

Citrus indica Tanaka - a progenitor species of cultivated Citrus

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A group of enthusiastic cytogeneticists (Marlykynti Hynniewta, Surendra Kumar Malik and Satyawada Rama Rao) from North Eastern Hill University show that *C. indica* occupies a special taxonomic position, as reflected in the karyomorphological data.

The genus *Citrus* is an economically important horticultural crop known for its fruit and juice. In India, there are about 30 species of *Citrus* of which at least nine species are available throughout India, while 17 species are confined to the North-Eastern states of India, which have been classified as a hot spot for *Citrus* biodiversity and are threatened in their [natural habitat](#) as per the criteria fixed by the International Union for [Conservation of Nature](#) and Natural Resources (IUCN). Seven Indian *Citrus* species are considered endangered or nearly so, including *C. Indica*, *C. macroptera*, *C. latipes*, *C. assamensis*, *C. ichangensis*, *C. megaloxycarpa* and *C. rugulosa*.

C. indica (Tanaka, 1937) is supposed to be the most [primitive species](#) and perhaps the progenitor of cultivated *Citrus*. From the karyomorphological data it can be observed that the [asymmetry](#) index of different species of *Citrus* presently investigated had shown significant variation. *C. medica*, *C. grandis* and *C. reticulata* which are considered as true basic species are characteristic in having low asymmetry index of 1.87, 1.89 and 2.46 respectively. In the present investigation, the data from the karyomorphological observations on chromosome complements in 10 different *Citrus* species reflect that *C. indica* with its intermediate asymmetry index value (1.94) may be regarded as a true

[progenitor](#) of cultivated Citrus. This study also supports the previous report that there are three true species of Citrus, viz. *C. grandis*, *C. reticulata* and *C. medica*.

More information: Hynniewta M, Malik SK, Rao SR (2011) Karyological studies in ten species of Citrus (Linnaeus, 1753) (Rutaceae) of North-East India. *Comparative Cytogenetics* 5(4): 19. [doi: 10.3897/CompCytogen.v5i4.1796](#)

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