



Euphorbia antiquorum and its Allies

Meena Singh

A-162, Sector 40,
Noida 201 303,
India

The genus *Euphorbia* L, a genus comprising over 2,000 species, is well represented in India. While most of the approximately 190 species found in the country are herbs and shrubs, only 19 species, inhabiting arid parts of the country, have developed a xerophytic habit and show succulence. For convenience, these succulent Euphorbias can be further subdivided into two groups: dendroid Euphorbias and geophytic Euphorbias.

Dendroid or tree Euphorbias are mostly armed and have paired spines. They can attain great heights if left undisturbed. In the past they had wide ranging habitats but pressure of human population on the land have wiped out many of these. Although most species cannot be considered to be endangered species in present times, as they are often cultivated as hedge plants, few wild populations remain.

Euphorbia antiquorum L and its closest allies, *E. tortilis* Rottl. ex Wt., *E. santapauli* Henry, *E. vajravelui* Binojk. & Balakr. and *E. susan holmesiae* Binojk. & Gopalan all inhabit the drier parts of India's Deccan Plateau in the south. Although akin, these species are distinct in nature. All are tree Euphorbias, have minute sessile leaves and yellowish cyathia but differ in other respects. A brief discussion of each and a comparison table follow.

***Euphorbia antiquorum* L.**

Described by Linnaeus in 1753 in *Species Plantarum*, this *Euphorbia*, whose specific name means 'of the ancients', was one of the two species to be described from India. Linnaeus based his description on an illustration in Rheede's *Hortus Malabaricus* (1679). In *Icones 2*, Wight described and illustrated a different form (1884) from that of Rheede as *E. antiquorum* var *polygona*. Subsequently this was returned to *E. antiquorum*.

Wide spread throughout peninsular India, it can be found growing up to an altitude of 800 m. One of the largest armed tree *Euphorbias* with an average height of 5 - 7 m., it has been known to attain gigantic proportions if left undisturbed. A small population of giants was discovered by a survey team from the Botanical Survey of India in a secluded part of Kalakkad Reserve forest (alt. 800 m), reaching a height of 20 m and a trunk of 1 m diameter. It has upward curving, segmented branches with thick sinuate wings. Leaves are insignificant and fall off quickly. Yellow cyathia can be in triads or 3 - 4 individual together. They are full of honey that attract bees. Seed capsules turn deep red on maturity. The odour of its latex is pungent and lingering. Easily propagated from seed or vegetatively, this *Euphorbia* is common in collections and easy to grow. Like all Indian *Euphorbias* care should be taken to keep it warm in winter and ensure a minimum temperature of 10° C.



Euphorbia tortilis Rottl. ex Wt.

This tree Euphorbia closely resembling *E. antiquorum* was described in Wight's Icones in 1853. Growing in close association with *E. antiquorum*, often in mixed populations, it can be easily differentiated by its shortly jointed but twisted branches. Leaves are minute and drop off almost as soon as they appear. Although it grows in tandem with *E. antiquorum*, no natural hybrids are seen as *E. tortilis* inflorescence mostly always appears after *E. antiquorum* has set seed. It is more often than not seen as a hedge plant as many natural habitats have been cleared. Propagated by seed or cutting it is another easily grown plant if given warmth in winter.

Euphorbia santapauii Henry

This rare Euphorbia was described in 1964 and named to commemorate Rev. Fr. Dr. H Santapau SJ, FNI, one time director of the Botanical survey of India. It is endemic to the grassy top of Mount Agasthya situated at the tail end of the Western Ghats, a mountain range running along the western coast of India. Conditions here are harsh and wind velocity very high. This *Euphorbia* along with a few other bushes and trees that survive grow in sheltered and moist sections and are covered with mosses and lichens. It is difficult to grow and rare in collections.

Euphorbia vajravelui Binojk. & Balakr.

This is one of the newly described Euphorbias from India. Described in 1993, it honours Dr. E Vajravelu of the Botanical Survey of India. It grows at an altitude of 1000 – 1200 m in the lower end of the Western Ghats in the southern states of Kerala and Tamil Nadu. A shrub or small tree, it grows to a height of up to 10 m but has a drooping habit. Most plants seen in habitat were growing in rock crevices in leaf mold in the shade of other taller trees. It can be easily distinguished from *E. antiquorum* by its long, flat, two winged and thinly fleshy branches. As this plant also grows on the lower slopes of Mount Agasthya, it was earlier thought to be a juvenile form of *E. santapauii* and introduced into collections as such. Presents no cultural difficulty.



Euphorbia susan holmesiae Binojk. & Gopalan. 1993

Another recently described *Euphorbia* from southern India, it was named to honour Susan Holmes of the Royal botanic Garden Kew. Shrubs or small trees growing to a height of up to 4 m it closely resembles *E. tortilis* and appears to be a pretty looking slender form. Branches crowded at the apex are slender and winged. Leaves present only on young branches are deciduous. Growing in scrub jungles and semi-evergreen forests at an altitude of 250 m, on shallow soil over bedrock, it is endangered in habitat due to its proximity to a river prone to flooding. Difficult to cultivate as it does not tolerate cold conditions at all.



A Comparison of *E. antiquorum* L. and its Allies

<i>Euphorbia antiquorum</i> L.	<i>Euphorbia tortilis</i> Rottl. ex Wt.	<i>Euphorbia santapauii</i> Henry	<i>Euphorbia vajravelui</i> Binojk. & Balakr.	<i>Euphorbia susanholmesiae</i> Binojk. & Gopalan
Plants with all branches 3 - 5 winged. Wings thick, margins deeply sinuate, spines sharp, 4-5 mm long	Plants with branches broad jointed 3 - 4 angled and spirally twisted, angles compressed lobulate; spines stout, 3 - 5 mm long	Plants with branches curving upwards, jointed, 5-9 winged, wings thin, spines short, sharp and divaricate	Plants with main branches quadrangular or pentangular, ultimate branches flat and 2-winged with thin campanulate wings; margins only slightly wavy; spines 2 - 3 mm long	Plants with branches crowded at apex, slender mostly 4 winged rarely 3 - 5 winged, with flat spaces between the wings; spines divaricate, 2 - 5 mm long
Cyathia pinkish, axillary, in triads or 3 - 4 individual cyathia together; peduncles reddish brown; primary peduncle 1 - 1.5 cm long, all cyathia bisexual; anthers pinkish	Cyathia greenish in small clusters; peduncle short and stout, all cyathia bisexual	Cyathia greenish yellow, single; peduncles 2 - 4 mm long, stout, anthers yellow, male and female flowers present	Cyathia yellowish, solitary or in triads; peduncles yellowish; primary peduncle ca. 5 mm long, secondary peduncles 6 - 8 mm long, central cyathia male lateral ones bisexual, anthers yellowish	Cyathia yellowish, in triads or solitary; primary peduncles 4 - 7 mm long, secondary 3 - 6 mm long, both male and female flowers present, anthers yellowish
Seeds globose, ca. 2 mm diameter	Seeds about 2 mm diameter	Seeds almost spherical, ca. 3 mm diameter	Seeds ovoid, about 3 mm long and 2 mm wide	Seeds ovoid, about 2.5 mm long and 2 mm broad