



Indian Farmer
Volume 9, Issue 07, 2022, Pp. 276-287.
Available online at: www.indianfarmer.net
ISSN: 2394-1227 (Online)

ORIGINAL PAPER



Ornamental Climbers: Mean to enhance aesthetic value of Landscape Designing

Jomsen Jini^{1*}, Dr Suneeta Singh² and Dr Anil Kumar Saxena³

¹Research Scholar, Department of Horticulture, School of Agricultural Sciences, SGRR University, Dehradun- 248 001, Uttarakhand, INDIA

²Associate Professor & Head, Department of Horticulture, School of Agricultural Sciences, SGRR University, Dehradun- 248 001, Uttarakhand, INDIA

³Associate Professor & Head, Department of Soil Science, School of Agricultural Sciences, SGRR University, Dehradun- 248 001, Uttarakhand, INDIA

*Corresponding author email: jomsenjini16@gmail.com

Article Received: 25 June 2022

Published Date: 01 July 2022

ABSTRACT

Botanically a climber plants require an external support to grow vertically and enhance light acquisition. Vines that find a suitable support have greater performance and fitness than those that remain prostrate. Climbers are the group of plants which have weak stem and ability to climb up the support with the help of modified organs for sunlight and air. This special structure may be hook-like thorns (e.g., *Bougainvillea*), tendrils (e.g., *Antigonon leptopus*; *Bignonia*), rootless (e.g., *Ficus repens*), or modified leaf-stalks. Twiners differ from climbers in the way that they don't process such modification organs but twine around the support, cover it and reach the top. Such plants belong to the genera *Echitis*, *Hiptage*, *Lonicera*, etc. Creepers are those plants which are unable to climb vertically on their own because of their weak stems (e.g., *Ipomoea cairica*). Trailers are similar to creepers, the only difference being that they do not form any roots at their nodes.

Key words: Climbers, vines, twiners, creepers, *Bougainvillea*

INTRODUCTION

Climbing plants are one of the most interesting group but a much neglected group of plants. But, these mistreated climbers contribute largely to the charms of our landscapes by the manner in which they climb over trees, hedgerows or rocks. Botanically, plants, which have special structure to climb on supports, are defined as

climber. Climbers are very important ornamental plants and the beauty of any garden can be greatly increased by carefully selecting and planting them in a suitable place. The growth habit and mass of colour give charming appearance. Climbers are the plants that germinate on floor and grow for part of their life by winding ground, anchoring or adhering to other plants (Jongkind and Hawthorne, 2005) to attain great stature (Swaine, 2005). They rely on other plants for mechanical support. Due to their weak stem, they attach themselves to any neighbouring object by means of some special organs of attachment. They show great diversity in their climbing mechanism depending on which they are classified as root climbers, hook climbers, tendril climbers, leaf or stem climbers or twiners. Climbers are very commonly used on arches and pergolas but in cities their utility enhanced for the purpose of screening the premises from adjacent houses and maintaining privacy. Bare walls can be most effectively decorated by growing colourful climbers on it. Fences and trellis also provide scope for the beautiful climbers to grow and display. Attempts have been made to include description of plants of horticultural interest and their utility and practical hits on cultivation of a large number of climbers suitable for tropical gardens. Another type of climbing plants grows spirally around another plant or support and do not possess tendrils, rootlets, shoots or thorn. These are known as twiners e.g., *Echites*, *Chonemorpha*, *Clerodendrum* etc. Creepers cannot grow vertically on their own e.g., Morning Glory. All these types of plants are commonly known as climbers. Most of the flowering climbers require full sun for growth and flowering; few climbers however grow well in shade and produce flowers e.g., *Thunbergia grandiflora*, *Clerodendrum splendens*, *Jacquemontia violacea*, *Asparagus racemosus*, *Scindapsus*, *Philodendrons*, *Monstera deliciosa*, *Syngonium*, *Cissus discolor* are grown for beautiful foliage in shade or partial shade. *Scindapsus* are the most popular climber in shade and when grown on tree trunk, the leaves grow large with very attractive shades of green and yellow. *Philodendrons* are also grown on tree trunks in shady places. *Ficus repens* (Indian ivy) is the most popular and widely grown plant for covering bare walls or pedestal. No support is needed as the roots from the node grip the walls. Climbers which grow quickly and cover the space thickly are mostly used for this purpose. Railway creeper (*Ipomoea caircia*), *Antigonon* and *Vernonia* are commonly selected. Some heavy climbers with colourful bloom can be recommended. These are *Clerodendrum splendens*, *Derris scandens*, *Thunbergia*, *Adenocalymma calycina*, *Passiflora*, *Bignonia gracilis*, *Rhynchospermum*, *Bougainvillea*, *Ficus stipulata* is also an ideal climber for screening shady place. *Jacquemontia* is a light flowering climber used for this purpose.

CLASSIFICATION OF CLIMBERS

Based on their growth habit and growing purpose, climbers can be classified as-

- **Showy flowering climbers** : Climbers of this group generally display a show of colour with the flower as a certain time of the year and are more appealing to the common man. A climbers like *Begonia venusta*, *Wisteria* etc. are belongs to this category.

- **Climbers with scented flowers** : A climber like Jasmine, *Trachelospermum jasminoides*, *Honeysuckle*, etc., possess sweet scents. They are generally grown near the houses for their fragrance.
- **Climbers with attractive foliage** : *Monstera deliciosa*, certain species of *Asparagus*, *Ficus repens*, etc., are grown for their attractive foliage only. Flowers of these plants are insignificant or inconspicuous.
- **Shade-loving climbers** : Some climbers are grown well under light or partial shade. Beside the foliage-type climbers such as *Pothos*, *Asparagus*, and *Hedera helix* which grow in partial shade, the flowering climbers like *Clerodendrum splendens*, *Jacquemontia pentantha*, *Thunbergia grandiflora*, etc., can grow well in places receiving partial shade too.

CULTIVATION PRACTICES FOR ORNAMENTAL CLIMBERS

It is difficult to give any general cultural hints for all the climbers as the requirements vary from genus to genus, species to species and sometimes even from one variety to another. Generally, all climbers need plenty of sunshine and loamy soil with good drainage facility in land. For planting climbers, pit size of measuring 60cm x 60cm x 60cm should be dug and refilled with 10-15 kg of well rotten FYM and 10g Phorate to control termites. The main planting season for evergreen climber is July-September and February-March whereas deciduous climbers are planted during February-early March. After planting regular water should be done.

SELECTION OF CLIMBERS

There is different situation in garden like sunny, partial shade and different structure according to which suitable types can be selected from an available wide choice. The climbers for different situation are as follows.

A. FOR SUNNY SITUATION

1. *Bougainvillea*

Bougainvillea is a versatile plant which can be used as thorny ornamental vines, bushes, standard shrub, climbers, pot plant, bonsai, hedges, ground cover for sloppy lands, dwarf trees and to make garden beautiful and colourful for most of the year. It belongs to family Nyctaginaceae. The flowers are surrounded by colourful single or multiple whorls of bracts. The species grow 1 to 12 metres tall, scrambling over other plants with their spiky thorns. It is native to Brazil and introduced in India in early 20th century. It is generally propagated through hardwood cuttings in July-August.

2. *Pyrostegia venusta*

It is commonly known as golden shower or flame vine or orange trumpet vine. It belongs to family Bignoniaceae and native of Brazil. It is an evergreen, vigorously growing woody climber produces rich orange coloured tubular flowers in drooping cymes which cover the entire foliage completely during February-March. It is most beautiful climber when in bloom decorates most buildings, houses, compounds etc.

3. *Quisqualis indica*

It belongs to family Combretaceae and native of Malaya. It is commonly known as Jhoomeka Bel or Rangoon creeper and it is most commonly used climber for planting. This climber is lush grower, evergreen and hardy in nature. Flowers are born terminally on pendulous racemes in three flushes which cover almost the year. The flower colours are first white, later on changes to pink and red. Commercially propagated through cuttings and root suckers.

4. *Antigonon leptopus*

It belongs to family Polygonaceae and native of South America. It is commonly known as Coral vine or Loves chain. It is an evergreen, quick growing climber which produces white, rosy-red and red colour flower in September to November on long raceme. Pruning is done in January and it is easily propagated through seeds.

5. *Campsis grandiflora*

It belongs to family Bignoniaceae and native of China and Japan. It is commonly known as Trumpet climber. It is a winter deciduous climber whose branches produce rootlets at nodes which helps to climb up the support. It produces large trumpet shaped flowers from May to November. Pruning is done in January and it is easily propagated through cuttings.

6. *Adenocalymma alliaceum*

It belongs to family Bignoniaceae and native of Brazil. It is evergreen climber whose leave smell likes garlic and produces bell shaped lavender colour flowers in November.



Bougainvillea



Pyrostegia venusta



Quisqualis indica



Antigonon leptopus



Campsis grandiflora



Adenocalymma alliaceum

B. FOR PARTIAL SHADE**1. *Clerodendron splendens***

It belongs to family Verbenaceae and native of Tropical Africa. It produces dark red flowers in clusters from December to March.

2. *Petrea volubilis*

It belongs to family Verbenaceae, native of Tropical America and commonly known as Purple Wreath. It is an evergreen climber which produces star shaped blue colour flowers in April-May on long spikes. It is commonly propagated through layering and suckers.

3. *Lonicera japonica*

It belongs to family Caprifoliaceae. It is native of Japan and China and is commonly called as Japanese honeysuckle. It is an evergreen and quick growing climber. Leaves are opposite, ovate or oblong ovate. Flowers are white changing to yellow and highly fragrant and are produced in May-June.

4. *Trachalosperrum jasminoides*

It belongs to family Apocynaceae. It is native of China and Japan and is commonly called 'Star jasmine'. It is an evergreen climber. Flowers are small, star shaped, white and fragrant which are produced in May-June. It can be easily propagated through semi hardwood cuttings. It prefers partial shade.



Clerodendrum splendens



Petrea volubilis



Lonicera japonica



Trachalosperrum jasminoides

C. FRAGRANT CLIMBERS

1. *Jasminum grandiflorum*

It belongs to family Oleaceae. It is native of South Asia, the Arabian Peninsula, East and Northeast Africa and known variously as the Spanish jasmine, Royal Jasmine, Catalan jasmine. It is a scrambling deciduous shrub growing to 2-4 m tall. The flower fragrance unique and sweet and is commonly used worldwide.

2. *Jasminum officinale*

It is commonly known as jasmine or simply jasmine, is a species of flowering plant in the olive family Oleaceae. It is native to the Caucasus, northern Iran, Afghanistan, Pakistan, the Himalayas, Tajikistan, India, Nepal and western China. It is a vigorous, twining deciduous climber with sharply pointed pinnate leaves and clusters of starry, pure white flowers in summer, which are the source of its heady scent. The leaf has 5 to 9 leaflets.

3. *Trachelospermum jasminoides*

It is commonly known as confederate jasmine, southern jasmine, star jasmine, Chinese jasmine. It is an evergreen woody liana growing to 3 m high. The fragrant flowers are white, 1-2 cm.

4. *Hiptage benghalensis*

It belongs to family Malpighiaceae, native of India and is commonly called as Madhvi lata. It is a heavy climber and produces scandent branches like rambler. Leaves are large, simple and dark green in colour. Flowers appear in February-March which are creamish white and scented. It is easily propagated through seeds or layering. The pruning should be done in the end of June to give proper shape.

5. *Clematis panniculata*

It belongs to family Ranunculaceae, native of Himalayan region and is commonly called as virgin bower. It is another good climber which blooms in July-August. Leaves are opposite, compound, leaflets are 3-5 and ovate-cordate in shape. Flowers are white, fragrant and produced in panicles. It should be pruned in January. Easily propagated through cuttings. It is ideally suitable for trellis.



Jasminum grandiflorum



Jasminum officinale

***Hiptage benghalensis******Clematis ternatea***

D. HEAVY CLIMBERS

These climbers produce luxuriant vegetative growth and grow very vigorously. They cover large area and are suitable for covering bigger area e.g., *Antigonon leptopus*, *Bignonia magnifica*, *Beaumontia grandiflora*, *Bougainvillea sp.*, *Hiptage benghalensis*, *Quisqualis indica*, *Wisteria sinensis*, *Pyrostegia venusta*, *Clerodendron splendens* etc.

1. *Bignonia magnifica*

It belongs to family Begoniaceae, native of Columbia and South America. It is an evergreen climber making profuse growth. Leaves are opposite, compound consisting of 2 leaflets. Flowers are large, funnel shaped, purplish violet in colour which appear in October-November. It is propagated through cuttings and layering. Suitable for planting against wall and arches. It should be pruned in January.

2. *Quisqualis indica*

It belongs to family Combretaceae, native of Tropical Asia. The Rangoon creeper is a ligneous vine that can reach from 2.5 meters to up to 8 meters. The leaves are elliptical with an acuminate tip and a rounded base. They grow from 7 to 15 centimetres and their arrangement is opposite. The flowers are fragrant and tubular and their colour varies from white to pink to red. The 30 to 35 mm long fruit is ellipsoidal and has five prominent wings. The fruit tastes like almonds when mature.

3. *Beaumontia grandiflora*

It belongs to family Apocynaceae, native of Eastern India and is commonly called as Nepal Trumpet creeper. It grows luxuriantly and climbs up the support up to 15-20 m. Leaves are large oblong ovate in shape. Flowers are big, bell shaped and white in colour which are produce in the month of March, Propagation is done by air layering. It is highly suitable for arches, pergola and to cover large area.

4. *Clerodendron splendens*

It belongs to family Verbenaceae, native of tropical Africa. It is an evergreen climber. Leaves are simple, opposite, big size having crinkled surface and wavy margin. Flowers of deep red colour are produced in clusters from December-March. It is highly suitable for semi-shady situations and may be planted in north side.

5. *Wisteria sinensis*

It belongs to family Leguminosae, native of China and Japan and is commonly called as 'grape flower vine'. It is winter deciduous, woody climber which makes very fast growth in short time. Leaves are alternate and imparipinnate. Flowers of purple colour are produced in March when plant is still in deciduous condition and covered with hanging flower.



Begonia magnifica



Quisqualis indica



Beaumontia grandiflora



Clerodendron splendense



Wisteria sinensis

E. LIGHT CLIMBERS

These climber make sparse vegetative growth and remain light in spread. These climbers are suitable for limited space.

1. *Lonicera japonica*

It belongs to family Caprifoliaceae and native of Japan and China. It is commonly known as Japanese honey suckle and golden-and-silver honeysuckle. It is often grown as an ornamental plant, but has become an invasive species in a number of countries.

2. *Trachelospermum jasminoides*

It belongs to family Acanthaceae and native of Eastern India and is commonly called as 'sky flower'. It is an evergreen climber.

3. *Clematis panniculata*

It belongs to family Ranunculaceae and native of Himalayan region and is commonly called as virgin bower. It is another good climber which blooms in July-August. Flowers are white, fragrant and produced in panicles. Easily propagated through cuttings.

*Lonicera japonica**Clematis panniculata*

F. CLIMBERS FOR POT

1. *Clitoria ternatea*

It belongs to family Fabaceae and native of India. It is commonly known as Asian pigeon wings, blue pea, butterfly pea, Darwin pea, blue ternate. In India, it is revered as a holy flower, used in daily puja rituals. The flowers of this vine were imagined to have the shape of human female genitals. Flowers are attractive blue, white and purple colours which are produced in three months. It can propagate through seed.

2. *Bougainvillea*

It belongs to family Nyctaginaceae. It is a versatile plant and rich in its varietal wealth which can be used in different ways. The flower is surrounded by colourful bracts which are single or multiple and have wide colour range.

*Clitoria ternatea*

G. INDOOR CLIMBERS

1. *Philodendron*

Philodendron is a large genus of flowering plants in the family Araceae. Many are grown as ornamental and indoor plants. Regardless of number of species, the genus is the second-largest member of the family Araceae after genus *Anthurium*. Taxonomically, the genus *Philodendron* is still poorly known, with many undescribed species.

2. *Epipremnum aureum*

It belongs to family Araceae and native of Mooreain the Society Island of French Polynesia. The species is a popular houseplant in temperate regions but has also become naturalised in tropical and sub-tropical forests worldwide.

3. *Monstera deliciosa*

It belongs to family Araceae and native of tropical forests of southern Mexico. It is commonly known as 'Swiss cheese plant'. It is very widely grown in temperate zones as a houseplant.



Philodendron spp.



Epipremnum aureum



Monstera deliciosa

H. CLIMBERS FOR SCREENING

1. *Vernonia elegnifolia*

It belongs to family Asteraceae and is native of India, Burma, Thailand. It is commonly known as curtain creeper. This is a curious member of the Sunflower family. It is a creeper which finds it difficult to climb without support. So, the slender stems climb up and then fall down beautifully over a wall or railing.

2. *Pyrostegia venusta*

It belongs to family Bignoniaceae and native of Brazil. It is commonly known as 'golden shower'. It is an evergreen and woody climber.



Vernonia elegnifolia

I. ANNUAL CLIMBERS

These are climbers which are seasonal in nature and can be grown temporarily.

1. *Lathyrus odoratus*

It belongs to family Fabaceae and native of Sicily, southern Italy and the Aegean Island. It is an annual climbing plant, growing to height of 1-2 meters. The leaves are pinnate with two leaflets and a terminal tendrils, which twines around supporting plants and structures, helping the sweet pea to climb. They are larger and very variable in colour in the many cultivars. Flowers are usually strongly scented.

2. *Ipomoea lobata*

It belongs to family Convolvulaceae and native of Mexico and Brazil. It is commonly known as fire vine, firecracker vine or Spanish flag. It is a perennial climber often cultivated in temperate regions as an annual.

3. *Clitoria ternatea*

It belongs to family Fabaceae and is native of India. It is commonly known as Butter fly pea.



Lathyrus odoratus



Ipomoea lobata

REFERENCES

1. Arora J. S. (2010). Introductory Ornamental Horticulture. Kalyani Publishers, Ludhiana. pp: 161-169.
2. Bhattacharjee, S. K. (2004). Landscape Gardening and Design with Plants. Aavishkar Publishers.
3. Bose T. K. and Yadav L.P. (2003) Commercial Floriculture. Naya Prokash Publication.
4. Jongkind, C. C. H. and Hawthorne W. D. (2005). A Botanical Synopsis of Lianas and other Forest Climbers. In: Forest Climbing Plants of West Africa, Diversity Ecology and management, Bongers,F.; M.P.E.Parren; D. Trare(Eds.) CAB Internat. Wallingford, Oxfordshire, U.K., pp 19-39.

5. Randhawa G. S. and Mukhopadhyay A. (1986). Floriculture in India, Allied Publishers Pvt. Ltd. Allied.
6. Roy A. Larson (1980). Introduction to Floriculture
7. Singh A. K. and A. Sisodia, (2020). Text of Floriculture and Landscaping, New India Publishing Agency.
8. Sindhu, V. (2014). Ornamental Horticulture, NIPA, Pitampur, New Delhi
9. Swaine, M.D.; Hawthorne, W.D.; Bongers, F. and Toldedo, M. Aceves. (2005). Climbing Plants in Ghananian Forest. In: Forest Climbing Plants of West Africa: Diversity, Ecology and management, Bongers, F.; M.P.E. Parren; D. Trare (Eds.) CAB Internat. Wallingford, Oxfordshire, U.K., 19-39.