



Research Note :

LASODA THAT BLOOMS ON TREE TRUNK-A REPORT

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ABSTRACT : Lasoda (*Cordia myxa*) grows very common in tropical regions. Its tree flowers in March-April. Its inripe fruits are very much used for pickling. Ripe fruits of *lasoda* are rich source of minerals. Its leaves are used as for fodder. Usually Lasoda bears terminally, but some times bearing is noticed directly on the tree trunk, the bearing of flowers and fruits on trunk is termed as cauliflory.

Keywords : *Cordia myxa*, adventitious bearing, cauliflory.

Cordia myxa originates from the area stretching from the eastern Mediterranean region to eastern India (Oudhia, 3). The name cordia was given in honour of German Botanist E. Cordes during 16th century. Lasoda (*Cordia myxa* Roxb.) is very common tree in wild habitat in tropics. The plant is medium growing tree attaining a height of 10.5m. It belongs to the family Boraginaceae. Its plants are found growing in Asia, as well as, across the globe especially in tropical environment. The plant finds place in boundary plantation along the orchard, crop land, house compound, playground and many other types of landscape. It is known by many other names such as Indian cherry, Sebstan plum, Lasura, Assyrian Plum, Pidar, Panugeri, Naruvilli, Geduri, Spistan, and Burgund dulu wanan. The polynamy of the plant is indicative of its popularity across many geophysical environments. Naturally coming up plant can be seen growing abundantly from Myanmar in the east to Afghanistan in the west. Natural habitat of lasoda starts from about 200 m above mean sea level in the plains and ascends right up to a height of about 1500 m in the hills.

Lasoda is indigenous to China and is widely cultivated in lower plains and tropical regions. The plant flourishes well in deep clayey loam and sandy soils. It is hardy to drought and does still better in areas experiencing nearly 100 to 150 cm of annual rainfall (Oudhia, 3).

Lasoda grows fast. The plants start bearing in about 4-5 years after planting when even planted using seedlings. They grow by very resilient branches radiating in all directions from the trunk. By the virtue of it, it becomes suitable plant for wind break purpose around orchard. The plant grows very lusciously in favourable climatic condition. However, in less

favourable environment, it attains crooked form. Its bark is longitudinally and vertically fissured and its split is so prominent that it can be identified from a distance.

Lasoda tree flowers during March in sub-tropics. The inflorescence appears mostly axillary on current season's growth. The flowers are white in colour and hermaphrodite in anture. Individual florets are about 5mm in diameter. The fruit of lasoda start appearing during May-June. It is botanically drupe. Its colour is light pale to brown or even pink in colour. The appearance tends to darken when ripening sets in. Being full of viscid glue like mucilage, the pulp is somewhat translucent. The pulp of ripe fruits is sweet in taste. The pulp in a half ripe fruit can even be used as an alternative to paper glue in office work.

The unripe fruit makes an excellent pickle (Fig.2). In fact the preserve is quite effective against indigestion. Its fruits are very much nutritional and are especially rich in minerals. The fruit contains 82.5 per cent moisture, 1.8 per cent protein, 1.0 per cent fat, 0.3 per cent fibre, 12.2 per cent carbohydrate, 65 Kcal energy, 40 mg calcium, 60 mg phosphorus, 0.0005 mg iron, 1.66 per cent potash, 2.13 per cent ash, 10.2 per cent TSS, 0.2 per cent acidity and 4.5 per cent pectin. Its immature fruits find place in preparation of pickle. The fruits are medicinal also. They are anthelmintic, diuretic, demulcent and expectorant (Anon., 1). Large fruited types are preferred in the market. They fetch premium price in the market.

Leaves of lasoda are used as fodder for goats and cattle during famine. They contain about 12-16 per cent crude protein and 16-27 per cent crude fibre. Leaves have their uses in preparation of eating vessels and for wrapping cigarettes. (Durst and Bayasgalanbat, 2)

The methodology

With intent to collect plant bearing heavily and large size fruits, a survey was undertaken in various

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parts of the district. The survey included areas of Areas of Mandana in Kota district and Malipura, Aktasa, Kuntara, Mahuborda, Ratadevi Mandir and Sarokalan of Jhalawar district were surveyed during the year 2014-15. While surveying, a tree with fruit stalk attached unusually with main trunk was noticed. Usually, lasoda bears terminally on the branches. In contrast in a tree, bearing was noticed directly on the tree trunk. It indicates that lasoda experiences cauliflory.

Cauliflory

The term Cauliflory is derived from the Latin word *caulis*, meaning stem, and *flor*, meaning flower. The dictionary meaning of *cau-li-flo-rous* [adjective] is producing flowers from the main stem or trunks or older branches. Although, the vegetable cauliflower (*Brassica oleracea*) has the same name, it is not cauliflorous – the dense cluster of unopened flower buds that we eat arises from a main flower stalk. Cauliflory is a botanical term referring to plants which flower and fruit from their main stems or woody trunks rather than from new growth and shoots.

Candle tree (*Parmentiera cereifera*), Calabash tree (*Crescentia cujete*), Sausage tree (*Kigelia pinnata*), Cocoa tree (*Theobroma cacao*), Yellow Ashoka (*Saraca thaipingensis*), Ashoka tree (*Saraca indica*), Indian fig tree (*Ficus racemosa*), Mysore fig (*Ficus mysorensis*), Custard apple (*Annona cherimola*), Jackfruit (*Artocarpus heterophyllus*), Bilimbi (*Averrhoa bilimbi*), Moreton bay chestnut or blackbean tree (*Castanospermum australe*), Cannonball tree (*Couroupita guianensis*), Papaya (*Carica papaya*), breadfruit (*A. altilis*), Guajilote or guachilote (*P. edulis* or *P. aculeata*), Jaboticaba (*Myrciaria jaboticaba*) experience cauliflory in nature.

It is quite common to see most woody flowering plants producing inflorescences on new growth and or young leafy shoots. However, a few, flower and fruit directly on their trunks or main branches. This unusual botanical trait is called cauliflory and the plants themselves are considered cauliflorous. Although cauliflory is widespread in many different plant families throughout arid and temperate regions of the world, it is most prevalent in the tropical rain forest. In a distinct zone below the forest canopy, many cauliflorous trees and shrubs offer their “stem-flowers” to a wide variety of pollinators. Such type of altered fruiting behaviour can be analysed in viewpoint of the following :

- One theory is that the fruit maybe too big to be borne on a new branch (e.g. calabash, sausage tree). Heavy fruit would not get support on the new branches. Ofcourse, it doesn't hold true in all the case of cauliflory, as in case of lasoda . Hitherto, it stands true in case of jackfruit.

- Or it could be because of the pollinating agents, including the ones that cannot climb or fly. If the flowers or fruits were borne in the canopy, the cross pollination and seed dispersal by large animals would not be possible. Hence, it appears that to favour insect pollination especially by those groups of insects which are found distributed in horizontal layers at different height above the ground, lasoda plant may have developed cauliflory (Fig.1.) Accessibility seem to be favour pollinators and frugivores- the fruit eating animals and thus via ensuring pollination



Plate 1: Cauliflory- fruiting on trunk in Lasoda.



Plate 2: Wonder fruit Lasoda.

and seed dispersal stand ensurance to survival of plants.

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