

A CONTRIBUTION TO THE FLORA OF PACHMARHI (MADHYA PRADESH)

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ABSTRACT

Pachmarhi, a popular hill station of Madhya Pradesh, having in it the highest hill top (Dhupgarh) of central India, presents very interesting features in its flora. It has received attention by several botanists due to its popularity and importance from floristic point of view and a number of contributions to the flora were made by them (Gamble 1892, Graham 1914-15, Pandey & Srivastava 1952, Rao & Narayanaswamy 1960, Kapoor & Yadav 1962 and others). The present paper records 304 species of flowering plants and ferns, which are reported for the first time from Pachmarhi. Sixteen species are new records for Madhya Pradesh (marked by single asterisk) and twelve for central India (marked by double asterisk). The species, of which previous record was found to be based on wrong identifications have been excluded from the flora, namely *Fimbristylis podocarpa* Nees & Meyen, *Arthraxon serrulatus* Hochst., *Arundinella nepalensis* Trin., *Eragrostis nutans* (Retz.) Nees ex Steud., *Sporobolus elongatus* R. Br. and *Tripogon pauperculus* Stapf.

INTRODUCTION

Pachmarhi, popularly known as "Queen of Satpura" due to its splendid natural beauty, is situated on a plateau of Satpura Range which lies 22°28' N and 78°26' E. It is 51 kilometres from Pipariya station on the Itarsi-Jabalpur Section of the Central Railway and is in Sohagpur tehsil of Hoshangabad district, Madhya Pradesh. The plateau on which the town stands at an elevation of just 1,067 m (3,500 ft) is 60 sq. kilometres in area, surrounded by prominent peaks like Mahadev (1,328 m or 4,358 ft) on the south, Chauradeo (1,312 m or 4,303 ft) on the south-east and Dhupgarh (1,350 m or 4,429 ft) on the south-west. Dhupgarh is the highest hill top of the central India.

Out of the total area of 60 sq. kilometres covered by the plateau practically five-sixth is dominated by forest. According to Champion (1961) the forests are classified as Central Indian Sub-tropical Evergreen Forests of the Southern Sub-tropical Wet Hill Forests.

The flora of Pachmarhi consists of a Mixture of temperate and tropical elements. The region is remarkable as forming a meeting ground for species characteristic to the Himalaya and the south Indian Hills; for example *Rubus ellipticus*, *Berberis asiatica*, *Thalictrum foliolosum*, *Ceropegia macrantha*, *Leucas lanata*, *Malaxis mackinnonii*, *Eulophia* spp., *Lindernia hookeri* var. *kumaunensis*, *Rhynchosstylis retusa*, *Lindernia hirsuta*, *Eriocaulon xeranthemum* etc. are species characteristic to Himalayan Region and *Curcuma pseudomontana*, *Senecio bombayensis*, *Senecio wightii*, *Smithia pycnantha*, *Utricularia graminifolia*, *Strobilanthes campanulatus*, *Rostellularia*

hedyotidifolia, *Pogostemon purpurascens* and *Crotalaria nana* are species of south and south-west India.

The flora of Pachmarhi, has attracted attention of several botanists in the past and a number of contributions were made by them: important ones are: Forsyth (1872, 1889, 1919), Stewart & Brandis (1874), Gamble (1892), Hole (1906), Witt (1916), Graham (1914-15), Haines (1916), Mukherjee (1923) and Pandey & Srivastava (1952). Rao and Narayanaswamy (1960) published a list of 308 species from Pachmarhi and adjacent regions (Chhindwara, Khandwa, Pipariya, Asirgarh, Betul and Itarsi). Then, Kapoor & Yadav (1962) reported 92 additional species to the area.

In the present paper 304 additional species of flowering plants and ferns (angiosperms 300 and ferns 4) have been recorded from Pachmarhi for the first time. Sixteen species out of this, are new records for Madhya Pradesh (marked by single asterisk) and twelve for Central India (marked by double asterisk). These new records are claimed on the basis of the publications of Gamble (1892), Graham (1914-1915), Hole (1906), Kapoor & Yadav (1962), Panigrahi *et al.* (1965 a, 1965 b, 1966 a, 1966 b, 1967), Patel *et al.* (1962), Ramlal & Panigrahi (1967), Rao & Narayanaswamy (1960), Sebastine & Balakrishnan (1963), Shukla & Panigrahi (1967), Tiwari (1954, 1955, 1963, 1964), Tiwari & Maheshwari (1963, 1964, 1965) and Witt (1916). Six species, of which previous record was found to be based on wrong identifications, have been excluded from the flora, namely --*Fimbristylis podocarpa* Nees & Meyen, *Arthraxon serrulatus* Hochst., *Arundinella nepalensis* Trin.,

Eragrostis nutans (Retz.) Nees ex Steud., *Sporobolus clongatus* R. Br. and *Tripogon pauperculus* Stapf.

The area of the present study covers Pachmarhi proper and the adjoining hills. Itinerary of the collections being Mahadev on the south Chauragarh (or Chauradeo) on the south-east, Dhupgarh on the south-west, Jambudeep on the north and 3 kilometres towards Kanjighat on the north-east. The present paper is the result of six years study both in the field and herbarium. The specimens collected are preserved in the herbaria of the State Forest Research Institute, Jabalpur (SFRI) and National Botanic Gardens, Lucknow (LWG). Besides, collections from Pachmarhi by previous botanists present in the herbaria of National Botanic Gardens, Lucknow; Botanical Survey of India, Central Circle, Allahabad (BSA) and Forest Research Institute, Dehra Dun (DD), were also examined.

ENUMERATION

PAPAVERACEAE

Argemone mexicana Linn.

Occasional in waste places, along roadsides etc. Apsara Bihar, Down Fall, Jatashankar, Rajat Prapat. Fl. Sept. *Saxena* 6116 (SFRI).

VIOLACEAE

Viola patrinii DC. ex Gring.

Rare in damp shady valley: Down Fall. Fl. Oct. *Saxena & Khotele* 8168 (SFRI).

FLACOURTIACEAE

Cochlospermum religiosum (Linn.) Alston

C. gossypium DC.

Rare in forests towards Karanjia. *Saxena & Pandey* 83510 (LWG).

Loc. name: Bharga, Gugul.

POLYGALACEAE

Polygala chinensis Linn.

Rare in forests: Jatashankar, Jambudeep. Fl. Aug. *Saxena & Pandey* 83525 (LWG).

P. persicariaefolia DC.

Occasional along waysides. Fl. Sept.-Oct. *Saxena* 997, 8155 (SFRI).

MALVACEAE

Hibiscus sabdariffa Linn.

Occasional in waste places. Fl. Oct. *Saxena & Khotele* 7858 (SFRI).

Sida veronicaefolia Lamk.

Common in waste places, along way sides in forests: Jambudeep. Fl. Sept.-Oct. *Saxena* 396, 513, 515 (SFRI).

Thespesia lampas (Cav.) Dalz.

Occasional in waste lands, also in forests. Fl. Oct. *Saxena* 336 (SFRI).

STERCULIACEAE

Sterculia urens Roxb.

Rare in forests: Apsara Bihar, towards Kanjighat etc. Fl. Aug. *Saxena & Pandey* 83368. (LWG).

Loc. name: Kullu.

TILIACEAE

Corchorus aestuans Linn. (non Forsk.).

C. acutangulus Lam.

Weed in waste places. *Saxena* s.n (SFRI).

Grewia rothii DC.

Frequent in forests: Gahra Nala. Fl. Aug.-Oct. *Saxena* 1072 (SFRI); *Saxena & Khotele* 8250 (SFRI); *Saxena & Pandey* 83517 (LWG).

Loc. name: Gangerua.

Triumfetta annua Linn.

Common in wastelands, along waysides. Fl. Sept. *Saxena* 503 (SFRI).

T. pentandra A. Rich.

T. neglecta W. & A.

Common in waste places: Down Fall. Fl. Sept. *Saxena* 1091 (SFRI).

LINACEAE

Linum mysorens Heync

Occasional in open flat grounds: Pachmarhi, Jambudeep. Fl. Sept.-Oct. *Saxena & Khotele* 8132 (SFRI); *Saxena* 591, 7966 (SFRI); *Hiralal* 33015 (LWG).

Reinwardtia indica Dumort.

Rare in forests: Towards Kanjighat.

BALSAMINACEAE

Impatiens kleinii W. & A.

Common in forests, sometimes gregarious: Mahadev Hill, Handikhoh. Fl. Aug. *Bharadwaj* Acc. No. 111670 (DD); *Saxena & Pandey* 81341, 81366. (LWG).

OXALIDACEAE

***Biophytum apodiscias** Turcz.

Small herb with pink flowers. Peduncle short. Pedicel 2-4 mm. Sepals slightly exceeding the capsule. Leaflets 3-7 pairs. Seeds round, 0.4-0.5 mm in diameter with scattered tubercles. Rare in sheltered places: on way to Beefall. Fl. Sept. *Saxena* 1060. (SFRI).

B. reinwardtii (Zucc.) Klotz.

Down Fall. Fl. Aug. *Saxena* 1086 (SFRI).

Biophytum sensitivum (Linn.) DC.

Common along waysides. Fl. Sept. *Saxena* 368, 517 (SFRI).

Oxalis latifolia H.B.K.

Jatashankar. Fl. Sept. *Hiralal* 33092 (LWG).

BURSERACEAE

Beswellia serrata Roxb.

Rare in mixed forest: towards Kanjighat.

Loc. name: Gurar.

Garuga pinnata Roxb.

Occasional around Pachmarhi: Mahadev. Fr. Aug. *Saxena & Pandey* 83325 (LWG).

Loc. name: Kekar.

MELIACEAE

Melia azedarach Linn.

Planted in compounds and gardens. Fl. Oct. *Saxena & Khotele* 8198 (SFRI).

Loc. name: Bakain.

Soymidia febrifuga A. Juss.

Rare in forests towards Kanjighat.

Loc. name: Rohini.

Toona ciliata Roem.

Cedrela toona Roxb. ex Rottl.

Planted in avenues. Pachmarhi-Pipariya Road.

Loc. name: Tun.

RHAMNACEAE

Zizyphus oenoplia Mill.

Rare in forests: Pachmarhi-Kanjighat, Rajat Prapat. Fl. Oct. *Saxena* 7901 (SFRI); *Saxena & Pandey* 8328 (LWG).

Loc. name: Makoi.

VITACEAE

Ampelocissus latifolia (Roxb.) Planch.

Vitis latifolia Roxb.

Occasional in forests. Fl. Sept. *Saxena* 1068 (SFRI).

A. tomentosa Planch.

Vitis tomentosa Heyne

Occasional in forests in sheltered places: Mahadev Hill. *Saxena & Pandey* 83306 (LWG).

Loc. name: Dokarbel.

Leea bracteata C. B. Cl.

Occasional in forests. Fl. and Fr. Oct. *Saxena* 8119 (SFRI).

L. crispa Linn.

Frequent in forest undergrowth: Dhupgarh. Fl. Aug.-Sept. *Hiralal* 33287 (LWG).

Loc. name: Hansia dhan.

SAPINDACEAE

Schleichera oleosa (Lour.) Oken

Occasional in valleys: Apsara Bihar.

Loc. name: Kusum.

ANACARDIACEAE

Lannea coromandelica (Houtt.) Merr.

L. grandis (Dennst.) Engl.

Occasional in forests.

Loc. name: Gunja.

Mangifera indica Linn.

Commonly planted and also found in valleys in apparently wild state.

Semecarpus anacardium Linn. f.

Rare in forests, mainly sal forests: Apsara Bihar, Pachmarhi-Pipariya Road, Gahra Nala etc. *Saxena & Pandey* 83527 (LWG).

Loc. name: Bhelwa.

PAPILIONACEAE

Abrus precatorius Linn.

Seen at Kuakhad. Seeds bright scarlet or white with one end black.

Loc. name: Gugchi.

Butea monosperma (Lam.) Taub.

Rare: seen at Apsara Fall.

B. superba Roxb.

Rare: seen towards Kanjighat.

***Crotalaria nana** Burm. f.

C. umbellata Wight ex W. & A.

Rare in forests. Fl. Sept.-Oct. *Saxena* s.n. (SFRI).

C. sericea Retz.

Apsara. Fall. Fl. Oct. *Saxena & Khotele* 7856 (SFRI).

Dalbergia paniculata Roxb.

Occasional in forests: Fr. Aug. *Saxena & Pandey* 81335 (LWG).

Loc. name: Phansi.

D. sissoo Roxb. ex DC.

Planted on roadsides. Fr. Sept. *Saxena* 1001 (SFRI).

Dolichos biflorus Linn.

Found as escape. Fl. Sept. *Saxena* 597 (SFRI).

Loc. name: Kulthi.

Galactia tenuiflora (Klein ex Willd.) W. & A.

Occasional in sal forest: Jatashankar, Jambudeep, Rajat Prapat. Fl. Aug. *Saxena & Pandey* 83526, 83358 (LWG).

Phaseolus aureus Roxb.

P. radiatus auct. non Linn.

Occasional as escape. Fl. Sept. *Saxena* s.n. (SFRI).

Loc. name: Mung.

Phaseolus mungo Linn.

Common as escape. Fl. Sept. *Saxena* 1032 (SFRI); *Saxena & Khotele* 7981 (SFRI).

Loc. name: Urda.

P. radiatus Linn. (auct. FBI.)

P. trinervius Heyne

P. sublobatus Roxb.

Occasional in forests. Fl. Sept. *Saxena* 472, 533, 1074 (SFRI).

P. trilobus Ait.

Rare. Fl. Sept. *Saxena* s.n. (SFRI).

Pongamia pinnata (Linn.) Pierre

Planted in avenues. Fl. Aug.-Sept., *Saxena* 1002 (SFRI); *Saxena & Pandey* 83385 (LWG).

Pueraria tuberosa (Roxb. ex Willd.) DC.

Rare: Mahadev-Chauragarh.

Loc. name: Patal Kumra.

Smithia conferta J. E. Smith

S. geminiflora Roth

Along water courses: Jambudeep. Fl. Sept.-Oct. *Saxena & Khotele* 8204 (SFRI); *Saxena* 453 (SFRI).

***S. pycnantha** Benth. ex Baker

Rare on way to Dhupgarh. Fl. Sept. *Saxena* 1042 (SFRI).

Tephrosia hamiltonii Drum.

T. purpurea FBI, *pro parte*.

Rare. Fl. Sept. *Saxena* 1059 (SFRI).

CAESALPINIACEAE

Bauhinia malabarica Roxb.

Rare in forests towards Kanjighat. *Saxena* s.n. (SFRI).

Loc. name: Keolar.

B. vahlii W. & A.

Common in forests. *Saxena* s.n. (LWG).

Loc. name: Mahul.

B. variegata Linn.

Occasional in forests. *Saxena* s.n. (SFRI).

Loc. name: Kachnar, Astar.

Caesalpinia decapetala (Roth) Alston

C. sepiaria Roxb.

Rare: Pipariya Road, *Saxena* 1008, 8188 (SFRI).

Loc. name: Kirkich.

Cassia fistula Linn.

Common in forests and also planted in gardens and avenues.

Loc. name: Amaltas.

C. pumila Lam.

Common in waste places in forests etc. Fl. Sept.-Oct. *Saxena* 1029 (SFRI).

C. occidentalis Linn.

Occasional in wastelands. Fl. and Fr. Sept.-Nov. *Saxena & Khotele* 8154 (SFRI).

Loc. name: Kasondi.

Hardwickia binata Roxb.

Rare in forests: Apsara Bihar, Rajat Prapat, Kanjighat. *Saxena & Pandey* 83354 (LWG).

Loc. name: Anjan.

MIMOSACEAE

Acacia catechu (Linn. f.) Willd.

Rare: Apsara Bihar, Kanjighat. *Saxena & Pandey* 83329 (SFRI).

Loc. name: Khair.

Albizia lebbeck (Linn.) Benth.

Occasional in forests. *Saxena* s.n. (SFRI).

Loc. name: Chichola.

ROSACEAE

***Rubus ellipticus** Sm.

Rare in valleys: Kua Khud. *Saxena* 1003 (SFRI).

DROSERACEAE

Drosera burmanii Vahl

In open marshy places, often among rocks along streams: Jambudeep. Fl. Sept. *Saxena* 8162 (SFRI); *Maheshwari* Acc. No. 58934 (LWG).

D. indica Linn.

In open marshy places, often among rocks along streams: Jambudeep. *Saxena* 415 (SFRI).

COMBRETACEAE

†Terminalia bellirica (Gaertn.) Roxb. ('bellerica').

In sal forests: Kua Khad, Rajat Prapat, *Saxena & Pandey* 83366 (LWG).

Loc. name: Bahera.

MYRTACEAE

Syzygium cumini (Linn.) Skeels

Planted and also found in sal forests: Jambudeep. *Saxena* 575 (SFRI).

Loc. name: Jamun.

LECYTHIDACEAE

Careya arborea Roxb.

Occasional in forests: Pachmarhi-Dhupgarh. *Saxena* s.n. (SFRI).

Loc. name: Kumbhi.

MELASTOMATACEAE

Osbeckia truncata D. Don

Rare: shady places near Apsara Bihar. Fl. Sept. *Saxena* 1096 (SFRI).

† As followed by Exell (*Fl. Meles.* 4 : 569, 1954) correct spelling of the specific epithet should be "*bellirica*" (and not *bellerica*) exactly as spelled in the basionym—*Myrobalanus bellirica* Gaertn. *Fruct.* 2 : 90, t. 97, f. a-d, 1791 ('bellirina').

Sonerila tenera Royle

Rare in shady places: Apsara Bihar. Fl. Sept. *Saxena* 1096 (a) (SFRI).

LYTHRACEAE

Ammannia baccifera Linn. var. **aegyptiaca** Koehne
A. salicifolia Hiern; C. B. Cl. (non Monti).

Herb. 20-60 cm high. Leaves cordate at base. Flowers and capsules larger than the var. *baccifera*. Occasional in moist places. Fl. Sept. *Saxena* 394 (SFRI).

Lagerstroemia parviflora Roxb.

Common in forests. Fr. Aug. *Saxena* 541 (SFRI); *Saxena & Pandey* 81330 (LWG).

Loc. name: Lendia.

Rotala densiflora (Roth) Koehne

Ammannia pentandra C. B. Cl. in FBI. *pro parte*. Jatashankar. Fl. and Fr. Sept. *Hiralal* 33159 (LWG).

***R. mexicana** Cham. & Schecht

Ammannia pygmaea S. Kurz

Rare in moist flat ground along wayside: Dhupgarh. Fl. Sept. *Saxena* 1012 (SFRI).

R. rotundifolia (Buch.-Ham.) Koehne

Ammannia rotundifolia Buch.-Ham.

Beedam. *Hiralal* 33170 (LWG).

ONAGRACEAE

***Fissendocarpa linifolia** Bennet in J. Bombay nat. Hist. Soc. 67: 126, 1970.

Ludwigia hyssopifolia (G. Don) Exell.

Jussiaea hyssopifolia G. Don

Along water courses: Rajat Prapat. Fl. Aug. *Saxena & Pandey* 83347 (LWG). This differs from *L. perennis* Linn. in having stamens double the number of petals.

Ludwigia perennis Linn. (excl. "foliis oppositis").

Jussiaea parviflora Roxb.

Common in moist situations. Fl. and Fr. Sept. *Saxena & Khotele* 7894 (SFRI); *Saxena* 1094 (SFRI); *Khotele* 7838 (SFRI).

Loc. name: Jangli long.

SAMYDACEAE

Casearia elliptica Willd.

C. tomentosa Roxb.

Occasional in forests. Fl. Sept. *Saxena* s.n. (SFRI); *Saxena & Pandey* 83370 (LWG).

CUCURBITACEAE

Corallocarpus epigaeus (Rottl. & Willd.) C. B. Cl.

Rare: Gahra Nala. *Saxena* s.n. (LWG).

Loc. name: Mirchikand, Khirkand,

Cucumis sativus Linn.

Common in waste places and borders of forests. Fl. Sept. *Saxena* 590 (SFRI).

Momordica dioica Roxb. ex Willd.

Occasional in forests. *Saxena* 359 (SFRI).

Trichosanthes dioica Roxb.

Apsara Fall. *Khotele* 7874 (SFRI).

UMBELLIFERAE

Hydrocotyle sibthorpioides Lam.

H. rotundifolia Roxb. ex DC.

Common in moist places along stream bank: Jambudeep. *Saxena* 438 (SFRI); *Saxena & Khotele* 7897 (SFRI).

Pimpinella bracteata Wall.

Common in shady places. Fl. Oct. *Saxena & Khotele* 8192 (SFRI).

P. diversifolia DC.

Common in shady places. Fl. Oct. *Saxena & Khotele* 8114 (SFRI).

P. monoica Dalz.

Dhupgarh, in forest. Fl. Sept.-Oct. *Saxena* 1018 (SFRI); *Saxena & Khotele* 7882 (SFRI).

Pycnocycla glauca Royle

Rare: Chauragarh hill top. *Saxena & Pandey* 83317 (LWG).

Loc. name: Dev Kand.

Trachyspermum stictocarpum (C. B. Cl.) Wolff.

Rare: Dhupgarh, Mahadev. Fl. Oct. *Saxena* 1080 (SFRI); *Saxena & Khotele* 8255 (SFRI).

RUBIACEAE

Anotis calycina Hk. f.

Occasional on moist shady rocks, hillsides: Jambudeep. Fl. Sept.-Oct. *Saxena* 437 (SFRI); *Saxena & Khotele* 8233 (SFRI).

Gardenia turgida Roxb.

Pachmarhi. *Jain* Acc. No. 8749 (LWG).

Hymenodictyon excelsum (Roxb.) Wall. ex Roxb.

Rare in forests. Fl. Oct. *Saxena & Khotele* 8197 (SFRI).

Knoxia sumattrense (Retz.) DC.

K. corymbosa Willd.

Occasional in forests: Jatashankar. Fl. Sept.-Oct. *Saxena* 1059 (SFRI).

Mitragyna parvifolia Korth.

Occasional in forests: Kanjighat. Fl. Sept.-Oct. *Saxena* 8196 (SFRI).

Loc. name: Mundi.

Oldenlandia affinis (R. & S.) DC.

O. dichotoma (Koenig ex Roth) Hk. f. (1880): (non Spreng. 1850).

Common along waysides in forest. Fl. Oct. *Saxena & Khotele* 8219, 8251 (SFRI).

Oldenlandia corymbosa Linn.

Common along waysides, in waste places, forests, cultivated lands, lawns etc. Fl. Aug.-Oct. *Saxena* 502, 1036 (SFRI); *Saxena & Pandey* 83376 (LWG).

O. diffusa (Willd.) Roxb.

Common in moist places along waysides and near stream in forests. Fl. Aug.-Oct. *Saxena* s.n. 432 (SFRI); *Saxena & Khotele* 7919 (SFRI); *Saxena & Pandey* 81353 (LWG).

***O. herbacea** Willd.

Jambudeep. Fl. Sept. *Saxena* 500, 502 (SFRI).

O. ovatifolia (Cav.) DC.

O. nudicaulis Roth

Occasional in forests. Fl. Sept. *Saxena* 420, 553 (SFRI).

Spermadictyon suaveolens Roxb.

Hamiltonia suaveolens Roxb.

Mahadev, Dhupgarh, on hill slope. *Saxena & Khotele* 8117 (SFRI).

Loc. name: Gandhela.

Xeromphis spinosa (Thunb.) Poir.

Randia dumetorum Lam.

Occasional in forests. *Saxena* s.n. (SFRI).

Loc. name: Mainphal.

COMPOSITAE

Adenostemma lavenia (Linn.) O. Ktze. var. **lavenia**

Occasional along streams. Fl. Oct. *Saxena* 7899, 8173 (SFRI).

Blumea virens DC.

Common along waysides. Fl. Oct. *Saxena & Khotele* 8111 (SFRI).

Blumeopsis flava (DC.) Gagnep.

Erigeron falcatus auct. pl. non D. Don

Laggera flava (DC.) Benth.

Common on hillsides. Fl. Oct. *Saxena* 8245 (SFRI).

Centipeda minima (Linn.) A. Br. & Aschers.

Rare on flat grounds along waysides. Fl. Sept. *Saxena* 573 (SFRI).

Conyza canadensis (Linn.) Cronquist; Cuatr. in Webbia 24: 222, 1969.

Erigeron canadensis Linn.

Frequent in waste places; weed in lawns and cultivated lands: Dhupgarh, Paharnaka. Fl. Sept. *Saxena* 992 (SFRI); *Saxena & Pandey* 81320 (LWG).

Cyathocline purpurea (Buch.-Ham. ex D. Don) O. Ktze.

C. lyrata Cass.

Common in moist places.

Loc. name: Rudravanti.

Elephantopus scaber Linn.

Occasional in forests: Jambudeep. *Saxena* 475, 8180 (SFRI).

Loc. name: Bajradanti.

Galinsoga parviflora Cav.

Weed in Govt. Garden. Fl. Sept. *Saxena* 1097 (SFRI); *Hiralal* 33033 (LWG).

***Gnaphalium purpureum** Linn.

Occasional in waste places. Fl. Sept. *Saxena* 390, 1985 (SFRI).

Laggera alata (D. Don) Schulz-Bipout ex Oliver.

Occasional in waste places. Fl. Oct. *Saxena* 7927 (SFRI).

Pulicaria angustifolia DC.

Pachmarhi, in waste lands. Fl. Sept. *Saxena* 495 (SFRI).

****Senecio bombayensis** Balak.

S. grahamii Hk. f.

Rare: Dhupgarh. Fl. Sept. *Saxena* 1039 (SFRI).

S. nudicaulis Buch.-Ham.

Common in forests, along waysides. Fl. Sept. *Saxena* 1066 (SFRI).

S. wightii Benth.

S. saxatilis Hk. f. non Wall.

Beedam. Fl. Sept. *Saxena* 981 (SFRI); *Saxena & Khotele* 7880 (SFRI).

Siegesbeckia orientalis Linn.

Common in waste places, along waysides etc.: Jambudeep. Fl. Sept. *Saxena* 473 (SFRI).

Sonchus oleraceus Linn.

Paharnaka. Fl. Aug. *Saxena & Pandey* 8350 (LWG).

Tridax procumbens Linn.

Common in waste places, cultivated lands and along waysides: Mahadev. Fl. Sept. *Saxena* 1062 (SFRI); *Saxena & Pandey* 83302 (LWG).

***Vicoa cernua** Dalz.

Occasional in waste places. Fl. Oct. *Saxena* 7979 (SFRI).

Wedelia urticaefolia DC.

Occasional in forest. Fl. Sept. *Saxena* 474 (SFRI).

W. wallichii Less.

Occasional in forest. Fl. Oct. *Saxena* 7849 (SFRI).

Xanthium strumarium Linn.

Weed in wasteland and cultivated ground.

STYLIDIACEAE

***Stylidium tenellum** Sw.

Rare in open moist places near sal forest. Fl. Sept. *Saxena* 414 (SFRI).

PLUMBAGINACEAE

Plumbago zeylanica Linn.

Occasional in open forests. Fl. Sept. *Saxena* 584 (SFRI).

PRIMULACEAE

Anagallis pumila Sw.

Centunculus tenellus Duby

Rare: Jatashankar. Fl. Sept. *Saxena* 1087 (SFRI).

Lysimachia obovata Hk. f.

Along stream: Dhupgarh. Fl. Aug. *Saxena* & Pandey 83553 (LWG).

EBENACEAE

Diospyrus melanoxylon Roxb.

Rare in forests: Beedam, Apsara Bihar, Rajat Prapat. Fr. Aug. *Saxena* & Pandey 83348 (LWG).

Loc. name: Tendu.

OLEACEAE

Nyctanthes arbor-tristis Linn.

Common towards Kanjighat.

Loc. name: Kharasi.

Schrebera swietenoides Roxb.

Rare in sal forest: Near Gahra Nala. *Saxena* & Pandey 83509 (LWG).

ASCLEPIADACEAE

Calotropis gigantea (Linn.) Dryand

Scarce: Mahadev-Chaurgarh, 100 m. *Saxena* & Pandey 81397 (LWG).

Loc. name: Aak.

Ceropegia hirsuta Roxb.

Occasional in forest undergrowth: Gahra Nala, Dhupgarh, Rajat Prapat. Fl. Aug. *Saxena* & Pandey 8335, 83539 (LWG).

Loc. name: Bosia Kand.

Cryptolepis buchananii R. & S.

Occasional in forest: Mahadev, Handikhoh, Kua-khad.

Loc. name: Dudhi.

Holostemma annularis (Roxb.) K. Schum.

H. rheedii (Wall.) Spreng.

Rare in forest: Mahadev-Chaura. Fl. Aug. *Saxena* & Pandey 83310 (LWG).

Hoya pendula Wight

Creeping on steep, hill side: Handikhoh. *Saxena* & Pandey 81359 (LWG).

Sarcostemma acidum (Roxb.) Voigt

S. brevistigma W. & A.

Creeping or steep rocky slopes: Apsara Bihar. *Saxena* & Pandey 83372 (LWG).

Loc. name: Hadjor.

***Tylophora fasciculata** Buch.-Ham.

Rare in forest undergrowth: Near Gahra Nala, Rajat Prapat. Fl. Aug. *Saxena* 83341 (LWG).

LOGANIACEAE

Cynoctonum mitreola (Linn.) Britt.

Mitreola petiolata (Wall.) Torr. & Gray

M. oldenlandioides Wall. ex DC.

Rare in forests. Fl. Sept. *Saxena* 1034 (SFRI).

G N TIANACEAE

Canscora decurrens Dalz.

Along water courses. *Saxena* 7972, 8182 (SFRI).

C. decussata (Roxb.) J. A. et. J. H. Schult.

Rare in open forest: Jambudeep. Fl. Sept. *Saxena* 407 (SFRI); *Saxena* & Khotele 8182 (SFRI).

***Exacum pumilum** Griseb.

Dhupgarh. Fr. Sept. *Saxena* 1034 (SFRI).

Hoppea dichotoma Willd.

Among grasses and sedges often gregarious: Jambudeep. Fl. Sept. *Saxena* 416 (SFRI).

BORAGINACEAE

Cynoglossum wallichii G. Don

Occasional. Fl. Sept. *Saxena* 1052 (SFRI).

CONVOLVULACEAE

Ipomoea eriocarpa R. Br.

I. hispida (Vahl) R. & S.

Occasional in forest: Kanjighat. Fl. Sept. *Saxena* 563 (SFRI).

I. pes-tigridis Linn.

Occasional: Jambudeep. Fl. Sept. *Saxena* 1067 (SFRI).

I. nil (Linn.) Roth

I. hederacea auct. non Jacq.

Occasional. Fl. Sept. *Saxena* 465, 1036 (SFRI).

I. purpurea (Linn.) Roth

Dhupgarh. Fl. Sept. *Hiralal* 33393 (LWG).

SCROPHULARIACEAE

Adenosma bilabiatum (Roxb.) Merr.

A. capitatum Benth.

Beedam-Bee Fall. Fl. & Fr. Sept. *Hiralal* 33208 (LWG).

Limnophila aromatica (Lam.) Merr.

Rare. Fl. Oct. *Saxena* & Khotele 7845 (SFRI).

L. connata (Buch.-Ham. ex D. Don) Handel-Mazzet

L. hypericifolia (Benth.) Benth.

Rare. Fl. Sept. *Saxena* 445 (SFRI).

L. indica (Linn.) Druce

Frequent along water courses, aquatic: Jambudeep. Fl. Oct. *Saxena* & Khotele 8159 (SFRI).

***Lindenbergia muraria** (Roxb.) Bruhl in Reinwardtia 7: 548₁, 1969.

L. urticifolia Lehm. (*urticaefolia* nomen)

Frequent in shady places, often on hill slopes or on old walls: Kanjighat, near Power House etc. Fl. Sept.-Oct. *Hiralal* 3323₁ (LWG).

Lindernia ciliata (Colsm.) Pennell

Common in moist places, often gregarious in small patches. Fl. Sept. *Saxena* 504 (SFRI). *Hiralal* 32760, 32304, 32918 (LWG); *Saxena & Pandey* 81313 (LWG).

***L. hirsuta** (Benth.) Wettst.

Near Jambudeep. Fl. Sept. *Saxena* 446 (SFRI).

****L. hookeri** C. B. Cl. ex Hk. f. var. **kumaumensis** Pennell

In marshy places near stream: Rare in shady places. Fl. & Fr. Oct. *Saxena & Khotele* 8244, 8288, 8289 (SFRI); *Saxena & Pandey* 81342 (LWG).

L. nummularifolia (D. Don) Wettst.

In moist shady places: Mahadev-Chauragarh. Fl. Aug. *Saxena & Pandey* 83313 (LWG).

L. sessiliflora (Benth.) Wettst.

Occasional in moist spots, often on rocks: Jambudeep. Fl. Sept. *Saxena* 400 (SFRI).

Mazus pumilus (Burm. f.) Steenis

M. japonicus (Thunb.) O. Ktze.

M. rugosus Lour.

Occasional in moist shady places. Fl. Oct. *Saxena & Khotele* 8174 (SFRI).

Striga gesneroides (Willd.) Vatke

S. orobanchoides Benth.

Jatashankar. Fl. Sept. *Hiralal* 33065 (LWG).

EXCLUDED

Lindenbergia indica (Linn.) O. Ktze.; Kapoor & Yadav in Ind. For. 88: 274, 1962.

The herbarium specimen *Hiralal* 3323₁ (LWG) on which this species was listed, is referable to *Lindenbergia muraria* (Roxb.) Bruhl.

LENTIBULARIACEAE

Utricularia gibba Linn. subsp. **exoleta** (R. Br.) P. Taylor

U. exoleta R. Br.

Scarce: On way to Kanjighat, 1100 m—acquatic in stagnant water nearby stream. Fl. Oct. *Saxena* 8214, 8242 (SFRI).

Occurrence of the species at this altitude is interesting.

****U. graminifolia** Vahl

Rare along streams. Fl. Oct. *Saxena* 7933 (SFRI); *Saxena & Khotele* 8167 (SFRI).

****U. pubescens** Sm.

Scarce: Boggy open ground by stream near sal forest, among grass and sedges, *Eriocaulon* spp., *U. scandens* Benj. and *U. arenaria* A. DC. Jambudeep, 600 m. Fl. & Fr. Late Sept.-Oct. *Saxena* 411 B (SFRI).

***U. striatula** Sm.

Occasional, often gregarious on moist moss-clad rocks, walls, hill sides: Mahadev, Chhote Mahadev. Fl. Aug.-Sept. *Saxena* 412 (SFRI); *Saxena & Khotele* 8166 (SFRI); *Saxena & Pandey* 81391 (LWG).

U. uliginosa Vahl

Occasional often gregarious in patches among grasses in slightly moist situations. Fl. Sept. *Saxena* 1013 (SFRI).

BIGNONIACEAE

Oroxylum indicum (Linn.) Vent

Rare. *Saxena* s.n.

Loc. name: Bhains Padar.

Tecoma stans (Linn.) H. B. K.

Frequent in gardens and also apparently run wild near by open forests. Fl. Oct. *Khotele* 7807 (SFRI).

ACANTHACEAE

Andrographis paniculata Nees

Frequent in forests: Apsara Bihar. Fl. Sept.-Oct. *Saxena* 455, 1075 (SFRI); *Khotele* 7802 (SFRI).

Barleria prionitis Linn.

In open waste places and open forests. Fl. Oct. *Saxena & Khotele* 7985.

Loc. name: Khatsewa.

Blepharis maderaspatensis (Linn.) Roth subsp. **maderaspatensis** var. **maderaspatensis**

B. boerhaviaefolia Pers.

In dry places: Dhupgarh. Fl. Oct. *Saxena & Khotele* 7855 (SFRI); *Khotele* 8103 (SFRI).

Dicliptera roxburghiana Nees

In forest undergrowth. Fl. Oct. *Saxena & Khotele* 8107, 8280 (SFRI).

Dipteracanthus suffruticosus (Roxb.) Voigt

Ruellia suffruticosa Roxb.

Tamiya-Pachmarhi. Fl. July. *Panigrahi & Singh* 4483 (BSA).

Lepidagathis fasciculata Nees

Below Pachmarhi. Fl. Feb. *Duthie* 10517 (DD).

Rostellularia hedyotidifolia Nees

Justicia diffusa Willd. var. *hedyotidifolia* C. B. Cl.

Gregarious in open rocky places: Dhupgarh, on way to Jambudeep etc. Fl. Aug.-Sept. *Saxena & Pandey* 83350, 83551 (LWG).

Plant often turns black on drying. Flowers are white. Over all appearance of the plant is quite distinct from *Justicia diffusa* Willd. proper. This was known so far from S. India.

Rostellularia simplex Wight

Common. Fl. Sept. *Saxena* 481 (SFRI); *Hiralal* 33038 (LWG).

Rungia pectinata (Linn.) Nees

Fairly common along roadsides, banks of streams, in forest undergrowth and in cultivated lands. Fl. Most part of the year. *Saxena* 1218 (SFRI).

***Strobilanthes campanulatus** Wight

S. heyneanus Nees var. *campanulatus* C. B. Cl.
Scarce: Pachmarhi-Sangam. Fr. Oct. *Saxena & Pandey* 8281 (LWG).

Hitherto known from W. Ghats (*Gamble*).

S. edgeworthiana Nees

S. auriculatus Nees var. *edgeworthiana* (Nees) C. B. Cl.

Occasional in forest undergrowth. Fl. Oct. *Saxena & Khotele* 8146 (SFRI); *Panigrahi* 6622 (BSA).

VERBENACEAE

Duranta repens Linn.

Planted in hedge rows; sometimes escapes in forest. Fl. Oct. *Saxena & Khotele* 7937 (SFRI).

Lantana camara Linn. var. *aculeata* (Linn.)

Moldenke

L. aculeata Linn.

L. camara auct. non Linn.

Planted and often run wild. Fl. Sept.-Oct. *Saxena* 1054, 1083 (SFRI); *Saxena & Khotele* 7884 (SFRI).

Loc. name: Raimunya.

Pygmaecopremna herbacea (Roxb.) Moldenke

Premna herbacea Roxb.

In sal forest in moist spots. *Saxena & Pandey* 83390 (LWG).

Loc. name: Kamraj.

Vitex negundo Linn.

Pachmarhi, near Govt. Garden, Tibbet School. *Saxena & Pandey* 83395, 83555 (LWG).

LABIATAE

Anisochillus eriocephalus Benth.

Occasional in shady places. *Saxena & Khotele* 8228 (SFRI).

Hyptis suaveolens Poit

Occasional in forests. Fl. Oct. *Saxena & Khotele* 7986 (SFRI).

Leucas cephalotes (Roth) Spreng.

Common: Dhupgarh, Pachmarhi-Kanjighat. *Saxena* 1048 (SFRI).

Loc. name: Guma.

L. zeylanica R. Br.

Rare: Dhupgarh. Fl. Oct. *Saxena* 1048 (SFRI); *Saxena & Khotele* 7984 (SFRI).

Nepeta hindostana (Roth) Haines

In moist places. Fl. Sept. *Saxena & Khotele* 7965, 8183 (SFRI).

Orthosiphon rubicundus Benth.

In sal forest: Near Gahra Nala. Fl. Aug. *Saxena & Pandey* 83512 (LWG).

Pogostemon parviflorus Benth.

Rare in valleys near stream. Fr. Aug. *Saxena & Pandey* 81346 (LWG).

****P. purpurascens** Dalz.

Rare in valleys: Bee Fall. Fl. Feb. *Saxena & Khotele* 7817, 8284 (SFRI); *Duthie* 10537 (DD).

This is a species of Concan and Canara.

AMARANTHACEAE

Amaranthus viridis Linn.

Common weed in cultivated land and along roadside.

Celosia argentea Linn.

Common: Jambudeep. Fl. Sept.-Oct. *Saxena* 501, 8222 (LWG).

CHENOPODIACEAE

Chenopodium album Linn.

Weed in cultivated ground.

POLYGONACEAE

Polygonum pedunculare Wall.

Along streams. Fl. Oct. *Saxena* 1063 (SFRI); *Saxena & Khotele* 7862 (SFRI).

P. stagninum Buch.-Ham.

Frequent along streams. Fl. Sept. *Saxena* 450 (SFRI).

LORANTHACEAE

Scurrula cordifolia (Wall.) G. Don

Loranthus cordifolius Wall.

Occasional parasite on trees. *Saxena* 1021 (SFRI); *Saxena & Khotele* 81291, 8230 (SFRI).

Loc. name: Banda.

EUPHORBIACEAE

Acalypha indica Linn.

Found in shady situations. Fl. Sept. *Saxena* 364 (SFRI).

Bridelia retusa Spreng.

Occasional in forests: Handikhoh. Fl. & Fr. Aug.-Oct. *Saxena* 1027 (SFRI); *Saxena & Khotele* 7913, 8266 (SFRI); *Saxena & Pandey* 81373 (LWG).

Loc. name: Khatua.

Euphorbia geniculata Orteg.

In waste places. *Saxena* s.n. (SFRI).

E. prostrata Ait.

A weed of waste places. *Saxena* s.n. (SFRI).

E. pycnostegia Boiss.

Pachmarhi. Fl. Feb. *Duthie* 10554 (DD).

E. thymifolia Linn.

A weed along roadsides. *Saxena* 568 (SFRI). This is closely allied to *E. prostrata* Ait.

Phyllanthus fraternus Webster

P. niruri auct. non Linn.

Occasional in forests and waste places. Fl. Sept.-Oct. *Saxena* 1098 (SFRI).

P. maderaspatensis Linn.

Occasional in forest. Fl. Sept. *Saxena* 365 (SFRI).

Securinega leucopyrus (Willd.) Muell.-Arg.

Flueggea leucopyrus Willd.

The stem has five grooves whence the local name.

Abundant below Dhupgarh. Fr. Aug. *Saxena & Pandey* 83550 (LWG).

Loc. name: Panchdhara.

URTICACEAE

Elatostema surculosum Wight

Rare on moist rocks: Jatashankar. Fl. Sept. *Saxena* 1090 (SFRI).

Girardinia palmata (Forsk.) Gaud.

G. heterophylla Decne.

Pachmarhi-Down Fall. Fl. Sept. *Saxena* 1058 (SFRI).

Lecanthes wightii Wedd. (Fl. Brit. Ind. *pro parte*)

L. peduncularis Wedd. (*pro parte*)

Gregarious on moist hill slopes, rocks, etc. on way to Jambudeep, Dhupgarh. Fl. Aug.-Sept. *Saxena* 434, 1037 (SFRI); *Saxena & Pandey* 81392, 83541 (LWG).

MORACEAE

Ficus arnottiana Miq.

Scarce: Rajat Prapat. Fl. Oct. *Saxena & Khotele* 8102 (SFRI); *Saxena & Pandey* 81372, 83367 (LWG).

F. benghalensis Linn.

Rare around Pachmarhi.

F. carica Roxb.

Planted and often found as escape. Receptacles: Sept. *Saxena* 1056 (SFRI).

F. hispida Linn. f.

Near Jatashankar. *Saxena & Pandey* 83396 (LWG).

F. religiosa Linn.

Rare around Pachmarhi.

F. microcarpa Linn.

F. retusa auct. non Linn.

Jatashankar. *Saxena & Pandey* 83386 (LWG).

Loc. name: Paraspipal.

F. tinctoria Forst. f. subsp. **parasitica** (Willd.) Corner

F. gibbosa Bl. var. *parasitica* (Koen. ex Willd.) King

Rare: Dhupgarh, *Saxena & Pandey* 81328 (LWG).

F. virens Ait.

F. infectoria Willd. sensu Roxb.

F. infectoria (Miq.) Miq.

F. lacor auct. non Vera.

Occasional in forest. Receptacles: Oct. *Saxena & Khotele* 7971 (SFRI).

SALICACEAE

Salix tetrasperma Roxb.

Along stream: Pachmarhi-Kanjighat. Fl. Oct. *Saxena & Khotele* 8225 (SFRI).

Loc. name: Vipusa.

ORCHIDACEAE

Aerides multiflorum Roxb.

Rare epiphyte. *Saxena* 1003 (SFRI).

Dendrobium crepidatum Lindl.

An epiphyte: Sangam. Fl. Oct. *Saxena & Khotele* 8286 (SFRI).

D. herbaceum Lindl.

Occasional in forests: Dhupgarh, Handikhoh. Fl. July-Nov. *Saxena* 996 (SFRI); *Saxena & Pandey* 81324 (LWG).

Eulophia explanata Lindl.

Dhupgarh, in shady places. *Saxena* 1004 (SFRI).

E. herbacea Lindl.

Rare in sal forest: Gahra Nala. *Saxena & Pandey* 83537 (LWG).

Loc. name: Bansingara.

Liparis atropurpurea Lindl.

Pachmarhi. *Capt. Further* s.n. (DD).

****Malaxis mackinnonii** (Duthie) Ames

Microstylis mackinnonii Duthie

Scarce: Dhupgarh, in forests. Fl. Aug. *Saxena & Pandey* 83548 (LWG). Flowers in the specimen cited above were mauve. Colour of the flowers fades to greenish-yellow after drying. Santapau & Kapadia (Orchids of Bombay) have fused *M. mackinnonii* with *M. cardonii* and described the flower colour as yellowish-green. But in our specimen the colour was deep reddish-purple as described by Duthie [*Jour. As. Soc. Beng.* 71 (2): 37] hence the two species have been treated distinct.

Nervilia aragoana Gaud.*Pogonia flabelliformis* Lindl.Rare in shady places in forest: Gahra Nala. *Saxena & Pandey* 83538 (LWG).

Loc. name: Ban batasha.

Platanthera susannae (Linn.) Lindl.*Habenaria susannae* R. Br. ex Spreng.Jatashankar-Jambudeep. *Saxena & Pandey* 83511 (LWG).***Rhynchostylis retusa** Bl.Rare epiphytic orchid. *Saxena* 1000 (SFRI).

MUSACEAE

Musa sapientum Linn.

Rare in deep shady valleys: Kanjighat, Kala-khad, Rajat Prapat.

Loc. name: Jangli kela.

ZINGIBERACEAE

Costus speciosus (Koenig) Sm.Rare: Jatashankar-Jambudeep. Fl. Sept. *Saxena & Pandey* 83384 (LWG).

Loc. name: Keokand.

****Curcuma pseudomontana** Grah.In open places at Chauragarh hill top. Fl. Aug. *Saxena & Pandey* 81393 (LWG). Tubers ellipsoid at the end of root-fibres. Spikes pink-purple; corolla yellow; the lower flowers in the spike have corolla exceeding the bracts (field notes). This is allied to *Curcuma decipiens* Dalz., which however differs in the purplish corolla.

Loc. name: Salam-misri.

***Zingiber roseum** Rosc.Handikhoh, in shady places. Fl. Aug. *Saxena & Pandey* 81382 (LWG).

Loc. name: Jangli Adrak.

DIOSCOREACEAE

Dioscorea belophylla Voigt.Occasional in forests. *Saxena & Khotele* 7875 (SFRI).

Loc. name: Nandmati, Krishnamati.

D. bulbifera Linn.Rajat Prapat. Fl. Aug. *Saxena & Pandey* 83334 (LWG).

Loc. name: Nandmati.

D. hispida Denn.*D. daemona* Roxb.Rare in sal forest: on way to Gahra Nala. *Saxena & Pandey* 83530 (LWG).

Loc. name: Baichandi.

LILIACEAE

Chlorophytum laxum R. Br.In rocky places. Fr. Oct. *Hiralal* 38223 (LWG).**Urginea indica** KunthIn open places: Handikhoh, Chauragarh, Dhupgarh. *Saxena & Pandey* 83309 (LWG).

Loc. name: Jangal Gondri.

COMMELINACEAE

Commelina attenuata KoenigIn moist sheltered places: Rajat Prapat, Dhupgarh. Fl. Aug.-Sept. *Saxena* 984 (SFRI); *Hiralal* 33371 (LWG); *Saxena & Pandey* 83369 (LWG).**C. benghalensis** Linn.Pipariya Road. Fl. Sept. *Saxena* 468 (SFRI); *Hiralal* 38254 (LWG).**C. undulata** R. Br.*C. kurzii* C. B. Cl.*C. paludosa* Bl. var. *mathewii* (C. B. Cl.) Rao & Kammathy.Occasional in forest: Handikhoh, Jatashankar. Fl. Aug. *Saxena & Pandey* 81348 (LWG); *Hiralal* 33144 (LWG).

PALMAE

Phoenix acaulis Buch.-Ham. ex Roxb.

Occasional in forest undergrowth: Jambudeep.

P. sylvestris (Linn.) Roxb.

Occasional around Pachmarhi.

Loc. name: Chhind, Chhindi.

ARACEAE

Amorphophallus bulbifer Bl.Rare in shady places: Jatashankar, Handikhoh, *Saxena & Pandey* 83373 (LWG).

Loc. name: Kalasuran.

Arisaema tortuosum SchottRare in shady places. Fl. Sept. *Saxena* 544, 1007 (SFRI).**Sauromatum venosum** (Ait.) Kunth*S. guttatum* SchottRare below Chauragarh. *Saxena* (LWG).

Loc. name: Bhasamkand.

ERIOCAULACEAE

Eriocaulon xeranthemum Mart.In marshy places: Jambudeep. Fl. Sept. *Saxena* 406 (SFRI).

CYPERACEAE

Bulbostylis barbata (Rottb.) C. B. Cl.In moist places: Rajat Prapat. Fl. Aug. *Saxena & Pandey* 83351 (LWG).**Cyperus aristatus** Rottb.Occasional in lawns. Fl. Aug.-Sept. *Saxena & Pandey* 81309 (LWG).**C. brevifolius** (Rottb.) Hassk. ssp. **brevifolius***Kyllinga brevifolia* Rottb.

Frequent in moist places, lawns. Fl. Sept. *Saxena* 444 (SFRI); *Saxena & Pandey* 81307 (LWG).

Cyperus diaphanus Schrad ex R. & S.

C. latespicatus Boeck

Jatashankar. Fl. Aug. *Saxena & Pandey* 81302; (LWG). *Hiralal* 33158 (LWG).

C. distans Linn. f.

Pachmarhi. Fl. Oct. *Saxena & Khotele* 7847. (SFRI).

C. esculentus Linn.

Chauragarh, 1200 m in open grassland. Fl. Aug. *Saxena & Pandey* 81395 (LWG).

****C. pulchellus*** R. Br.

C. leucocephalus Sensus Nees; FBI. (non Retz.)

Occasional in forest in moist spots. Fl. Aug. *Saxena & Pandey* 81333 (LWG).

This is closely allied to *C. leucocephalus* Retz. which however differs in the lesser number of spikelets and in the 5-nerved glumes.

C. niveus Retz.

Common in forests. Fl. Aug. *Saxena & Pandey* 81334 (LWG).

C. paniceus (Rottb.) Boeck

Mariscus paniceus Vahl

Common around Pachmarhi in lawns, wastelands etc. Fl. & Fr. Aug.-Oct. *Saxena & Pandey* 81310 83304 (LWG); *Saxena & Khotele* 7863.

C. pilosus Vahl

Occasional along streams. Fl. Sept. *Saxena* 461, 8157 (SFRI).

C. rotundus Linn.

Common in waste places, often in moist situations. Fl. Sept. *Saxena* 423 (SFRI); *Saxena & Pandey* 81315, 83307 (LWG).

C. triceps (Rottb.) Engl.

Kyllinga triceps Rottb.

Common. Fl. Aug. *Saxena & Pandey* 81338, 83308 (LWG).

Fimbristylis bisumbellata (Forsk.) Bub.

F. dichotoma (non Vahl) sensu Fl. Brit. Ind.

In waste places. Fl. Sept. *Saxena* 373 (SFRI); *Saxena & Khotele* 8187 (SFRI).

F. ovata (Burm. f.) Kern

F. monostachya Hassk.

In open flat ground in forest clearing: Near Gahra Nala. Fl. Aug. *Saxena & Pandey* 83519 (LWG).

F. tetragona R. Br.

Pachmarhi. Fl. Sept. *Saxena* 409 (SFRI).

Scleria levis Retz.

S. hebecarpa Nees ex Wight

Along stream in marshy places: Rajat Prapat, Handikhoh, Beedam-Beefall. Fl. Aug.-Oct. *Saxena* 460 (SFRI); *Saxena & Khotele* 7866 (SFRI); *Saxena & Pandey* 81360, 83355 (LWG); *Hiralal* 33245 (LWG).

S. tessellata Willd.

In moist places: On way to Gahra Nala. Fl. Aug. *Saxena & Pandey* 83508 (LWG).

EXCLUDED

Fimbristylis podocarpa Ness & Meyen; Kapoor & Yadav in Indian For. 88: 275, 1962.

The herbarium specimens [*Hiralal* 38239, 33259 (LWG)] on which the record of this species from Pachmarhi was based (Kapoor, l.c.) is *F. dichotoma* (Linn.) Vahl (non FBI). This is characterised by the outer cells of nut being in 5-10 vertical rows, which in *F. podocarpa* are in 16-24 rows.

GRAMINEAE

Alloteropsis cimicina (Linn.) Stapf

Along water courses: Rajat Prapat. Fl. Aug. *Saxena* 577 (SFRI); *Saxena & Pandey* 83349 (LWG).

Aristida setacea Retz.

Common: Jatashankar-Jambudeep. Fl. Aug. *Saxena* 8231, 8232 (SFRI); *Saxena & Pandey* 83521 (LWG).

Arthraxon lancifolius (Trin.) Hochst.

Common on hillsides. Fl. Sept.-Oct. *Saxena* 576 (SFRI); *Saxena & Khotele* 8287 (SFRI).

A. meeboldii Stapf

Pachmarhi. Fl. Sept. *Saxena* 497 (SFRI).

A. quartinianus (A. Rich.) Nash

Pipariya Road. *Hiralal* 382621 (LWG).

Arundinella setosa Trin. var. *setosa*

Dhupgarh, Jatashankar, Rajat Prapat. Fl. Aug.-Sept. *Saxena & Pandey* 83356 (LWG); *Hiralal* 33311, 33352 (LWG).

This is characterised by the upper lemma with two setae on either side of the awn. The specimens *Hiralal* 33311, 33352 were wrongly identified as *A. nepalensis* Trin.

Capillipedium assimile (Steud.) A. Camus

In open grasslands around Pachmarhi. Fl. Sept.-Oct. *Saxena & Khotele* 7835, 7932, 7948 (SFRI).

Cynodon dactylon (Linn.) Pers.

Pachmarhi, common in lawns. Fl. Aug. *Saxena & Pandey* 81301 (LWG).

Cyrtococcum oxyphyllum (Steud.) Stapf

Occasional in forest undergrowth. Fl. Sept.-Oct. *Saxena* 488, 7839 (SFRI).

Dactyloctenium aegyptium (Linn.) Beauv.

In waste places. Fl. Sept. *Saxena* 571 (SFRI).

Digitaria adscendens (H. B. K.) Henr. supsp. **adscendens** var. **criniformis** Henr.

Common weed in waste places, lawns etc. Fl. Aug.-Sept. *Saxena & Pandey* 81302 (LWG).

D. setigera Roth

Dhupgarh. Fl. & Fr. Aug.-Nov. *Saxena* 7999 (SFRI); *Saxena & Pandey* 81319 (LWG).

Echinochloa colonum (Linn.) Link

In moist places: Beedam. Fl. Sept. *Saxena* 720 (SFRI).

Eragrostis atrovirens (Desf.) Trin.

In moist places: Jatashankar, Mahadev-Chauragarh. Fl. Aug.-Sept. *Hiralal* 33321 (LWG); *Saxena & Pandey* 83323 (LWG).

This perennial grass is often confused with *Eragrostis nutans* (Retz.) Nees, *E. chariis* (Schult.) Hitch. or often with *E. gangetica* (Roxb.) Steud. which however is annual. Lemna in our specimens is upto 2 mm long (upto 1.8 mm long—Bor).

E. viscosa (Retz.) Trin.

Frequent in waste places, lawns etc. Fl. Sept. *Saxena* 572 (SFRI).

Eulaliopsis binata (Retz.) C. E. Hubb.

Frequent in forests: Jatashankar-Jambudeep, on way to Gahra Nala in forest. Fl. Aug. *Saxena & Pandey* 8352, 83535 (LWG).

Loc. name: Baber.

Hemarthria compressa (Linn.) R. Br.

Sub-aquatic: Jambudeep. *Saxena & Pandey* 83375 (LWG). In the specimens cited above the lower glume of the sessile spikelet is about 3 mm long (4.4.5 mm—Bor).

Imperata cylindrica (Linn.) P. Beauv.

Pachmarhi. *Saxena* 1043 (SFRI); *Saxena & Khotele* 7942 (SFRI); *Khotele* 7826 (SFRI).

Isachne globosa (Thunb.) O. Ktze.

Pachmarhi. Fl. Oct. *Saxena & Khotele* 7851 (SFRI).

I. gracilis C. E. Hubb.

On shady hillsides. Fl. Oct. *Saxena & Khotele* 7909, 7953 (SFRI).

Ischaemum duthiei Stapf

Pachmarhi. Fl. Oct. *Saxena & Khotele* 7845 (SFRI).

Manisuris clarkii (Hack.) Bor

Pachmarhi. Fl. Oct. *Saxena & Khotele* 8209 (SFRI).

Microchloa indica (Linn. f.) P. Beauv.

Pachmarhi. Fl. Sept. *Saxena* 548 (SFRI).

Oplismenus burmanii (Retz.) P. Beauv

Around Pachmarhi. Fl. Sept. *Saxena* 489 (SFRI).

Panicum brevifolium Linn.

Pachmarhi. Fl. Oct. *Saxena & Khotele* 7881 (SFRI).

P. paludosum Roxb.

Pachmarhi-Pipariya Road. Fl. Oct. *Hiralal* 33333, 38249 (LWG).

Paspalidium flavidum (Retz.) A. Camus

In shady moist places; weed in lawns. Fl. Aug.-Sept. *Saxena* 985 (SFRI); *Saxena & Pandey* 81318 (LWG).

Paspalum commersonii Lam.

Common in grasslands and lawns. Fl. Aug.-Sept. *Saxena & Pandey* 81306 (LWG).

This is characterised by the 5-7-nerved lower lemma.

P. distichum Linn.

Pachmarhi. Fl. Aug. *Hiralal* 33334 (LWG).

P. orbiculare Forst.

On way to Apsara Fall. Fl. Oct. *Saxena & Khotele* 7889 (SFRI).

Pennisetum orientale L. C. Rich.

Near Big Fall. Fl. Dec. *Panigrahi* 6663 (BSA).

Phragmites karka (Retz.) Trin.

Pachmarhi. Fl. Oct. *Saxena & Khotele* 7867 (SFRI).

Saccharum spontaneum Linn.

Jatashankar-Jambudeep. Fl. Aug. *Saxena & Pandey* 83514. (LWG).

Loc. name: Kans.

Setaria pallide-fusca (Schum.) Stapf et C. E. Hubb.

S. glauca, Nees

Fairly common. Fl. Sept. *Saxena* 1011 (SFRI); *Saxena & Pandey* 81305 (LWG); *Saxena & Khotele* 7820, 7850 (SFRI); *Hiralal* 38209. (LWG).

S. verticillata (Linn.) P. Beauv.

In waste places. Fl. Sept. *Saxena* 1010 (SFRI).

Sporobolus diander (Retz.) P. Beauv.

Common in waste places, in forest: Rajat Prapat, Jatashankar-Jambudeep. Fl. Aug. *Saxena & Pandey* 83352, 83522 (LWG).

S. indicus auct. non (Linn.) R. Br.

In moist places. Fl. Aug.-Sept. *Hiralal* 33329 (LWG).

Themeda triandra Forsk.

In open grasslands. Fl. Oct. *Saxena & Khotele* 7814, 7846 (SFRI).

Tripogon capillatus Jaub. & Spach

Pachmarhi. Fl. Sept.-Oct. *Hiralal* 33347 (LWG). The specimen cited above was wrongly identified as *Tripogon pauperculus* Stapf and listed by Kapoor &

Yadav (l.c.) from Pachmarhi. *T. capillatus* is characterised by the awn of the lemma being several times as long as the length of the lemma.

EXCLUDED

Arthraxon serrulatus Hochst.; Kapoor & Yadav in Indian For. 88: 275. 1962.

This species was listed by Kapoor & Yadav from Pachmarhi, but the specimen [Hiralal 382621 (LWG)] on which its record was based is *Arthraxon quinarianus* (A. Rich.) Nash.

Arundinella nepalensis Trin.; Kapoor & Yadav, l.c. 275.

The specimens Hiralal 33311, 33352 (LWG) on which the record of this species was based by Kapoor & Yadav l.c. have turned out to be *A. setosa* Trin. *Eragrostis nutans* (Retz.) Nees ex Steud.; Kapoor & Yadav, l.c. 275.

The specimen [Hiralal 33315 (LWG)] on which this species was listed by Kapoor & Yadav (l.c.) from Pachmarhi has been found to be *E. gangetica* (Roxb.) Steud.

Sporobolus elongatus R. Br.; Kapoor & Yadav, l.c. 275. 1962.

According to Bor this species does not occur in India; the Indian complex has been named by him as *S. indicus* auct. non (Linn.) R. Br.

Tripogon pauperculus Stapf; Kapoor & Yadav in Indian For. 88: 275. 1962.

The specimen [Hiralal 33347 (LWG)] on which this species was listed by Kapoor & Yadav (l.c.) from Pachmarhi is actually *Tripogon capillatus* Jaub. & Spach.

Paspalum scrobiculatum Linn.; Rao & Narayanaswamy in J. Indian Bot. Soc. 39: 242. 1960.

The occurrence of this species in the area is doubtful.

OPHIOGLOSSACEAE

Ophioglossum reticulatum Linn.

In shady places: Pahar Naka. Fertile: Aug. Saxena & Pandey 81322 (LWG).

ASPIDIACEAE

Cyclosorus parasiticus (Linn.) Tardien ex Tardien & C. Chr.

Dryopteris parasiticum (Linn.) O. Ktze.

Nephrodium molle FBI. p.p.

In shady valleys. Saxena & Khotela 7834 (SFRI).

Diplazium esculentum (Retz.) Sw.

Pachmarhi. Saxena 8181 (SFRI).

Loc. name: Jatashankari.

POLYPODIACEAE

Paraleptochilus decurrens (Bl.) Copel.

Gymnopteris variabilis Hook.

Along stream under dripping rock: Handikhoh. Fertile: Aug. Saxena & Pandey 81361, 81381 (LWG); Saxena 508 (SFRI); Saxena & Khotela 8178 (SFRI).

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