundamental distinction."

The type is collected in Parambikulam, Travancore-Cochin State by A. Abraham and K. C. Jacob in October, 1951 and it is deposited in the Herbarium of the University College, Trivandrum.

Finally, it is to be noted here that the type specimens of many of the taxa dealt with are not in India and most of them are permanently preserved in Kew Herbarium and other foreign Herbaria. Authentic specimens are also not available in India for certain taxa. In the interest of taxonomic research in India, it is suggested that either the type specimens or authentic specimens of all Indian plants should be made available in the Central National Herbarium or in the Regional Herbaria of the Botanical Survey of India for easy reference by the various research workers and students of Botany in the country.

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#### LITERATURE CITED

- GAMBLE, J. S. *Flora of the Presidency of Madras*, Part 1, 1915.  
RAZI, B. A. A second list of species and Genera of Indian Phanerogams not included in J. D. Hooker's *Flora of British India*. *Rec. bot. Surv. India* 18: 1-56, 1959.