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Exotic Flora of Allahabad District

B. D. SHARMA & D. S. PANDEY

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**EXOTIC FLORA
OF
ALLAHABAD DISTRICT**

B. D. SHARMA & D. S. PANDEY



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FOREWORD

Adventive and exotic plant species form important components of native flora of India. As part of human civilization and human migration from time immemorial, useful exotic plant species are cultivated in different parts of India. Some of the well known exotic plants which helped the economy of India are rubber (*Hevea brasiliensis*), Tapioca (*Manihot utilissima*), and cashewnut (*Anacardium occidentale*). *Delonix regia*, *Peltophorum ferrugineum* are well known exotic avenue trees which adorn our avenues.

Dr. B.D. Sharma and Dr. D.S. Pandey, while working at the Central Circle, Botanical Survey of India, Allahabad studied the exotic flora of Allahabad and they have compiled this useful information in a handy book which includes 458 species. In this book details of the habit, common names, local names, native country, source of information, flowering and fruiting time are enumerated.

I am sure this book will be useful for research workers and students dealing with Allahabad flora.

Botanical Survey of India
Howrah
11-10-1984

M.P. Nayar
Director

P R E F A C E

In recent years a large number of publications on the floristics of our country including regional and local floras have appeared. Whereas wild and naturalised plants have been fairly dealt with, it is a pity that exotics in the Indian Floras have not received the attention they deserve at the hands of Indian taxonomists. The exotics form quite a good percentage of our flora to-day. However, only a few scattered publications are available on this subject in Indian context. The plant collectors normally do not pay adequate attention to the plants of Agri-horticultural importance.

Many of the exotics have either naturalised or are in the way of naturalization in various parts of our country. The exotics have been introduced to boost the economy and help providing additional plant resources for food, fodder, fibre, fruits, flowers, drugs etc. The new entrants to Indian flora have considerable impact on the flora and some of the elements particularly obnoxious weeds, have created health hazards besides adversely upsetting the ecological balance.

Allahabad being one of the most important pilgrimage centres attracts people from all over the world, and with them come many exotics. It was once the capital city during the Moghal period and also a cantonment of British rulers who advertently or inadvertently introduced many exotics. From here these have spread to the other parts of the district. The information on exotics and aliens of Allahabad district is very scanty and only a few species have been reported by earlier workers.

In the present work an attempt has been made to bring out a consolidated account of the "Exotic Flora of Allahabad District" dealing with plants of Agri-horticultural and economic importance either cultivated or wild. A total number of 458 species spread over 325 genera and 100 families have been inventorised. Details such as habit, common names, local names, native country, possible time, place and source of introduction, flowering and fruiting time, state of cultivation etc. have been given in a tabular form. Some black and white photographs are given for important plants. Index to scientific names, synonyms, vernacular and popular names have also been appended in the end for ready reference. It is hoped that the present book will be useful to Botanists, Horticulturists and students of related fields.

(ii)

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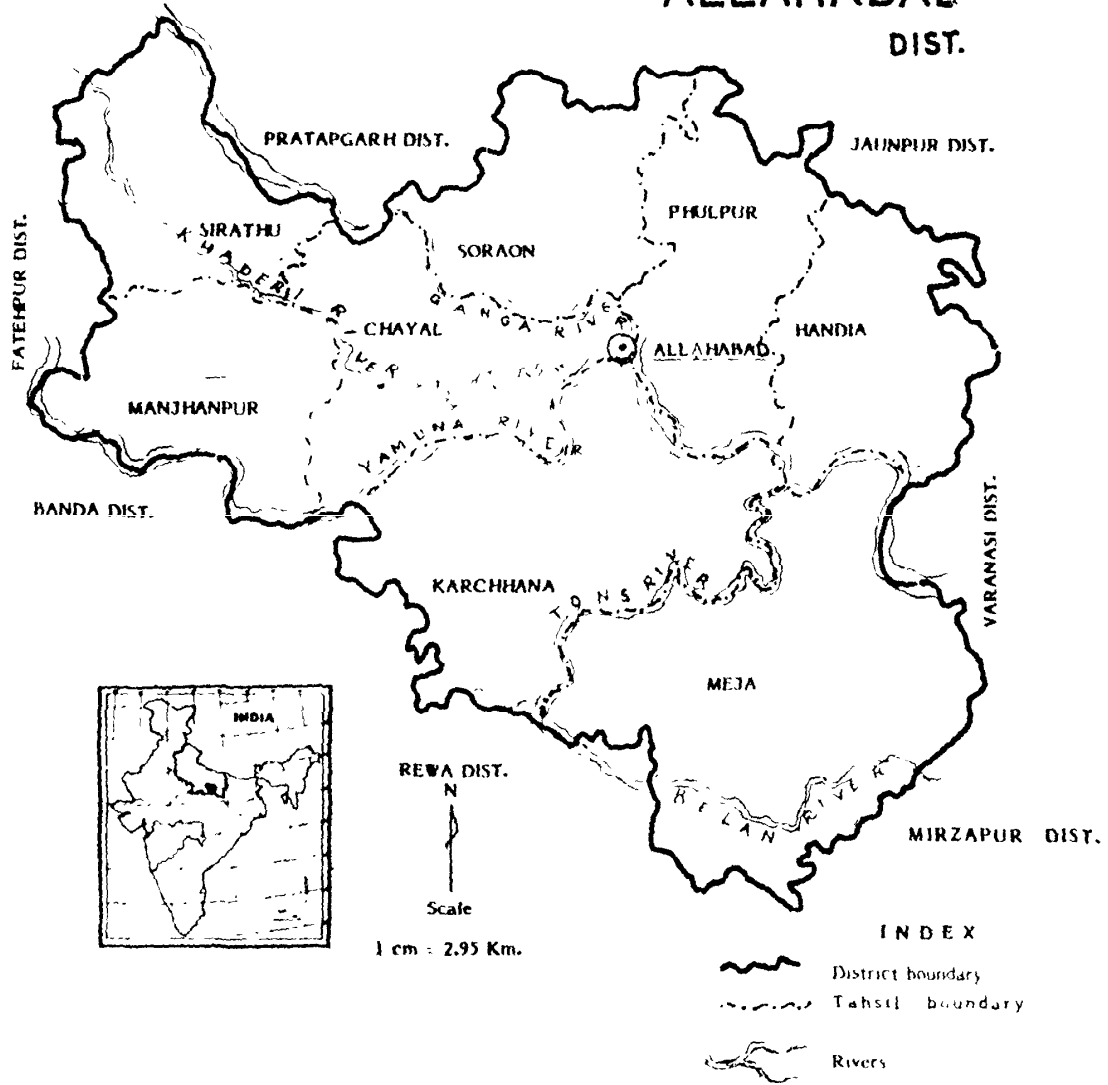
ABBREVIATIONS

BSA Garden	Experimental Garden, Botanical Survey of India, Allahabad.
F. B. I.	Hooker's <i>Flora of British India</i> .
Fl. & Fr.	Flowering and fruiting
IARI	Indian Agricultural Research Institute, New Delhi.
N.B.R.I.	National Botanical Research Institute, Lucknow.
Roxb. <i>corom.</i>	Roxburgh's <i>Plants of the Coast of Coromandel</i> .
Roxb. <i>Fl. Ind.</i>	Roxburgh's <i>Flora Indica</i> .

LIST OF PHOTOGRAPHS

1. **Acacia auriculaeformis** A. Cunn. ex Benth.
2. **A. nilotica** (L.) Willd. ex Delile ssp. **indica** (Benth.) Brenan
3. **Caesalpinia pulcherrima** (L.) Sw.
4. **Clianthus dampieri** A. Cunn.
5. **Delonix regia** (Boj ex Hook.) Rafin.
6. **Nerium indicum** Mill.
7. **Parthenium hysterophorus** L.
8. **Pilea muscosa** Lindl.
9. **Quisqualis indica** L.
10. **Ruellia tuberosa** L.

MAP OF ALLAHABAD DIST.



INTRODUCTION

Geographical Position :

The District of Allahabad lies between the parallels of 24°47' and 25°47' north latitude and of 81°9' and 82°21' east longitude in Uttar Pradesh (India). The district is bounded in the north by district Pratapgarh, in the west by Fatehpur, south-west by Banda, south by Rewa, south-east by Mirzapur, east by Varanasi and north east by Jaunpur (Map). The district is traversed by rivers the Ganges and the Yamuna and their tributaries and broadly speaking flow from west to east direction. Other rivers are Sasur Khaderi, Belan and Tons, and their tributaries of less significance. The area is very large, for the greatest breadth from east to west is *ca.* 119.08 km and the extreme length some 102.99 km from north to south. The average area is *ca.* 738610.24 ha or 7385.7 km² (Nevill, 1911). Headquarters of the district-Allahabad stands on the confluence of the rivers Ganges and Yamuna and is situated 96.01 m above the sea level. The district Allahabad forms a part of the Upper Gangetic Plain (Dudgeon, 1920) which has been recognised as one of the distinct botanical regions of India (Chatterjee, 1940).

Topography :

The Ganges and Yamuna, which unite at Allahabad, divide the district into three distinct parts, which differ from one another in their general appearance and physical features. The tract between the two rivers, commonly known as the Duab, comprises the tehsils of Chail, Siathu and Manjhanpur. The trans-Ganges or Gangapar tract includes Soraon Phulpur and Handia while the trans-Yamuna country, known as Yamunapar consists of Karchana and Meja.

The Duab forms an easterly continuation of the Fatehpur district and is roughly triangular block of country with an area of *ca.* 2115.2 km². Its northern boundary is the Ganges, and between the river and the high sandy ridge, broken by ravines, which marks the flood bank, is a strip of alluvial land in places very narrow, but elsewhere widening out into a broad stretch of sand and silt. The high bank is covered with a poor and gritty soil, full of *Kankar* and impoverished by the action of innumerable ravines, some of which in turn give place to a stiff clay. The clay belt continues for some distance to the south of the Sasur Khaderi in the western Duab, where *Usar* plains are frequently to be seen and small *Jhils*

and tanks are very numerous; with again to a light loam as the high bank of the Yamuna is approached. The soil of the lowlands of the Yamuna valley is dark and friable, closely resembling the *mar* of Bundelkhand. Taken as a whole Duab presents the appearance of a rich and fertile country.

The **Gangapar** southern edge is formed throughout by the Ganges and here again are to be seen in places broad strips of rich *kachhar*, especially in Nawabganj and the south of Jhushi pargana. The high banks of the river is generally broken and sandy, but where the stream flows close below the upland the belt of poor land is very narrow and its influence slight. North of this bank comes stretch of a light, loam, generally of a fertile character and varying in breadth, being broadest in Nawabganj and Jhushi. North of this again is broad expanse of clay which extends to the district boundary. Water is here close to the surface and the drainage collects in numerous *Jhils*. The surplus water makes its escape either northwards into the tributaries of the Sai or southwards into the Manesta and other affluents of the Ganges. The total area of the trans Ganges tract is *ca.* 2210.38 km².

The **Yamunapar** covers an area of *ca.* 478.27 ha and geographically belongs to Bundelkhand. In some respects the Karchana tehsil resembles the Duab in both its crops and its soils, being an upland plain of loam and clay, with the usual belt of light and in different soil along the banks of the Ganges, Yamuna and Tons. On its western side, however, the Duab soils are replaced by a mixture of clay and the *mar* of Bundelkhand, which extends over the eastern portion of Bara, with a narrow strip of high and fairly stable alluvium along Yamuna, and also with low range of hills. These hills form an irregular outwork of the Vindhyan system and the country on their summit and western slopes resembles the *patha*, having a thin deposit of poor stony soil. South of the Tons in the Meja tehsil there is a fairly rich plain of alluvium in the east, between the Ganges and the Manda hills, and this closely resembles the adjacent parts of Karchana. The Vindhyan hills run from the Mirzapur border past Manda, Meja and Kohrar to the western boundary; and from their crest north-wards as far as the Belan there extends plateau of inferior *mar* and clay soils drained by the Lapri and few small tributaries of the Belan.

GEOLOGY

The whole of the trans-Ganges tract consists of the ordinary alluvium of the Gangetic plain, and the same may be said of the greater part of the Duab as also of the Karchana tehsil and the north-east of Meja. The alluvial detritus of the Bundelkhand hills, however, makes its appearance in

the south of the Duab, which contains a considerable portion of the true Bundelkhand soils, and here the Vindhyan rock series extends to the north of the Yamuna. In the trans-Yamuna tract the detritus from the Vindhyan merges in the sand and silt of the Ganges valley, the resultant blend being clearly seen in the west of Karchana and east of Bara. The hilly part in the south and west of Yamunapar represents three sub-divisions of the Vindhyan series. The lowest is called Vindhyachal range and rises up boldly from the alluvial plain in an irregular chain from Manda to beyond Kohrar, reappearing in the south of Bara whence outlying range extends northwards to the Yamuna. The upper strata consists of massive Kaimur sandstone of a light reddish colour, extremely homogeneous, moderately hard and suitable for every kind of work. These Vindhyachal hills have a bold scarp to the north, save in the lower valley of the Tons, where they gradually descend to the level of the alluvium. South of the escarpment is an irregular plateau occupied by the lower Rewa group, which consists of an upper shaly band known as the Jhiri shales and a lower one forming the Panna shales, the two being separated by an intermediate sandstone. The third and highest sub-division is the upper Rewa group, represented for some 16.09 km along the southern boundary of the district by the fine scarp of massive sandstone known as Panna range. It is very similar to Vindhyachal range but attains a greater elevation.

CLIMATE

The Allahabad district comes under the climate type C *i.e.*, 'dry-sub-humid' climate (Subrahmanyam, 1956), showing an extreme low and high temp. during winter & summer months respectively. The rains usually commence during the later half of June, the maximum rainfall occurring during the month of July to September, after a long spell of summer. In April, the maximum temperature rises to about 38.85°C and minimum to 21.5°C. The annual mean rainfall is about 950 mm, more than 80% of which falls in about three months- July, August, and September. There are about 53 rainy days in the year, with no rainy days in April, when the relative humidity varies from 35% in the morning to 14% in the evening. On the other hand, stormy, dry gusty hot wind, called "Loo" blows from April to June, from the westerly or north-westerly direction.

SOIL

The soils in the Duab and trans-Ganges tracts consists as usual of sand (*Balua*), corresponding to the *bhur*, found on the highest levels especially on the river banks; clay (*matiar*) in the depressions, and the loam (*Dumat*). In the trans-Yamuna region all these soils occur in the ordinary alluvium, while in addition there are others which are characteristic of Bundelkhand, the chief is black cotton soil (*mar*) a dark friable earth which

absorbs an immense amount of moisture but on drying splits into great fissures, so that irrigation is almost impossible. The stony soil on the hills is called *bhota* and is of little value, while the inferior kind *chanchar* at the foot of the hills is known as *chopar*. Thus the land falls under the two main heads of lowland (*Kachhar*) and upland (*Uparhar*), the form being identical with the *tari* of the Yamuna and Tons basins, which closely resembles the Ganges kachhar though in most cases it is far less valuable and productive.

Vegetation

On account of varied altitudinal, edaphic and climatic conditions the flora of India is very rich, varied and colourful. It is estimated that India has approximately 45,000 plant species, of which about 15,000 are vascular plants (Angiosperms and Gymnosperms). The lofty mountain ranges in the north and presence of sea on its three sides provide an ideal situation for the preservation of an unique flora. However, according to Chatterjee (1940) 60% of Indian flora show endemism, particularly dicotyledons. Jain and Sastry (1980) have also recorded a high percentage of endemism in monocotyledons.

Although the great natural barriers (mountain ranges, sea and deserts) have protected the indigenous flora, but the land mass connections have provided migratory routes to many foreign elements. A large number of species show affinities to Malesian, Tibetan, Sino-Japanese, Siberian, European, Mediterranean, African, Arabian and American elements.

The district of Allahabad falls under the Gangetic region of phytogeographic divisions of India. It is virtually devoid of any natural forest and the area is under intensive agriculture from time immemorial. The open land provides suitable habitat for the colonisation by various elements from the neighbouring areas. Allahabad being one of the ancient Hindu pilgrimage places has been the centre of attraction and along with the pilgrims many alien species were introduced. Allahabad had the distinction of being a capital city during the Moghal period and has also served as an important cantonment of British rulers. Allahabad has also been on the main routes of various invaders, traders etc. These factors have contributed to the richness of exotic flora. Many of these introduction, were either intentional or unintentional. The import of agricultural produce, especially from U.S.A., has resulted in the introduction and spread of such weeds as *Alternanthera ficoidea*, *Argemone mexicana*, *Blainvillea acmella*, *Chloris barbata*, *Croton bonplandianum*, *Eupatorium odoratum*, *Gnaphalium purpureum*, *Ipomoea fistulosa*, *Lantana camara*, *Mimosa pudica*,

Opuntia dillenii, *Oxalis corniculata*, *Parthenium hysterophorus*, *Xanthium strumarium* etc. *Eichhornia crassipes*, an aquatic free floating weed was introduced in the early half of nineteenth century and had an adverse effect on the riverine and aquatic flora.

The enumerative accounts of the flowering plants of Allahabad district have been given by many workers, viz. Srivastava [1938, 1949], Panigrahi and Arora [1962], Arora, Singh and Mishra [1964], Rajagopal [1965], Rajagopal and Panigrahi [1965, 1966, 1967], Panigrahi and Rajagopal [1967, 1968]. Panigrahi and Saran [1968], Verma [1973] and Verma and Misra [1979]. In these accounts, much emphasis has not been given to the introduced/exotic species of agri-horticultural importance. Whereas Hooker [1904] and Champion and Trevor [1938] are of view that the Flora of India is merely mixture of flora of the surrounding countries and that there is no Indian flora as a separate entity. Chatterjee [1940] states that more than 60% of our dicotyledonous species are endemic. He considers that there was originally a typical Indian Flora which became partly masked by plant invasions from the surrounding countries. He, however, considered that the Indo-Gangetic Plain is relatively poor in endemic species.

The introduction of exotic plants were primarily meant for purposes of food, fodder, forage, fibre, oil, medicine, afforestation, green manuring, soil conservation or their economical/horticultural value. A good number of exotic plants were introduced into India (Allahabad district) by Mughal emperors, Missionary Botanists, European officials and plant explorers. A few workers, viz. Rajagopal and Panigrahi [1965, 1966, 1967], Panigrahi and Rajagopal [1967, 1968] and Bose and Pandey [1969, 1970, 1972] have mentioned a total of 89 species as introduced and cultivated in Allahabad. Srivastava [1938, 1949], Bose and Panigrahi [1968] and Panigrahi and Saran [1968] have recorded 213 species of cultivated plants (without stating their native home). The number of aliens/exotics reported for Allahabad is quite inadequate. It is, therefore, necessitated to bring out an upto-date and comprehensive 'Exotic Flora of Allahabad district' with a view that it will be useful to students and research workers alike.

The present book covers 458 exotic species of Agri-horticultural, medicinal and economic importance, either cultivated or wild. Data such as habit, common/local names, native country, possible period and source of introduction, flowering and fruiting period and state of cultivation for each species has been given in tabular form (Table 1).

The families of angiosperms have been arranged according to Bentham and Hooker's classification whereas the gymnosperm familie have

been split and arranged according to Dallimore & Jackson's system of classification, with modification wherever necessary. Nomenclature, as far as possible, has been made upto-date. Some selected black & white photo-graphs of the exotics have also been provided. Index to scientific names with synonymy and common names have been appended in the end for easy referencing.

213 species marked with an asterisk [*] are additions to the Flora of Allahabad. A total of *ca.* 1200 species of Allahabad including wild, introduced and aliens/exotics, and also plants of agri-horticultural importance have been reported from Allahabad district.

FLORISTIC ANALYSIS

The present work covers 100 families, 325 genera and 458 species of exotic plants of Allahabad district. The preliminary analysis indicates presence of 12.2% food plants, 0.65% fodder plants, 68.34% of ornamentals, 15.5% weeds and 3.27% of other economic plants. The east and west elements are represented by 18.55 and 81.44 percent, respectively. The ratio of Monocots and Dicots is 1:5.

Ten families of the exotics in order of dominance are as follows :

Family	No. of genera	No. of species
Asteraceae	36	42
Papilionaceae	15	22
Caesalpiniaceae	7	10
Mimosaceae	5	8
Solanaceae	10	20
Euphorbiaceae	9	18
Bignoniaceae	12	16
Apocynaceae	9	14
Verbenaceae	8	14
Rosaceae	5	10

The percentage of cultivated and aliens/exotics works out to 38.16% after including the earlier works of Allahabad, whereas for Delhi, Maheshwari [1962, 1963] records only about 27% naturalised and introduced species. The data presented here also substantiate the statement of Maheshwari [1962] that *ca.* 40% of the flowering plants are foreign and naturalised in different parts of the country. Rajagopal & Panigrahi [1965] anticipated that the percentage of introduced species in the Flora of Allahabad would go up after further intensive collections.

TABLE I

Family & species	Common English name/ Local name	Nativity	Possible time of introduction	Flowering & Fruiting period	State of cultivation & Remarks
1	2	3	4	5	6
RANUNCULACEAE					
Delphinium ajacis L.	Delphinium, Rocket Larkspur, Larkspur	Europe, (Bailey, 1928) & South Europe (Bose & Pandey, 1970)	Before 1814	<i>Fl. & Fr.</i> : January to April	Annual herb, planted for its ornamental/showy flowers, and as a medicinal plant. Plant acclimatized in India and was under cultivation in the Indian Botanic Garden before 1814 (Roxb. <i>H.B.</i>).

1	2	3	4	5	6
<i>Nigella damascena</i> L.	Love-in-a-Mist, <i>Kala jira</i>	Mediterranean region (Bose & Pandey, 1970), South Europe (Bailey, 1949), & Europe (Roxb. <i>H.B.</i>)	Probably before 1814	<i>Fl. & Fr.</i> : February to April	Annual herb, planted in gardens/parks for showy flowers. Introduced in the horticulture in the middle of the 16th century. Plant was first introduced in the Indian Botanic Garden by Colonel Garstin before 1814 (Roxb. <i>H.B.</i>).
MAGNOLIACEAE					
* <i>Magnolia grandiflora</i> L.	Life Tree, Laurel-Magnolia, Bull Bay, <i>Champa</i>	North America (Benthall, 1946)	Probably 1840 (Maheshwari & Paul, 1975)	<i>Fl.</i> : March to May	Ornamental tree, planted for its showy flowers.
ANNONACEAE					
* <i>Annona muricata</i> L.	Sour sop, Guinabana, <i>Lakshamanphal</i>	Tropical America (Backer & Brink, 1963) & West Indies (Mac Millan, 1954)	Probably 1811	<i>Fl. & Fr.</i> : July to October	Edible fruit tree. Introduced in the Indian Botanic Garden in the year 1811 by A. Roberts (Roxb. <i>H.B.</i>).

*A. reticulata L.	Bullock's Heart, Custard Apple, Sugar-Apple, Sweet-Sop, <i>Ram phal</i>	Tropical America (Benthall, <i>l.c.</i>), (Bailey, 1949) and (Backer & Brink, 1963)	Last quarter of the 17th century (Maheshwari and Paul, <i>l.c.</i>)	<i>Fl. & Fr.</i> : June to November	Introduced in the Indian Botanic Garden before 1794 (Roxb. <i>H.B.</i>).
A. squamosa L.	Custard-Apple, Sweet-Sop of America, <i>Sharifa</i> , <i>Sitaphal</i>	Tropical America (Benthall, <i>l.c.</i>), (Backer & Brink, 1963), (Bailey, 1949) & (Voight, 1845)	16th century (Maheshwari & Paul, <i>l.c.</i>).	<i>Fl. & Fr.</i> : March to November	Tree, one of the first American plants introduced by the Portuguese into India for edible fruits. Introduced in the Indian Botanic Garden before 1794 (Roxb. <i>H.B.</i>).
MENISPERMACEAE					
Cissampelos pariera L.	<i>Paria Bel</i>	South America (Rajagopal & Panigrahi, 1965) & probably Java (Backer & Brink, 1963)	Probably 17th century	<i>Fl. & Fr.</i> : July to September	Climber, wild on hedges and bushes and being cultivated as a medicinal plant. It was brought by Jesuit Missionaries into Goa as a medicinal plant. Now naturalised in the local flora.

1	2	3	4	3	6
PAPAVERACEAE					
Argemone mexicana L.	Prickly-Poppy, Mexican-Poppy, <i>Bhar-Bhand</i> , <i>Satyanashi</i>	Mexico, Central America & West Indies (Backer & Brink, 1963) and (Ridley, 1930)	17th century	<i>Fl.</i> : January to April <i>Fr.</i> : April to June	Perennial herb, plant was introduced by Portuguese (Mehra, 1966), found wild in waste places, being used as medicinal plant. Naturalised in the local flora.
A. ochroleuca Sweet	—	Mexico (Rajagopal, 1965) and (Rajagopal & Panigrahi, 1965)	Before 1903 (Duthie, 1903)	<i>Fl.</i> : January to April <i>Fr.</i> : April to June	Perennial herb, grows as weed alongwith <i>A. mexicana</i> L. and probably introduced when Duthie was writing Flora of Upper Gangetic Plain.
Eschscholtzia californica Cham.	Californian-Poppy	California (North America) (Bose & Pandey, 1969), California and <i>Orientalis</i> (Bailey, 1928)	Probably after 1845	<i>Fl. & Fr.</i> : January to March	Annual herb, planted in beds/pots as an ornamental plant. It is the official State flower of California (Barber, 1954). Introduced into horticulture in the 18th century about 1780 (Booth, 1957).

* <i>E. californica</i> Cham. var. <i>aurantiaca</i> Hort.	Californian- Poppy	California & Orientalis (Bailey, 1949)	Probably before 1794	<i>Fl. & Fr.</i> : January to April	Winter annual herb, cultivated in dry plains (Duthie, 1903) as an ornamental. Introduced into horticulture in the early 18th century before 1794 (Roxb. <i>H.B.</i>).
<i>Papaver rhoeas</i> L.	Corn-Poppy Dutch-Poppy	Europe & Asia (Bailey, 1949) and (Bose & Pandey, 1970), Europe, North Africa and West Asia (Backer & Brink, 1963)		<i>Fl. & Fr.</i> : February to April	Annual herb, grown in gardens for seasonal showy flowers and as a medicinal plant. Intro- duced into the horticul- ture in 1886.
<i>P. somniferum</i> L.	Opium-Poppy, White-Poppy, <i>Afim, Post</i>	Unknown, found in all the Mediterranean countries and the middle east (Coats, 1956) and (Anonymous, 1966)	Before 1794	<i>Fl. & Fr.</i> : January to April	Annual, ornamental plant. Introduced in the Indian Botanic Garden before 1794 (Roxb. <i>H.B.</i>).

1	2	3	4	5	6
FUMARIACEAE					
<i>Fumaria indica</i> (Hassk.) Pugsley (= <i>F. vaillantii</i> Loisel var. <i>indica</i> Hassk.)		North-tempe- rate origin (Rajagopal & Panigrahi, 1965)	Very early time	<i>Fl.</i> : February to April	A common winter weed. According to Mason, crow eats fruits of this species and helps in its dissemination (Ridley, <i>l.c.</i>).
BRASSICACEAE (CRUCIFERAE)					
* <i>Brassica juncea</i> (L.) Czern. & Coss. var. <i>rugosa</i> Roxb. (= <i>Sinapsis juncea</i> L.)	Cabbage, Leaved- Mustard	Tibet	—	—	Annual herb, cultivated for its leaves, used as pot herb.
* <i>B. oleracea</i> L. var. <i>botrytis</i> L.	Broccoli, Cauliflower, <i>Phul gobhi</i>	Greece to Great Britain, Cyprus or somewhere in Southern part of Europe around Mediterranean coast (Chauhan, 1972)	Mughal period	<i>Fl.</i> : October to January	Winter annual herb, cultivated as a vegetable crop.

* <i>B. oleracea</i> L. var. <i>capitata</i> L.	Cabbage, <i>Pat gobhi</i> , <i>Banda gobhi</i>	Western Europe and the north shores of the Mediterranean sea (Chauhan, <i>l.c.</i>)	—		Winter annual herb, cultivated as a vegetable crop.
* <i>B. oleracea</i> L. var. <i>gonyloides</i> L.	Kholrabi, Knol Khol, <i>Ganth gobhi</i>	Europe (Voight, <i>l.c.</i>), West and South Europe (Bailey, 1928), Mediterranean region, south- western Europe and southern England (Purseglove, 1968)	Probably before 1845		Biennial herb, grown for its swollen stem which is used as green vegetable.
* <i>B. rapa</i> L.	Turnip, <i>Shalgam</i>	Central & southern Europe (Purseglove, 1968). Probably Europe and Western Siberia (De Candolle, 1959)	—	<i>Fl. & Fr.</i> : November to April	Annual herb, cultivated for its tender roots, used as vegetable.

1	2	3	4	5	6
Cheiranthus cheiri L.	Wall Flower	South Europe (Bailey, 1949)	Early part of the 19th century (F.B.I.)	<i>Fl. & Fr.</i> : February to April	Annual herb, cultivated as a herbaceous border plants. Introduced in the Indian Botanic Garden before 1840 by General Martin (Roxb. <i>H.B.</i>).
Coronopus didymus (L.) Sm. (<i>Lepidium</i> <i>didymus</i> L.)	Lesser Swine's Cress, Water Cress	Tropical America (Duthie, 1903), (Rajagopal & Panigrahi, 1965) and Matthew, 1969) & Europe (Voight, <i>l.c.</i>)	About 1845	<i>Fl. & Fr.</i> : December to June	A weed common in lawns and shady places, probably first introduced in Bengal during 1845 (Srivastava, 1964).
Eruca sativa Mill.	Rocket Salad, Roquette, <i>Tara</i> <i>Mira</i>	South America (Bailey, 1949), South Europe, North Africa and West Asia (Duthie, 1903) and (Rajagopal & Panigrahi 1965)	Probably 17th century	<i>Fl. & Fr.</i> : January to March	A winter weed in wheat and Mustard fields. Grown in north India during cold season for its oil-bearing seeds.

Iberis amara L.	Rocket-Candytuft, Bitter-Candytuft, Common Annual Candytuft	Europe (Bailey, 1949), & (Voight, l.c.) South Europe (Backer & Brink, 1963)	Before 1945	<i>Fl. & Fr. :</i> January to April	Annual herb, cultivated as an ornamental seasonal plant in beds and pots. Sometime found as an escape (Bose & Pandey, 1969). Plant was under cultivation in the Indian Botanic Garden before 1945 (Voight, l.c.).
I. umbellata L.	Globe-Candytuft, Common Candytuft, Wry-Flower	South Europe (Bruggeman, 1957), (Bailey, 1949) and (Backer & Brink, 1963)	Before 1845	<i>Fl. & Fr. :</i> November to April	Annual herb, grown in gardens/parks for showy flowers as seasonal ornamental plant. The species was introduced in the horticulture in the late sixteenth century (Booth, 1947). Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, l.c.).
Lepidium sativum L.	Garden Cress	West Asia (Bailey, 1949), South-west Asia and North Africa (Backer & Brink, 1963)	Before 1794	<i>Fl. & Fr. :</i> November to March	Annual herb, weed in winter crops. Plant was introduced in the Indian Botanic Garden before 1794 (Roxb. <i>H. B.</i>).

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		Highland region of Ethiopia and Eritrea (Anonymous, 1962) & Abyssinia (Purseglove, 1968)			
Lobularia maritima Desv.	Sweet Alyssum	Mediterranean regions (Backer & Brink, 1963) and (Bose & Pandey, 1969)		<i>Fl. & Fr. :</i> December to April	Annual herb, planted in beds/borders as an ornamental plant. Introduced into the horticulture in the early 18th century (Hallyer, 1952).
✓ Matthiola incana R.Br.	Common Stock, Brampton Stock, Gilli Flower	Europe (Bose & Pandey, 1970), Mediterranean region (Bailey, 1928) and (Backer & Brink, 1963)	Probably after 1845	<i>Fl. & Fr. :</i> February to May	Annual herb, grown in gardens for its showy flowers and medicinal use. Introduced into horticulture in the early 18th century.
Raphanus sativus L.	Radish, <i>Muli</i>	Western Asia (Purseglove, 1968), China	Ancient time	<i>Fl. & Fr. :</i> January to March	Biennial herb, grown for salad vegetable.

(Chauhan, l.c.),
China, Japan and
West Asia
(Voight, l.c.)

CAPPARACEAE

Cleome spinosa Jacq.	Giant Spider Plant	S. America (Bose & Pandey, 1970), Tropical America (Bailey, 1949) & West Indies (Graf, 1963)	<i>Fl. & Fr.</i> : February to April	Annual herb, grown in gardens for showy flowers. Introduced into horticulture in the early 19th century.
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RESEDACEAE

Reseda odorata L.	Common Mignonette	North Africa and Mediterranean region (Bose & Pandey, 1970), North Africa (Bailey, 1949) and (Voight, 1945), Egypt (Bruggeman, l.c.) and (Coats, l.c.)	Probably before 1845	<i>Fl. & Fr.</i> : February to April	Annual herb, planted for its fragrant flowers and medicinal value. Introduced into horticulture in 1952. Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, l.c.).
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VIOLACEAE					
<i>Viola odorata</i> L.	Garden or Floristic Violet, Sweet Violet	Europe, Africa and Asia (Bailey, 1949), Europe (Backer & Brink, 1963), Europe and Africa (Bruggeman, <i>l.c.</i>)	Before 1845	<i>Fl. & Fr.</i> : November to March	Annual herb, cultivated in the garden as ornamental plant.
<i>V. tricolor</i> L. var. <i>hortensis</i> DC.	Pansy, Heart's Ease	Europe (Bose & Pandey, 1970) and (Bailey, 1949)	Probably before 1845	<i>Fl. & Fr.</i> : January to April	Annual herb, grown in gardens for its tricoloured and many shaded showy flowers, and medicinal value. Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
BIXACEAE					
<i>Bixa orellana</i> L.	Annotto, <i>Latkan</i>	America (Benthall, <i>l.c.</i>) and (Merrill,	Before 1793	<i>Fl. & Fr.</i> : August to October	Tree, cultivated for its dye extracted from the testa. Introduced in the

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1946) & Tropical
America
(Purseglove,
1968)

Indian Botanic Garden
before 1794 (Roxb.
H.B.).

CARYOPHYLLACEAE

Dianthus barbatus L.	Sweet William	China (Bose & Pandey, 1970), Russia to China, South to the Pyrenees (Bailey, 1949) & Central Europe (Bruggeman, <i>l.c.</i>)	About 1802	<i>Fl. & Fr.</i> : February to May	Annual herb, planted in garden beds/pots for its showy flowers. It grows as an escape in the Eastern States of America. Introduced into horticulture in 1573. Plant was first introduced in the Indian Botanic Garden during 1802 (Roxb. <i>H.B.</i>).
D. chinensis L.	Rainbow-Pink, Chinese or Indian-Pink	China and Japan (Bose & Pandey, 1970), Eastern Asia (Bailey, 1949), China (Roxb. <i>Fl. Ind.</i>) and (Bruggeman, <i>l.c.</i>)	About 1796	<i>Fl. & Fr.</i> : February to May	Ornamental annual herb, planted in gardens as border plants. Introduced into the horticulture in early 18th century. var. heddewigii Regel. 'Dentate Rainbow Pink', var. laciniatus Regel. 'Fringed Rainbow Pink' are grown.

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Gypsophila elegans Bieb.	Gypsophilla	Caucasus (Bailey, 1949) and (Bose & Pandey, 1970) & Asia Minor (Backer & Brink, 1963)	Probably after F.B.I.	<i>Fl. & Fr.</i> : February to May	Plants were first introduced in the Indian Botanic Garden during 1796 (Roxb. <i>H.B.</i>). Annual herb, planted in beds or borders for showy flowers. Introduced into the horticulture in early 19th century.
Lychnis coeli-rosa Desr.	Rose-of- Heaven	South Europe (Bose & Pandey, 1970) & Mediter- ranean region (Bailey, 1949)	Before 1845	<i>Fl.</i> : January to March. <i>Fr.</i> : March to April	Herb, planted in gardens for showy flowers. Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).

<i>Silene armeria</i> L.	Sweet William Catch Fly	South Europe and adventive to the Eastern States of America (Bose & Pandey, 1970), Western and Central Europe (Backer & Brink, 1963) & South Europe (Bailey, 1949)	Before 1845	<i>Fl.</i> : February to March <i>Fr.</i> : April to May	Annual herb, planted in beds/borders for showy flowers. Hooker in F.B.I. (1872) mentions as an escape from cultivation.
<i>Spergula arvensis</i> L.	Corn Spurry	Europe (Bailey, 1929), (Ridley, l.c.), (Backer & Brink, 1963) and (Rajagopal & Panigrahi, 1965)	Probably 17th century	<i>Fl. & Fr.</i> : December to March	Annual weed found in moist situations and cul- tivated field. Probably introduced as an impurity in vegetable seeds (Maheshwari & Paul, l.c.).
<i>Stellaria media</i> (L.) Vill. (= <i>Alsine media</i> L.)	Chick Weed	Europe (Backer & Brink, 1963)	Middle of 18th century	<i>Fl. & Fr.</i> : October to March	An annual herb, grows as weed in moist shady places in the gardens. Naturalised in India by 1872 (F. B. I.).

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Vaccaria pyramidata Medick. (= <i>Saponaria vaccaria</i> L.)	—	Europe (Backer & Brink, 1963) and (Rajagopal & Panigrahi, 1965)	Probably 16th century	<i>Fl. & Fr.</i> : March to May	A weed in wheat field, the dispersal of seeds are by the American crow which feeds on the dry fruits and also visits dis- tant countries (Ridley, <i>l. c.</i>).
V. pyramidata Medick. var. <i>rosea</i> Hort. (= <i>Saponaria vaccaria</i> L. var. <i>rosea</i> Hort.)	Saponaria, Cow Herb	Europe and Asia (Bailey, 1949) and (Bose & Pandey, 1970)	Probably after 1845	<i>Fl.</i> : January to March <i>Fr.</i> : February to April	Annual herb, planted for showy flowers. Intro- duced in horticulture in the year 1548 (Coats, <i>l. c.</i>).
PORTULACACEAE					
* Portulaca pilosa L. sp. grandiflora (Hook. f.) Geesink (= <i>P. grandiflora</i> Hook. f.)	Rose-Moss, Sun Plant	South America (Bruggeman, <i>l. c.</i>) and (Maheshwari & Paul, <i>l. c.</i>)	Later part of 16th century	<i>Fl. & Fr.</i> : May to September	Succulent herb, cultivated in gardens as ornamental flowering plants. Introdu- ced in India by Portu- guese (Maheshwari & Paul, <i>l. c.</i>).

P. oleracea L.	Purselane, <i>Lunia, Kulfra</i>	North Africa (Rajagopal & Panigrahi, 1965) & Europe (Maheshwari & Paul, <i>l.c.</i>)	Before 1845	<i>Fl.</i> : July to September <i>Fr.</i> : Septem- ber to January	Annual herb, found wild in moist situations, on river banks and in gar- dens. Used as pot-herb. Probably introduced along with vegetable seeds carried by early ex- plorers in 15th century (Ridley, <i>l.c.</i>), and were found all over India be- fore 1845 (Voight, <i>l.c.</i>).
* Portulacaria afra Jacq.	Speck Boom, Elephant's Bush	South Africa (Bailey, 1949)	Early part of 19th Century	<i>Fl.</i> : May to August	Shrub, cultivated for its foliage beauty.
* Talinum calycinum Engelm.	Fame-Flower	Mexico (Bailey 1949)	later part of 19th century	<i>Fl.</i> : August to October	Herb, cultivated as an ornamental plant.
MALVACEAE					
Abelmoschus esculentus (L.) Moench (= <i>Hibiscus esculentus</i> L.)	Lady's Finger, <i>Bhindi</i>	Tropical Africa, (Purseglove, 1968)	Ancient times	<i>Fl. & Fr.</i> : May to October	Annual herb, cultivated as vegetable.
Abutilon crispum (L.) Medic. (= <i>Sida crispa</i> L.)		Tropical America (Rajagopal &	Probably before 1820	<i>Fl. & Fr.</i> : September to November	Annual herb, grows on hedges and bushes and under shady situations.

1	2	3	4	5	6
		Panigrahi, 1966)			Probably introduced to South India before 1820 (Rajagopal & Panigrahi, <i>l.c.</i>) and now naturalised in the local flora.
* <i>Althaea ludwigii</i> L.		Western Asia, Mediterranean region and South Africa (Hooker, 1875)	Before 1872	<i>Fl. & Fr.</i> : September to December	Annual herb, wild in wastelands and marshy places.
<i>A. rosea</i> (L.) Cav. (= <i>Alcea rosea</i> L.)	Hollyhock	China (Bailey, 1928), (Bose & Pandey, 1970) and (Roxb. <i>Fl. Ind.</i>), China or Asia Minor (Backer & Brink, 1963) & Asia Minor (Bruggeman, <i>l.c.</i>)	Probably before 1845	<i>Fl. & Fr.</i> : February to June	Biennial herb, planted for its ornamental flowers and medicinal value. Introduced into horticulture in the late 16th century. Probably first introduced in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).

* <i>Gossypium herbaceum</i> L.	Asiatic Cotton, Arabia and Levent Cotton, <i>Kapas</i>	Asia Minor (Bailey, 1949) & Africa and Asia (Purseglove, 1968)	Before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl. & Fr.</i> : February to March	Shrub, cultivated for cotton.
* <i>G. hirsutum</i> L.	American Cotton, Bourbon Cotton, Upland Cotton, Cotton	Central America (Graf, <i>l.c.</i>) & Tropical America (Bailey, 1949)	Before 1794	<i>Fl. & Fr.</i> : September to March	Shrub, cultivated for cotton. Introduced in the Indian Botanic Garden before 1794 (Roxb. 1814).
<i>Hibiscus cannabinus</i> L.	Ambari Hemp, Bimli or Bimli patam Jute, Deccan Hemp, Kenaf, Mesta, <i>Patsan</i>	Tropical Africa (Backer & Brink, 1963) Tropical & sub-tropical Africa (Purseglove, 1968)	Before 1872	<i>Fl. & Fr.</i> : September to December	Shrub, cultivated for its fibre and as pot herb.
* <i>H. cruentus</i> Bertol.		Probably Guatemala	Recent introduction, probably after 1897	—	Cultivated as an ornamental shrub. Introduced in the BSA Garden, Allahabad from NBRI, Lucknow during 1974.

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* <i>H. elatus</i> Sw.	Cuba-Bast, Mountain- Mahoe	West Indies (MacMillan 1956)	Recent intro- duction, probably after 1897	—	Ornamental tree. Intro- duced in BSA Garden Allahabad from NBRI, Lucknow during 1974.
* <i>H. liliiflorus</i> Cav.	—	Mauritius and Seychelles Islands (Bailey, 1949)	Probably after 1845	<i>Fl.</i> : Through- out the year	Ornamental shrub planted in gardens for showy flowers.
* <i>H. mutabilis</i> L.	Changeable Rose, Cotton Rose	China (Bailey, 1928)	Before 1794	<i>Fl.</i> : October to December	Shrub, planted in shrub- bery borders as well as individually for its showy flowers. Probably first in- troduced in the Indian Botanic Garden before 1794 (Roxb. 1814).
* <i>H. rosa-sinensis</i> L.	Chinese Hibiscus, Rose of China, Shoe Flower, <i>Gurhal</i>	China (Paul & Krishnamurthi, 1967)	Before 1794 (Roxb. 1814)	<i>Fl.</i> : Through- out the year, profuse during April September	Cultivated as an orna- mental shrub. Introduced in Indian Botanic Garden before 1794. Cultivars 'Alipore beauty', 'Austra- lian Rose', 'Hawai White', 'Mary Walker' and 'Snow Flake' introduced in the BSA Garden Allahabad during 1947.

<i>H. sabdariffa</i> L.	Jamaican Sorrel ; Red Sorrel, Roselle, Red Sorrel of the West Indies, <i>Patua</i>	America (Backer & Brink, 1963), West Africa (Purseglove, 1968) & West Indies (Roxb. 1814).	In Asia atleast from three centuries	<i>Fl. & Fr.</i> : September to December	Shrub, cultivated for fibre and pot herb. Introduced in the Indian Botanic Garden by Dr. Rottler (Roxb. 1814).
*<i>H. schizopetalus</i> (Mast.) Hook. f. (<i>H. rosasinensis</i> var. <i>schizopetalus</i> Mast.)	Coral Hibiscus, Fringed Hibiscus	Tropical East Africa (Bailey, 1949) and (Backer & Brink, 1963)	October, 1886 (Maheshwari & Paul, l.c.)	<i>Fl.</i> : September to December	Flowering ornamental shrub.
*<i>H. syriacus</i> L.	Rose-of-Sharon, Shrubby Althaea, Syrian Hibiscus	Syria (Maheshwari, 1963), Tropical Africa (Duthie, 1903), Eastern Asia (Bailey, 1949) & China (Deb, 1981)	Before 1794	<i>Fl.</i> : February to October	Ornamental flowering shrub. Plant was introduced in the Indian Botanic Garden before 1794 (Roxb. 1814).
*<i>H. tricuspis</i> Banks ex Cav.	—	Society Islands (Duthie, 1903)	Probably 1809	—	Flowering tree. Cultivated from the seeds received from Otaheite by the Missionaries in the Indian Botanic Garden and introduced by Lord

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Malva parviflora L.	—	South Europe (Backer & Brink, 1963)	Probably after 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl. & Fr.</i> : February to March	Minto during 1809 (Roxb. 1814). Introduced in the BSA Garden, Allahabad during 1974. Herbaceous weed during cold season. Recorded from West Himalaya, Upper Bengal, Sindh and Punjab, Europe, the Levent, Arabia and Nubia (F.B.I.).
Malvaviscus arboreus Cav. var. penduliflorus Schery	Chinese Lantern, Turky Cap	Tropical America (Paul & Krishnamurthi, <i>l.c.</i>), Mexico to Peru and Brazil (Bailey, 1949), Antillis (Backer & Brink, 1963) & Central Mexico to Columbia (Deb, <i>l.c.</i>)	Probably early part of 19th century.	<i>Fl.</i> : Septem- ber to December. <i>Fr.</i> : February to April	Ornamental flowering shrub. Cultivated for bell like brilliant red flowers.

Malvastrum coromandelianum (L.) Garcke (= <i>Malva coromandeliana</i> L.)	—	South America (Backer & Brink, 1963) and (Rajagopal & Panigrahi, 1965)	1900 (Srivastava, 1964)	<i>Fl. & Fr.</i> : Almost throughout the year	Perennial herb, wild in shady situations and naturalised in the local flora.
*Pavonia hastata Cav.	—	South America (Bailey, 1949)	Middle of 19th century	<i>Fl. & Fr.</i> : July to October	Rarely planted as an ornamental shrub.
Urena lobata L.	—	Probably Africa (Ridley, <i>l.c.</i>) and (Rajagopal & Panigrahi, 1965) & Tropics (Bailey, 1929).	Before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl. & Fr.</i> : July to October	Perennial herb, common and wild in hedges, waste places and in gardens. Spreads by its spinous and adhering fruits. Now naturalised in the local flora.
BOMBACACEAE					
Adansonia digitata L.	African- Calabash, Baobab, Monkey's Bread Tree, Sour Gourd, <i>Gorakh imli</i>	Tropical Africa (Bailey, 1949) and (Graf, <i>l.c.</i>) & Africa (Purseglove, 1968)	Before 1832 (Roxb. <i>Fl.</i> <i>Ind.</i>)	<i>Fl. & Fr.</i> : July to September	Tree, planted in gardens for its curious trunk. First introduced in Ceylon and India by Arab traders (Benthall, <i>l.c.</i>).

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* Chorisia speciosa St. Hil.	The Mexican Silk Cotton Tree. Floss- Silk-Tree	Brazil (Bailey, 1928) & North Argentina (Graf, <i>l.c.</i>)	Recent introduction	<i>Fl. & Fr.</i> : February to June	Tree, soft silk/cotton of the pods are used for pillows and cushions.
STERCULIACEAE					
* Dombeya calantha Schum.	—	Central Africa (Bailey, 1949)	—	<i>Fl.</i> : February to May	Cultivated as an orna- mental shrub.
Guazuma tomentosa H.B. & K.	Bastard Cedar, Honey Fruit Tree, Masked Tree	Tropical America (Backer & Brink 1963) and (Benthall, <i>l.c.</i>)	About 1790	<i>Fl.</i> : July to September <i>Fr.</i> : Septem- ber to December	Tree, cultivated for shade in the gardens. First introduced in the Indian Botanic Garden during 1790 by Dr. J. Anderson (Roxb. 1814).
Kleinhovia hospita L.	Tanag, Tree- Antigonon	Tropical Africa, Malaya and Australia (Benthall, <i>l.c.</i>), (Rajagopal & Panigrahi, 1966) & Malayasia (Maheshwari & Paul, <i>l.c.</i>)	About 1798	<i>Fl. & Fr.</i> : August to November	Tree, planted as an avenue tree and for medicinal value. It was introduced in the Indian Botanic Garden during 1798 from Moluccas (Roxb. 1814).

TILIACEAE

Corchorus aestuans L.	—	Tropical America (Maheshwari, 1962), Asia or Africa (Brizicky, 1965) & America (Florida) (Rajagopal & Panigrahi, 1965)	Probably before 1845	<i>Fl.</i> : August to September <i>Fr.</i> : September to December	Annual herb, weed in waste places in gardens and in fields. Common in India before 1845 (Voight, <i>l.c.</i>).
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LINACEAE

✓ Linum grandiflorum Desf.	Flax, Flowering Flox	North Africa (Bailey, 1949) and (Bose & Pandey, 1970)	Probably after 1845	<i>Fl. & Fr.</i> : February to April	Annual herb, cultivated as seasonal ornamental plant for showy flowers. var. rubrum Vilm. is also grown. Introduced into horticulture in early 19th century.
L. usitatissimum L.	Flax, Linsced, <i>Alasi. Tisi</i>	Uncertain (Backer & Brink, 1963), Mediterranean region (DeCandolle, <i>l.c.</i>).	Ancient times	<i>Fl. & Fr.</i> : January to March	Annual, cultivated for oil. Plant was under cultivation in the Indian Botanic Garden before 1814 (Roxb. 1814).

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MALPIGHIACEAE					
* Banistera laevifolia A. Juss.	—	Brazil (Bor & Raizada, 1954)	Probably recent introduction	<i>Fl.</i> : July to September	Climbing shrub, cultivated on arches and pergolas.
* Malpighia coccigera L.	Miniature-Holly, Singapore-Holly	West Indies (Bailey, 1949) & Antilles (Backer & Brink, 1963)	Probably recent introduction	<i>Fl.</i> : July to October	Cultivated as an ornamental flowering shrub.
* M. glabra L.	Barbados Cherry	Tropical America (Anonymous, 1928) & North-South America to south Texas (Bailey, 1949)	Probably recent introduction	<i>Fl. & Fr.</i> : August to November	Shrub, cultivated for showy flowers and fruits.
* Stigmaphyllon ciliatum (Lamk.) A. Juss. (= <i>Banistera ciliata</i> Lam.)	Golden Vine	Tropical America (Bor & Raizada, <i>l.c.</i>) & Brazil & N.S. America (Bailey, 1949)	Probably recent introduction	<i>Fl.</i> : July to October	Twiner, grown in gardens on pillars.

<p>*Thyrallis glauca (Cav.) O. Kuntze (= <i>Galphimia glauca</i> Cav.)</p>	--	<p>Mexico to Panama (Bailey, 1949) and (Graf, <i>l.c.</i>) & Tropical America (Bor & Raizada, <i>l.c.</i>)</p>	<p>Probably recent introduction</p>	<p><i>Fl.</i> : November to March</p>	<p>Shrub, planted for its ornamental flowers.</p>
<p>TROPAEOLACEAE</p>					
<p>Tropaeolum majus L.</p>	<p>Nasturtium, Great Indian Cress</p>	<p>South America (Bailey, 1949) and (Bose & Pandey, 1969)</p>	<p>About 1799</p>	<p><i>Fl. & Fr.</i> : December to April</p>	<p>Annual creeping herb, grown in beds and hanging pots for showy leaves and flowers. Introduced into horticulture during the late 17th century, about 1686 (Booth, <i>l.c.</i>). Probably first introduced in the Indian Botanic Garden during 1799 (Roxb. 1814).</p>
<p>OXALIDACEAE</p>					
<p>Oxalis corniculata L.</p>	<p>Yellow Oxalis, Yellow-Wood-Sorell</p>	<p>South Europe (Ridley, <i>l.c.</i>) and (Rajagopal & Panigrahi, 1965), North America (Bailey, 1949) & America (Babu, 1977)</p>	<p>Before 1814</p>	<p><i>Fl. & Fr.</i> : Almost throughout the year</p>	<p>Annual weed, common in moist places, gardens, field bunds and near drainage channels. Plants were found in India before 1814 (Roxb. 1814).</p>

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O. corymbosa DC. (= <i>O. martiana</i> Zucc.)	—	South America (Ridley, <i>l.c.</i>) and (Rajagopal, & Panigrahi, 1965), Brazil and South America (Backer & Brink, 1963) & Tropical America (Babu, <i>l.c.</i>)	Before 1817	<i>Fl.</i> : February to March <i>Fr.</i> : July to September	A common herbaceous (bulbous) weed in gardens. It was well established in the forests of India by 1817 (Ridley, <i>l.c.</i>). The plant was first known in India in 1903 as a garden plant at Calcutta (Matthew, <i>l.c.</i>). Double form is cultivated.
O. dehradunensis Raizada (= <i>O. intermedia</i> A. Rich.)	—	Mexico (Mathew, <i>l.c.</i>), Mexico and West Indies (Backer & Brink, 1963) & Tropical America (Rajagopal & Panigrahi, 1965).	Last part of 1800 A.D.	<i>Fl.</i> : June to November	A bulbous herbaceous common weed in moist situations, in gardens and along hedges. The plant was first reported in India (Sibpore) as a weed about 1870 by Kurz, and from Dehra Dun (Raizada, 1931).
O. latifolia H.B. & K.	—	Mexico (Calder, 1919), (Rajagopal 1965), Backer	Probably before 1869	<i>Fl.</i> : August to February	Bulbous perennial herb, wild in marshy lands and as an escape in the

			& Brink, 1963) and (Matthew, <i>l.c.</i>)			gardens. First collected as a weed at Sibpore nearly 50 years ago by Kurz. King collected from Missoore in 1869 and now wild in India (Calder, <i>l.c.</i>). Plant is naturalized in many parts of India (Anonymous, 1966).
<i>O. pes-caprae</i> L.	—	Cape of Good Hope (Fyson, 1915) and (Rajagopal & Panigrahi, 1965) & South Africa (Bailey, 1949).	Early nineteenth century		<i>Fl.</i> : December to February	A herbaceous weed, grows in moist places. It was first recorded from the Upper Gangetic Plain (Raizada, 1950).
RUTACEAE						
* <i>Citrus grandis</i> (L.) Osbeck (= <i>C. decumana</i> L.)	Forbidden Fruit, Pummelo, Shaddock, <i>Chakotra</i>	Malayasia and Polynesia (Maheshwari & Paul, <i>l.c.</i>)	—		<i>Fl. & Fr.</i> : February to October	Tree, cultivated for its edible fruits.
<i>Clausena lansium</i> (Lour.) Skeels (= <i>Quinaria lansium</i> Lour.)	—	China (Anonymous, 1950) & South China (Purseglove, 1968)	Before 1872		<i>Fl.</i> : March to April	Tree, fruits are used for making jams.

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* <i>Ravenia spectabilis</i> Engl.	Lemonia, Ravenia	Cuba and Brazil (Paul & Krishna- murthy, <i>l.c.</i>)	Recent intro- duction	<i>Fl. & Fr.</i> : February to May	Shrub, cultivated in gardens for sweet scented flowers.
* <i>Ruta graveolens</i> L.	Herb of Grace, Rue, <i>Saturi</i>	Mediterranean region (Bailey, 1949), (Coats, <i>l.c.</i>) and (Purseglove, 1968) & Persia and Western Asia (Roxb. <i>Fl. Ind.</i>)	Before 1832 (Roxb. <i>Fl.</i> <i>Ind.</i>)	<i>Fl. & Fr.</i> : September to February	Perennial herb, culti- vated as medicinal plant.

MELIACEAE

* <i>Azadirachta indica</i> A. Juss.	China Tree, Pride of India, Pride of China, Persian Lilac, Margosa Tree,	Native of Persia and Asia Minor (Maheshwari & Paul, <i>l.c.</i>), Burma (Benthall <i>l.c.</i>) and (Gupta &	Early date	<i>Fl. & Fr.</i> : March to May	Tree, cultivated for shade and medicinal purposes.
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	<i>Neem</i>	Marlange, 1961) and (Rajagopal & Panigrahi, 1965)			
* <i>Swietenia mahagoni</i> Jacq.	Mahogany, Spanish, Cuban, Pureto Rico, or Jamaican Mahogany Tree	Jamaica and Central America (Benthall, <i>l.c.</i>)	1795 (Roxb. 1814)	<i>Fl.</i> : April to May <i>Fr.</i> : May to July	Tree, cultivated as timber tree first intro- duced in the Indian Botanic Garden from West Indies.
SAPINDACEAE					
* <i>Litchi chinensis</i> Sonn.	Litchi, Lychee, <i>Lichi</i>	China (Bailey, 1949) & Southern China (Purse- glove, 1968)	Before 1794	<i>Fl.</i> : February to March <i>Fr.</i> : March to May	Tree, cultivated for edible fruits. Introduced in the Indian Botanic Garden before 1794 (Roxb. 1814).
FABACEAE (PAPILIONACEAE)					
* <i>Arachis hypogaea</i> L.	Earth Nut, Ground Nut, Monkey Nut, Pea Nut, <i>Mungphali</i>	South America (DeCandolle, <i>l.c.</i>) and (Purseglove, 1968)	Probably 16th century (Purseglove, 1968)	<i>Fl.</i> : Septem- ber to Novem- ber <i>Fr.</i> : October to December	Herb, cultivated for its edible kernels. Intro- duced in the Indian Botanic Garden before 1794 (Roxb. 1814).

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* <i>Clianthus dampieri</i> Cunn.	Glory Pea	Australia (Bailey, 1949) and (Graf, <i>l.c.</i>)	Recent introduction	<i>Fl. & Fr.</i> : January to March	Ornamental annual, climbing herb.
* <i>Clitoria ternatea</i> L.	Butterfly Pea	Tropical America (Purseglove, 1968)	About 1814	<i>Fl. & Fr.</i> : July to October	Perennial climber, ornamental and medici- nal. White and blue flowered varieties are grown and also run wild. Introduced in the Indian Botanic Garden during 1814.
<i>Glycine max</i> (L.) Merr. (= <i>Phaseolus max.</i> L.)	Soya Bean, Soya, Soja, <i>Soyabean</i>	Eastern Asia. Probably Cochin China, Japan and Java, (Purseglove, 1968)	Early intro- duction	<i>Fl. & Fr.</i> : September to December	Annual herb, cultivated for forage, food and oil. First introduced in the Indian Botanic Garden brought from Moluccas (Roxb. <i>Fl. Ind.</i>).
<i>Indigofera linnaei</i> Ali	—	Tropical Africa and Asia (Maheshwari, 1962) and (Rajagopal & Panigrahi, 1965)	—	<i>Fl. & Fr.</i> : August to December	Annual herb, found as a weed in fields and gardens.

<i>L. trita</i> L.	—	Tropical Australia and Asia (Maheshwari, 1962) and (Rajagopal & Panigrahi, 1965)	1814-1816	<i>Fl. & Fr. :</i> February to April	Annual herb, occurs as a weed in gardens. Common in India (Voight, <i>l.c.</i>). First introduced in the Indian Botanic Garden by Dr. Buchanan (Roxb. 1814).
<i>Lathyrus aphaca</i> L. f.	Yellow- Vetchling	Europe (Rajagopal & Panigrahi, 1965)	About 16th century	<i>Fl. & Fr. :</i> October to March	Annual herb, found as a weed in field. Prob- ably introduced in India along with vegetable seeds from Europe during 16th century (Ridley, <i>l.c.</i>). Got intro- duced in the Indian Botanic Garden acci- dentally before 1814 (Roxb. 1814).
<i>L. odoratus</i> L.	Sweet Pea	Italy (Bose & Pandey, 1970) & Sicily (Coats, <i>l.c.</i>) and (Voight, <i>l.c.</i>)	About 1799	<i>Fl. & Fr. :</i> February to March	Climbing herb, planted for showy and fragrant flowers. Introduced into the horticulture in the early 18th century. Probably first introduced in the Indian Botanic Garden during 1799 (Roxb. 1814).

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Lens culinaris Medic.	Lentil, <i>Masur</i>	Western temperate Asia (De Candolle, <i>l.c.</i>)	Prehistoric time	<i>Fl. & Fr.</i> : December to April	Annual herb, cultivated for pulse and fodder. First introduced by the early Aryan settlers (Bruhl, 1908).
Lotus jacobaeus L.	St. James Trefoil	Cape Verdes (Bailey, 1949)	About 1794	<i>Fl.</i> : January to May	Perennial ornamental flowering herb, probably first introduced in Indian Botanic Garden during 1794 by A. Farquahar (Roxb. 1814).
*Lupinus albus L.	White Lupine	Sicily, Macedonia & South of Caucasus (De Candolle, <i>l.c.</i>)	—	<i>Fl. & Fr.</i> : January to March	Herbaceous annual, grown for fodder.
Medicago lupulina L.	—	Europe (Bailey, 1949) and (Rajagopal & Panigrahi, 1965)	15th or 16th century	<i>Fl. & Fr.</i> : October to April	Annual weed, found wild in gardens, cultivated field and in moist places. Probably introduced by

* <i>M. polymorpha</i> L.	Toothed Clover	Europe (Rajagopal & Panigrahi, 1965)	15th or 16th century	<i>Fl. & Fr</i> : October to April	European settlers, along with vegetable seeds during 15th or 16th century (Ridley, <i>l.c.</i>). Plants were under culti- vation in the Indian Botanic Garden before 1814 (Roxb. 1814).
					Annual herb, found as a weed in moist places and in cultivated lands. Introduced in India probably during the 15th or 16th century along with wool to which it adheres by its spinous fruits (Ridley, <i>l.c.</i>). Common in India in wild state (Roxb. <i>Fl. Ind.</i>). Introduced in the Indian Botanic Garden by Colonel Hardwicke (Roxb. 1814).

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*M. sativa L.	Alfalfa, Lucerne	South-West Asia, Caucasian region, mountai- nous regions of Iran and Afghanistan (Anonymous, 1962), Western temperate Asia (De Candolle, <i>l.c.</i>) & Europe (Bailey, 1949)	about 1796	<i>Fl. & Fr. :</i> March to June	Herbaceous annual, cultivated for fodder. Introduced in the Indian Botanic Garden during 1796 by B. Boswell (Roxb. 1814).
Melilotus alba Desf.	White-Sweet Clover	Europe and Western Asia (Rajagopal & Panigrahi, 1965)	Early date	<i>Fl. & Fr. :</i> October to April	Annual herb, found as a weed in hedges, cultivated fields and in gardens. Plants are dispersed through horse-dung in Sweden (Ridley, <i>l.c.</i>).
M. indica (L.) All.		South Europe and South- western Asia (Backer &	Early date	<i>Fl. & Fr. :</i> October to April	Annual weed grows in hedges and fallow lands.

Sesbania sesban L. Merr. (<i>Aeschynomene</i> <i>sesban</i> L.)	<i>Dhainchu</i>	Brink, 1963) and (Rajagopal & Panigrahi 1965) & Urasia (Bailey, 1949)		<i>Fl. & Fr. :</i> November to April	Shrub, planted as hedge and medicinal plant ; found as an escape in wastelands and also cultivated for green manure and for shade. It spreads by seeds mixed in rice grains (Ridley, <i>l.c.</i>). Found in wild state in India before 1845 (Voight, <i>l.c.</i>).
* Trifolium alexandrinum L.	Egyptian- Clover, <i>Berseem</i>	Syria and Anatolia (De Candolle <i>l.c.</i>) & Syria and Egypt (Bailey, 1949)	About 1803	<i>Fl. & Fr. :</i> March to June	Annual herb, cultivated for fodder. Introduced in the Indian Botanic Garden during 1803 by T. Graham (Roxb. 1814).
Vicia faba L.	Broad Bean, Garden or Field Bean, Horse Bean,	Probably south of the Caspian (De Candolle, <i>l.c.</i>) Mediterra-	Before 1845 (Voight, <i>l.c.</i>)	<i>Fl. & Fr. :</i> September to March	Perennial climber, cul- tivated for green pods used for vegetable.

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	Tick Bean	near regions or south-western Asia (Purseglove, 1968)			
<i>Vicia hirsuta</i> Gray	—	Europe, West Africa and Continental Asia (Backer & Brink, 1963) and (Rajagopal & Panigrahi, 1965)	16th or 17th century	<i>Fl. & Fr.</i> : January to March	Ornamental herb, wild in moist shady places. Probably introduced in India from Europe (Duthie, <i>l.c.</i>).
<i>V. sativa</i> L.	Common Vetch	Europe, North Africa and West Asia (Backer & Brink, 1963), (Duthie, 1903) and (Rajagopal & Panigrahi, 1965)	16th or 17th century	<i>Fl. & Fr.</i> : February to April	Annual herb, found as a weed in moist situations. Introduced by European invaders. Roxb. <i>Fl. Ind.</i> states that the seeds were received in the Indian Botanic Garden from H. Colebrooke, Esq. the Resident at the Court of the Berar Raja and from Mr. Heyne at Bangalore.

* <i>Wisteria sinensis</i> (Sims.) Sweet (= <i>Glycine sinensis</i> Sims.)	Blue-Acacia, Blue-Rain, Chinese- Wisteria	China (Backer & Brink, 1963) & Burma (Pottinger and Prain, 1898)	Before 1845 (Voight, <i>l.c.</i>)	<i>Fl.</i> : February to April	Cultivated as an ornamental twiner.
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CAESALPINIACEAE

* <i>Bauhinia blakeana</i> Dunn.	Orchid Tree	Hongkong (Singh <i>et al</i> , 1968)	Very recent introduction	<i>Fl.</i> : December to March	Tree, cultivated for its floral beauty. First introduced in IARI, New Delhi.
* <i>Caesalpinia coriaria</i> (Jacq.) Willd. (= <i>Poinciana coriaria</i> Jacq.)	American Somach, Divi-Divi	West Indies (Benthall, <i>l.c.</i>), South America and West Indies (Anonymous, 1950)	Before 1845 (Voight, <i>l.c.</i>)	<i>Fl. & Fr.</i> : September to December	Shrub with graceful foliage and also economic value.
<i>C. pulcherrima</i> (L.) Sw. (= <i>Poinciana pulcherrima</i> L.)	Flower Fence, Poinciana, Peacock Flower, Pride of Barbados, <i>Krishna Chura</i>	West Indies (Gupta & Marlange, <i>l.c.</i>) & Tropical America (Purse- glove, 1968)	As early as 1680 (Maheshwari & Paul, <i>l.c.</i>)	<i>Fl. & Fr.</i> : August to December	Planted as an ornamen- tal flowering shrub and as a hedge.

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Cassia javanica L.	The Java Cassia, <i>Java Ki Rani</i>	Java and Sumatra (Benthall, <i>l.c.</i>) and (Rajagopal & Panigrahi, 1966)	Probably after 1845	<i>Fl. & Fr.</i> : April to June	Tree, planted in gardens and as avenue tree for ornamental flowers.
C. occidentalis L.	Coffee Senna, Negro Coffee, <i>Chakundar</i>	South America (Duthie, 1903), (Backer & Brink, 1963) and (Rajagopal & Panigrahi, 1965)	Probably before 1824 (Roxb. <i>Fl. Ind.</i>)	<i>Fl. & Fr.</i> : August to October	Annual herb, common in wastelands and along roadsides as a weed.
* C. tora L.	Sickle pod, <i>Chakwarh</i>	America (Backer & Brink, 1963)	Early 17th century	<i>Fl. & Fr.</i> : July to December	Annual undershrub naturalized in India by 1824 (Srivastava, 1964).
Colvillea racemosa Boj.	—	Madagascar (Graf, <i>l.c.</i>)	About 1840	<i>Fl. & Fr.</i> : October to December	Tree, planted for ornamental foliage and flowers. Introduced in the Indian Botanic Garden during 1840 (Voight, <i>l.c.</i>).

Delonix regia (Boj. ex Hook.) Rafin. (= <i>Poinciana regia</i> Boj. ex Hook.)	Flame Tree, Peacock Flower, <i>Gul Mohar</i>	Madagascar (Bailey, 1949)	About 1840 (Maheshwari & Paul, <i>l.c.</i>)	<i>Fl.</i> : April to June. <i>Fr.</i> : July to September	Cultivated as flowering ornamental tree.
Parkinsonia aculeata L.	Jerusalem Thorn, <i>Vilayati Kikar</i>	West Indies & South America (Voight, <i>l.c.</i>)	About 1797	<i>Fl. & Fr.</i> : April to November	Shrub, planted for its graceful foliage, showy flowers and also as hedge. Introduced in the Indian Botanic Garden during 1797 by W. Hamilton (Roxb. 1814).
Tamarindus indica L.	Tamarind, <i>Imli</i>	Tropical Africa (Benthall, <i>l.c.</i>) and (Purseglove, 1968)	Very early date	<i>Fl.</i> : February to August <i>Fr.</i> : Septem- ber to December	Edible fruit and as avenue tree. Plant was under cultivation in the Indian Botanic Garden before 1814 (Roxb. 1814). Vavilov (1951) is of view that this is native to India, and it is not possible that this has been introduced from Africa.

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MIMOSACEAE					
Acacia auriculaeformis A. Cunn. ex Benth.	Australian Phyllode Acacia, Australian Wattle	Australia (Benthall, <i>l.c.</i>), (Randhawa, <i>l.c.</i>) and (Varma, 1981).	Between 1903- 1929 (Duthie, <i>l.c.</i>).	<i>Fl.</i> : Septem- ber to Decem- ber. <i>Fr.</i> : Novem- ber to June	Cultivated in the garden as an ornamental foliage as well as flowering tree.
A. farnesiana (L.) Willd. (= <i>Mimosa farnesiana</i> L.)	Cassie Flower, Sweet Acacia, Popinac, Opoanax, Cassie, Huisache	West Indies (Hill, 1957), America (Bailey, 1928) & Tropical America (Purseglove, 1968) and (Deb, <i>l.c.</i>).	Before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl.</i> : January to March	Planted for its fragrant flowers and as a tannin yielding shrub. Accord- ing to Vavilov (<i>l.c.</i>) plant is native to India.
A. melanoxylon R. Br.	Blackwood Acacia, Hickory, Sally-Wattle	Australia (Hill, <i>l.c.</i>)	Before 1870 (Mathew, <i>l.c.</i>)	<i>Fl.</i> : February to March <i>Fr.</i> : July to November	Timber yielding tree. Extensively planted in the Nilgiris by 1878.
A. nilotica (L.) Willd. ex Delile ssp. <i>indica</i> (Benth.) Brenan	Babul, Gum Arabic, <i>Babool</i>	North Africa and Arab (Raja- gopal & Pani-	After 11th century	<i>Fl.</i> : January January to March.	Tree, grows in dry places, open grounds and along river sides. Probably

(= <i>A. arabica</i> (Lam.) Willd. var. <i>indica</i> Benth.)		grahi 1965), Africa (Purseglove, 1968)		Fr. : February to April.	introduced by Muslim invaders. Vavilov (<i>l.c.</i>) mentions it to be native to India.
Leucaena leucocephala (Lamk.) De Wit (= <i>Mimosa leucocephala</i> Lamk.)	Horse Tamarind, Lead Tree, White Popinac, <i>Safed babool</i>	Tropical America (Benthall, <i>l.c.</i>) & (Bailey, 1949)	After 1832 (Roxb. Fl. Ind.)	Fl. & Fr. : May to November	Shrub, planted as hedge.
Mimosa pudica L.	Humble Plant, Sensitive Plant, <i>Lajawanti</i>	South America (Ridley, <i>l.c.</i>)	16th century (Ridley, <i>l.c.</i>)	Fl. & Fr. : July to November	Cultivated as a medicinal herb.
Pithecellobium dulce (Roxb.) Benth. (= <i>Mimosa dulcis</i> Roxb.)	Manila Tamarind, Madras- Thorn, Quamachil, <i>Jangal Jalebi</i>	Mexico (Duthie, 1903) & Tropical America (Purseglove, 1968)	Before 1795- 1820 (Roxb. <i>Corom.</i>)	Fl. & Fr. : April to September	Tree, introduced by Spaniards as a protective hedge and edible fruit.
* Prosopis juliflora (Sw.) DC. (= <i>Mimosa juliflora</i> Sw.)	Mesquite	Tropical America and West Indies (Gupta & Marlange, <i>l.c.</i>)	Before 1877 (Raizada & Chatterjee, 1954)	Fl. & Fr. : July to December	Small tree, grows along railway tracks, leaves & pods are used as fodder and plant used as hedge also.

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ROSACEAE					
Eriobotrya japonica (Thunb.) Lindl. (= <i>Mespilus japonica</i> Thunb.)	Chinese Loquat, Japan Plum, The Loquat Tree, <i>Lokat</i>	China (Bailey, 1949) & Japan (DeCandolle, <i>l.c.</i>)	Before 1832 (Roxb. <i>Fl.</i> <i>Ind.</i>)	<i>Fl.</i> : April to May <i>Fr.</i> : July to September	First introduced in Bengal as edible fruit tree.
Fragaria vesca L.	Strawberry	Temperate Europe, Western Asia and East of North America (DeCandolle, <i>l.c.</i>)	Before 1808	<i>Fl. & Fr.</i> : January to May	Herb, cultivated for edible fruits. First introduced in the Indian Botanic Garden before 1808 (Roxb. 1814).
Prunus armeniaca L.	Common Apricot, <i>Khubani</i>	Siberia to China (Bailey, 1929)	Before 1794	<i>Fl.</i> : January to February <i>Fr.</i> : February to April	Edible fruit tree. Introduced in the Indian Botanic Garden before 1794 (Roxb. 1814).
P. domestica L. subsp. <i>institia</i> (L.) Schneid (= <i>P. institia</i> L.)	Common Plum, <i>Alubukhara</i>	Eurasia (Hill. <i>l.c.</i>), Southern Europe, Armenia and	—	<i>Fl. & Fr.</i> : January to February	Edible fruit tree.

		South of Caucasus (DeCandolle, <i>l.c.</i>)			
P. persica (L.) Stokes (= <i>Amygdalus persica</i> L.)	Nectarine, Peach, <i>Aru</i>	China (Bailey, 1949) and (De Candolle <i>l.c.</i>)	Before 1872	<i>Fl.</i> : January to March <i>Fr.</i> : June to July	Edible fruit tree.
Pyrus pyrifolia Nakai var. <i>culta</i> Nakai	Japanese Pear, <i>Nashpati</i>	Central and Western China (Bailey, 1949), Mangolia and Manchuria (DeCandolle, <i>l.c.</i>)	—	<i>Fl.</i> : April to May <i>Fr.</i> : July to September	Edible fruit tree.
* Rosa bourboniana Desp.	Bourbon Rose, Edward Rose, <i>Gulab</i>	Island of Bourbon (Bailey, 1949) & France (Voight, <i>l.c.</i>)	About 1840	<i>Fl.</i> : October to April	Shrub, planted for fragrant flowers. First introduced in India from Asia Minor (Narayanswami & Biswas, 1957). Flowering and non-flowering varieties are grown as rootstocks for budding purposes.

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* <i>R. chinensis</i> Jacq.	China Rose, <i>Gulab</i>	China (Bailey, 1949)	About 1794	<i>Fl.</i> : Almost throughout the year	Flowering shrub, first introduced in the Indian Botanic Garden by Roxburgh from China (Roxb. 1814).
* <i>R. damascena</i> Mill.	Damask Rose, Summer Damasc Rose	Syria (Voight, <i>l.c.</i>)	About 1526	<i>Fl.</i> : October to March	Shrub, planted for its fragrant and showy flowers. According to Bailey (1929) its origin is unknown and was in- troduced in Europe from Asia Minor in the 16th century.
* <i>R. multiflora</i> Thunb.	Seven Sister's Rose, <i>Jangali Gulab</i>	Japan and China (Biswas, 1940), (Voight, <i>l.c.</i>) and (Nayaranswami & Biswas, <i>l.c.</i>)	—	<i>Fl.</i> : Septem- ber to October	Climber, grown for protective hedge and as a root-stock for grafting.

CRASSULACEAE

* <i>Kalanchoe daigremontiana</i> Ham. & Perr.	—	Madagascar (Bailey, 1949)	Probably a recent introduction	<i>Fl.</i> : November to January	Perennial herb, planted for its curious ornamental leaves.
<i>K. pinnata</i> (Lamk.) Pers. (= <i>Cotyledon pinnata</i> Lamk.)	Air Plant	Africa (Backer & Brink, 1963)	1799	<i>Fl.</i> : December to March	Perennial ornamental herb, planted in the Indian Botanic Garden during 1799 by Lady Clive (Voight, <i>l. c.</i>).
<i>K. verticillata</i> Elliot	—	South Africa (Bailey, 1949) & Madagascar (Graf, <i>l. c.</i>)	A recent introduction	<i>Fl.</i> : December to February	Perennial herb, planted for ornamental foliage.
* <i>Sedum japonicum</i> Sieb.	—	Japan (Bailey, 1929)	Before 1872	<i>Fl.</i> : February to March	Perennial herb, grown as an ornamental plant.
COMBRETACEAE					
<i>Quisqualis indica</i> L.	Rangoon Creeper	Burma, Malaya, New Guinea and Philippines (Bailey, 1949)	Before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl.</i> : Through- out the year	Climbing tall shrub. Plant was under cultiva- tion in the Indian Botanic Garden before 1845 (Voight, <i>l. c.</i>).

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MYRTACEAE					
Callistemon citrinus (Curt.) Stapf (= <i>Metrosideros citrina</i> Curt.)	Bottle Brush	Australia (Backer & Brink, 1963) and (Benthall, <i>l.c.</i>)	About 1804	<i>Fl.</i> : September to December	Flowering ornamental shrub or small tree.
* Eucalyptus citriodora Hook.	Blue Gum Tree, Citron-Scented Gum, Lemon Scented Eucalypt	Australia (Randhawa, <i>l.c.</i>)	Between 1782 to 1799	<i>Fl. & Fr.</i> : December to March	Tree, cultivated for economic/medicinal use, introduced into India by Tipoo Sultan at Nandi Hills, Mysore.
* E. tereticornis Sm.	Bustard Box, Forest Red Gum, Flooded Gum	Australia and New Guinea (Matthew, <i>l.c.</i>)	After 1897	<i>Fl.</i> : September to May	Planted as economic and ornamental tree.
Melaleuca leucadendron L.	Cajeput Tree, Punk Tree, White Bottle	Burma, Malay Islands,	About 1810	<i>Fl.</i> : October to	Tree, first introduced in the Indian Botanic

	Brush, Swamp Tea Tree, <i>Kayaputi</i>	Australia (Benthall, <i>l.c.</i>) & Malaysia (Purse-glove, 1968)	—	December <i>Fr.</i> : December to March	Garden as ornamental plant during 1810 by Lt. M' Kenzie (Roxb. 1814).
Psidium cattleyanum Sabine	Cattley Guava, Straw- berry Guava	Brazil (Bailey, 1949) and (Graf, <i>l.c.</i>)	—	<i>Fl.</i> : September to February	Shrub, planted for its edible fruit and used as root-stock for grafting <i>P. guajava</i> L.
P. guajava L.	Guava, <i>Amrud</i>	Tropical America (De Candolle, <i>l.c.</i>)	Before 1892	<i>Fl. & Fr.</i> : August to February	Tree, introduced in India by Portuguese for edible fruit.
LECYTHIDACEAE					
*Couroupita guianensis Aubl.	Cannon-Ball Tree	Tropical America (Benthall, <i>l.c.</i>), Guinea and South America (Varma, <i>l.c.</i>).	Probably a recent introduction (Benthall, <i>l.c.</i>)	—	Tree, for its curious sweet odour flower and fruits.

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LYTHRACEAE					
*Cuphea lanceolata Ait.	—	Mexico (Bailey, 1949)	Recent introduction	<i>Fl.</i> : August to November	Cultivated in the garden as an ornamental shrub.
*Lagerstroemia indica L.	Crape-Myrtle	China (Talbot, 1909), (Graf, <i>l.c.</i>) and (Voight, <i>l.c.</i>)	Before 1794	<i>Fl.</i> : July to September <i>Fr.</i> : September to December	Ornamental flowering shrub. Plant introduced in the Indian Botanic Garden before 1794 (Roxb. 1814).
*L. thorelli Pierre	—	Cochin-China (Benthall, <i>l.c.</i>)	Recent introduction	<i>Fl.</i> : August to November <i>Fr.</i> : October to January	Ornamental flowering tree.
PUNICACEAE					
Punica granatum L.	Pomegranate, <i>Anar</i>	Afganistan, Baluchistan and Persia (De Candolle, <i>l.c.</i>)	Before Aryan settlers	<i>Fl. & Fr.</i> : July to October	Cultivated for edible fruits.

ONAGRACEAE

Clarkia elegans Douglas	Clarkia	California (Bailey, 1949) and (Coats <i>l.c.</i>)	Before 1845	<i>Fl. & Fr. :</i> January to April	Annual herb, grown in beds for seasonal showy flowers. Introduced into horticulture in the early nineteenth century (Bose and Pandey, 1965). Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
Godetia amoena Lilja	Farewell to-Spring	North America (Bose & Pandey, 1970)	Probably after 1845	<i>Fl. & Fr. :</i> January to April	Annual herb, planted for showy flowers. Introduced into horticulture in early nineteenth century. Cultivated in European gardens since 1818 (Bailey, 1928).

TURNERACEAE

*Turnera ulmifolia L.	—	Mexico, West Indies and South America (Bailey, 1929) & Jamaica (Voight, <i>l.c.</i>)	Before 1845	<i>Fl. & Fr. :</i> Throughout the year	Ornamental flowering perennial herb. Cultivated in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
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PASSIFLORACEAE					
*Passiflora caerulea L.	Passion Flower	Brazil (Bailey, 1949) and (Graf, <i>l.c.</i>)	About 1799	<i>Fl.</i> : August to December	Ornamental flowering climber, introduced in the Indian Botanic Garden during 1799 (Roxb. 1814).
P. edulis Sims.	Passion Fruit, Purple Granadilla	Brazil (Bailey, 1949) and (Purseglove, 1968)	Before 1845	<i>Fl.</i> : August to October	Woody climber, cultivated for shade, ornamental flowers and edible fruits. Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
P. foetida L.	Wild Passion Fruit	Brazil (Duthie, 1903), Tropical America (Ridley, <i>l.c.</i>), (Rajagopal & Panigrahi, 1965, 1966) and (Purseglove, 1968)	Before 1845	<i>Fl. & Fr.</i> : July to September	Perennial climber, grows wild on hedges and bushes.

<i>P. suberosa</i> L.	—	West Indies (Voight, <i>l.c.</i>)	About 1804	<i>Fl.</i> : July to September	Climber, grown in gardens for its odd- shaped fragrant flowers. Plants first introduced in the Indian Botanic Garden during 1804 (Roxb. 1814).
CARICACEAE					
<i>Carica papaya</i> L.	Melon Tree, Papaw, Pawpaw, Papaya, <i>Papita</i>	West Indies and Central America (De Candolle, <i>l.c.</i>) & Tropical America (Bailey, 1949)	Before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl. & Fr.</i> : Throughout the year	A herbaceous tree, first introduced by Portuguese for its sweet edible fruits.
CUCURBITACEAE					
<i>Citrullus lanatus</i> (Thunb.) Mansf. (= <i>Momordica lanata</i> Thunb.)	Water melon, <i>Tarbooj</i>	Tropical and subtropical Africa (Purseglove, 1968)	Pre-historic time	<i>Fl. & Fr.</i> : May to July	Annual climber, cultivated for its edible fruits.
BEGONIACEAE					
*<i>Begonia manicata</i> Cels	—	Mexico (Bailey, 1949)	Very recent introduction	<i>Fl.</i> : January to March	Herb, cultivated in the garden as pot plant.

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CACTACEAE					
*Aporocactus flagelliformis Lem.	Rat-Tail Cactus	Mexico, Central and South America (Bailey, 1949)	Recent introduction	—	Creeping Cactus, cultivated in pots as well as in rockeries.
*Cereus caesius Salm Dyck	—	Brazil (Graf, <i>l.c.</i>)	—	—	Cultivated as a rockery plant.
Opuntia dillenii (Ker- Gawl.) Haw. (= <i>Cactus dillenii</i> Ker-Gawl.)	Prickly Pear, <i>Nagphani</i>	South America (Maheshwari, 1963)	Probably before 1750 (Burkill, 1911)	<i>Fl. & Fr.</i> : April to June	Thorny bush, cultivated in rockeries and found in waste lands and fences.
O. elatior Mill.	—	South America (Voight, <i>l.c.</i>)	Later part of 18th century	<i>Fl. & Fr.</i> : August to December	Thorny herbaceous bush (shrub), planted as protective hedge and now runs wild after 1800 in North India (Burkill, <i>l.c.</i>). Plant was under cultivation in the Indian Botanic Garden before 1814 and was introduced by Dr. J. Anderson (Roxb. 1814)

* <i>O. imbricata</i> DC.	—	Columbia and Mexico (Bailey, 1949)	Recent introduction	—	Cultivated as a rockery plant.
* <i>O. microdasys</i> Pfeiff.	Bunny Ears	Mexico (Bailey, 1949)	Recent introduction	—	Cactus, cultivated in rock gardens and in pots.
* <i>O. tunicata</i> Hort.	—	Central America and Ecuador to Chile (Graf, <i>l.c.</i>)	Recent introduction	—	Cactus, cultivated in rock gardens and in pots.
* <i>O. vulgaris</i> Mill.	Indian Fig	North America (Voight, <i>l.c.</i>)	Before 1786	<i>Fl. & Fr.</i> : August to April	Spinous shrub, planted in rockeries and now runs wild and naturalised in various parts of India (Burkill, <i>l.c.</i>).
AIZOACEAE (FICOIDEAE)					
* <i>Dorotheanthus gramineus</i> Schwant.	—	South Africa (Bailey, 1949)	After 1897	<i>Fl. & Fr.</i> : January to March	Ornamental flowering annual.
APIACEAE (UMBELLIFERAE)					
<i>Coriandrum sativum</i> L.	Coriander, <i>Dhaniya</i>	South Europe (Bailey, 1949)	Very early introduction, before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl. & Fr.</i> : December to May	Annual, cultivated as spice.

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Daucus carota L. var. sativa DC.	Carrot, <i>Gajar</i>	Europe & Temperate Asia (De Candolle, <i>l.c.</i>) Eurasia (Purseglove, 1968)	Very early introduction, before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl.</i> : January to March	Annual herb, cultivated for its fleshy edible roots.
Foeniculum vulgare Mill.	Common Fennel, <i>Sounf</i>	Europe (Coats, <i>l.c.</i>) & Mediterranean region (Purseglove, 1968)	Probably before 1814	<i>Fl. & Fr.</i> : January to April	Annual herb, cultivated for its medicinal fruit and leaves used as pot herb. Plant was under cultivation in the Indian Botanic Garden (Roxb. 1814).
ARALIACEAE					
* Polyscias balfouriana Bailey	—	New Caledonia (Bailey, 1949)	Probably after 1845	—	Shrub, planted for ornamental foliage.
* P. filicifolia Bailey	—	Pacific Islands (Bailey, 1949)	Probably after 1845	—	Ornamental foliage shrub.
* P. fruticosa (L.) Harms (= <i>Panax fruticosum</i> L.)	—	Tropical Asia (Maheshwari & Paul, <i>l.c.</i>)	1798 (Bruhl, <i>l.c.</i>)	—	Ornamental foliage shrub. First introduced in the Indian Botanic

					Garden from Moluccas during the year 1798 (Roxb. <i>Fl. Ind.</i>).
* <i>P. guilfoylei</i> Bailey	Wild Coffee, Coffee Tree	Polynesia (Bailey, 1949)	Probably after 1897	—	Ornamental foliage shrub.
* <i>Panax obtusum</i> Blume	—	Java	Probably after 1897	—	Shrub, planted in gardens for foliage beauty.
RUBIACEAE					
* <i>Catesbaea spinosa</i> L.	Prickly-Apple, Spanish-Guava	West Indies (Bor & Raizada, <i>l.c.</i>) and (Pandey, <i>l.c.</i>)	Probably after 1845	<i>Fl.</i> : July to December <i>Fr.</i> : March to May	Ornamental flowering shrub.
<i>Gardenia jasminoides</i> Ellis	Cape Jasmine, Rosal	China and Japan (Backer & Brink, 1965)	17th century (Maheshwari & Paul, <i>l.c.</i>)	<i>Fl.</i> : May to July	Ornamental flowering shrub.
<i>Hamelia patens</i> Jacq.	Scarlet Hamelia	South America and southern parts of North America (Backer & Brink, 1965)	Early 18th century	<i>Fl.</i> : Almost throughout the year	Shrub, cultivated in gardens/parks in shrubberies and hedges.

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* <i>Mussaenda luteola</i> Del.	—	Tropical Africa (Bor & Raizada, <i>l.c.</i>)	After 1860 (Bor & Raizada <i>l.c.</i>).	<i>Fl.</i> : April to September	Shurb, cultivated for ornamental flowers.
* <i>Pentas lanceolata</i> (Forsk.) K. Schum. (= <i>Ophiorrhiza</i> <i>lanceolata</i> Forsk.)	—	Tropical Africa, Arabia (Bailey, 1949)	Recent intro- duction, pro- bably after 1897	<i>Fl.</i> : July to October	Undershrub, used as an ornamental plant.
* <i>Portlandia grandiflora</i> L.	White-Horse	West Indies (Bailey, 1929) and (Purseglove, 1968)	Before 1845 (Voight, <i>l.c.</i>)	<i>Fl.</i> : July to October <i>Fr.</i> : February to April	Ornamental flowering shrub.
* <i>Rondeletia odorata</i> Jacq.	—	West Indies and Mexico (Bor & Raizada, <i>l.c.</i>)	After 1845 (Voight, <i>l.c.</i>)	<i>Fl.</i> : Almost throughout the year	Ornamental flowering shrub.
* <i>Serissa foetida</i> Lamk.	—	China and Japan (Bor & Raizada, <i>l.c.</i>)	Before 1794	<i>Fl.</i> : Almost throughout the year	First introduced in the Indian Botanic Garden from China as an ornamental flowering shrub (Roxb. 1814).

ASTERACEAE
(COMPOSITAE)

Ageratum conyzoides L.	—	South America (Rajagopal & Panigrahi, 1965)	Probably 16th century	<i>Fl. & Fr.</i> : January to March	Annual weed in waste lands. According to Ridley (<i>l.c.</i>) it travels by adhesion to clothes or to hair of animals.
A. houstonianum Mill.	Floss Flower	Mexico (Bailey, 1928), (Matthew, <i>l.c.</i>) and (Bose & Pandey, 1972)	Probably after 1845	<i>Fl. & Fr.</i> : January to April	Annual herb, grown in gardens as hedge plant along borders for showy flowers. Introduced into the horticulture in early 19th century.
✓ Arctotis stoechadifolia Berg. var. grandis Less.	African Daisy	Africa (Bailey, 1928) & (Bose & Pandey, 1972)	Probably after 1845	<i>Fl. & Fr.</i> : February to April	Annual herb, grown in beds and along borders for showy flowers.
✓ Bellis perennis L.	True or English Daisy	South Europe (Bose & Pandey, 1972), Europe (Voight, <i>l.c.</i>) & Western Europe (Bailey, 1928)	Probably Before 1845	<i>Fl.</i> : February to April <i>Fr.</i> : March to April	Annual herb, cultivated in parks/gardens for its showy flowers. Found as an escape in California and rarely runs wild in the eastern States (Bailey, 1928).

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Blainvillea acmella (L.) Philipson (= <i>Verbesina acmella</i> L.)	—	South America (Ridley, <i>l.c.</i>) and (Rajagopal & Panigrahi, 1965, 1966)	Probably 18th century	<i>Fl. & Fr.</i> : September to November	Annual herb (weed), common in shady and moist situations. It spreads by its achenes attached to sacks and baggages. Plant was common in India before 1832 (Roxb. <i>Fl. Ind.</i>).
Brachycome iberidifolia Benth.	Swan River Daisy	Australia (Bose & Pandey, 1972)	Probably after 1845	<i>Fl.</i> : February to April <i>Fr.</i> : March to April	Annual herb, planted in beds/along borders and edges for its floral beauty. Introduced into the horticulture in the early 19th century.
Calendula officinalis L.	Pot Marigold	South Europe (Bailey, 1949) and (Bose & Pandey, 1969)	Before 1814	<i>Fl. & Fr.</i> : December to March	Annual herb, cultivated in beds/pots for showy flowers and medicinal value. Found wild in N.W. F. Province, Punjab and Sind. Plant was under cultivation in the Indian Botanic Garden before 1814 (Roxb. 1814).

C. officinalis L. var. **chrysantha** Hort. is also grown in garden for showy flowers.

Callistephus chinensis (Cass.) Nees (= <i>C. hortensis</i> Cass.)	Aster, China Aster	China (Bose & Pandey, 1969) and (Coats, <i>l.c.</i>), China and Japan (Bailey, 1949)	Probably 1802	<i>Fl.</i> : January to March <i>Fr.</i> : February to April	Winter season, showy flowering annual herb. Introduced in Europe from China, around 1731 by R.P.d'Incarville (Jesuit Missionary). Plant was introduced in the Indian Botanic Garden by Dr. F. Buchanan during 1802 (Roxb. 1814)
Centaurea cyanus L.	Corn Flower, Bachelor's Button, Blue-Bottle	South East Europe (Bailey, 1928) and (Bose and Pandey, 1972)	Probably before 1845	<i>Fl.</i> : January to May <i>Fr.</i> : March to May	Annual herb, planted in beds/borders for varying shades of elegance & floral beauty. Sometimes found as an escape in the gardens.
C. moschata L.	Sultan Flower, Sweet- Sultan	Probably Persia (Roxb. <i>Fl. Ind.</i>) & Orientalis (Bailey, 1928)	Before 1800	<i>Fl. & Fr.</i> : January to April	Flowering ornamental annual herb. Introduced into the horticulture during 1629

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		and (Bose & Pandey, 1972)			(Booth, 1947). Plant was first introduced in the Indian Botanic Garden by Col. Dyer.
Chrysanthemum indicum L.	Chrysanthemum, <i>Guldawadi</i>	China and Japan (Bailey, 1949) and (Purseglove, 1968)	Before 1794	<i>Fl. & Fr.</i> : September to November	Perennial herb, planted in beds/pots for decorative flowers. One yellow flowering variety was already under cultivation in the Indian Botanic Garden before 1794 (Roxb. 1814).
* Coreopsis lanceolata L.	Tick Seed	North America (Coats, <i>l.c.</i>)	Probably after 1845	<i>Fl. & Fr.</i> : January to April	Flowering ornamental annual herb.
* C. stillmanii Blake	Tick Seed	North America (Desai, 1962)	Probably after 1845	<i>Fl. & Fr.</i> : January to April	Winter ornamental annual herb.
Cosmos bipinnatus Cav.	Cosmos	Mexico (Bailey, 1928), (Voight, <i>l.c.</i>) and (Bose	Probably before 1845	<i>Fl. & Fr.</i> : January to June	Ornamental annual herb, grown in gardens for floral and foliage beauty.

					Introduced into the horticulture in the late 18th century
		& Pandey, 1972)			
* <i>Dahlia variabilis</i> Desf. (= <i>D. pinnata</i> Cav.)	Garden Dahlia	Mexico (Coats, <i>l.c.</i>)	Probably, 1865 (Maheswari, 1945)	<i>Fl. & Fr.</i> : February to May	Ornamental flowering winter annual herb.
<i>Dimorphotheca pluvialis</i> (L.) Moench. (= <i>Calendula pluvialis</i> L.)	Cape Marigold	South Africa (Bailey, 1928)	Probably after 1845	<i>Fl. & Fr.</i> : January to April	Annual herb, grown for ornamental seasonal flowers. <i>D. pluvialis</i> (L.) Moench. var. <i>ringens</i> Hort. is also grown for showy flowers.
<i>D. sinuata</i> DC.	Cape Marigold, Star of Verldt	South Africa (Desai, <i>l.c.</i>)	Recent introduction (probably after 1845)	<i>Fl. & Fr.</i> : January to May	Winter ornamental flowering annual, grown in beds/pots for elegant flowers.
<i>Eclipta prostrata</i> (L.) L. (= <i>Verbesina prostrata</i> L.)	—	South America (Ridley, <i>l.c.</i>) and (Rajagopal & Panigrahi, 1965)	Before 1824	<i>Fl. & Fr.</i> : January to December	Annual herb, grows as a weed in lawns. Probably it spreads by attaching to plumage of birds and also by human beings since the achenes are viscid (Ridley, <i>l.c.</i>). Plants were very common in India before Roxb. <i>Fl.</i> <i>Ind.</i> was written.

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Eupatorium odoratum L.	—	Jamaica (Voight, <i>l.c.</i>), West Indies and America (Raizada, 1976).	Before 1845	<i>Fl. & Fr.</i> : September to November	Perennial herb, planted as hedge. Probably introduced in the Indian Botanic Garden from Jamaica after Roxburgh's period (1793-1813).
* Felicia bergeriana O. Hoffm. (= <i>Cineraria bergeriana</i> Spreng.)	Blue Daisy, Blue Marguirite	South Africa (Booth, <i>l.c.</i>)	Probably after 1897	<i>Fl. & Fr.</i> : February to April	Winter ornamental flowering annual herb.
Gaillardia pulchella Foug.	Blanket Flower	North America (Bose & Pandey, 1972)	Probably after 1845	<i>Fl.</i> : January to May <i>Fr.</i> : March to July	Annual herb, planted in beds/pots for its showy flowers. It is grown in winter as well as in summer. Introduced into the horticulture in the late 18th century.
Galinsoga parviflora Cav.	—	Tropical America (Matthew, <i>l.c.</i>) & South America (Duthie, <i>l.c.</i>)	Before 1845 (Ridley, <i>l.c.</i>)	<i>Fl. & Fr.</i> : February to April	Annual herb, found in shady and moist places as a weed. Plants spreaded in the Himalayas from 1500 m

		and (Rajagopal & Panigrahi, 1965, 1966)			to 2000 m (Matthew, <i>l.c.</i>).
Gamolepis tagetes DC.	Gamolepsis	South Africa (Bailey, 1928) and (Bose & Pandey, 1972)	Probably after 1845	<i>Fl. & Fr.</i> : February to April	Ornamental flowering herb, planted in beds/ individual for its graceful flowers.
Gazania rigens R. Br.	Gazania	Cape of Good Hope (Bailey, 1928) & South Africa (Bose & Pandey, 1972)	Probably after 1845	<i>Fl. & Fr.</i> : January to April	Annual herb, planted in pots and beds for showy flowers. Introduced into the horticulture in the mid 18th century.
Gerbera jamesonii Bolus	Transval Daisy	Transval (Bailey, 1928) & South Africa (Bose & Pandey, 1972)	Probably after 1845	<i>Fl.</i> : February to April	Perennial herb, planted in beds/pots and in the rockeries for long lasting various colour of flowers. Introduced into the horticulture in the late 19th century.

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 Gnaphalium purpureum L.	—	Tropical America (Duthie, 1903), (Rajagopal & Panigrahi, 1965) & America (Rajagopal & Panigrahi, 1966)	—	<i>Fl. & Fr. :</i> December to March	Annual herb, common weed in moist-shady places. Supposed to have been introduced with the American cotton seeds (Rajagopal & Panigrahi, 1966).
*Helianthus annuus L.	Sun-Flower, <i>Suryamukhi</i>	Central America and Peru (Coats, <i>l.c.</i>)	Before 1794	<i>Fl. & Fr. :</i> August to March	Ornamental flowering annual herb. Seeds yield oil. Plant was introduced in the Indian Botanic Garden before 1794 (Roxb. 1814).
*H. cucumerifolius Torr. & Gray	Cucumber-Leaf, Sunflower, Japanese Sun-flower	Florida to Texas (Bailey, 1949)	Probably after 1845	<i>Fl. & Fr. :</i> January to February	Ornamental flowering herb.

* Helichrysum bracteatum Andr.	Straw Flower	Australia (Desai, <i>l.c.</i>)	Before 1845	<i>Fl. & Fr. :</i> January to March	Ornamental flowering annual herb. Plant was in cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
* Helipterum roseum (Hook.) Benth. (= <i>Acroclnium roseum</i> Hook.)	Everlasting Annual	Australia (Bailey, 1949)	Probably after 1897	<i>Fl. & Fr. :</i> January to April	Ornamental flowering annual herb.
Parthenium hysterophorus L	Carrot-Weed, <i>Chatak</i> <i>Chandani</i>	West Indies, Central and North America (Rao, 1956)	About 1810	<i>Fl. & Fr. :</i> Almost throughout the year	Annual weed, first appeared accidentally in the Indian Botanic Garden during 1810 (Roxb. 1814), now acclimatised and found almost throughout India particularly road sides and railway tracks.
* Senecio cruentus DC.	Florist Cineraria	Canary Islands (Bailey, 1949)	Probably after 1897	<i>Fl. & Fr. :</i> February to April	Annual ornamental flowering herb.
* Solidago canadensis L.	—	North America (Babu, <i>l.c.</i>)	Before 1845	<i>Fl. :</i> August to December	Ornamental flowering perennial herb. Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).

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<i>Sonchus oleraceus</i> L.	—	Probably Europe and Eurasian region (Duthie, 1903) and (Rajagopal & Panigrahi, 1965)	Before 1832	<i>Fl. & Fr.</i> : December to April	Annual herb, commonly found as a weed in shady situation and near drains. Plants found in India before 1832 (Roxb. <i>Fl. Ind.</i>).
<i>Tagetes erecta</i> L.	African Marigold, <i>Genda</i>	Africa or Mexico (Bailey, 1949) and (Bose & Pandey, 1969)	Probably before 1794	<i>Fl. & Fr.</i> : December to April	Annual herb, grown commercially as well as on small scale for ornamental flowers, offered to Hindu Gods and at religious functions. Introduced into the horticulture in the late 16th century. Probably first introduced in the Indian Botanic Garden before 1794 (Roxb. 1814).

T. patula L.	French Marigold, Genda	Mexico (Bailey, 1949)	Before 1794	<i>Fl. & Fr. :</i> August to May	Ornamental annual herb. Introduced in the Indian Botanic Garden before 1794 (Roxb. 1814).
*Tithonia rotundifolia Blake	—	Mexico & Central America (Bailey, 1949)	Probably after 1845	<i>Fl. :</i> February to May	Ornamental flowering shrub.
Tridax procumbens L.	—	South America (Ridley, <i>l.c.</i>) and (Bose & Pandey, 1965)	About 1830	<i>Fl. & Fr. :</i> Almost throughout the year	Annual herb, found as a very common weed. Introduced into India as an ornamental plant before 1830 from South America (Ridley, <i>l. c.</i>).
Venidium fastuosum Stapf.	Monarch- of-the- Veld	South Africa (Bose & Pandey 1969)	Probably after 1845	<i>Fl. & Fr. :</i> January to April	Annual herb, planted in beds/pots for showy flowers.
*Vernonia elaeagnifolia DC.	—	Burma	Before 1872	<i>Fl. & Fr. :</i> February to May	Climber, grown in green houses, pergolas and best suited to train as varandah curtain.

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Xanthium strumarium L.	—	Europe (Ridley, <i>l. c.</i>), South America (Srivastava, 1964) and (Rajagopal & Panigrahi, 1965)	Long back	<i>Fl. & Fr.</i> : February to April	Perennial herb, common weed in waste places, dry ponds, on bunds of fields and gardens Srivastava (1964) states "Introduced into India long back, as it is found even in the interior of the Himalayas and is mentioned in Ayurvedic texts".
*Zinnia elegans Jacq.	Common Zinnia, Youth-And-Old-Age	Mexico (Bailey, 1949)	Before 1845	<i>Fl. & Fr.</i> : March to September	Ornamental flowering herb, planted for showy flowers. Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l. c.</i>).
LOBELIACEAE					
Lobelia erinus L.	Lobelia	South Africa (Bailey, 1928) and (Bose & Pandey, 1972)	Probably after 1845	<i>Fl. & Fr.</i> : January to April	Annual herb, grown in gardens for showy flowers. Introduced into the horticulture in mid 18th century.

PLUMBAGINACEAE

Limonium sinuatum Mill.	Sea-Lavender, Sea-Pink	South-East Europe (Bose & Pandey, 1972)	Probably after 1845	<i>Fl. & Fr.</i> : February to April	Annual herb, grown in gardens as a seasonal orna- mental plant. Introduced into the horticulture in the early 17th century.
† Plumbago zeylanica L.	<i>Chita</i>	Africa (Ridley, <i>l. c.</i>) and (Rajagopal & Panigrahi, 1965), Tropics of Asia and Africa, and east of Australia and Hawaii (Bailey, 1929)	Probably 1832	<i>Fl. & Fr.</i> : December to May	Perennial shrub, cultivated in gardens/parks as an ornamental and medicinal plant, and sometime found as a garden escape. Plants were already in India before 1832 and as stated by Roxburgh (<i>Fl. Ind.</i>) is a native of India.

PRIMULACEAE

Anagallis arvensis L.	Poor Man's Weather Glass, Scarlet Pimpernel, <i>Krishnaneel</i>	Europe and Mediterranean region (Taylor, 1955) and (Rajagopal & Panigrahi, 1965)	About 1500- 1665	<i>Fl. & Fr.</i> : October to March	Annual herb, grows as a common weed in cultivated fields and moist places. It was introduced into India by the early Dutch settlers from the East Indies, and probably first introduced
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into East Bengal, Assam etc. as an impurity of vegetable seeds or seeds of garden plants. Plants were grown in the Indian Botanic Garden before 1845 (Voight, *l. c.*).

THEOPHRASTACEAE

* <i>Jacquinia ruscifolia</i> Jacq.	—	Mexico and West Indies (Benthall, <i>l. c.</i>)	Before 1845	<i>Fl. & Fr.</i> : February to May	Ornamental flowering tree. Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l. c.</i>).
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SAPOTACEAE

* <i>Manilkara achras</i> (Mill.) Fosberg (= <i>Sapota achras</i> Mill.)	Bully-Tree, Common Sapota, Sapodilla, <i>Cheeku</i>	Tropical America (Benthall, <i>l. c.</i>) & Central America (Purseglove, 1968)	16th century	<i>Fl.</i> : January to February <i>Fr.</i> : February to May	Tree, grown for its edible fruits.
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OLEACEAE

- **Jasminum mesnyi* Hance. — Yunnan, Probably after *Fl.* : March to
(=*J. primulinum* Hemsl.) China (Bailey 1897 May Ornamental flowering
1928) climber, planted on
pergolas/arches.

APOCYNACEAE

- **Allamanda cathartica* L. Allamanda, Brazil (Bailey, Probably after *Fl.* : July to
Kampanilya 1949) & South 1803 December Ornamental flowering
America (Purse-glove, 1968) rambling shrubs, first
introduced into India
from Guinea, introduced
in the Indian Botanic
Garden during 1803 by
W. Hamilton (Roxb.
1814).
- **A. nerifolia* Hook. — Brazil (Bailey, Probably after *Fl.* : February
1928) 1897 to April Climbing shrub, grown
for showy flowers.
- **A. violacea* Gardn. & Field. — Brazil Recent intro- *Fl.* : February
(Firminger, 1958) duction. to April Ornamental flowering
slender shrub.
- **Alstonia macrophylla* Wall. — Malaya Before 1845 *Fl. & Fr.* :
(Benthall, *l.c.*) July to November Showy evergreen tree.
Plant was under cultiva-
tion in the Indian
Botanic Garden before
1845 (Voight, *l.c.*).

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* <i>Carissa arduina</i> Lam. (= <i>C. bispinosa</i> Desf.)	—	South Africa (Bailey, 1949)	After 1845 (Voight, <i>l.c.</i>)	<i>Fl.</i> : February to March <i>Fr.</i> : March to May	Shrub, planted for edible fruits and for protective hedge.
* <i>C. grandiflora</i> A. DC.	Natal Plum	South Africa (Bailey, 1949) & (Purseglove, 1968)	Probably after 1845	<i>Fl.</i> : Almost throughout the year	Ornamental shrub, planted as hedge.
<i>Catharanthus roseus</i> (L.) G. Don (= <i>Vinca rosea</i> L.)	Madagascar Periwinkle, Old Maid, <i>Sadaphuli</i>	West Indies & Madagascar (Maheshwari & Paul, <i>l.c.</i>)	Before 1794	<i>Fl.</i> & <i>Fr.</i> : Throughout the year	Perennial herb, planted for its ornamental flowers and as a medicinal plant, grows along with var. <i>alba</i> Sweet. Introduced in the Indian Botanic Garden before 1794 (Roxb. 1814).
<i>Nerium indicum</i> Mill.	Oleander, Rose-Bay, Sweet- Scented Oleander	China, Cochin- China (Voight, <i>l.c.</i>) & Mediterranean (Purseglove, 1968)	Before 1794	<i>Fl.</i> : Through- out the year (Profuse during February to April) <i>Fr.</i> : February to May	Shrub, grown for fragrant and showy flowers. Probably first introduced in the Indian Botanic Garden before 1794 (Roxb. 1814)

*Plumeria alba L.	—	West Indies (Bailey, 1929)	About 1801	<i>Fl.</i> : February to April <i>Fr.</i> : April to June	Small tree, grown for sweet fragrant flowers. Introduced in the Indian Botanic Garden during 1801 by W. Hamilton (Roxb. 1814).
*P. rubra L.	Frangipani Tree, West Indian Jasmine, <i>Lalchampa</i>	Distributed from Mexico to Venezuela, Ecuador and West Indies (Maheshwari & Paul, <i>l.c.</i>)	About 1841 (Voight, <i>l.c.</i>)	<i>Fl.</i> : March to April <i>Fr.</i> : July to October	Ornamental flowering tree. Introduced in the Indian Botanic Garden during 1841 (Voight, <i>l.c.</i>).
P. rubra L. forma acuminata (Ait.) Sant. & Irani ex Shah (= P. acuminata Ait.)	Pagoda Tree, Red Jasmine, Temple Tree, <i>Gulachin</i>	Mexico (Benthall, <i>l.c.</i>)	Before 1845 (Voight, <i>l.c.</i>)	<i>Fl. & Fr.</i> : February to November	Ornamental flowering tree.
Rauvolfia tetraphylla L.	—	West Indies (Srivastava, 1964)	Last quarter of the 19th century	<i>Fl. & Fr.</i> : July to Decembér	Introduced as an orna- mental and medicinal plant. First recorded from Central Bengal (Prain, 1903). Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).

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Thevetia peruviana (Pers.) K. Schum. (= <i>Cerbera peruviana</i> Pers.)	Cook Tree, Trumpet Flower, Yellow Oleander Lucky nut, <i>Peela Kaner</i>	Tropical America (MacMillan, <i>l.c.</i>), 1795 & West Indies (Gamble, 1922) and (Benthall, <i>l.c.</i>)	Probably 1795 (Mahesh- wari & Paul, <i>l.c.</i>)	<i>Fl. & Fr.</i> : Throughout the year	Shrub, planted for ornamental flowers.
* Trachelospermum divaricatum (Thunb.) K. Schum. (= <i>Nerium</i> <i>divaricatum</i> Thunb.)	Chinese Star Jasmine, Star or Confederate Jasmine	China (Maheshwari & Paul, <i>l.c.</i>)	17th century	<i>Fl.</i> : February to April	Climbing shrub, grown for its fragrant & showy flowers.
ASCLEPIADACEAE					
* Asclepias curassavica L.	Blood Flower, Curassavian Swallow Wort, False Ipecac, West Indian- Ipecac.	Tropical America (Bailey, 1949)	Before 1814	<i>Fl.</i> : February to April <i>Fr.</i> : September to December	Perennial herb, cultivated as a medicinal plant and for showy flowers. Introduced from West Indies, now runs wild in various parts of India.

* Cryptostegia grandiflora (Roxb.) R. Br. (= <i>Nerium grandiflorum</i> Roxb.)	Rubber Vine, <i>Rubber-Ki-Bel</i>	Africa or Madagascar (Hooker, 1883) & Africa (Bailey, 1949)	Before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl.</i> : June to September	Climbing shrub. Cultivated as an economic plant.
BUDDLEJACEAE					
* Buddleja madagascariensis Lam.	—	Madagascar, Bourbon and Rodrigius Isles (Bailey, 1949)	Before 1845	<i>Fl.</i> : January to April	Ornamental flowering climbing shrub. Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
POLEMONIACEAE					
Phlox drummondii Hook.	Phlox	Texas (Bailey, 1949), (Bruggerman, <i>l.c.</i>) and (Bose & Pandey, 1969)	Probably after 1845	<i>Fl. & Fr.</i> : December to May	Annual herb, planted for its showy & different shaded flowers ; var. rotundata Voss and var. stellaris Voss are also grown in the gardens.
BORAGINACEAE					
* Anchusa capensis Thunb.	Aklanet, Bugloss	South Africa (Bailey, 1949)	Probably after 1897	<i>Fl. & Fr.</i> : January to April	Ornamental flowering annual herb.

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Coldenia procumbens L.	—	New World (Good, 1947) and (Rajagopal & Panigrahi, 1965)	Before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl. & Fr.</i> : June to August	Annual herb, wild in moist places and river banks.
* Cynoglossum amabile Stapf & Drummond	Chinese Forget Me-Not, Chorry Pie, Helitrope	East Asia (Bailey, 1949) & Peru (Graf, <i>l.c.</i>)	Probably a recent introduction	<i>Fl. & Fr.</i> : January to April	Winter season flowering ornamental annual.
Heliotropium indicum L.	—	America (Srivastava, 1964) and (Rajagopal & Panigrahi, 1965)	About 1500 (Srivastava, 1964)	<i>Fl. & Fr.</i> : October to November	Annual herb, weed in moist ground, along river banks and road sides. It is treated as an Indian plant (Roxb. 1814).
* H. peruvianum L.	—	Peru (Bailey, 1928)	About 1801	<i>Fl.</i> : January to March <i>Fr.</i> : February to April	Winter season flowering annual herb. First introduced in the Indian Botanic Garden during 1801 (Roxb. 1814).

*Moltkia suffruticosa ' Brand.	—	Italy (Bailey, 1949)	Probably a recent introduction	<i>Fl. & Fr.</i> : February to May	Ornamental annual herb.
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CONVOLVULACEAE

Convolvulus arvensis L.	Wild-Morning-Glory, Lessor Bind Weed	Europe and Continental Asia (Backer & Brink, 1963), Old World Temperate region (Rajagopal & Panigrahi, 1965) & Europe (Coats <i>l.c.</i>) and (Roxb. 1814).	Probably 1804	<i>Fl. & Fr.</i> : January to May	Annual twiner, grows as a weed in cultivated fields. First introduced in the Indian Botanic Garden during 1804 by W. Hamilton Esq. (Roxb. 1814).
Ipomoea batatas (L.) Lam. (= <i>Convolvulus batatas</i> L.)	Sweet Potato, <i>Shakarkand</i>	Brazil (Maheshwari & Paul, <i>l.c.</i>) & Tropical America (Purseglove, 1968)	Early 16th century (Watt, 1890)	<i>Fl.</i> : October to December	Perennial creeper, cultivated for its sweet edible tuberous roots.

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* <i>I. fistulosa</i> Mart. ex Choisy	<i>Behaya, Sadabahar</i>	America (MacMillan, <i>l.c.</i>)	A century ago	<i>Fl.</i> : Almost throughout the year <i>Fr.</i> : March to May	Shrub, cultivated on field bunds and runs wild in ditches and ponds. Cultivated in the Indian Botanic Garden since 1879 as an ornamental plant.
* <i>L. quamoclit</i> L.	—	Tropical America (Bor & Raizada <i>l.c.</i>)	About 1796	<i>Fl. & Fr.</i> : July to December	Ornamental flowering annual twiner. Introduced in the Indian Botanic Garden during 1796 by Dr. W. Carey (Roxb. 1814).
* <i>Jacquemontia pentantha</i> (Jacq.) G. Don (= <i>Convolvulus pentanthus</i> Jacq.)	—	Tropical America (Bailey, 1928) and (Pal, <i>l.c.</i>)	Recent introduction.	<i>Fl.</i> : September to December	Ornamental flowering perennial twiner.
<i>Merremia gangetica</i> (L.) Cufod. (= <i>Merremia emarginata</i> (Burm. f.) Hall. f. (= <i>Convolvulus gangeticum</i> L.)	—	Tropical Africa (Rajagopal & Panigrahi, 1965)	Before 1832	<i>Fl. & Fr.</i> : September to December	Annual creeping herb, weed in wet places and in orchards. Roxb. <i>Fl. Ind.</i> mentions this species from India.

* <i>M. quinquefolia</i> (L.) Hall. f. (= <i>Ipomoea</i> <i>quinquefolia</i> L.) (= <i>Convolvulus</i> <i>quinquefolius</i> L.)	—	Tropical America (Van Steenis, 1948-1954)	—	<i>Fl. & Fr.</i> : October to December	Twiner, planted on arches and green houses for shade and showy flowers.
<i>Volulopsis nummularia</i> (L.) Roberty (= <i>Evolvulus</i> <i>nummularius</i> L.)	—	Tropical America (Roberty, 1952) and (Rajagopal & Panigrahi, 1965)	Later part of 18th century (F.B.I.)	<i>Fl. & Fr.</i> : August to October	A common weed in waste places, fallow lands, along road sides, river banks and on field bunds.
SOLANACEAE					
<i>Browallia viscosa</i> H.B. & K.	Browallia	South America (Bailey, 1928) and (Bose & Pandey, 1972)	Probably after 1845	<i>Fl. & Fr.</i> : December to April	Annual herb, grown for showy flowers. Introduced into the horticulture in the middle of 18th century.
* <i>Brumfelsia americana</i> L.	Lady-of-the- Night	West Indies (Backer & Brink, 1965), (Bailey, 1949) and (Voight, <i>l.c.</i>)	1841 (Voight, <i>l.c.</i>)	<i>Fl.</i> : September to November	Shrub, planted in shrubby borders for ornamental flowers.

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Capsicum annum L. var. acuminatum Fingh.	Chilli, Long Cayenne, <i>Marcha</i>	Chile (Bailey, 1928) & South America (Voight, <i>l.c.</i>)	Before 1794	<i>Fl.</i> : Septem- ber to April, <i>Fr.</i> : October to May	Biennial herb, planted for spice. Probably first introduced in the Indian Botanic Garden before 1794 (Roxb. 1814).
*C. frutescens L.	Bird Chillies, Chilli, Chile Pepper, Spur pepper	Central & South America (Bailey, 1949)	Before 1798	<i>Fl. & Fr.</i> : Throughout the year	Perennial herb, planted for spice. First intro- duced in the Indian Botanic Garden before 1798 (Roxb. 1814).
*Cestrum diurnum L.	The Day Jasmine, <i>Din-ka-Raja</i>	West Indies (Bailey, 1949) and (Bor & Raizada, <i>l.c.</i>)	After 1845 (Voight, <i>l.c.</i>)	<i>Fl.</i> : August to November <i>Fr.</i> : Septem- ber to December	Ornamental flowering shrub.
C. nocturnum L.	Lady of the Night, Night Jasmine, <i>Rat Ki Rani</i>	West Indies (Bailey, 1949) and (Bor & Raizada, <i>l.c.</i>)	Probably after 1845 (Voight, <i>l.c.</i>)	<i>Fl.</i> : Almost throughout the year (Profuse during rainy season)	Fragrant flowering shrub.

Datura innoxia Mill.	Horn of Plenty, <i>Dhatara</i>	Mexico (Anonymous, 1952) and (Purse-glove, 1968)	Before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl. & Fr.</i> : July to December	Shrub, planted for its medicinal value and for showy flowers and found wild in wastelands.
* D. metel L.	<i>Dhatara</i>	Tropical America (Srivastava, 1964)	Probably before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl. & Fr.</i> : Almost throughout the year	Shrub, planted for its medicinal value and flowers are offered to God Shiva, now found naturalised in wastelands.
* Lycopersicon lycopersicum (L.) Karst. (= <i>Solanum lycopersicum</i> L.)	Tomato, <i>Tamatar</i>	Tropical America (Chauhan, <i>l.c.</i>) and (DeCandolle, <i>l.c.</i>)	16th century	<i>Fl. & Fr.</i> : September to June	Biennial herb, cultivated for vegetable.
Nicotiana alata Link. & Otto. var. grandiflora Comes	Flowering-Tobacco, Fragrant-Nicotiana, Garden-Nicotiana	South America (Bose & Pandey, 1972)	Probably after 1845	<i>Fl. & Fr.</i> : January to May	Ornamental annual herb, planted in gardens for showy flowers. Introduced into the horticulture during mid 18th century.

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N. plumbaginifolia Viv.	—	Tropical America (Srivastava, 1964), Mexico & West Indies (Raizada, 1931) & Mexico (Rajagopal & Panigrahi, 1965)	1824-1845 (Srivastava <i>l.c.</i>)	<i>Fl. & Fr.</i> : February to June	Annual herb, found wild in hedges, fields shady places and roadsides. It spreads from Bengal towards the west and later in the northern regions. First reported from Dehra Dun in 1931 (Raizada, 1931).
*N. tabacum L.	Tobacco, <i>Tambaku</i>	America (Bailey, 1949) and (Purseglove, 1968)	About 1605 (Connor, 1873)	<i>Fl. & Fr.</i> : October to May	Annual herb, cultivated for its leaves, used for smoking. Introduced in India by the Portuguese during the later part of the reign of Akbar (Watt, 1891).
Petunia axillaris BSP.	Petunia, White Petunia	Argentina (Coats, <i>l.c.</i>) and (Bose & Pandey, 1972)	Before 1845	<i>Fl. & Fr.</i> : February to May	Annual herb, cultivated in the gardens for showy flowers and sometime found as an escape from the garden. Introduced into the horticulture

P. violacea Lindl.	Petunia, Violet- Flowered Petunia	Argentina (Bailey, 1929) & South America (Purseglove, 1968)	After 1845 (Voight, <i>l. c.</i>)	<i>Fl. & Fr. :</i> February to April	during early 19th century. It was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>). Annual flowering herb, planted as seasonal ornamental plant.
Physalis minima L.	Wild Goosberry, <i>Ban Tipariya</i>	South America (Rajagopal & Panigrahi, 1965)	17th century	<i>Fl. & Fr. :</i> August to December	Annual herb, grows wild in moist places, hedges and fallow lands. Introduced into India from Malaya (Ridley, <i>l.c.</i>). Plants were common in Bengal and on the coast of Coro- mandal (Roxb. <i>Fl. Ind.</i>).
P. peruviana L.	Cape Goosberry, <i>Makoy,</i> <i>Tipari</i>	Tropical America (Purseglove, 1968) & Europe (Coats <i>l.c.</i>)	Before 1794	<i>Fl. & Fr. :</i> September to April	Annual herb, cultivated for its edible berries, sometimes found as an escape. Introduced in the Indian Botanic Garden before 1794 (Roxb. 1814).

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Schizanthus wisetonensis Low	Butterfly Flower	South America (Bose & Pandey, 1972)	Probably after 1845	<i>Fl. & Fr.</i> : February to April	Winter season, orna- mental annual herb. Introduced into the horticulture in the early 19th century.
Solanum grandiflorum Ruiz, & Pavon.	Potato-Tree, Night-Shade	South America (Randhawa, 1957)	Recent introduction.	<i>Fl.</i> : All the year round	Tree, cultivated for showy ornamental flowers.
S. seafortianum Andr.	Potato Creeper	Brazil (Bor & Raizada, <i>l.c.</i>) & Tropical America (Purseglove, 1968)	After 1845 (Voight, <i>l.c.</i>)	<i>Fl.</i> : Novem- ber to December	Perennial creeper, grown for ornamental flowers.
S. tuberosum L.	Potato, <i>Alu</i>	Temperate regions of America (De Candolle, <i>l.c.</i>) & Andes (Purse- glove, 1968)	Early 17th century (Duthie, <i>l.c.</i>)	<i>Fl.</i> : January to March	Annual herb, cultivated for its edible tubers, used as vegetable.
SCROPHULARIACEAE *Angelonia salicariaefolia Humb. & Bonpl.	—	Venezuela (Graf, <i>l.c.</i>) & South America (Bailey, 1928)	After 1845 (Voight, <i>l.c.</i>)	<i>Fl.</i> : Septem- ber to November	Ornamental flowering perennial herb.

<i>Antirrhinum majus</i> L.	Common Snap Dragon, Large Snap Dragon	Mediterranean regions (Bailey, 1928), (Coats, <i>l.c.</i>) and (Bose & Pandey, 1972), South Europe Syria and North Africa (Backer & Brink, 1965)	1886 (Gupta & Marlange, <i>l.c.</i>)	<i>Fl. & Fr.</i> : February to April	Annual herb, grown in beds/pots for excellent floral beauty. Introduced into horticulture in early 19th century.
<i>Linaria bipartita</i> Willd.	Toad Flax	Portugal and North Africa (Bailey, 1928) and (Bose & Pandey, 1972)	Probably before 1845	<i>Fl. & Fr.</i> : January to May	Winter season flowering annual herb, grown in beds and pots. Introduced into horticulture in the early 19th century (1815). Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
<i>Mimulus luteus</i> L.	Monkey-Flower	Alaska to Chile (Bailey, 1928), Chile (South America) (Bose & Pandey, 1972) Chile, and Peru	After 1845	<i>Fl. & Fr.</i> : February to May	Annual herb, grown for ornamental flowers. Introduced into horticulture in the early 19th century. Three varieties viz. youngeanus Hook.,

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		(Coats, <i>l.c.</i>)			<i>rivularis</i> Lindl. and <i>variegatus</i> Hook. are grown.
Nemesia strumosa Benth.	Nemesia	South Africa (Bailey, 1949) and (Bose & Pandey, 1972)	After 1845	<i>Fl. & Fr.</i> : February to April	Annual herb, grown for spotted ornamental flowers. Introduced into horticulture in 18th century.
* N. versicolor E. Mey	—	South Africa (Bailey, 1949)	After 1845	<i>Fl. & Fr.</i> : February to April	Annual herb, grown for spotted ornamental flowers. Introduced into horticulture in 18th century.
Russelia equisetiformis Schl. & Cham.	Coral Plant, Fountain or Fire Cracker Plant	Mexico (Bailey, 1949)	Before 1845	<i>Fl.</i> : Almost throughout the year	Ornamental flowering shrub. Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).

Scoparia dulcis L.	Sweet Broom Wort	Jamaica (Ridley, <i>l.c.</i>) and (Rajagopal & Panigrahi, 1965)	About 1843	<i>Fl. & Fr.</i> : March to November	Annual herb, a weed in river banks, paddy fields and gardens. Introduced in India as a medicinal plant by Chinese Physician in about 1843 (Srivastava, 1964).
* Torenia fournieri Linden ex Fourn.	—	Cochinchina (Bailey, 1949) and (Bruggeman, <i>l.c.</i>).	—	<i>Fl. & Fr.</i> : August to December	Winter annual herb, planted for showy flowers.
Veronica anagallis- aquatica L.	—	Temperate region (Mahesh- wari, 1962) and (Rajagopal & Panigrahi, 1965)	Before 1832 (Roxb. <i>Fl.</i> <i>Ind.</i>).	<i>Fl. & Fr.</i> : October to March	An annual herb found as a weed in marshy places, on edges of water- channels and on the river banks.
BIGNONIACEAE					
* Bignonia alliacea Lam.	<i>Lahsunlata</i>	Brazil (Pal, 1960)	After 1945 (Voight, <i>l.c.</i>)	<i>Fl.</i> : July to October <i>Fr.</i> : August to March	Flowering ornamental climber, grown on arches and pergolas.

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B. unguis - cati L. (= <i>Doxantha unguis - cati</i> Rehd.)	Cats Claw	Argentina (Bor & Raizada, <i>l.c.</i>) & South America (Matthew, <i>l.c.</i>)	Probably after 1897	<i>Fl.</i> : April to August	Perennial climber, grown on walls, pergolas, arches and green houses for ornamental flowers.
Campsis grandiflora (Thunb.) K. Schum. (= <i>Bignonia grandiflora</i> Thunb.)	Chinese Trumpet- Creeper	China and Japan (Bor & Raizada, <i>l.c.</i>), (Bailey, 1928) and China (Rehder, 1927)	Before 1794	<i>Fl.</i> : April to June <i>Fr.</i> : May to July	Perennial climber, cultivated for graceful foliage and showy flowers. Introduced in the Indian Botanic Garden before 1794 (Roxb. 1814).
* C. radicans (L.) Seem. (= <i>Bignonia radicans</i> L.)	Trumpet- Creeper, Trumpet- Vine, Trumpet- Honey Suckle	Panama to Florida and Texas (Bailey, 1928)	About 1807	<i>Fl.</i> : Almost throughout the year	Planted as an ornamental flowering climbing shrub. Probably first introduced in the Indian Botanic Garden during 1807 (Roxb. 1814).
* Crescentia cujete L.	Calbash Tree	Tropical America (Bailey, 1928)	About 1795	<i>Fl.</i> : February to April <i>Fr.</i> : March to	Tree, planted for its curious flowers and fruits. Probably first

		& Cuba (Benthall, <i>l.c.</i>)		August	introduced in the Indian Botanic Garden during 1795 by W. Hamilton (Roxb. <i>Fl. Ind.</i>).
Jacaranda acutifolia Humb. & Bonpl. (= <i>J. mimosaeifolia</i> D. Don)	Mimosa Leaved- Jacaranda, May Flower	Brazil and North West Argentina (Maheshwari, 1963) & Brazil (Bailey, 1949)	Probably before 1841	<i>Fl.</i> : January to March	Tree, planted in gardens and parks for its graceful leaves and showy flowers. Plant was under cultivation in the Indian Botanic Garden before 1841 (Voight, <i>l.c.</i>).
Kigelia pinnata DC.	Cucumber Tree, Petish Tree, Sausage Tree	Africa (Bailey, 1949) & Mozambique and Tropical Africa (Benthall, <i>l.c.</i>)	Probably after 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl. & Fr.</i> : February to July	Tree, planted for curious hanging gourd like fruits.
Millingtonia hortensis L.f.	Indian Cork Tree, Tree Jasmine, <i>Akashnim</i>	Burma (Benthall, <i>l.c.</i>) Burma and Malayan Archipelago (Varma, <i>l.c.</i>)	Before two centuries ago	<i>Fl.</i> : October to December	Tree, planted for scented flowers.

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*Parmentiera cereifera Seem.	Candle- Tree, Palo de Vela	Panama (Bailey, 1929) Central America (Purseglove, 1968)	Probably after 1845	—	Tree cultivated for its curious flowers and candle like fruits. Introduced in the BSA garden, Allahabad during 1979.
Pyrostegia venusta (Ker - Gawl.) Miers. (= <i>Bignonia venusta</i> Ker-Gawl.)	Golden Shower	Brazil (Bailey, 1949), (Bor & Raizada, <i>l.c.</i>), (Matthew, <i>l.c.</i>) and (Purseglove, 1968)	Before 1845 (Voight, <i>l.c.</i>)	<i>Fl.</i> : October to March	Climber, grown on arches and pergolas for showy flowers. Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
*Spathodea campanulata Beauv.	African Tulip Tree, Scarlet Bell-Tree	Tropical Africa (Bailey, 1949) and (Purseglove, 1968)	Probably after 1897	<i>Fl.</i> : March to May <i>Fr.</i> : April to July	Ornamental flowering tree.
*Tabebuia chrysantha Nichols.	—	Caracas (Bailey, 1929)	Probably after 1897	<i>Fl.</i> : February to April	Ornamental flowering tree.
*T. pentaphylla Hemsl.	Roble Blanco	West Indies, Central America and Venezuela (Bailey, 1929)	Probably after 1897	<i>Fl.</i> : January to March	Tree, grown for showy flowers.

* <i>T. rosea</i> DC.	Pink Pou	Guatemala (Bailey, 1929) & Central and South America (Purseglove, 1986)	Probably after 1897	<i>Fl.</i> : February to April	Small tree, planted for showy flowers in parks, gardens.
<i>Tecoma stans</i> (L.) H.B. & K. (= <i>Stenolobium stans</i> (L.) Seem.)	Trumpet-Flower, Yellow-Bells, Yellow-Elder	South America & West Indies (MacMillan, <i>l.c.</i>), South America (Benthall, <i>l.c.</i>) & Tropical America (Purseglove, 1968)	After 1845	<i>Fl.</i> : September to December <i>Fr.</i> : November to February	Ornamental flowering shrub.
* <i>Tecomaria capensis</i> (Thunb.) Spach (= <i>Bignonia capensis</i> Thunb.)	The Cape Honey— Suckle	South Africa (Bor & Raizada, <i>l.c.</i>) and (Purseglove, 1968)	Probably before 1845	<i>Fl.</i> : April to September	Ornamental flowering shrub. Cultivation was known in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
MARTYNIACEAE					
<i>Martynia annua</i> L.	Devils Claw, Tigers Claw, <i>Bichhu</i> ,	Mexico and Brazil (Rajagopal & Panigrahi,	Before 1802	<i>Fl. & Fr.</i> : September to December	Annual herb, wild on waste places and rubbish. It spreads by the

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	<i>Baghnak</i>	1965) & Tropical America (Maheshwari & Paul, <i>l.c.</i>)			attachment of its hooked fruits to wild beasts, goats and sheep. (Ridley, <i>l.c.</i>). Plants were introduced in the Indian Botanic Garden during 1802 by W. Hamilton, Esq. (Roxb. 1814).
ACANTHACEAE					
Barleria lupulina Lindl.	—	Mauritius (Cooke, 1958), Madagascar (Bruggeman, <i>l.c.</i>) and (Rajagopal & Panigrahi, 1965)	Probably after 1845	<i>Fl.</i> : February to April	Shrub, planted as a hedge and in shrubbery borders for showy flowers and foliage beauty.
*Beloperone guttata Brandegee	Shrimp-Plant	Mexico (Bailey, 1949)	Probably after 1897	<i>Fl.</i> : January to April	Shrub, grown as a pot plant and in the shrubbery borders.
*Dianthera secunda Griseb.	—	West Indies (Bailey, 1929)	Probably after 1897	<i>Fl.</i> : February to April	Ornamental flowering shrub.

*Graptophyllum pictum Griff.	—	New Guinea (Bailey, 1949)	Before 1832 (Roxb. <i>Fl.</i> <i>Ind.</i>)	<i>Fl.</i> : February to March	Ornamental foliage shrub.
Ruellia tuberosa L.	—	Tropical America (Prain, 1903), (Rajagopal & Panigrahi, 1965) & South West United States (Bailey, 1929)	Probably after 1845	<i>Fl. & Fr.</i> : January to May	Annual herb, found wild in shady places, hedges and along road sides. Naturalised in Bengal by 1903 (Prain, <i>l.c.</i>). Cultivated in BSA garden, Allahabad as medicinal plant.
*Ruttya fruticosa Haw.	—	South Africa (Graf, <i>l.c.</i>)	Recent introduction. Probably after 1897	<i>Fl.</i> : September to November	Shrub, grown for ornamental flowers.
THUNBERGIACEAE					
Thunbergia alata Boj. ex Sims.	Black-Eyed Sussan	Tropical Africa (Bailey, 1949)	Before 1845	<i>Fl.</i> : September to November	Ornamental flowering twiner, grown on arches and walls. Introduction is known in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
*T. erecta (Benth.) T. Anders. (= <i>Meyenia</i> <i>erecta</i> Benth.)	Bush-Clock- Vine	Tropical Africa (Pandey, <i>l.c.</i>)	1899 (Bor & Raizada, <i>l.c.</i>)	<i>Fl.</i> : October to January	Ornamental flowering shrub. First introduced into India from Kew.

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VERBENACEAE					
* <i>Citharexylum quadrangulare</i> Jacq.	Zither-Wood	West Indies (Benthall, <i>l.c.</i>)	Probably after 1897	<i>Fl.</i> : August to September	Fragrant flowering tree.
<i>Clerodendrum aculeatum</i> Griseb.	—	America (Hooker, 1885), West Indies (Cooke, 1958), (Rajagopal & Panigrahi, 1966) & Tropical America (Raizada, 1976)	Before 1885	<i>Fl. & Fr.</i> : September to November	Shrub, planted in gardens as hedges and found as an escape from cultivation.
* <i>C. fragrans</i> Vent.	—	China and Japan (Matthew, <i>l.c.</i>) & China (Bailey, 1949)	Before 1845	<i>Fl.</i> : July to November	Ornamental, fragrant flowering shrub, introduced into the Indian Botanic Garden before 1845 (Voight, <i>l. c.</i>).
* <i>C. speciosum</i> D'Ombrain	—	Africa (Bailey, 1928)	Probably after 1897	<i>Fl.</i> : December to April	A climber, hybrid of

				<i>Fr</i> : February to April	<i>C. thomsonae</i> Balfour & <i>C. splendens</i> Don, planted on pergolas and arches for its showy flowers.
* <i>C. squamatum</i> Vahl	—	China (Bailey, 1928)	Probably before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl.</i> : July to October	Shrub, planted in gardens for ornamental flowers.
<i>Duranta repens</i> L. (= <i>D. plumerei</i> Jacq.)	Golden Dew-Drop, Pigeon-Berry, Prickly-Duranta, <i>Neel Kanta</i>	South America and West Indies (Gupta & Marlange, <i>l. c.</i>)	Before 1845	<i>Fl.</i> : August to October <i>Fr.</i> : February to May	Shrub, planted as hedge. Cultivated in the Indian Botanic Garden before 1845 (Voight, <i>l. c.</i>).
* <i>Gmelina philippensis</i> Cham.	—	Philippine Islands (Maheshwari, 1963)	Before 1884	<i>Fl. & Fr.</i> : July to September, March to May	Straggling spinous shrub, grown for ornamental flowers.
<i>Lantana camara</i> L.	Wild Sage	Tropical America & Jamaica and West Indian Islands (Voight, <i>l. c.</i>)	Probably before 1814	<i>Fl. & Fr.</i> : Almost throughout the year	Cultivated as ornamental flowering shrub, runs wild. Variety <i>mista</i> Bailey and <i>nivea</i> Bailey are also grown.

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L. camara L. var. aculeata (L.) Moldenke (= <i>L. aculeata</i> L.)	Spiny Lantana, Planter's Curse	America (Backer & Brink, 1965) & South America (Srivastava, 1964) and (Rajagopal & Panigrahi, 1965)	About 1809	<i>Fl. & Fr.</i> : Almost throughout the year	Spinous shrub, wild in road sides and waste places. Introduced for its ornamental flowers to Ceylon in 1824 (Srivastava, <i>l. c.</i>). Plant spreads by birds and squirrels who relish its black berries (Ridley, <i>l. c.</i>). Introduced in the Indian Botanic Garden during 1809 by W. Hamilton Esq.
L. trifolia L.	—	South America (Srivastava, 1964)	About 1807	<i>Fl. & Fr.</i> : Almost throughout the year	Ornamental flowering shrub, probably first introduced in the Indian Botanic Garden during 1807 and run wild by 1820 (Roxb. 1814).
Petrea volubilis L.	Purple- Wreath	Tropical America (Bor & Raizada, <i>l.c.</i>) and	About 1841	<i>Fl.</i> : October to December, March to May	Perennial climber, grown on walls, pergolas & arches for its showy flowers. Plants were

			(Maheshwari, 1963)			under cultivation in the Indian Botanic Garden (Voight, <i>l.c.</i>).
*Stachytarpheta jamaicensis (L.) Vahl (= <i>Verbena jamaicensis</i> L.)	Variable False Valerian, Jamaica False Valerin	Tropical America (Bor & Raizada, <i>l.c.</i>) and (Pandey, <i>l.c.</i>)	Later part of 18th century (Maheshwari & Paul, <i>l.c.</i>) probably 1758	<i>Fl. & Fr.</i> : July to September		Ornamental flowering shrub. Probably first introduced in the Indian Botanic Garden during 1798 (Voight, <i>l.c.</i>).
Verbena bipinnatifida Nutt.	Verbain	America (California to Mexico) (Bose & Pandey, 1972)	Probably after 1845	<i>Fl. & Fr.</i> : January to June		Perennial herb, grown in beds/pots/rockeries for foliage and floral beauty. Introduced in the horti- culture in the mid 18th century.
V. peruviana Britt.	—	Argentina and South Brazil (Bailey, 1949)	Before 1845	<i>Fl.</i> : January to March		Ornamental flowering perennial herb. Its culti- vation was known in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
LAMIACEAE (LABIATAE)						
*Coleus blumei Benth.	Coleus	Java (Bailey, 1949), Moluccas,	Before 1832	<i>Fl. & Fr.</i> : September to		Perennial herb, grown for its foliage beauty.

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		Tropical north Holland & Mauritius (Voight, <i>l.c.</i>)		May	
Mentha arvensis L. var. piperascens Malinv.	Japanese Mint	Japan (Bailey, 1949) and (Purseglove, 1968)	Probably before 1845	<i>Fl.</i> : August to November	Perennial herb, grown for its medicinal value and used as pot herb. Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
M. piperita L.	Peppermint <i>Pudina</i>	Europe (Bailey, 1949) Temperate region (Purseglove, 1968)	Probably before 1845	—	A perennial herb, planted for its medicinal uses, and being grown in the Indian Botanic Garden since before 1845 (Voight, <i>l.c.</i>), First reported from Dun (Raizada, 1931).
* Salvia farinacea Benth.	—	Texas (Bailey, 1949) & (MacMillan, <i>l.c.</i>)	Probably after 1897	<i>Fl. & Fr.</i> : February to April	Perennial herb, planted for ornamental purpose.

*S. officinalis L.	Common Sage, Mediterranean Sage or region (Bailey, Golden Sage 1949)	About 1809	<i>Fl. & Fr. :</i> January to April	Annual herb, grown as ornamental flowering plant Probably first introduced in the Indian Botanic Garden during 1809 by Mc Mahon (Roxb. 1814).	
S. splendens Sellow ex Nees	Salvia, Scarlet Sage	Mexico (Bruggeman, <i>l.c.</i>) and (Coats, <i>l.c.</i>) & Brazil (Bailey, 1929) and (Bose & Pandey, 1969)	Before 1845	<i>Fl. :</i> January to May <i>Fr. :</i> February to May	Annual herb, grown in garden beds for showy flowers. Introduced into the horticulture in the early 19th century about 1822 (Hellyer, <i>l.c.</i>) and (Booth, <i>l.c.</i>). Plants were under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
NYCTAGINACEAE					
Bougainvillea glabra Choisy	Bougainvillea	Brazil (Bailey, 1949)	Before one century. Probably during 1884 (Bor & Raizada, <i>l.c.</i>)	<i>Fl. :</i> July to September March to May	Ornamental flowering scrambling shrub.

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B. spectabilis Willd.	Bougainvillea	Brazil (Bailey, 1949)	On or before 1839 (Voight, <i>l.c.</i>)	<i>Fl.</i> : Almost throughout the year	Climbing shrub, cultivated in many cultivars for ornamental flowers. Probably first introduced in the Indian Botanic Garden during 1839 (Voight, <i>l.c.</i>).
Mirabilis jalapa L.	Four O'clock, Marvel of Peru, <i>Gulabbas</i>	Tropical America (Bailey, 1949)	1596 (Mehra, 1966)	<i>Fl. & Fr.</i> : July to December	Perennial herb, cultivated in gardens for ornamental flowers. First established on the Malabar coast in the time of van Rheedee (Mehra, <i>l.c.</i>).
AMARANTHACEAE					
* Alternanthera ficoidea (L.) R. Br. (= <i>Gomphrena ficoidea</i> L.)	—	Brazil (Matthew, <i>l.c.</i>) and (Raizada, 1976)	After 1897	<i>Fl. & Fr.</i> : July to November	Perennial herb, grown for ornamental foliage, forms compact living edge. Now naturalized in waste places (Raizada, 1976).

A. paronychioides St. Hil.	—	South America and West Indies (Rajagopal & Panigrahi, 1965, 1966) & Tropical and sub tropical America (Raizada, 1976)	—	<i>Fl. & Fr. :</i> July to November	Perennial herb, grows wild on the river banks. Probably introduced during first quarter of this century (Rajagopal & Panigrahi, 1966) and now naturalized in many parts of Upper Gangetic Plain (Raizada, 1976).
A. pungens Kunth.	—	Tropical America (Backer & Brink, 1963), (Raizada, 1950) and (Rajagopal & Panigrahi, 1965, 1966)	About 1913	<i>Fl. & Fr. :</i> October to January	Perennial herb, wild in shady and moist situa- tions. It was first collec- ted on the Malagiri hills in Salem district, Tamil Nadu during 1913. It spreads with stiff perianth enclosing the utricle attaching to clothes, to passing animals and to the tyres of the vehicles (Rajagopal & Panigrahi, 1965).
Digera muricata (L.) Mart. (= <i>Achyranthes muricata</i>)	—	Probably North Africa (Rajagopal &	Before 1832	<i>Fl. & Fr. :</i> September to December	Annual herb, grows on river banks and in gardens and fields as a

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L.)		Panigrahi, 1965)			weed, plant was common in both Peninsula of India and in Bengal before Roxb. <i>Fl. Ind.</i> was written.
Gomphrena celosioides Mart.	—	Tropical America (Rajagopal & Panigrahi, 1965)	Probably after 1845	<i>Fl. & Fr. :</i> March to December	Annual herb, found growing in waste places on river banks, bunds of fields and along road sides. First recorded from Madras and Coimbatore by Gamble (1915). Raizada (1950) first reported it from the Upper Gangetic Plain.
G. globosa L.	Globe Amaranth, Bachelor's Button	Probably America (Bailey, 1949) and (Maheshwari & Paul, <i>l.c.</i>)	Probably before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl. :</i> August to September <i>Fr. :</i> September to January	Annual herb, cultivated for seasonal ornamental flowers. Found as an escape in waste lands. Plant was originally described from India (Maheshwari & Paul, <i>l.c.</i>).

* <i>Iresine herbstii</i> Hook. f.	Blood-Leaf	South America (Bailey, 1949)	Recent introduction, probably after 1897	<i>Fl. & Fr.</i> : January to May	Perennial herb, cultivated for ornamental foliage.
* <i>Nothosaerva brachiata</i> Wight	—	Tropical Africa and Mauritius (Srivastava, 1964)	Probably before 1892	<i>Fl. & Fr.</i> : August to October	Annual herb, wild. Intro- duced into India quite early and spread by 1872-97.
CHENOPODIACEAE					
<i>Beta vulgaris</i> L.	Beet, <i>Chukandar</i>	Europe (Coats, <i>l.c.</i>) and (Bailey, 1949)	Before 1794	—	Biennial herb, cultivated for its tuberous roots, used as vegetable. Plant was already in cultivation in the Indian Botanic Garden before 1794 (Roxb. 1814).
<i>Spinacea oleracea</i> L.	Prickly-seeded Spinach, <i>Palak</i>	Persia (DeCandolle, <i>l.c.</i>) & Arabia (Voight, <i>l.c.</i>)	Before 1814 (Roxb. <i>H.B.</i>)	<i>Fl. & Fr.</i> : January to April	Annual herb, used as pot herb.
* <i>S. oleracea</i> L. var. <i>inermis</i> Peterm.	Round-seeded Spinach, <i>Palak</i>	South West Asia (Bailey, 1949)	Recent introduction, probably after 1897	<i>Fl. & Fr.</i> : January to April	Annual, cultivated for its leaves, used as pot- herb.

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PHYTOLACCACEAE					
Rivina humilis L.	Rouge-Plant	South America (Srivastava, 1964) & Tropical America (Rao & Razi, 1981)	About 1800	<i>Fl. & Fr.</i> : January to April	Annual weed in the garden. Plant was introduced in the Indian Botanic Garden during 1800 by W. Hamilton Esq. (Roxb. 1814).
POLYGONACEAE					
Antigonon leptopus Hook. & Arn.	Coral Creeper, Coral Vine, Bird's Tears	South America (Maheshwari & Paul, <i>l.c.</i>) & Mexico (Bailey, 1949) and (Haines, 1961)	Probably after 1897	<i>Fl.</i> : July to November <i>Fr.</i> : October to March	Climber, planted on trellis and arches for ornamental flowers. Found as an escape along road sides.
Homalocladium platycladum (F. Muell.) L.H. Bailey (= <i>Muehlenbeckia platyclada</i> (F. Muell.) Meissn.) (= <i>Coccoloba platyclada</i> F. Muell. & Hook.)	Centipede-Plant, Ribbon-Bush, Tape-Worm Plant	Solomon Islands (Bailey, 1949)	Before 1903 (Duthie, <i>l.c.</i>)	<i>Fl.</i> : February to March	Shrub, planted for its curious (Phylloclades) branches.

ARISTOLOCHACEAE

* Aristolochia brasiliensis Mart. & Zucc.	—	Brazil (Bailey, 1928)	Probably before 1845	<i>Fl. & Fr.</i> : September to November	Slender perennial twiner, planted for its green showy foliage and odd shaped flowers. Plant was under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
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PIPERACEAE

Peperomia pellucida (L.) H.B. & K. (= <i>Piper pellucidum</i> L.)	—	Central America (Srivastava, 1964) & South America (Anonymous, 1966)	19th century, probably after 1845	<i>Fl. & Fr.</i> : August to October	Annual weed, found in the gardens. First recorded from Central Bengal (Prain, 1903).
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LAURACEAE

* Cinnamomum camphora (L.) Nees & Eberm. (= <i>Laurus camphora</i> L.)	Camphor Tree, <i>Kapoor</i>	China & Japan (Benthall, <i>l.c.</i>) and (Voight, <i>l.c.</i>)	Before 1832 (Roxb. <i>Fl. Ind.</i>)	—	Tree, planted in the BSA garden, Allahabad for its medicinal value during 1979.
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PROTEACEAE

Grevillea robusta A. Cunn.	Silky-oak, Silver- Oak	Queensland and New South Wales, (Bailey, 1949), Australia (Benthall, <i>l.c.</i>) & Eastern Australia (Purseglove, 1968)	Probably before 1845	<i>Fl.</i> : March to May	Timber yielding as well as ornamental foliage and flowering tree. Introduced in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
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EUPHORBIACEAE

* Acalypha wilkesiana Muell-Arg.	Copper Leaf	South Sea Islands (Bailey, 1949) & Pacific (Purseglove, 1968)	Probably after 1897	<i>Fl.</i> : January to August	Shrub, planted in shrubby borders and hedge, for ornamental flowers and foliage beauty. var. marginata T. Moore and var. macrophylla N. Taylor are also grown in the gardens and parks.
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* Codiaeum variegatum (L.) Blume var. pictum Muell - Arg.	Garden Croton	Java to Australia and South Sea Islands (Bailey, 1949)	Probably 1798	<i>Fl. & Fr. :</i> February to September	Ornamental foliage shrub, grown with many cultivars. Probably first introduced in the Indian Botanic Garden during 1798 by C. Smith (Roxb. 1814).
Croton bonplandianum Baill.	—	South America (Maheshwari & Paul, <i>l. c.</i>) & Tropical America (Ridley, <i>l. c.</i>) and (Rajagopal & Panigrahi, 1965)	About 1897	<i>Fl. & Fr. :</i> January to June	Annual herb, grows wild in waste lands and cultivated fields. It was first introduced in Chittagong in 1897 and reached Calcutta by 1920 (Ridley, <i>l. c.</i>).
Euphorbia heterophylla L.	—	Tropical America (Rajagopal & Panigrahi, 1965)	Before 1872	<i>Fl. & Fr. :</i> September to December	Annual herb, grows in waste places, fallow lands and as a weed in gardens.
E. hirta L.	—	Tropical America (Backer & Brink, 1963) and (Rajagopal & Panigrahi, 1965)	Before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl. & Fr. :</i> January to December	Annual herb, grows in fallow lands, lawns and waste places.

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* <i>E. milli</i> Ch. des Moul.	Christ's Thorn, Crown of Thorns	Madagascar (Matthew, <i>l.c.</i>) and (Bailey, 1949) & Malagasy (Varma, <i>l.c.</i>)	Probably before 1845	<i>Fl.</i> : Almost throughout the year	Spiny shrub, cultivated in rockeries/pots for its ornamental look. Probably first introduced in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
<i>E. pulcherrima</i> Willd. ex Klotzsch	Christmas-Flower, Poinsettia	Tropical America and Central America (Bailey, 1949) & Central America (Maheshwari & Paul, <i>l.c.</i>)	Probably before 1845	<i>Fl.</i> : January to April	Ornamental flowering shrub. Cultivated in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
<i>E. thymifolia</i> L.	—	Probably tropical America (Backer and Brink, 1963) and (Rajagopal & Panigrahi, 1965)	Before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl. & Fr.</i> : Almost throughout the year	Annual herb, common in lawns, waste places and along road sides.

E. tirucalli L.	Milk-Bush, Milk Hedge, Indian Tree Spurge	Africa (Bailey, 1928) and (Benthall, <i>l.c.</i>)	Probably before 1814	—	Shrub, grown as hedge and medicinal plant.
* Excoecaria bicolor Hassk.	—	South Asia (Bailey, 1928) & Sumatra (Voight, <i>l.c.</i>)	Probably before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl.</i> : February to April	Ornamental shrub, planted in gardens/parks for its foliage beauty.
Jatropha curcas L.	Barbodas Nut, Poison- Nut, Purging- Nut, Physic- Nut, French Physic Nut, <i>Jangali Arand</i>	Tropical America (Bailey, 1928), (Backer & Brink, 1963), (Duthie, 1903), (Rajagopal, 1965) and (Rajagopal & Panigrahi, 1965)	Before 1832	<i>Fl. & Fr.</i> : February to May	Shrub, planted as an ornamental plant for showy flowers. It was first introduced in India by the Portuguese (Maheshwari & Paul, <i>l.c.</i>) whereas Rajagopal (1965) reports that it was first introduced from Tropical America. Plant was common in Coro- mandel before Roxb. <i>Fl. Ind.</i> was written.
J. heterophylla Steud.	—	Tropical America (Backer & Brink, 1963) and (Rajagopal	Probably after 1850	<i>Fl. & Fr.</i> : February to May	Shrub, grows wild in waste places and along roadsides. Introduced in India probably after

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		& Panigrahi, 1965)			1850 and had become quite common in Bihar by 1921-25 (Srivastava, 1964).
* <i>J. multifida</i> L.	The Coral Plant, Physic-Nut	South America (Pal & Krishnamurthy, <i>l.c.</i>) and (Voight, <i>l.c.</i>)	17th century	<i>Fl. & Fr.</i> : February to September	Ornamental flowering shrub. First introduced in India by Portuguese (Mehra, <i>l.c.</i>). Plant was introduced in the Indian Botanic Garden during 1804 by W. Hamilton (Roxb. 1814).
* <i>J. panduraefolia</i> Andr.	Fiddle-Leaved Jatropha	Cuba (Paul & Krishnamurthy, <i>l.c.</i>) & West Indies (Bruggeman, <i>l.c.</i>)	Probably before 1845	<i>Fl.</i> : February to April and July to September	Ornamental flowering shrub. Probably first introduced in the Indian Botanic Garden (Voight, <i>l.c.</i>).
<i>J. podagrica</i> Hook.	Guatemala, Rhuborb, Tartogo Nettle- Spurge	Panama (Pal & Krishnamurthy, <i>l.c.</i>)	17th century	<i>Fl. & Fr.</i> : January to October	Introduced in India by Portuguese as an ornamental flowering plant. Plant was under cultivation in the Indian Botanic Garden before 1814 (Roxb. 1814).

*<i>Manihot esculenta</i> Crantz	Cassava, Manioc, Tapioca- Plant	Tropical America (Gupta & Marlange, <i>l.c.</i>) & Mexico (Deb, <i>l. c.</i>)	17th century (MacMillan, <i>l.c.</i>)	<i>Fl.</i> : July to October	Shrub, first introduced by Portuguese for its ornamental foliage beauty and edible fleshy roots.
<i>Pedilanthus tithymaloides</i> (L.) Poir	Jew-Bush, Red-Bird- Cactus, Slipper- Flower	Florida to Venezuela (Bailey, 1949)	Before 1794	—	Shrub, cultivated for its ornamental foliage beauty and as hedge. Probably first introduced in the Indian Botanic Garden before 1794 (Roxb. 1814).
<i>Ricinus communis</i> L.	Castor-Bean, Castor-Oil- Plant, <i>Arand</i>	Africa (Bailey, 1949), (Backer & Brink, 1963) and (Purseglove, 1968)	1794	<i>Fl. & Fr.</i> : Almost throughout the year	Oil yielding/medicinal tree. Found in waste places and grown in gardens/fields. It was grown in the Indian Botanic Garden before 1794 (Roxb. 1814).
URTICACEAE					
*<i>Boehmeria nivea</i> (L.) Gaud. (= <i>Urtica nivea</i> L.)	China-Grass, Chinese- Silk-Plant, Ramie-Rhea	Tropical and sub-tropical Asia (MacMillan, <i>l.c.</i>)	Between 1793 to 1813	<i>Fl.</i> : Septem- ber to December	Shrub, planted in gardens/parks for its foliage beauty. First introduced in Indian

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		& China, Japan and Malayan Isles (Bailey, 1949)			Botanic Garden during Roxburgh period as fibre yielding plant (Santapau, 1965) and (Voight, <i>l. c.</i>).
Pilea muscosa Lindl. (= <i>P. microphylla</i> (L.) Liebm.) (= <i>Urtica microphylla</i> L.)	Artillary Plant, Gun- Powder Plant	Tropical America (Bailey, 1949)	Before 1872	<i>Fl. & Fr.</i> : Almost throughout the year	Perennial herb, grown as edge and pot plants for its foliage beauty.
MORACEAE					
Ficus carica L.	Common Fig, <i>Anjeer</i>	Western Asia and Eastern Medeterranean region (Matthew, <i>l.c.</i>), Eastern Europe, North Africa and Asia Minor (Voight, <i>l.c.</i>).	Probably before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl. & Fr.</i> : March to August	Tree, planted in orchards for edible fruits. Introduced in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).

*F. pumila L.	Creeping-Fig	China and Japan (Matthew, <i>l.c.</i>), China, Japan and Australia (Bailey, 1949)	After 1897	—	Perennial trailing plant, clings to walls and trees.
Morus nigra L.	Black Mulberry	Asia, probably Persia (Bailey, 1928) & Europe (Benthall, <i>l.c.</i>).	Probably 1795	<i>Fl. & Fr.</i> : July to November	Tree, planted for its edible and medicinal fruits. Probably first introduced in the Indian Botanic Garden during 1795 (Roxb. 1814)
CASUARINACEAE					
Casuarina equisetifolia J. R. & Forst.	Australian-Pine, Australian-Oak, Beef-Wood-Tree, Horse-Tail-tree, <i>Jhau</i>	Australia, Malaya and Pacific Island (Benthall, <i>l.c.</i>), North Australia and Queensland (Bailey, 1949)	1798	<i>Fl. & Fr.</i> : September to April	First introduced in the Indian Botanic Garden as an ornamental tree (Santapau, <i>l. c.</i>).
EPHEDRACEAE					
*Ephedra tweediana C. A. Mey	—	Argentina, South America (Groff & Clark, 1928)	—	—	Scandant shrub, grown in gardens for graceful leaves and botanical interest.

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CUPRESSACEAE					
* <i>Thuja orientalis</i> L.	Chinese Arbor-Vitae, <i>Mor pankhi</i>	China and Japan (MacMillan, <i>l. c.</i>) & North & Western China (Chittenden, <i>l. c.</i>)	Before 1794	<i>Fl. & Fr. :</i> July to April	Ornamental foliage tree. Planted as a specimen or along herbaceous borders. Introduced in the Indian Botanic Garden during 1794 (Roxb. 1814).
TAXODIACEAE					
* <i>Taxodium mucronatum</i> Tenore	Montezuma Yew-Cypress, Mexican Cypress	Mexico (Rehder, <i>l. c.</i>) and (Dallimore & Jackson, 1923)	—	—	Tree, grown for graceful evergreen foliage.
ARAUCARIACEAE					
* <i>Agathis brownii</i> (Lam.) L.H. Bailey (= <i>Dammara brownii</i> Lam.)	Queensland Kauri, Dundathu Pine	Australia (Bailey, 1949) Queensland and Fraser Island (Chittenden, 1932) and	—	—	Tree grown for graceful foliage. Introduced in Ceylon in 1865.

		(Dallimore & Jackson, <i>l.c.</i>) & Queensland (MacMillan, <i>l.c.</i>)			
* Araucaria columnaris (Forst.) Hook. (= <i>Cupressus columnaris</i> Forst.)	New Caledonian Pine, Christmas Tree, Polynesia and Isles of Pine, Cooke's Araucaria	New Caledonia (Bailey, 1949) & New Hebrides (Bailey, 1949)	Probably after 1897	—	Ornamental foliage tree, planted in gardens/ parks as specimen plant.
* A. cunninghamii Sweet	Hoop Pines, Mr. Cunning- ham's Araucaria, The Moreton Bay Pine	Australia (Benthall, <i>l.c.</i>), North Holland (Voight, <i>l.c.</i>), South America (Anonymous, 1948) & Australia & New Guinea (Backer & Brink, 1963)	Before 1881	—	Tree, grown for graceful evergreen foliage. Timber sample was taken from a fallen tree in the Indian Botanic Garden during 1881 (Gamble, 1967).

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* <i>A. excelsa</i> R. Br.	Norfolk- Islands Pine	Norfolk Islands (Australia) (Bailey, 1949)	About 1840	<i>Fl. & Fr.</i> : July to April	Ornamental foliage tree, planted in gardens as a specimen plant and was introduced in the Indian Botanic Garden during 1840 (Voight, <i>l.c.</i>).
CYCADACEAE					
* <i>Cycas revoluta</i> Thunb.	Sago Palm	China and Japan (MacMillan, <i>l.c.</i>)	About 1794	<i>Cone</i> ; February to June	Tree, planted for its graceful leaves. Probably first introduced in the Indian Botanic Garden during 1794 (Roxb. 1814).
* <i>Encephalartos villosus</i> Lehm.	—	Tropical and Southern Africa (Bailey, 1928)	—	—	One of the excellent cycads grown in gardens for its evergreen foliage and botanical interest.
ZAMIACEAE					
* <i>Zamia floridana</i> A. DC.	Coontie	South Florida (Pandey & Kumar, 1976)	Recent introduction, probably after 1897	<i>Cone</i> : Throughout the year	A dwarf plant with underground trunk and ornamental foliage. Planted as specimen plant.

STRELITZIACEAE
(MUSACEAE)

Ravenala madagascariensis J. F. Gmel.	Traveller's Tree	Madagascar (Backer & Brink, 1968), (Bailey, 1949) and (Benthall, <i>l.c.</i>)	180 (Roxb. <i>Fl. Ind.</i>)	<i>Fl.</i> : September to October <i>Fr.</i> : May to July	An ornamental and curious perennial herb. First introduced in the Indian Botanic Garden by Capt. Tennant brought from the Island of Mauritius (Roxb, <i>Fl. Ind.</i>).
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CANNACEAE

* Canna coccinea Mill.	<i>Vaijanti</i>	Tropical America (Backer & Brink, 1968)	Probably before 1845	<i>Fl.</i> : July to December	Perennial herb, grown for handsome flowers. Probably first introduced in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
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BROMELIACEAE

* Ananas comosus (L.) Merr. (= <i>Bromelia comosa</i> L.)	Pine-apple <i>Ananas</i>	South America (Purseglove, 1972) & Tropical America (Bailey, 1949)	1502-4	<i>Fl. & Fr.</i> : July to December	Perennial herb, first introduced in India during Columbus period for its edible fruit.
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IRIDACEAE					
* <i>Belamcanda chinensis</i> (L.) DC. (= <i>Ixia chinensis</i> L.)	Black- Berry Lily	China & Japan (Bailey, 1928), China (Hooker, 1894) & Eastern Asia (Backer & Brink, 1968)	Probably before 1832 (Roxb. <i>Fl Ind.</i>)	<i>Fl.</i> : August to December	Rhizomatous perennial herb, grown in parks/ gardens for ornamental flowers and showy foliage. Doubtfully wild in the Himalayas (Hooker, <i>l. c.</i>).
AMARYLLIDACEAE					
* <i>Amaryllis vittata</i> Ait.	—	Peruvian Andes (Bailey, 1949)	About 1812	<i>Fl.</i> : July to September	Ornamental flowering perennial herb, grown with var. <i>johnsonii</i> Hort. First introduced in the Indian Botanic Garden during 1812 by Dr. W. Carey (Roxb. 1814).
* <i>Haemanthus coccineus</i> L.	Blood- Lily	South Africa (Bailey, 1949)	About 1841	<i>Fl.</i> : April to June	Ornamental flowering perennial herb. First introduced in the Indian Botanic Garden during March 1841 (Voight, <i>l. c.</i>).

*Hippeastrum rutilum Herb.	—	Brazil (Bailey, 1928)	Probably after 1897	<i>Fl.</i> : February to May	Perennial herb, grown for ornamental showy flowers.
*Zephyranthes aurea Baker	—	Peru (Bailey, 1929)	Probably after 1897	<i>Fl.</i> : July to August <i>Fr.</i> : August to September	Perennial bulbous herb, cultivated and found as an escape in garden lawns.
*Z. candida Herb.	—	Peru, Buenos Ayres (Voight, <i>l. c.</i>)	Before 1845	<i>Fl. & Fr.</i> : July to October	Perennial bulbous herb, grown in beds/pots for ornamental flowers.
Z. citrina Baker		British Guinea (Backer & Brink, 1968)	Probably after 1897	<i>Fl.</i> : August to December	Bulbous ornamental flowering herb.
* Z. grandiflora Lindl.	—	Jamaica, Cuba, Mexico & Guatemala (Bailey, 1928)	Probably before 1845	<i>Fl.</i> : June to July	Perennial bulbous herb, cultivated for showy flowers in the gardens.
ALLIACEAE					
Allium cepa L.	Common Onion <i>Pyaj</i>	Western Asia (probably Iran, West Pakistan and mountainous	Since ancient time	<i>Fl. & Fr.</i> : February to May	Biennial herb, cultivated for bulbs and leaves used as raw and cooked (condiment).

1	2	3	4	5	6
		countries to the north) (Backer & Brink, <i>l.c.</i>), Persia and adjacent regions (Bailey, 1928)			
* <i>A. sativum</i> L.	Garlic, <i>Lahsun</i>	Western temperate Asia (DeCandolle, <i>l.c.</i>) & Europe (Bailey, 1949)	Pre-historic time	<i>Fl. & Fr.</i> : February to April	Annual herb, used as spices (condiment). First introduced in the Indian Botanic Garden during 1794 (Roxb. 1814).
AGAVACEAE					
<i>Agave americana</i> L.	The American Aloe, The Century Plant, The Carata, <i>Hathi</i> <i>Chinghar</i>	Probably Mexico (Backer & Brink, 1968) & Tropical America (Bailey, 1949)	Before 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl.</i> : February to May	Under-shrub, grown as a protective hedge and in rockeries. Var. marginata Trel. and variegata Hook. are also grown as an ornamental Plant.

*A. angustifolia Haw.	Dwarf Sisal	Probably Central America (Bailey, 1928)	After 1832 (Roxb. <i>Fl. Ind.</i>)	<i>Fl.</i> : February to May	Shrub, planted in rockeries.
*Dracaena fragrans Ker-Gawl.	—	Guinea, Nigeria, Ethiopia (Graf, <i>l.c.</i>) & Upper Guinea (Bailey, 1949)	Before 1845	<i>Fl.</i> : February to April	Perennial ornamental foliage shrub. var. lindenii Hort. is also grown in the gardens. Plant was under cultiva- tion in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>). Economic and orna- mental shrub, planted in gardens/pots/beds as specimen plant and also in rockeries. Introduced to Mauritius in 16th century by Father Leries, and from Mauritius to South India (Bose, <i>l.c.</i>). Now becoming natura- lized (Duthie, <i>l.c.</i>). Introduced in the BSA garden, Allahabad during 1966 by Dr. G. Panigrahi from Mahableshtar.
Furcraea foetida (L.) Haw. (= <i>Agave foetida</i> L.)	Mauritius Hemp	South America (Matthew, <i>l.c.</i>), Central America (Backer & Brink, 1968) & Tropical America (Bose, 1976)	After 1845 (Voight, <i>l.c.</i>)	<i>Fl.</i> : August to January	

1	2	3	4	5	6
* <i>Polianthes tuberosa</i> L.	Tuberose, <i>Rajani gandha</i>	Mexico (Bailey, 1949)	Before 1794	<i>Fl.</i> : August to December	Perennial herb, cultivated for its ornamental fragrant flowers, with double flowered from <i>pleno</i> Moldenke. Pro- bably first introduced in the Indian Botanic Garden before 1794 (Roxb. 1814).
* <i>Sansevieria cylindrica</i> Bojer	—	Angola (Purse-glove, 1972) & Tropical Africa (Bailey, 1929)	Probably after 1897	<i>Fl.</i> : December to February	Perennial herb, planted in the rockeries/pots.
* <i>S. trifasciata</i> Prain var. <i>laurentii</i> (De Wildem.) N.E. Br.	Snake Plant	Tropical Africa (Backer & Brink, 1968)	Probably after 1845	<i>Fl. & Fr.</i> : August to November	Perennial herb, grown in pots and rockeries for its foliage beauty.
* <i>S. zeylanica</i> Willd. var. <i>laurentii</i> Hort.	Bow String Hemp	Ceylon (Bailey, 1949)	After 1845 (Voight, <i>l.c.</i>)	<i>Fl. & Fr.</i> : December to April	Perennial herb, planted in rockeries/pots as foliage plant.
* <i>Yucca gloriosa</i> L.	Spanish- Dagger	North America (Backer &	About 1799	<i>Fl.</i> : August to November	Short trunk ornamental flowering rock plant.

Brink, 1968)
& Canada,
Carolina, & Peru
(Voight, *l.c.*)

Probably first introduced
in the Indian Botanic
Garden during 1799
(Roxb. 1814).

LILIACEAE

* Aloe barbadensis Mill.	Barbodos Aloe, True Aloe	Cape Verde Islands (Backer & Brink, 1968) & Mediterranean region (Bailey, 1949)	Before 1845	<i>Fl.</i> : November to January	Perennial herb, planted for its ornamental and medicinal value. Probably first introduced in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
* A. variegata L.	Partidge Breast	South Africa (Bailey, 1949)	1806	<i>Fr.</i> : December to February	Perennial herb, brought from Kew Garden and introduced in the Indian Botanic Garden as foliage plant, probably during 1806 (Roxb, 1814).
* Asparagus officinalis L.	Common or Garden Asparagus	Europe, North Africa and Western Asia (Backer & Brink, 1968)	Probably before 1794	<i>Fl.</i> : February to April <i>Fr.</i> : March to May	Perennial creeper, grown for its medicinal tuberous roots and graceful leaves, used for decoration. Probably first introduced

1	2	3	4	5	6
					in the Indian Botanic Garden before 1794 (Roxb. 1814).
* <i>A. plumosus</i> Baker	The Fern Asparagus	South Africa (Backer & Brink, 1968) and (Bailey, 1949)	Probably after 1897	<i>Fl.</i> : November to January	Perennial creeper, grown for ornamental & graceful foliage.
* <i>Haworthia coarctata</i> Haw.	—	South Africa (Bailey, 1949)	Recent introduction	<i>Fl.</i> : September to November	Perennial herb (Cactus), grown for its ornamental foliage beauty.
RUSCACEAE					
* <i>Ruscus aculeatus</i> L.	Butcher's Broom	Maderia Islands to Caucasus (Bailey, 1949)	Probably after 1897	<i>Fl.</i> : February to April	Perennial herb, grown as a curious plant.
PONTEDERIACEAE					
<i>Eichhornia crassipes</i> (Mart.) Solms. (= <i>Pontederia crassipes</i> Mart.)	Devil's Lilac, Million Doller Weed,	Brazil (Rajagopal & Panigrahi, 1965) & Tropical and	19th Century	<i>Fl. & Fr.</i> : February to July	Perennial herb, common in ditches and ponds. Introduced in the old World about 1829

Morgan's
Folly, Terror
of Bengal,
Water
Hyacinth,
Jal Kumbhi

Subtropical
America
(Bailey, 1949)

on account of its
beautiful flowers (Ridley,
l.c.). First introduced
in Dacca towards the
19th century and spread
all over India (Mahesh-
wari & Paul, *l.c.*).

COMMELINACEAE

**Rhoeo spathacea* (Sw.)
W.T. Stearn.
(=*Rhoeo discolor*
L. 'Herit.') Hance)

Mosses-in-the
Cradle,
Boat Lily

Central America
(MacMillan,
l.c.) & Mexico,
Central America
and Cuba
(Backer &
Brink, 1968)

16th century

Fl. : October
to November

Perennial herb, grown in
rockeries and hanging
pots (in green houses) for
ornamental foliage.
Probably grown in the
Indian Botanic Garden
before 1814 (Roxb. 1814.)

**Setcreasea purpurea* L.

Purple
Heart

Mexico
(Graf, *l.c.*)

Recent
introduction

Fl. : March
to June

Perennial herb, grown in
green houses and
varandah as indoor
decorative plants.

**Zebrina pendula* Schnizl.
(=*Tradescantia zebrina*
Hort.)

Wandering
Jaw

Mexico (Bailey,
1949) and
(Backer &
Brink, 1968)

About 1800

Fl. : January
to April

Creeping perennial herb,
grown in rockeries & as
indoor decorative
(varandah) plant for its
ornamental foliage.

1	2	3	4	5	6
					Introduced in the Indian Botanic Garden during 1800 by W. Hamilton Esq. (Roxb. 1814)
ARECACEAE (PALMAE)					
* Hyphaenebaica Martius	Egyptian Doum Palm, Branching Palm	North America (Basu & Basu, 1975)	About 1828	—	Dichotomous branching palm, introduced in the BSA garden, Allahabad during 1979. Probably first introduced in Bombay during 1828 by Nimmo (Cooke, 1958).
* Livistona chinensis (Jacq.) R. Br. (= <i>Latania chinensis</i> Jacq.)	China Palm, Fountain Palm, Tub-Palm	China and Japan (Hooker, 1194) & Southern China (Benthall, l.c.)	1795 1804 (Maheshwari & Paul, l.c.)	—	Palm, planted for its ornamental foliage beauty.
* L. rotundifolia (Lamk.) Mart. (= <i>Corypha rotundifolia</i> Lamk.)	—	Java (Bailey, 1949) & East Indies (Basu & Basu, l.c.)	—	<i>Fl.</i> : February to April	Slender palm, grown for its foliage beauty.

Roystonea regia (H. B. & K.) O. F. Cook (= <i>Oreodoxa regia</i> H.B. & K.)	Bottle Palm, Cuban Palm, Royal Palm	Cuba and Panama (Purseglove, 1972)	Before 1845	<i>Fl.</i> : February to September	Bottle shaped trunk and graceful leaves of the tree gives ornamental look. Plants were under cultivation in the Indian Botanic Garden before 1845 (Voight, <i>l.c.</i>).
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ARACEAE

* Alocasia indica Schott var. metallica Schott	—	Malaya (Bailey, 1949)	Probably a recent introduction	—	Rhizomaticus ornamental foliage herb, planted for indoor (shade loving) decoration.
* A. sanderiana Bull.	—	Philippines (Bailey, 1949)	Probably after 1897	—	Perennial herb, planted for ornamental/showy foliage.
* Caladium bicolor (Ait.) Vent. (= <i>Arum bicolor</i> Ait.)	—	Tropical America (Backer & Brink 1968) & Brazil (Voight, <i>l.c.</i>)	After 1845 (Voight, <i>l.c.</i>)	<i>Fl.</i> : August to December	Tuberous perennial herb, grown for its ornamental foliage beauty. Many cultivars are grown in the gardens/parks.
* Dieffenbachia seguine Schott	Dumb- Plant	West Indies (Bailey, 1928) and (Purseglove, 1972)	After 1845 (Voight, <i>l.c.</i>)	—	Perennial herb, grown for its graceful foliage in green house.

1	2	3	4	5	6
Monstera deliciosa Leibm.	Ceriman	Tropical Mexico and Central America (Backer & Brink, 1968) & Mexico (Purseglove, 1972)	Probably after 1897	—	Straggling climber, planted for its spectacular ornamental foliage.
Pothos aureus Lindl.	Devil's Ivy, Money Plant, Pothos	Solomon Islands (Graf, <i>l.c.</i>)	Probably after 1897	—	Graceful climber with ornamental leaves, grown as indoor/shade loving plant.
* Xanthosoma lindenii Engl.	—	Columbia (Bailey, 1929)	Probably after 1897	—	Perennial herb, grown in green houses for its ornamental variegated foliage.
CYPERACEAE					
* Cyperus flabelliformis Rottb.	Umbrella Plant	Tropical Africa (Backer & Brink, 1968) & Africa (Bailey, 1949)	Probably after 1897	<i>Fl. & Fr.</i> : January to April	Ornamental perennial bog plant. Planted for umbrella-shaped showy leaves.

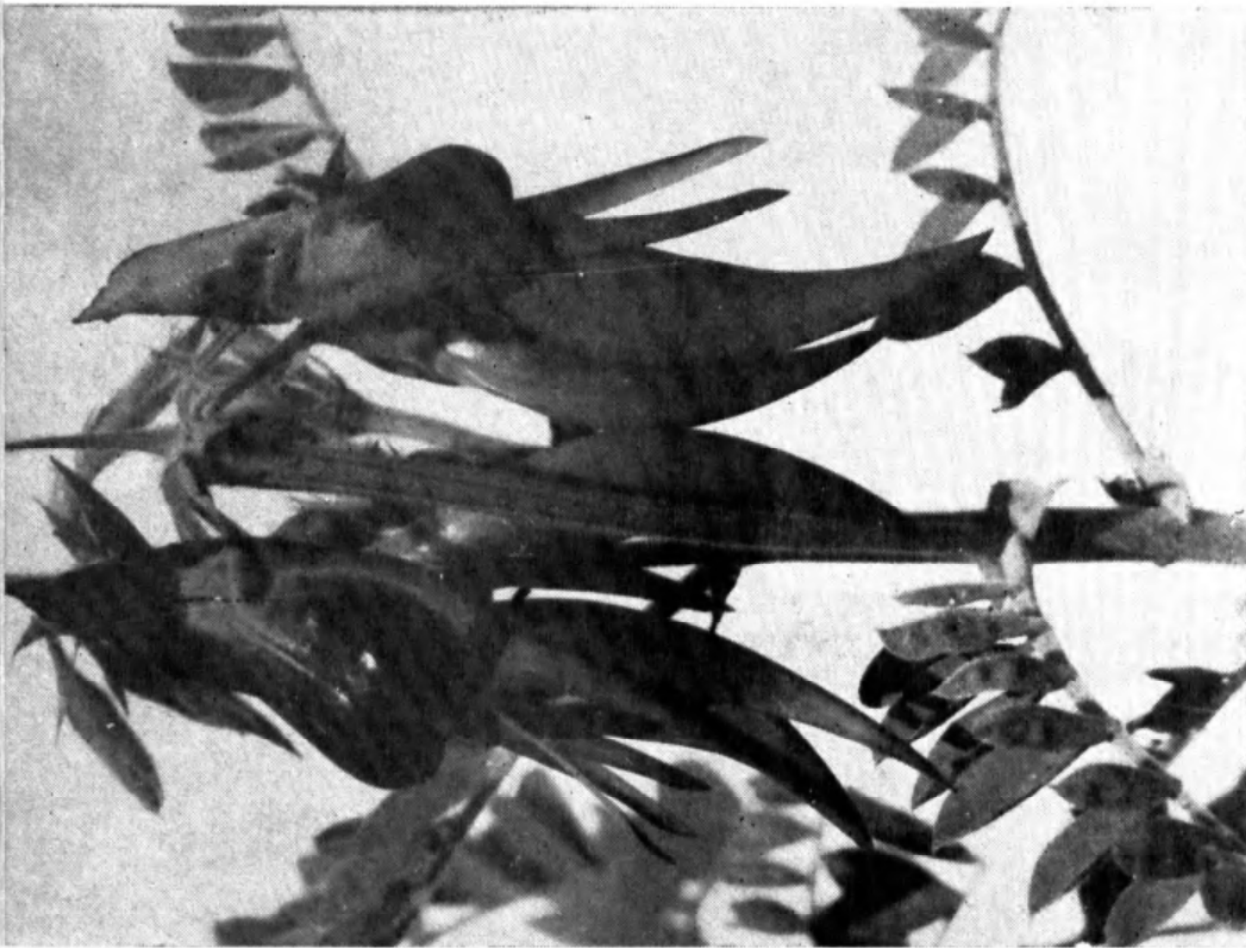
POACEAE (GRAMINEAE)					
<i>Aristida adscensionis</i> L.	—	North Africa (Ridley, <i>l.c.</i>) and (Rajagopal & Panigrahi, 1965)	Before 1696	<i>Fl. & Fr.</i> : September to December	Perennial herb, found in open field/ground and in gardens. It is first des- cribed as a Madras plant Plunket biny 1696.
* <i>Avena sativa</i> L.	Common Oats, <i>Jayee</i>	Europe (Purseglove, 1972)	Since ancient time	<i>Fl. & Fr.</i> : February to May	Annual herb grown for cereal and fodder.
<i>Chloris barbata</i> Sw.	—	Tropical Africa (Ridley, <i>l.c.</i>) and (Rajagopal & Panigrahi, 1965) & Tropical America (Bor, 1960)	Before 1769	<i>Fl. & Fr.</i> : October to January	Perennial grass, in open ground, in hedges and in gardens as a weed. Rajagopal & Panigrahi (1965) state that accord- ing to Rheede (1703) it is native of India.
* <i>Cymbopogon citratus</i> (DC.) Stapf (= <i>Andropogon citratus</i> DC.)	Lemon Grass	Only in cultiva- tion (Bor, 1960). Probably Malesia or Ceylon (Purseglove, 1972)	Probably before 1872	<i>Fl. & Fr.</i> : February to May	Perennial herb, planted for its medicinal value and aromatic leaves.

1	2	3	4	5	6
Pennisetum glaucum (L.) R. Br. (= <i>P. typhoides</i> (Burm. f.) Stapf & C.E. Hubb.) (= <i>Alopecurus</i> <i>typhoides</i> Burm. f.)	Balrush Millet, Cat Tail Millet. Pearl Millet, Spiked Millet, <i>Bajra</i>	Tropical Africa (Purseglove, 1972)	About 2000 years ago	<i>Fl. & Fr.</i> : September to December	Biennial herb, grown for cereal and fodder.
Polypogon monspeliensis (L.) Desf. (= <i>Alopecurus</i> <i>monspeliensis</i> L.)	—	Temperate parts of Asia, Africa and Europe (Bor, <i>l.c.</i>) and (Rajagopal & Panigrahi, 1965)	—	<i>Fl. & Fr.</i> : February to April	Annual grass, found wild in moist situations on field bunds and as a weed in gardens.
Sorghum halepense Pers.	Aleppo-Grass, Johnson- Grass, Means Grass	Tropical America (Bor, <i>l.c.</i>) and (Rajagopal & Panigrahi, 1965) & Mediterranean region (Bailey, 1949)	Early period (Bor, <i>l.c.</i>). Probably after 1845	<i>Fl. & Fr.</i> : October to December	Annual grass, common in hedges on field bunds and in gardens.

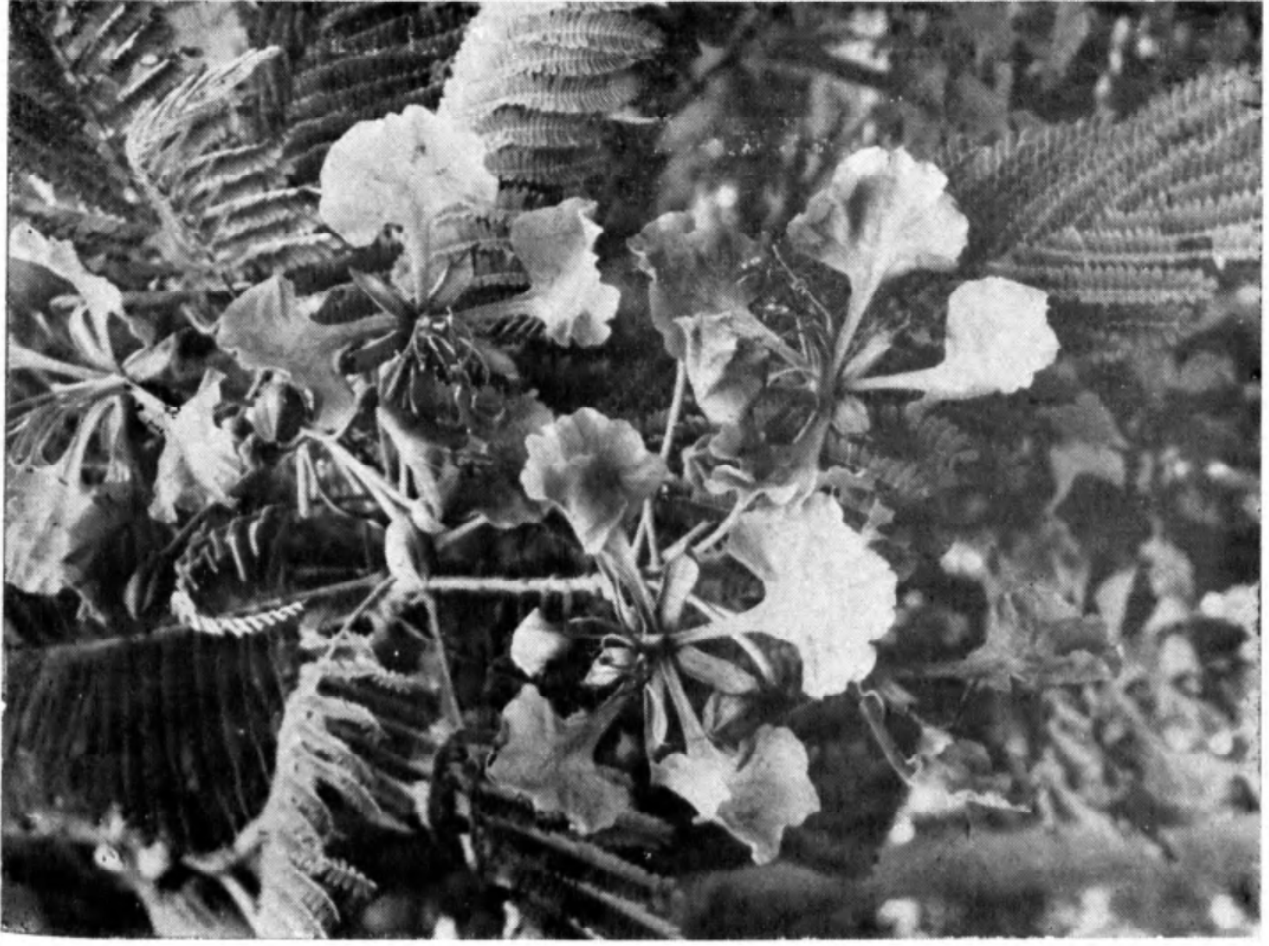
* <i>S. vulgare</i> (L.) Pers. (= <i>Holcus sorghum</i> L.)	Sorghum, <i>Jwar</i>	Arabia (Voight, <i>l.c.</i>)	Ancient time	<i>Fl. & Fr.</i> : September to January	Annual herb, cultivated for grains and fodder.
<i>Zea mays</i> L.	Corn, Indian Corn, Maize, <i>Makka</i>	Central America (Backer & Brink, 1968) and (Purseglove, 1972) & America (<i>Bor. l.c.</i>) and (Panigrahi & Rajagopal, 1967)	Early date	<i>Fl. & Fr.</i> : July to November	Annual herb. grown for grains and fodder.



Caesalpinia pulcherrima (L.) SW.



Clianthus dampieri A. Cunn.



Delonix regia (Boj. ex Hook.) Rafin.



Nerium indicum Mill.



Parthenium hysterophorus L.

Pilea muscosa Lindl.





Quisqualis indica L. ↑



Ruellia tuberosa L.

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