AgriCos e-Newsletter
ISSN: 2582-7049
AgriCos e-Newsletter
Open Access Multidisciplinary Monthly Online Magazine
Volume: 03 Issue: 12 December 2022 Article No: 07

Bottle Brush Tree (*Callistemon* Sp.) – As a Natural Anti-Bacterial Agent

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SUMMARY

The bottle brush tree is a unique type of tree among Australian Plants. Bottle brush belongs to the callistemon genie which is closely related to the melaleucas tree in the *Myrtaceae* family. The genus is unique to Australia, however, it widely farmed and neutralized in other parts of the world. These trees are drought – Resistant. Each flower produces a small woody fruit containing hundreds of tiny seeds. Flowers are visited by several birds, wasps, bees, Butterflies and ants. Fruits are woody capsules and remain attached on the plant even after flowering in the next season.

INTRODUCTION

Callistemon a group of trees and shrubs is the native of Australia. This genus was established by Robert Brown one of the versatile British botanist and later the keeper of Botany at British Museum, in 1814 with *C.Rigidus* as the type species. Only *C.citrinus* is cultivated in Kerala as an ornamental Plant.

Callistemon Citrinus
(Crimson BottleBrush)

Callistemon Pallidus
(Lemon bottlebrush)

Intention behind the naming

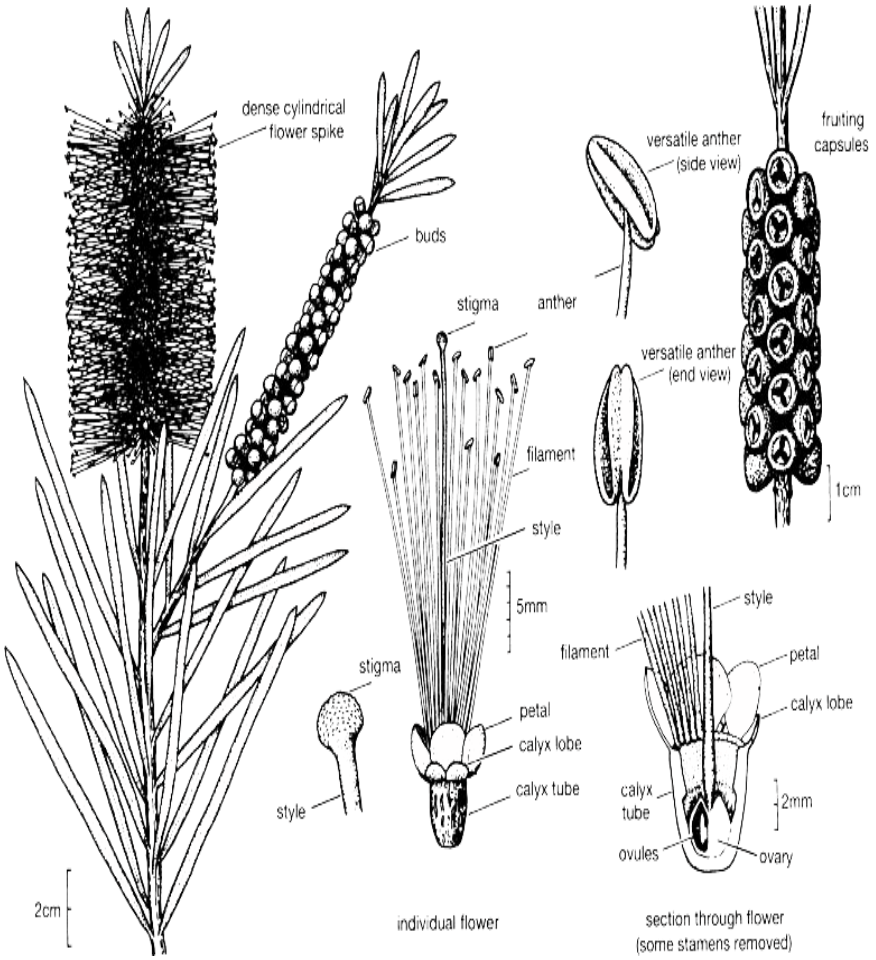
Bottlebrush plants (*Callistemon* sp.) get their name from the spikes of flowers that bloom at the ends of the stems , bearing a strong resemblance to bottle brush.

Description

Callistemon species are mostly found in the more temperature regions of Australia, especially along the east-coast and typically favour moist condition. Bottlebrushes make excellent garden plants. Plants are all woody shrubs which range from 0.5 m to 4 m tall. The flowers can be spectacular and are irresistible to nectar-feeding birds and insects. Most species are frost tolerant, however, two species are found in Tasmania and Several others in the South-west of WesternAustralia. At least some species are drought-resistant and some are used in ornamental landscaping elsewhere in the world.

Scientific classification

Kingdom: Plantae
Clude: Tracheophytes
Clude: Angiosperms
Clude: Eudicots
Clude: Rosids
Order: Myrtales
Family: Myrtaceae
Sub-Family: Myrtoideae
Tribe: Melaleuceae
Genus: *Callistemon*



Floral Biology
Inflorescence is 10+ 5 cm Long pendent spike of about 4+ 0.2 cm diameter attached on the hanging Branches. Each inflorescence bears 20-50 flowers in acropetal succession
Flower: Sessile, bracteate, bisexual, pentamerous
Sepals: Five, green, gamasepalous
Petals: Five, Polypetalous, whitish green, broad and concave.
Fruits: Woody capsules with numerous seeds

Propagation

Bottlebrushes are easily grown from seed. The unopened fruits should be collected and stored in a warm place in a paper bag until the fine seeds are released. Bottlebrushes hybridise readily so, if you wish to be ensure that that you are preserving the features of the parent plant do not grow plants from seed, use cuttings instead. Cuttings should be taken from semi-mature wood

Lifespan

Extremely hard and long lived bottlebrush Tree can live for 20 to 40 years if given the right climate and growing conditions.

Selected Species

There are about 50 species of *Callistemon*. They includes *callistemon acuminatue, callistemon branchyandrue, callistemon natrinus, callistemon flavovirens, callistemon coccineusetc* .

Special Feature

Plant in clumps, mass or naturalize in a lightly-shaded woodland setting, native plant garden or naturalized area.

Fruits and Seeds

The flowers are not just showy bursts of colour when pollinated, they produce small, woody fruits that contain hundreds of tiny seeds. These fruiting capsules form in bunches along the stem and they are usually held on the plant for many years. Bottlebrushes take a long time to release their seeds from a year to several years. Some even require fire to stimulate the capsules to open.

Chemical components

Chemical investigations revealed that the flowers and leaves of the plants are rich in essential oils comprising of 1,8- cineole followed by α and β -pinenes, α-terpineol, α- phellandrene, limonene, α-terpinene, linalool, trans-pincarveol, terpinen – 4 –ol andgeraniol. Among these the most widely distributed 1,8 – cineole known for its medicinal and flavouring properties.

Medicinal Uses

The different parts of the tree are used as antibacterial, antifungal and antioxidant. In children, it is used to treat urine bed wetting and in continence. The bark is used to make a medicinal tea that is said to help with respiratory problems. It is used as a diuretic and to treat urinary tract diseases.

Common Uses

Bottle brush trees can be planted along the edge of a garden to keep out pests and animals. The flowers are edible and can be added to salads or cooked dishes. The wood from the bottle brush tree is hard and durable making it good for crafting things like furniture or musical instruments.

CONCLUSION

This paper concluded that *callistemon* has been used in the treatment of various diseases and reported to have antifungal, antibacterial and antioxidant activities. Bottle brush is a flowering perennial desert shrub that can be grown in a range of various shapes and sizes. This ornamental plant requires minimum maintenance; it is a perfectchoice to be grown as a shrub in your home garden.

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