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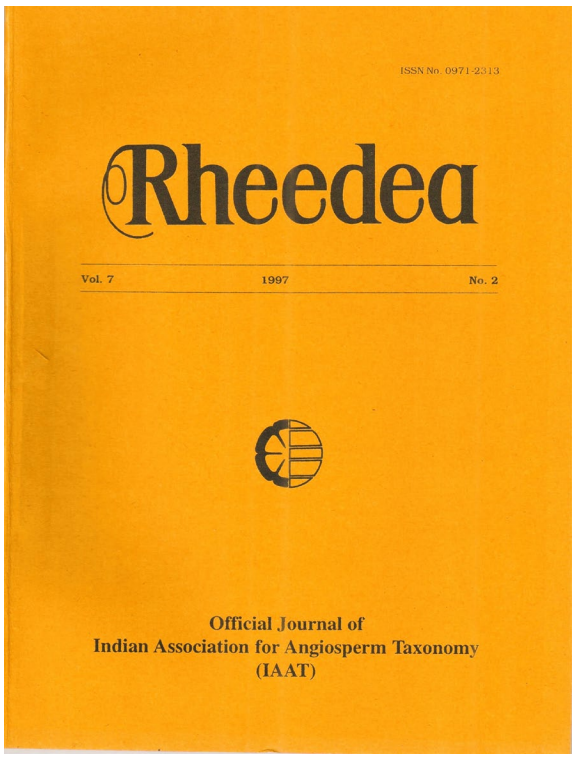

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Taxonomy and Conservation of Diversity in the genus *Trichosanthes* (Curcurbitaceae)*

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Trichosanthes is one of the largest genera of the family Cucurbitaceae. *Trichosanthes* species are recorded from different geographical regions of the world. In India, the genus is represented by 22 species. It is principally an Indo-Malayan genus. *Trichosanthes* is of immense economic importance. *T. dioica* (pointed gourd) and *T. .cucumerina* var. *anguina* (snake gourd) are widely cultivated as vegetable crops. Medicinally fruits are used as diuretic, laxative, cardiotonic, appetiser and blood purifier. Some species (e.g. *T. cucumerina* var. *cucumerina, T. bracteata, T. wallichiana*) are also used in indigenous system of medicine. Although species of *Trichosanthes* are distributed in different parts of India, some species are endemic to India (*T. dioica*), South India (*T. perrottetiana, T. villusula*), Tamil Nadu (*T. anamalaiensis*) and Khasia Hills (*T. himalensis* var. *glabrior*). Comparative data from morphology, cytology, palynology, seed morphology and phytochemistry are very useful in delimiting the taxa within the genus *Trichosanthes*. The species of *Trichosanthes* are both monoecious and dioecious. A number of morphological features clearly demarcate the monoecious from the dioecious species. The most interesting feature is the floral character. In monoecious species the male flower is shorter than the female flower while in the dioecious the situation is reverse.

The base chromosome number for the genus is 11. Karyological studies done on genus *Trichosanthes* suggest that it is one genus in Cucurbitaceae where polyploidy along with karyotypic variation has played a significant role in speciation and/or development of divergent forms.

Pollen grains are 3-porate, the pores being annulate, oblate, spheroidal, exine foveolate (*T. cucumerina* var. *anguina*) or reticulate (*T. dioica*). Seeds are round or compressed, smooth or sculptured. Both morphological and anatomical data of seeds provide criteria for identification of *Trichosanthes* species.

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Protein and isozyme patterns provide data not only for demarcating monoecious from dioecious species but also the male and female plants of the same species prior to flowering. This has great application in cultivar identification especially in *T. dioica* where more than 20 cultivars are being grown in Bihar along sandy banks of river Ganga and is tributaries.

Our studies have shown that genus *Trichosanthes* exhibits diversity at specific and infraspecific levels. This diversity needs to be conserved especially in *T. dioica* where varieties are known only under cultivation. Farmers prefer certain cultivars for large scale cultivation. Germplasm of less preferred cultivars may vanish forever if immediate steps are not taken for their conservation.

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