

COLLECTION OF *VANILLA WIGHTIANA* LINDL. — AN ENDANGERED WILD SPECIES FROM EASTERN GHATS OF ANDHRA PRADESH

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A survey conducted in the Eastern ghats at the Rajavommangi forest range of East Godavari district of Andhra Pradesh in April 1994, has enabled collection of wild species of *Vanilla* viz., *Vanilla wightiana* Lindl. This species grows in restricted elevated mounds at more than one hundred scattered patches surrounding Surampalem, Kondapalli, Sharabhavaram, Manjuvaram, Labbarthi, Lagarai, Kindra, Vayyedu, Ammirekula, and Bornegudem villages of Rajavommangi of East Godavari district and Kakarapadu and Pittachalam villages of neighbouring Kovvuru of Visakhapatnam district. Of these, one area near Surampalem is unusually quite large with thousands of these plants crawling on trees densely covering nearly 2 sq.km. in the unreserved forest area. The soil at this location is well drained, gravelly laterite. Cuttings were collected and planted in the *Vanilla* germplasm repository at Indian Cardamon Research Institute at Myladumpara in May 1994.

Vanilla wightiana Lindl. is a herbacious perennial vine climbing by means of adventitious roots on trees. The roots are long, greenish to brownish in colour, aerial, about 2 mm diameter and are produced singly opposite to small leaves one at each node. The roots adhere firmly to the support as the plants climb. The stem is long cylindrical, vertically grooved and succulent (Fig. 1). It has monopodial growth or is rarely branched. The branches are 1 - 2 cm diameter with dark green colour. The internodes are 10 - 20 cm in length. At an early age of the plant, there are very small leaves one at each node opposite to aerial roots. The scaly leaves fall off quickly leaving a scar at each node. Flowering commences in February and it continues for a period of 3 - 4 months. The stout inflorescences (Fig. 2) are axillary, usually simple and rarely branched. They are usually borne towards the tip of the vine and are 10 - 30 cm long with 10 - 20 flowers. Generally 1-3 flowers open at a time

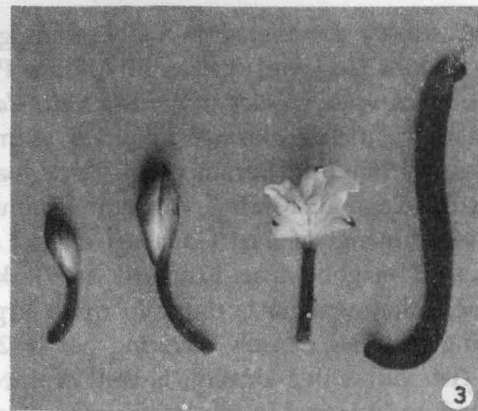
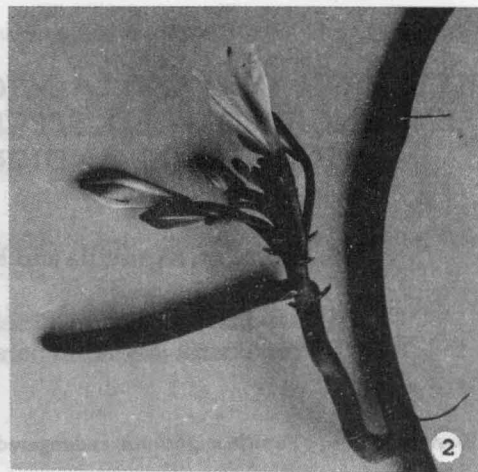
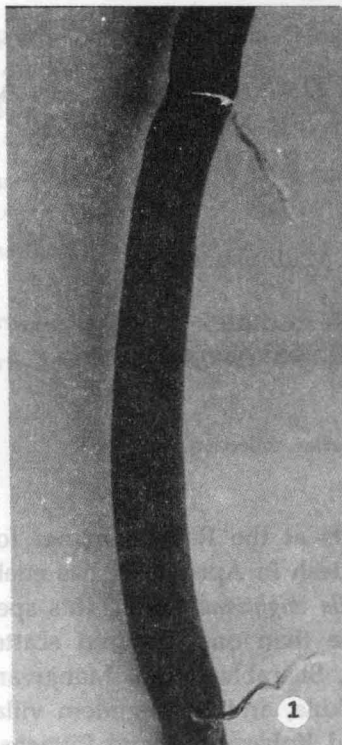


Fig. 1 Stem of *Vanilla wightiana* showing vertical grooves and serial roots.

Fig. 2. Inflorescence of *V. wightiana* showing axillary origin.

Fig. 3. Different stages of flowering from bud formation to fruit formation in *V. wightiana*.

Fig. 4. *V. planifolia* with beans and well developed leaves.

in an inflorescence and each lasts for a day. Flowers are large, fragrant, whitish in colour with light pinkish tinge at lip base (Fig. 3). The peduncle is very short. There are three oblong-lanceolate sepals. The upper two petals resemble the sepals in shape but are slightly smaller. The lower petal is modified as a trumpet shaped labellum or lip which is attached to the gynostemium. The tip of the lip is obscurely 3 lobed and is irregularly toothed on this revolute margin. There is a single stamen containing two pollen masses or pollinia covered by a cap and below is the concave sticky stigma which is separted by a thin flap like rostellum. The ovary is inferior, trilocular, cylindrical, often curved, 4-7 cm long and 3-5 mm diameter. The fruit known in the trade as a bean (Fig.3) is pendulous, narrowly cylindrical, 10-25 cm long and 5-15 mm in diameter with minute (0.3 mm diameter) globose seeds. It takes 8 to 10 months for the harvest after flowering and is aromatic after drying.

The wild species *V. wightiana* Lindl : is easily distiguished from the cultivated species (*V. planifolia* Andrews) by its vertical grooves on the stem which are absent in the latter (Fig.4). Another prominent character of the wild species is the absence of well developed leaves as these observed (Fig.4) in *V. planifolia* Andrews (Purseglove *et al.*, 1981). It was also observed that the wild species is free from pests and diseases, indicating the source of resistant / tolerant genes unlike in the commercially grown species. It is essential to conserve the species which is under the uneat extinction so that crop improvement programmes can be taken up in future.

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