

A SURVEY OF WILD PLANTS OF HORTICULTURE VALUE FROM PUNJAB

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ABSTRACT

40 wild species of Punjab having ornamental value are listed alphabetically along with their general distribution in Punjab, brief remarks on ornamental value and flowering and fruiting periods. Selection of certain species for some specific purposes like avenue trees, hedge-plants, garden ornamentals, pond-plants etc. has been emphasized

INTRODUCTION

During the course of twenty three years of study on the vegetation of Punjab State, the author came across numerous wild plants of horticulture importance. These plants have been listed here so that they become popular ornamental objects. It is hoped that the imaginative horticulturists, town planners, landscape architects, nurserymen and lovers of nature will play an important role in popularizing these wild plants by introducing them under man made settings in the city and town environments.

VEGETATION OF PUNJAB IN RELATION TO ORNAMENTAL FLORA

Based upon altitude, rainfall and edaphic factors, the vegetation of Punjab can be studied under three zones; namely Shivalik hills, moister plain country and drier plain country (semi-arid Punjab). These zones do overlap in the contiguous areas. Broadly speaking, the Shivaliks delimit the north and north-east boundaries of the State, whereas almost the whole of southern part is included under semi-arid Punjab. The intervening area constitutes moister plain country. The rainfall varies between 35-100 cm annually in different districts

and the altitude from approximately 220 m in south to 700 m in north (Shivalik range).

All these three zones can provide scores of ornamental herbs, shrubs, trees and climbers. Some of these are deciduous or practically leafless in nature and impart conspicuous colour to the area periodically when they flower seasonally. *Butea monosperma*, *Capparis decidua*, *Crataeva adansonii* subsp. *odora* and *Woodfordia fruticosa* belong to this category. *Bombax ceiba*, *Bauhinia purpurea*, *Cassia fistula*, *Tecomella undulata* and *Syzygium cumini* can be easily grown as avenue trees and have already been introduced at some places. *Acacia* spp. and *Prosopis cineraria* are suitable for planting along roadsides in semi-arid Punjab where they can easily thrive under the inhospitable climatic conditions of that zone and can also be put to other uses. Similarly *Tamarix* spp. are recommended for growing in saline areas (*Kallar* or *Usar* soil) where majority of other species cannot survive because of high concentration of salts in the soil. *Barleria cristata*, *Eranthemum pulchellum* and *Spermadictyon suaveolens* are ornamental shrubs quite suitable for gardens. Besides, other beautiful shrubs like *Caesalpinia bonduc*, *Mimosa hamata* and *M. himalayana* are impenetra-

ble because of their thorny nature and hence can serve as excellent hedges around agricultural fields. Climbers like *Abrus precatorius*, *Asparagus racemosus*, *Bauhinia vahlii*, *Porana paniculata*, *Pueraria tuberosa* and *Gloriosa superba* are worthy of introduction in gardens because of their showy flowers or inflorescences. *Canscora diffusa*, *Centaurium centaurioides* and *C. pulchellum* can easily compete with other ornamental herbs in gardens. *Centaurium* spp. flower during summer months when very few garden annuals are available and hence will be much appreciated. *Lotus corniculatus* var. *minor* will serve as excellent border plant along the foot-paths and bunds in gardens. Moist plain country provides showy aquatics like *Alisma plantago-aquatica*, *Butomus umbellatus*, *Monochoria hastata* *Nymphaea* spp. and *Sagittaria trifolia* suitable for garden tanks.

ENUMERATION OF WILD ORNAMENTAL PLANTS

Below are listed alphabetically 40 wild species of ornamental value. Family names are indicated in parentheses after species names. General distribution in the area is followed by brief remarks on the ornamental value. Flowering (Fl.) and Fruiting (Fr.) seasons, if and when recorded, are mentioned under each species. The voucher specimens are preserved in the herbaria of Panjab University, Chandigarh-PAN (collected during July 1963-April 1966, indicated by single asterisk), Punjab Agricultural University, Ludhiana (collected during May 1966-September 1968, indicated by double asterisks) and Punjabi University, Patiala-PUN (collected ever since October 1968, without any asterisk mark).

Abrus precatorius Linn. (PAPILIONACEAE)

Common in the area. Woody climber; flowers pink, in dense racemes; seeds scarlet with a black spot at the hilum. Occasionally grown in gardens.

Fl. : August-September

Fr. : November-December.

Specimens collected : Chandi Mandir, Govt. College Ludhiana, NIS Patiala, Nabha, Rajpura, Rakhra, Bela, Sardulgarh, Faridkot; *M. Sharma* 2142*, 303**, 308, 1325, 1411, 2168, 9188, 11727, 13560.

Alhagi pseudalhagi (M. Bieb.) Desv. (PAPILIONACEAE)

In drier parts of the State. An ornamental undershrub with red flowers on the thorns and moniliform, indehiscent pods. Suitable for summer season.

Fl. : April-May.

Fr. : May-June.

Specimens examined : Chandigarh—Patiala Road, Ludhiana, Banur, Patiala, Rajpura, Zirakpur, Bhikhi, *M. Sharma* 2654*, 32**, 1878, 2048, 2822, 11565.

Alisma plantago-aquatica Linn. (ALISMA-TACEAE)

In plains adjacent to Shivalik. An elegant, perennial herb with showy, white or pink flowers in paniced whorls. Suitable for planting in garden ponds.

Fl. & Fr. : March-May.

Specimen examined : Zirakpur, *M. Sharma* 3866.

Asparagus racemosus Willd. (LILIACEAE)

In Shivalik and semi-arid areas. An ornamental climber with white-flowered racemes and red berries which make the species suitable for hedges in gardens.

Fl. & Fr. : October-December.

Specimens examined : Univ. Campus Ludhiana, Daunkalan, Nangal Shivalik, Bhikhi, *M. Sharma* 801**, 1673, 9879, 11547.

A. royleanus Daniel (LILIACEAE)

In Shivalik and adjoining plain. Suberect undershrub with white flowers and red berries.

Fl. & Fr. : March-June.

Specimens examined : Manimajra, Bassi Pathanan, Baradari Gardens Patiala, Chhat Bir, *M. Sharma* 1861*, 2667, 2802, 4232.

Butomus umbellatus Linn. (BUTOMACEAE)

In plain country. An attractive perennial herb with beautiful pink flowers in umbel. Suitable for garden tanks.

Fl. & Fr. : March-September.

Specimens examined : Budha Nala Ludhiana, Sirhind, Samana, *M. Sharma* 635**, 1891, 2885.

Callicarpa macrophylla Vahl (VERBENACEAE)

Fairly common. Evergreen shrub, quite attractive because of pink flowers and white fruits.

Fl. : August-September.

Fr. : December-January.

Specimens examined : Pinjore, University Campus Ludhiana, Chhat Bir, Nurpur Bedi, *M. Sharma* 2356*, 111**, 5332, 9892.

Canscora diffusa (Vahl) R. Br. (GENTIANACEAE)

In Shivalik. An elegant annual; flowers pink, showy, in diffuse much-branched panicles.

Fl. & Fr. : March-May.

Specimen examined : Bhakra Dam, *M. Sharma* 5657.

Catunaregam spinosa (Thunb.) Keay (RUBIACEAE)

In Shivalik. Deciduous shrub; flowers large, yellowish-green, fragrant.

Fl. : April-June.

Fr. : September-October.

Specimen examined : Mahadeo (Chandigarh), *M. Sharma* 2656*.

Celastrus paniculatus Willd. (CELASTRACEAE)

In Shivalik and adjoining plain. Deciduous, twining shrub; flowers greenish, in terminal, drooping panicles; seed enclosed in scarlet, showy aril.

Fl. : April-May.

Fr. : August-September.

Specimens examined : Surajpur Factory, Manimajra, Ropar Shivalik, *M. Sharma* 2600*, 2190, 9166.

Centaurium centaurioides (Roxb.) Rolla Rao & Hemadri (GENTIANACEAE)

Common in plain country. A beautiful annual with pink or white flowers. Suitable as a summer annual.

Fl. & Fr. : March-May.

Specimens examined : Chawa Pail, NIS Patiala, Banur, Bassi Pathanan, Mandi Gobindgarh, *M. Sharma* 616**, 1820 & 1821, 1870, 2690, 2810.

C. pulchellum (Sw.) Druce (GENTIANACEAE)

Distribution, characteristics, *Fl. & Fr.* as in preceding species.

Specimens examined : Ludhiana, Benur, Bassi Pathanan, Mandi Gobindgarh, Univ. Campus Patiala, Ganguwal, Kotkapura, *M. Sharma* 30**, 1869, 2691, 2811, 6278, 9190, 13465.

Clematis gouriana Roxb. ex DC. (RANUNCULACEAE)

In Shivalik. Woody climber; ornamental on account of greenish-white flowers in dense, axillary and terminal panicles.

Fl. : August-September.

Fr. : October-November.

Specimens examined : Kalka-Kasauli Bridge Road, *M. Sharma* 2039*.

Cleome gynandra Linn. (CLEOMACEAE)

Common in plain country. Annual with white or cream-coloured flowers in corymbs.

Fl. : August-November.

Fr. : March-April.

Specimens examined : Sector 12 Chandigarh, Ludhiana, Univ. Campus Patiala, Sirhind, NIS Patiala, Mandi Gobindgarh, Sambhu, Nangal, *M. Sharma* 2263*, 210**, 141, 1511, 1613, 2813, 3745, 10505.

Coccinia grandis (Linn.) Voigt (CUCURBITACEAE)

Common. Climbing herb; ornamental due to its large, white flowers and bright scarlet fruits. Suitable for hedges in gardens.

Fl. & Fr. : March-December.

Specimens examined: Sakettari, Rakh Bagh Ludhiana, Univ. Campus Patiala, Kauli, Amloh, Noganwan, Banur, Budhlada, Bagha Purana, *M. Sharma* 2249*, 358**, 284, 1318, 3991, 4317, 4389, 10736, 13512.

Cordia obliqua Willd. (EHRETIACEAE)

Fairly common in the area. Deciduous tree; flowers white, in large terminal pedunculate cymes; drupe with sweet edible pulp.

Fl.: April-May.

Fr.: June-July.

Specimens examined: Surajpur Factory, Ludhiana, Bazidpur, Rohar, Univ. Campus Patiala, Damdama Sahib, *M. Sharma* 2450*, 692**, 1844, 4256, 4278, 11593.

Crotalaria spectabilis Roth (PAPILIONACEAE)

In foot-hill zone. Undershrub; flowers yellow, tinged with purple, in long, attractive, terminal racemes.

Fl. & Fr.: September-April (irregular).

Specimens examined: Sector 11 Chandigarh, Univ. Campus Ludhiana, Univ. Campus Patiala, NIS Patiala, Gandakheri, Zirakpur, *M. Sharma* 2135*, 292**, 574, 1620, 2192, 2943.

Diplocyclos palmatus (Linn.) Jeffrey (CUCURBITACEAE)

Fairly common in Shivalik and nearby plain. Climbing herb; ornamental because of red, white-striped globose fruits. Suitable for growing among hedges in gardens.

Fl.: August-October.

Fr.: September-December.

Specimens examined: Kansal, Banur, Zirakpur, Dera, Bassi, Lalru, Bir Mehas, Nangal, *M. Sharma* 2250*, 1453, 2967, 2976, 3562, 4397, 10415.

Euphorbia royleana Boiss. (EUPHORBIACEAE)

Locally common in Shivalik. Succulent shrub or a small tree much branched above. An attractive plant which can also be

successfully grown as a hedge around agricultural fields.

Fl. & Fr.: February-March.

Specimens examined: Univ. Campus Patiala, *M. Sharma* 6555.

Grewia optiva Drumm. ex Burr. (TILIACEAE)

In Shivalik and adjacent plain. Small or medium-sized tree, flowers greenish-white or pale yellow.

Fl. & Fr.: October-December.

Specimens examined: Panchkula, Nangal Shivalik, *M. Sharma* 2066*, 9886.

Helicteres isora Linn. (STERCULIACEAE)

Common in Shivalik. Shrub; flowers large, red turning to lead-coloured, fruit spirally twisted.

Fl.: July-September.

Fr.: October-November.

Specimens examined: Surajpur Shivalik, Chhat Bir, Univ. Campus Patiala, Ropar Shivalik, *M. Sharma* 2598*, 4307, 5321, 8937.

Hibiscus hirtus Linn. (MALVACEAE)

Common in Shivalik. Shrub; flowers big, white or pink.

Fl. & Fr.: August-October.

Specimens examined: Kansal Shivalik, Banur, Zirakpur, Ropar Shivalik, *M. Sharma* 2054*, 1455, 2937, 10418.

H. vitifolius Linn. (MALVACEAE)

Common. Perennial herb; flowers large, yellow with a purple centre.

Fl. & Fr.: July-October.

Specimens examined: Sector 14 Chandigarh, Kauli, Rajpura, Univ. Campus Patiala, Samana, Zirakpur, Dhanaula, Kotkapura, *M. Sharma* 2625*, 1312, 1430, 1473, 2914, 3502, 11781, 13471.

Inula cuspidata (DC.) Cl. (ASTERACEAE)
In Shivalik. Shrub; heads yellow, radiata, corymbose.

Fl. & Fr.: October-December.

Specimen examined: Nangal Shivalik, *M. Sharma* 8907.

Lespedeza eriocarpa DC. (PAPILIONACEAE)

In Shivalik. Shrub; flowers deep purple, in long racemes.

Fl. & Fr. : August-September.

Specimen examined: Chandi Mandir, M. Sharma 2710*.

Millettia extensa (Benth.) Baker (PAPILIONACEAE)

In Shivalik. Liana; flowers dull white, in long racemes; pods woody, brown-velvety.

Fl. : May-July

Fr. : September-October.

Specimens examined: Surajpur Factory, Nangal, M. Sharma 2658*, 8906.

Mimosa himalayana Gamble (MIMOSACEAE)

In Shivalik and adjacent plain. A large, straggling, deciduous shrub; flowers pink fading to white, in globose heads; pods unarmed.

Fl. & Fr. : July-October.

Specimens examined: Sector 14 Chandigarh, Kauli, Zirakpur, Lalru, Ropar Shivalik, M. Sharma 2154*, 2222, 2264, 3568 10389.

Ougeinia oojeinsis (Roxb.) Hochr. (PAPILIONACEAE)

In Shivalik. Deciduous tree, with white or rosy flowers which appear on the leafless tree, in short fascicled racemes from the nodes of old branches. Sometimes grown in gardens.

Fl. : March-April.

Specimens examined: Surajpur Shivalik, Chandigarh Shivalik, Nangal Shivalik, M. Sharma 2502*, 2664*, 10454.

Oxystelma secamone (Linn.) Karst. (ASCLEPIADACEAE)

In plain country. Twining, perennial herb with large, white to rose-coloured flowers in drooping cymes. Stems are very slender and leaves are grass-like due to which showy flowers become the most conspicuous part of the plant.

Fl. : July-October.

Fr. : September-October.

Specimens examined: Sutlej Bridge Phi-

laur, Univ. Campus Patiala, Sirhind, Ganda-kheri, Sarai Banjara, M. Sharma 793** 320, 1526, 2198, 2876.

Peganum harmala Linn. var. *stenophylla* Boiss. (ZYGOPHYLLACEAE)

In semi-arid tract. Dichotomously and corymbosely much-branched, bushy, perennial herb with white flowers, very attractive when growing gregariously.

Fl. & Fr. : April-June.

Specimens examined: Sudhar, Univ. Campus Patiala, Fatehgarh Sahib, Samana, Chhat Bir, Sardulgarh, M. Sharma 78** 2044, 2687, 3955, 4230, 11549.

Premna mucronata Roxb. (VERBENACEAE)

In Shivalik and foot-hill areas. Deciduous tree; flowers greenish, in terminal, trichotomous, corymbose panicles. Rarely grown in gardens also.

Fl. : April-May.

Fr. : June-July.

Specimens examined: Pinjore, Panchkula, Univ. Campus Patiala, M. Sharma 2592*, 2615, 4557.

Reinwardtia indica Dum. (LINACEAE)

In Shivalik. Shrub; flowers yellow, large, showy.

Fl. & Fr. : February-April.

Specimens examined: Pinjore, M. Sharma 2520*.

Rhynchosia rothii Benth. ex Aitch. (PAPILIONACEAE)

Fairly common throughout the State. Wide-twining shrub; flowers dark red in erect, pedunculate racemes.

Fl. & Fr. : August-November.

Specimens examined: Kansal Shivalik, Dera Bassi, Baradari Gardens Patiala, M. Sharma 2128*, 2959, 4037 & 4371.

Salix tetrasperma Roxb. (SALICACEAE)

In the foot-hill zone. Deciduous tree with lanceolate or ovate-lanceolate, caudate-acuminate leaves. Often planted along streams and in marshy areas.

Fl. : March-April.

Fr. : June-July.

Specimens examined : Pinjore, Ludhiana, Univ. Campus Patiala, Chamkaur Sahib, Ropar Headworks, *M. Sharma* 2521*, 842**, 6266, 10337, 10710.

Silene conoidea Linn. (CARYOPHYLLACEAE)

Common in plain country. Annual with pinkish or purplish large flowers, in dichotomous, paniculate cymes.

Fl. & Fr. : January-April.

Specimens examined : Sector 14 Chandigarh, Univ. Campus Ludhiana, Univ. Campus Patiala, Nabha, Bazidpur, Dakala, Bela, Jhunir, Dhanaula, Kotkapura, *M. Sharma* 1657*, 477**, 837, 1737, 1827, 2571, 9806, 11485, 11800, 13450.

Spermadictyon suaveolens Roxb. (RUBIACEAE)

In Shivalik. Deciduous shrub; flowers bluish-lilac, fragrant, in head like clusters arranged in large, terminal panicles. Sometimes grown in gardens.

Fl. & Fr. : October-April.

Specimens examined : Kansal Shivalik, Ludhiana, Univ. Campus Patiala, Nangal Shivalik, *M. Sharma* 2155*, 812**, 5132, 8929.

Tecomella undulata (Sm.) Seem (BIGNONIACEAE)

In semi-arid tract. Shrub or a small tree; flowers large, showy, pale yellow to deep orange. Already established as an avenue tree.

Fl. : February-May (June).

Fr. : September-October.

Specimens examined : Sector 16 Chandigarh; Univ. Campus Ludhiana, High Courts Chandigarh, Univ. Campus Patiala, Damdama Sahib, Faridkot, *M. Sharma* 2555*, 900**, 3447, 4527, 11587, 13504.

Vaccaria pyramidata Medik. (CARYOPHYLLACEAE)

Common in plain country. Annual; flow-

ers long, pink or red, in large, beautiful, corymbose panicles.

Fl. & Fr. : February-April.

Specimens examined : Panchkula, Ladhowal, Univ. Campus Patiala, Bazidpur, Dakala, Samana, Chamkaur Sahib, Sardulgarh, Sangrur, *M. Sharma* 2399*, 531**, 204, 1826, 2584, 3267, 9170, 11479, 13303.

Wendlandia exserta (Roxb.) DC. (RUBIACEAE)

Common in Shivalik and nearby plain. Evergreen tree; flowers white, fragrant, numerous in large pyramidal panicles which make the plant suitable for ornamental purposes.

Fl. : March-April.

Fr. : May-June.

Specimens examined : Chandigarh Shivalik, Panchkula, Bhakra Dam, *M. Sharma* 2456*, 2617, 5656.

Woodfordia fruticosa (Linn.) Kurz (LYTHRACEAE)

Common in Shivalik. Evergreen shrub; ornamental due to its showy red flowers in dense, axillary, paniculate, cymose clusters.

Fl. : February-April.

Fr. : April-May.

Specimens examined : Chandigarh Shivalik, Govt. College Ludhiana, Bhankarpur, Univ. Campus Patiala, Ropar Shivalik, *M. Sharma* 2457*, 849**, 3524, 4220 & 4570, 9808.

CONCLUSION

The original plant cover of Punjab has suffered greatly under the tremendous influence of clearing for agriculture. Consequently, most of our indigenous species are becoming rare or threatened. This necessitates the proper exploitation and popularization of these plants before they are eliminated from the scene. Surprisingly, in a country like India which is phenomenally rich and diverse in vegetable wealth; exotics are still preferred to indige-

nous wild plants of potential horticulture importance. Lack of information regarding the availability of such plants is probably one of the main reasons for this. A wide variety of plants of all habits and habitats which could be grown in gardens await attention of the amateurs as well as specialists like horticulturists, nurserymen, town planners etc. Majority of the species can be directly introduced in gardens. In some cases, however, hybridization technique may help in improvement.

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REFERENCES

- BURKILL, I.H. Chapters on the history of botany in India. Calcutta. 1965.
MEENAKSHI AND M. SHARMA. Flora of Ropar district (Punjab). Patiala. 1985.