



## CLIMBERS, LIANAS AND EPIPHYTES OF RAMNAGAR WILDLIFE SANCTUARY

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### ABSTRACT

The paper deals with survey of climbers, lianas and epiphytes occurring in Ramnagar wildlife sanctuary. In all 23 species of these belonging to various Families were reported. The morphometric details of the plants and the flowering times are also given.

### INTRODUCTION

Epiphytism is a type of biotic association and a specialized life form where the epiphytes grow on other plants without deriving any food from the supporting plant.

Large woody climbers, a type of life form and a biotic association, are remarkable features of the forests of India owing to their abundance and fantastic forms. Climbers of various sizes, morphology and life forms add to the complexity of the vertical structure of the forests. The woody climbers or lianas often become large with thick convoluted stems. Their foliage can hardly be identified when they climb tall trees. Often they slip off and fall down from their supports, form great loops on the ground and make passage through the forest impenetrable.

### STUDY AREA

Ramnagar Wildlife Sanctuary covers an area of 10.0 sq. km varying in altitude from 320m to 550m above m.s.l. It lies between 32°44'37" and 32°47'32" N latitude and 74°50'45" and 74°53'37" E longitude.

The area is richly endowed with a mixture of subtropical dry deciduous and thorny vegetation. More than fifty tree species are reported from the area. The under storey is dominated by shrubs of different species. The different life forms of the sanctuary reflect thermo-phanerophytic type of phyto-climate with the predominance of herbs and shrubs.

A large number of lianas and climbers cover the tree crowns at certain places. Most of these plants are climbers and some are lianas. However, only two parasitic plants viz., *Cuscuta reflexa* and *Dendrophthoe falcata* have been reported from this area. Angiospermic families like Convolvulaceae, Cucurbitaceae and Fabaceae have relatively more representatives whereas Celastraceae, Loranthaceae, Cuscutaceae, Vitaceae, Malpighiaceae and Apocyanaceae have single representatives as climbers, lianas or epiphytes in this wildlife sanctuary. The climbers which have been recorded from this wildlife sanctuary are described below. The flowering in some of them is shown in Fig. 1.

***Abrus precatorius***: It is a twining shrub with slender branches and paripinnate leaves, 5-10 cm long, bristle-tipped; leaflets are 10-20 pairs, oblong-ligulate, 0.8-3 × 0.3-0.9 cm and membranous. Flowers are pinkish, 0.8-1.3 cm long, clustered on dense, pedunculate racemes. Pods are oblong, 2.5-5 cm long, turgid and 3-5 seeded. Flowering takes place in August-September and fruiting in cold season.

It has been recorded from Manda, when approached from High Court complex side road in Janipur.

***Aspidopterys wallichii*:** It is a climbing shrub whose twigs, panicles and under surface of leaves is greyish-white and appressed-tomentose. Leaves are ovate or elliptic, 7-15 × 2.5-9 cm, acuminate glabrescent above. Panicles are pendulous and flowers are creamy-white. Fruits are samaras, 3 in number; wings are membranous and prominently veined. Fruits persist for long even when the twigs are completely leafless; Flowering takes place in August-September and fruiting in September-October. It has been recorded from Khanpur village.

***Ipomoea muricata*:** Earlier it was known as *Convolvulus muricatus* Linn. and then it was named as *Calonyction muricatum*.

It is a glabrous twiner. Its leaves are broadly ovate-cordate, acuminate, 8-20 × 6-19 cm, with rounded basal auricles. Flowers are pale-purple, 6-9 cm long to the tip of corolla limb, on few-flowered peduncles. Fruiting pedicels are much thickened upwards. Capsule is glabrous, whitish and 1-2 × 1.5-2 cm. Seeds are 4 in number and black in colour. Flowering and fruiting takes place in September-November. It is found along the foot passage in Manda area.

***Ipomoea hispida*:** The species was earlier known as *Convolvulus hispidus* and then *Ipomoea eriocarpa*.

The herb is slender, trailing or twining and appressed hairy herb. Leaves are ovate or ovate-oblong to triangular or lanceolate, 5.11 × 1.2-5 cm in size, cordate or hastate with rounded auricles. Flowers are pink in colour, crowded in sessile heads 1-2 cm across. Capsules are 6-8 mm in diameter and hairy. Flowering and fruiting takes place in September-October. It is also found along with *Ipomea muricata* in Manda area.

***Ipomoea nil*:** The species was earlier known as *Convolvulus nil* and later *Ipomoea hederacea*.

It is an herbaceous twiner clothed with reflexed hairs. Leaves are hairy and 7-20 × 5.5-17 cm in size, cordate with acuminate lobes. Flowers are 5-6 × 4 cm to the corolla tip, solitary or a few laxly sub-umbellate on hirsute peduncles. Capsules are 0.8-1 cm in diameter, 3-celled and seeds are black in colour. Flowering and fruiting takes place in September-October. It is found near the entry point and also along the foot passage in Manda.

***Ipomoea pes-tigridis*:** It is a hispid climber or twiner. The leaves are hairy and size ranges from 3.5-15 cm in diameter (or larger still). The leaves are deeply cut into ovate or elliptic lobes with rounded sinuses. The size of flowers is 2.5-3 cm in diameter crowded in capitate, conspicuously and persistently bracteates heads on solitary or fascicled, very short to about 18 cm long peduncles. The seeds are black in colour. Flowering season is August-October, while fruiting takes place in October-December. It is found in pockets along the National Highway passing through the Sanctuary and also along the foot passage in Manda.

***Ichnocarpus frutescens*:** Earlier the species was known as *Apocynum frutescens*. It is an evergreen twining shrub forming extensive, interlaced masses on tops of hedges and small trees. The inflorescence, petioles and young shoots are rusty pubescent. The leaves are sub-coriaceous, elliptic oblong or ovate-lanceolate in appearance and size ranges from 3.5-9 × 2-4 cm. The colour of flower is dark green and shining above, pale and pubescent beneath. The flowers are white fragrant, in axillary and terminal cymes. Follicles are slender, 8-15 cm long, usually paired. Flowering season is September-December and fruiting season is February-April. It is found in Manda.

***Luffa acutangula*:** It is a monoecious rather extensive, climbing or spreading annual. The leaves are scabrid, cordate, palmately 5-7 lobed and size is 7-18 × 7-16.5 cm. The size of flowers is 2-5 cm in diameter. Male flowers are larger than female flowers. Fruits are obovoid-oblong and the size of the fruit is 6-9 × 2.5-4 cm, 10-angled, bitter in taste. The seeds are black in colour. Flowering takes place in July-September and fruiting takes place in September-October. It is found along the water pipeline traversing the sanctuary near bypass Nagrota.

***Merremia aegyptica*:** Earlier the species was known as *Ipomea aegyptica* Linn.; *Convolvulus pentaphyllus* Linn.; *I. Pentaphylla* Jacq. and *Merremia pentaphylla*.

It is an extensive, densely interwoven twiner, sometimes completely covering the top of shrubs and small trees. Branches are patently hirsute with yellowish hairs which on older parts spring from coloured spots. Leaves are digitately 5-foliolate into broadly-lanceolate or elliptic, acuminate leaflets, size is 1.4 × 1.7 cm. The flowers are white in colour and about 2-2.5 × 2-2.5 cm in size, on few flowered laxly dichotomous peduncles. Capsules are ovoid and about 1.5 × 1.2 cm in size. The seeds are yellow in colour. Flowering takes place in September-October and fruiting in cold seasons. It is found in Jagti village and in Manda.

***Merremia dissecta* :** Earlier the species was known as *Convolvulus dissectus* and then *Ipomoea sinuata*.

It is a herbaceous twiner, clothed with spreading brownish-yellow hairs. The size of leaves is up to 15 cm in diameter, 5-7 palmately-lobed into lanceolate lobes. Flowers are white with rose-purple throat, the size is about 3.5-4 × 3.5-4 cm. Sepals are scarious-margined. Capsule is globose, about 1.5 cm in diameter. Flowering and fruiting takes place in August-April. It can be seen growing on hillocks behind Khanpur village.

***Momordica charantia*:** It is a climbing or spreading annual, often forming dense, leafy masses. The tendrils are simple. Leaves are orbicular in shape and about 3-10 cm in diameter. The leaves are deeply divided into 5-7 lobes. The size of flower is about 1.8-2.3 cm in diameter. Fruits are ovoid or fusiform in appearance and size is about 3-8 cm long, beaked and orange-yellow in colour when ripe. Flowering and fruiting takes place in July-September. It can be seen in the sanctuary when approached from the entry point near Nagrota bypass.

***Mucuna pruriens*:** The species was earlier known as *Dolichos pruriens* and later *M. prurita*. It is a large twining annual; branchlets, petioles and leaves adpressedly pubescent, leaflets membranous, 5-11 × 4-7.5 cm, cuspidate, terminal rhomboid-ovate, laterals oblique. Flowers are dark purple in colour and 3-3.5 cm long. Pods are thick, nearly terete and 7-13 cm long, ribbed and J shaped on drying, clothed with rusty, irritating bristles; seeds 5-6, matted. Flowering takes place in August-October and fruiting in cold seasons. This climber can be seen along the National Highway and also in some pockets in Khanpur and Jagti.

***Pergularia extensa*:** Earlier the species was known as *Cynanchum extensum* and later it was called *Pergularia daemia*, *Asclepias daemia* and *Daemia extensa*.

It is a slender twining or climbing foetid shrub whose stem is hispidly hairy and spreading in absence of any support. Leaves are broadly ovate or suborbicular, cordate, 3.5-13.5 × 2.5-11.5 cm and acuminate. Flowers are yellowish green or greenish white, 1.5-1.8 cm in diameter, in drooping, usually corymbiform cymes. Follicles reflexed 5-8 × 1.5 cm. Flowering takes place from April to October and fruiting from September to October. It is seen in Manda and at some places in Khanpur village.

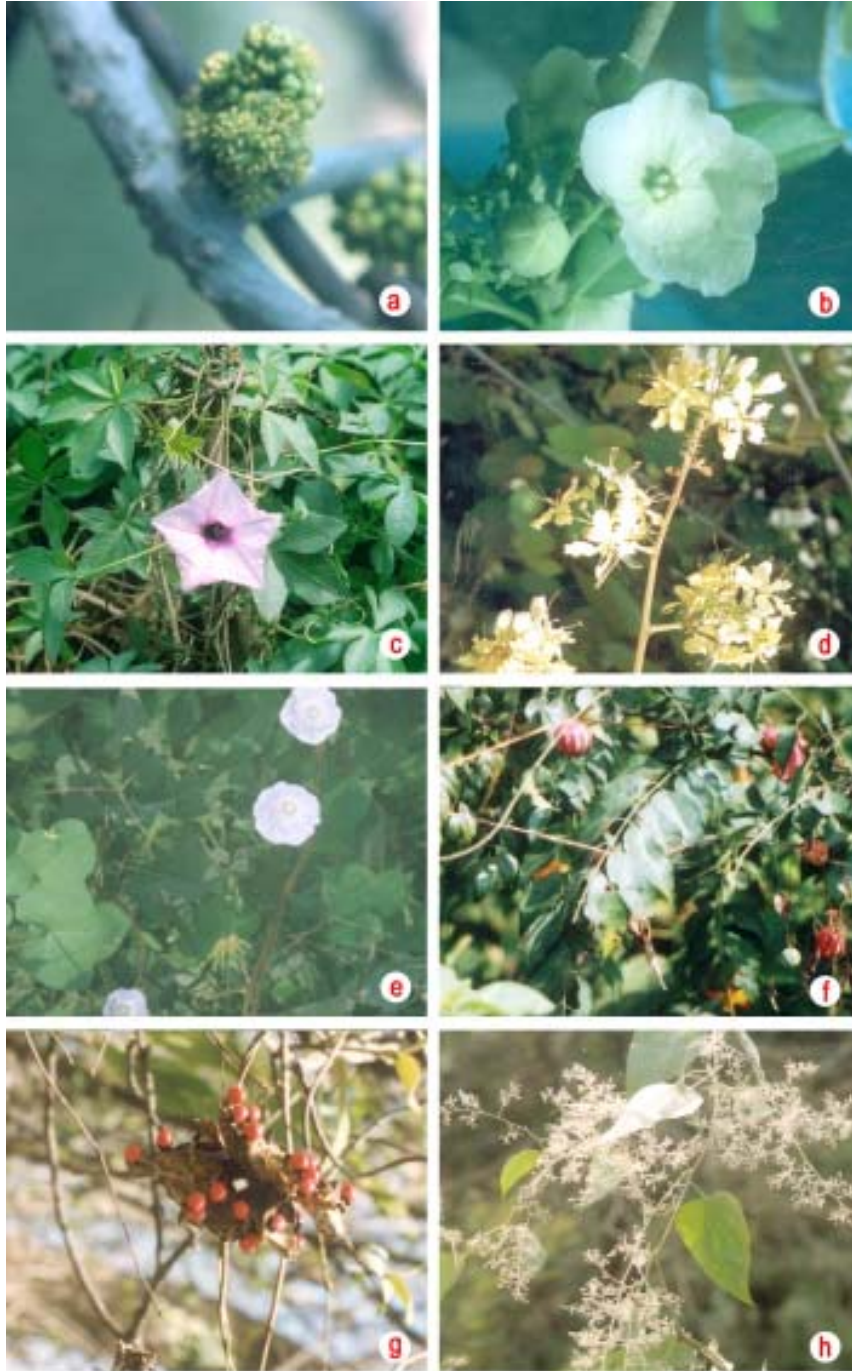


Fig. 1: a. *Tinospora cordifolia*; b. *Vallis solanacea*; c. *Ipomoea* sp.; d. *Phanera vahlii*; e. *Ipomoea nil*  
f. *Trichosanthes cucumeriana*; g. *Abrus precatorious*; h. *Porana paniculata*

***Pueraria tuberosa***: It is an extensive and twining shrub. Shoots are purplish, grey and pubescent. Leaves are pinnately tri-foliolate, appearing after flowers. Petioles are 12-20 cm long, greyish-tomentose. Leaflets are acuminate, 12-20 × 8-16 cm, adpressedly pubescent, whitish silky when young. Flowers are blue, 1.5 cm long, in dense fascicles, on erect, 12-30 cm long, simple or branched, brown or grey-tomentose racemes. Pod is flat, 2-5 cm long and as many seeded, contracted between the seeds and clothed with brown, bristly hairs. Seeds are red. Flowering takes place in April-May and fruiting in May-June. This twiner can be seen in the forest tract opposite Panj Peer Shrine along the National Highway.

***Solena heterophylla***: Earlier the species was known as *Zehneria umbellata* and later *Melothria heterophylla*. It is a slender, glabrous climber; stems are grooved. Leaves mostly ovate deltoid or 3-5 angled, cordate, generally hastate base, 6-13 cm long, 4-10 cm along broadest width, remotely sinuate-denticulate. Flowers are axillary, males 5-6 mm long, sub-umbellate, the females are solitary, about 1-5 cm long. Ovary is covered with raised, dark dots. Flowering takes place in April-May. This climber can be seen at various places along National Highway.

***Vallis solanacea***: It is a laticiferous twiner whose leaves are oblong with undulating margins. Flowers are white in colour. Fruits are oblong follicles. Seeds have a crown of silky hairs. Flowering and fruiting takes place in March to April. It can be seen at various places in wildlife sanctuary.

***Vitis trifolia***: The species was earlier named as *Vitis carnososa* and later renamed as *Cayratia trifolia*. It is a scandent, herbaceous shrub whose branches are succulent and sometimes purplish. Leaflets are rather thick, ovate lanceolate, elliptic or obovate, 4.5-14 × 2.5-9.5 cm, the terminal leaflet being the largest. Flowers are small, greenish-white, in dense trichotomous, umbellate cymes. Petals are saccate and white. Style is purplish. Berry is sub-globose, 1 cm in diameter and black. Flowering and fruiting in July-September. It is found in forest tract near Nagrota bye-pass.

***Celastrus paniculata***: It is a scandent or scrambling, woody shrub, sometimes pendant from rocky cliffs. Twigs are white-lenticellate. Leaves are orbicular, ovate to obovate or elliptic, 4.5-11 × 2.5-8 cm, abruptly acuminate. Flowers greenish-yellow, 5 mm diameter and panicles are drooping. Capsule yellow, 6-9 mm diameter, seeds enclosed in a scarlet aril. Flowering takes place in April-July and fruits ripen in cold season. It can be seen in Manda and in interiors along the National Highway.

***Dregea volubilis***: Earlier it was known as *Asclepias volubilis* and then *Marsdenia volubilis*. It is an extensive, woody, twining shrub with pubescent or tomentose new shoots. Branches are rough with raised dots. Leaves are pubescent or tomentose, broad-ovate, 6-17 × 3-12 cm, shortly acuminate with base rounded, cordate or acute. Flowers are green, 1-1.5 cm in diameter, in drooping umbellate cymes. Follicles are usually paired, divaricate, 8-10 × 2.5-3 cm tapering to a very blunt point. Flowering in April-May and during rains and fruiting in August-October. It can be seen in Manda and in Khanpur.

***Tinospora cordifolia***: It is a climbing shrub with corky stems. Leaves are ovate-cordate and flowers yellow. Male flowers are fascicled and female flowers are usually solitary and smaller. Fruits are ovoid drupes which turn red on ripening and stay on the plant for a very long time. Flowering and fruiting takes place in July-September. It can be seen at some places on *Zizyphus mauritiana* in Manda.

***Trichosanthes cucumerina***: It is a densely spreading climber with sub orbicular to reniform leaves. Flowers are white and fruits are ovoid with longitudinal white stripes, turning red on ripening. It can be commonly seen in Manda.

***Porana paniculata***: It is a twining shrub which climbs and spreads on trees and other shrubs. Its leaves are ovate-cordate and flowers are funnel shaped, white in colour and in large drooping panicles. Fruit is a one-seeded capsule. It has been recorded from Manda.

***Phanera vahlii***: It is a massive climber with sub-orbicular leaves. Flowers are white turning to yellow and in corymbs. Fruit is a velvety pod. Flowering takes place in April to June and fruiting in winter. It has been seen at various places in Manda, Khanpur and Jagti.