



Phenological Events in *Cascabela thevetia* (L.) Lippold (Apocynaceae) in Delhi

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Cascabela thevetia (L.) Lippold [Syn. *Thevetia peruviana* (Pers.) K. Schum.] of Apocynaceae (Dogbane Family) is a perennial to evergreen shrub to upright small tree native to tropical Americas. It is also known to grow in wild in some disturbed mesic (moderately wet) areas. It is commonly known by several names such as yellow oleander, nerium oleander, lucky nut, be-still tree. It is known to be highly toxic due to presence of non-digitalis cardiac glycosides. The bloom is seasonal, from summer to fall. However, in some warm places, it flowers throughout the year. In Delhi, the initiation of reproductive stage is marked by formation of bud primordia during the month of March. Gradually formation of new inflorescences bearing small, young buds is initiated and soon bright yellow flowers appear on upper portions of the tree crown exposed to direct sunlight. In April-May, many developed inflorescences are seen throughout the tree crown, entire tree is filled with bright yellow flowers having 1-2 open flowers per inflorescence per day (Fig. 1). June and July seem to mark flowering peak when sunshine duration and intensity are also maximum. New buds also continue to emerge, and a few (2-3) young, newly-formed fruits can be seen on a tree bearing profuse flowering. More fruiting occurs in late July. Most of these fruits become dry and turn black at young stages, eventually, get aborted and fall off. It can be inferred that flowering peak also demarcates the

emergence of new inflorescences on the plant. By end of August, the number of flowers approximately equals number of fruits hanging on the tree. Fruit maturation begins, though number of flowers is still high. In September, there is a slight decrease in number of flowers. During October, leaf-fall occurs and fruits achieve their maximum size and still remain green. This is demarcated as period of fruiting peak (Fig. 2). In November, the plant bears a few flowers. Mature fruits turn pale brown with black patches and small cracks begin to develop on fruit surface due to drying of fruit coat. By December, flowering is almost over with 2-5 flowers seen on the entire crown. Further drying of fruits occurs which leads to enlargement of cracks for effective dispersal. Subsequently, the entire, dried, fruits begin to fall off the plant. Leaf fall continues at this stage. January marks the dormant phase of the plant because of the frost and only a few fruits are seen hanging. By mid-February, leaf primordia begin to form at the tips of the branches, gradually leading to formation of young leaves and later part of February shows emergence of floral primordia.

The flowering period is scattered through more than nine months of the year. In tropical places like Mumbai, where the entire year is frost-free, flowering is observed throughout the year, including January and February.



Fig. 1— Portion of crown full of flowers (Peak Flowering - June, July). Fig. 2— Portion of crown full of fruits (Peak Fruiting - September, October).