

## STUDIES ON SOME CAULIFLOROUS PLANTS OF BHOPAL (INDIA)

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### ABSTRACT

A survey of angiospermic flora of Bhopal and its suburbs carried out during 2004-2005 revealed that quite a handsome number of arboreal species beautify the landscape of by their elegant presence. The present paper, however, pertains to four species of flowering plants belonging to different families which exhibit cauliflory. The species are *Artocarpus integrifolia*, *Couropita guianensis*, *Crescentia cujete* and *Kigelia pinnata*, which can be witnessed at various localities of the capital.

**Key words:** Cauliflory, *A. integrifolia*, *C. guianensis*, *C. cujete* & *K. pinnata* and Bhopal.

Owing to its strategic position in the country, Bhopal the capital of Madhya Pradesh has a rich floristic heritage especially of angiospermic flora. According to an estimate there are about 2,50,000 of plants in the world, out of which about 20% alone are found in India (Jain, 2005). More than 1,000 species of flowering plants, both indigenous and exotic are reported from Bhopal (Khan, 1993, 2004).

Some arboreal species have a peculiar habit of bearing flowers and fruits directly on the main trunk or main branches, a phenomenon called cauliflory. Atleast four such species are encountered which have this characteristic feature and are distributed in various parks and gardens in the city.

These are *Artocarpus integrifolia*, *Couropita guianensis*, *Crescentia cujete* and *Kigelia pinnata*. In the lines to follow a brief account of these species is dealt with in an alphabetical order.

### ***Artocarpus integrifolia* (Jackfruit)**

*A. integrifolia* commonly known as *Kathal*, belongs to the family Moraceae. The Jackfruit is a native of India and Malaya and grows to a height of 23 meters, at first it is pyramidal but with age becomes round topped. The elliptic or obovate unlobed leaves are upto 22 cm long. The fruits are borne directly on main trunk or old branches, but on short twigs. The barrel or pear shaped fruits, 30 to 90 cm long and 25 to 50 cm in diameter, are golden yellow when ripe. They are the largest fruits



known. Technically each is a compound fruit, which is used as food, its seeds are used in curries (Everett, 1969). The petroleum ether extract of the leaves has been found to be inhibiting against *Proteus vulgaris* and *Staphylococcus aureus* (Khan, 2005).

#### ***Couropita guianensis* (Cannon ball tree)**

A native of South and Central America and in the lesser Antilles is found planted in many gardens in India. It is commonly known as *Taup gola* belongs to the family Lecythidaceae. The tree under favourable conditions, attains a height of 25m and bears its bloom on short, tangled branches that spring directly from the trunk (Everett, 1969). Its curious fragrant, six petalled flowers are about 12 cm wide and orchid like. They have a curved central column that bears fertile stamens at its apex and base and fleshy petals tinged yellow on their outsides and crimson within. It bears large, globular woody fruits, 15-20 cm in diameter. Fallen fruits that litter the ground beneath give off a putrid odour. When in full bloom it is a sight to behold. Two living specimens can be witnessed at Govt. Hamidia Arts, Commerce & Law College premises and one at Kilol Park, Bhopal.

#### ***Crescentia cujete* (Calabash Tree)**

It is a native of Tropical America and a member of family Crescentiaceae. It reaches a maximum height of about 13 meters and has a few large, horizontal or drooping branches and oblanceolate leaves upto 15 cm long. Its malodorous, bell shaped yellowish purple bloom open at night. They appear singly or in cluster on the trunk and on larger branches and are 5-7 cm long. The fruits are hard shelled, more or less spherical, 12-30 cm in diameter are actually berries, filled with pulp and numerous seeds. The acetone extract of the leaves has been found

inhibitory to the growth of *Klebsiella pneumoniae* (Khan, 2005).

#### ***Kigellia pinnata* (Sausage tree)**

A member of Bignoniaceae family popularly known as *Jhar phanoos*. The tree is a native of tropical Africa. It is an evergreen tree reaching a height of 16m, with coarse glossy green pinnate leaves upto 60 cm long, each consisting of 7-11 leaflets. The blooms are coloured deep scarlet irregularly bell shaped and are stung along pendulous stems, 80-90 cm long. The flower open at night and are succeeded by curious sausage like hard shelled fruits upto 50 cm long by 7-10 cm in diameter. The ethanolic extract of the leaves has been found to have antibacterial activity against *S. aureus* (Khan, 2005). It is commonly found in many Indian gardens. Few trees can be sighted at Old Secretariat, Bhopal.

The cauliflorous species of plants by their peculiar habit add to the biodiversity of our country and exhibit an interesting morphological feature, which differs from plant to plant. For instance, in *A. integrifolia*, we come across with enormously large compound fruits in which the entire inflorescence develops into fruit, which hang on short peduncles from the main stem and branches. In *C. guianensis*, the large fruits which are much less in number than the profusion of flowers look like cannon balls and are borne singly on the main trunk and the main branches and simulate cannon balls which adorn the entire tree at the time of fruiting. In *C. cujete*, the fruits are borne either singly or rarely in groups of two or three and are globular and much less in number compared to the degree of flowering which they exhibit. In *K. pinnata*, the fruits hang downward on long stalks and look like brown cucumbers at maturity. Moreover, the flowers in this species open at night.

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