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Revisit the taxonomy of *Ficus krishnae* (Moraceae)

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Abstract

Ficus krishnae considered as native to India is very unique among all species in the genus as it has peculiar leaves generally with cone-shaped structure at base and leaflet like appendages on the petiole. These both features are tremendously variable within the species. The taxonomic status of *F. krishnae* is still uncertain as sometimes it is treated as subspecies or conspecific to its closest relative *F. benghalensis*. Many mythological stories regarding the formation of cup in the leaves are also associated in India and hence the plants of the species are considered sacred and worshiped. The merger of *F. krishnae* with *F. benghalensis* makes the latter quite heterogeneous and at the same time it may not be acceptable in the society at large as with the former the religious faith of the people is attached. Earlier it was believed that *F. krishnae* differs from *F. benghalensis* only in cup-shaped leaves. But critical examination of large number of specimens gathered from different places and available information reveal that *F. krishnae* distinctly differs from *F. benghalensis* not only in cup formation in leaves, rather also in height of the plants, aerial roots, stipules, petiole and its leafy appendages and ostiolar bracts of the receptacle, in addition to differences in chromosome, DNA contents, stomatal and parenchymatous cells and nodal anatomy. Based on morphological, anatomical and cytological evidences *F. krishnae* is again reinstated here as a correct species. The correct citation of the species has been provided and discussion has been made on the variation pattern of the leaves. The detail description of the species along with line drawing illustrations and colour photographs has been added.

Key words: Correct citation, Diversity, Krishna fig tree, Reinstatement, Relationship, Taxonomic status

Introduction

Ficus Linnaeus (1753: 1059) one of the largest genera in angiosperms with ca. 735 species is distributed throughout the world (Berg & Corner 2005). It is represented in India by 91 species and 24 infraspecific taxa (Chaudhary *et al.* 2012). The genus is divided into 6 subgenera, 19 sections and 27 subsections. *Ficus krishnae* C. De Candolle (1906: t. 8092) belongs to subsection *Conosycea* under the section *Urostigma* of the subgenus *Urostigma*. It is considered one of the unusual fig species due to its peculiar nature of leaves and thought to be native of India (Figure 1). The plants of the species are treated as sacred tree in India due to its peculiar nature of cup forming leaves. Many Indian folklores are associated with the species regarding the formation of cone shaped leaves. According to one mythological tale the plants of *F. krishnae* are *Ficus benghalensis* Linnaeus (1753: 1059) whose leaves were modified by God Rama to use them as cup or spoon in the forest during his 14 years banishment. The other story tells that God Krishna made this tree with cup shaped leaves to use them for taking makkhan (white butter). Therefore, the leaves are also called 'Makkhan Katori' (butter cup). God Krishna was very fond of butter in his childhood. He used to steal makkhan in his own house as well as from other houses. Once when his mother Yashodha caught him red handed stealing makkhan, he folded the leaves of this particular fig in the form of cone to hide makkhan. Then onwards, this fig tree produces cone shaped leaves.

The species was first brought to the notice of David Prain in 1896 (the then director of Botanical Survey of India, Kolkata) from a private garden located near the Royal Botanic Gardens, Calcutta (now known as Acharya Jagadish Chandra Bose Indian Botanic Garden, Howrah, West Bengal). From there two cuttings of stem were obtained and

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the plants growing in the Royal Botanic Gardens, Calcutta from where it is thought that the twigs of this plant were distributed to various gardens in India as well as outside the country. These leafy appendages are quite variable in number, shape, size and place of attachment on the petiole. Sometimes they are quite reduced and represented by only a rudimentary structure like an awn (Figure 6E, G, H, O). If occur in pairs or triplet, they are opposite, but may or may not be of the same size and shape. They may occur at different position on the petiole starting from just above the base of petiole (Figure 6E, G–M) to the base of lamina (Figure 6N–Q). They may be sessile (Figure 6P, Q, R) or distinctly petiolulate (Figure 6I–M). Their orientation is also not uniform in different leaves. Mostly the ventral surface faces towards axis as like apical lamina, however, the reverse condition is also seen where the ventral surface is away from axis (Figure 6J, P). Generally the cup-shaped structure is not found on lateral leaflets, but sometimes it has been observed in some leaves (Unnikrishnan & Hema 1990).

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