

STUDY ON FLORAL MORPHOLOGY OF AN ORCHID HYBRID, *CYMBIDIUM TEJ'S UDAI* AND ITS PARENTS *CYMBIDIUM ALOIFOLIUM* (L.) SW. AND *C. BICOLOR* LINDL.

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Abstract

A hybrid was raised between two species *Cymbidium aloifolium* (L.) Sw. and *C. bicolor* Lindl. from India. The variation in the floral morphology of the hybrid with respect to its parents was compared. Figures of the floral components and images of the flowers of these species are provided.

Introduction

CYMBIDIUMS ARE popular amongst the florists for their large and gracious flowers. A successful cross was made by the author in May 2012 between two native species *Cymbidium aloifolium* (recipient) and *C. bicolor* (donor) collected from Odisha and Tamil Nadu respectively. Seeds from their matured capsules were cultured in May 2013. The seedlings developed were transferred to culture pots in June 2014; the hybrid flowered during May 2020.

Morphology of the Parents and the Hybrid

The habit of the hybrid is found to be \pm similar to its parents. The floral features showed intermediate characters in the shape and coloration. A comparative statement in the variation of the broad floral morphology of the parents as well as the hybrid is provided (Table 1). Figures of the flowers of the species and raised hybrid along with floral components of these are provided for comparison (Figs. 1-6).

The two species were distinguished mainly by the colour of the lip of the flowers. In *C. aloifolium*, the epichile of the lip is streaked alternately with maroon and yellow, while in *C. bicolor*, the epichile is bright yellow with a large U- or V- shaped bold red-black blotch. In the hybrid, the epichile is reddish brown, finely margined yellow, with a central, somewhat ovate, bright yellow blotch; this blotch has feeble streaks of yellow and brown on its apical region. Change is also noticed in the shape of the callus. The callus is interrupted, but not broken, in *C. aloifolium*; but it is un-interrupted in *C. bicolor*. In the hybrid, the callus is distinctly broken beyond the middle.

Registration of the New Hybrid

The hybrid was registered in June 2020 with the Royal Horticultural Society, London, and the authorized international body for registration of orchid hybrids. It is named as "*Cymbidium Tej's Udai*", honoring Udai Pradhan and Tej Pradhan, the couple from Kalimpong, India, for their life-long contribution to Indian orchidology.

It is worth recording here that the registering body informed initially that a hybrid named "*Cymbidium Burma Star*" has already been registered with parentage of *C. aloifolium* and *C. bicolor* in 1961 by a nursery from Australia. *Cymbidium bicolor* is a regional endemic known only from Sri Lanka and peninsular India. A couple



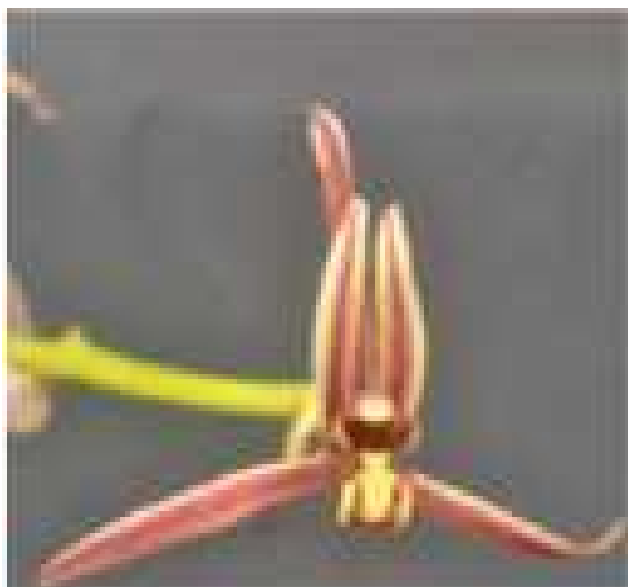
Fig.1. *Cymbidium aloifolium*.

Table. 1. Comparison of floral components of the parents and *Cymbidium* Tej's Udai hybrid.

Floral component	<i>C. aloifolium</i>	<i>C. bicolor</i>	<i>C. Tej's Udai</i>
Angle of inflorescence	Pendulous	Arching	Arching
Length of inflorescence	50-75 cm	31-48 cm	56-60 cm
Number of flowers per spike	26-35	13-15	18-19
Length of pedicel and ovary	20-25 mm	32 mm	30 mm
Flower size	35-40 mm across	65 × 45 mm	42 × 42 mm
Sepal size	20-22 × 4-4.5 mm	33 × 4.5 mm	25.5 × 6.5 mm
Petal size	18 × 6 mm	26 × 3 mm	22.5 × 6.7 mm
Angle of petals	Spreading	Connivent, apices overlapping	Weakly spreading
Lip shape/size	Oblong-ovate 17 × 13 mm	Narrow-ovate 18 × 11.3 mm	Ovate 17 × 12.5 mm
Side-lobe of lip	Lanceolate, acute, exceeding column height	Ovate, obtuse, not exceeding column height	Lanceolate, acute, longer than <i>C. bicolor</i> , but shorter than in <i>C. aloifolium</i>
Callus shape	Interrupted, but not broken	Un-interrupted	Broken

of taxa *i.e.*, *C. bicolor* ssp. *obtusum* and *C. bicolor* ssp. *pubescens* from the East-Asian countries were included under this species (Du Puy and Cribb, 1988). It was apprehended by the author that the *C. bicolor* used as

authority was requested to check this. They very kindly verified their document and found my apprehension to be true. Therefore, they made a correction in their record for the parentage of the hybrid *C. Burma Star* as *C. aloifolium*

Fig. 2. *Cymbidium bicolor*.

one of the parents for *C. Burma Star* might not be the true *C. bicolor*; it could instead be *C. bicolor* ssp. *obtusum* only. Hence accordingly, the registering

Fig. 3. *Cymbidium* Tej's Udai (hybrid between *C. aloifolium* and *C. bicolor*).

(L.) Sw. and *C. crassifolium* Herb. (earlier known as *C. bicolor* ssp. *obtusum*). The hybrid raised between *C. aloifolium* and *C. bicolor* was accepted according to the

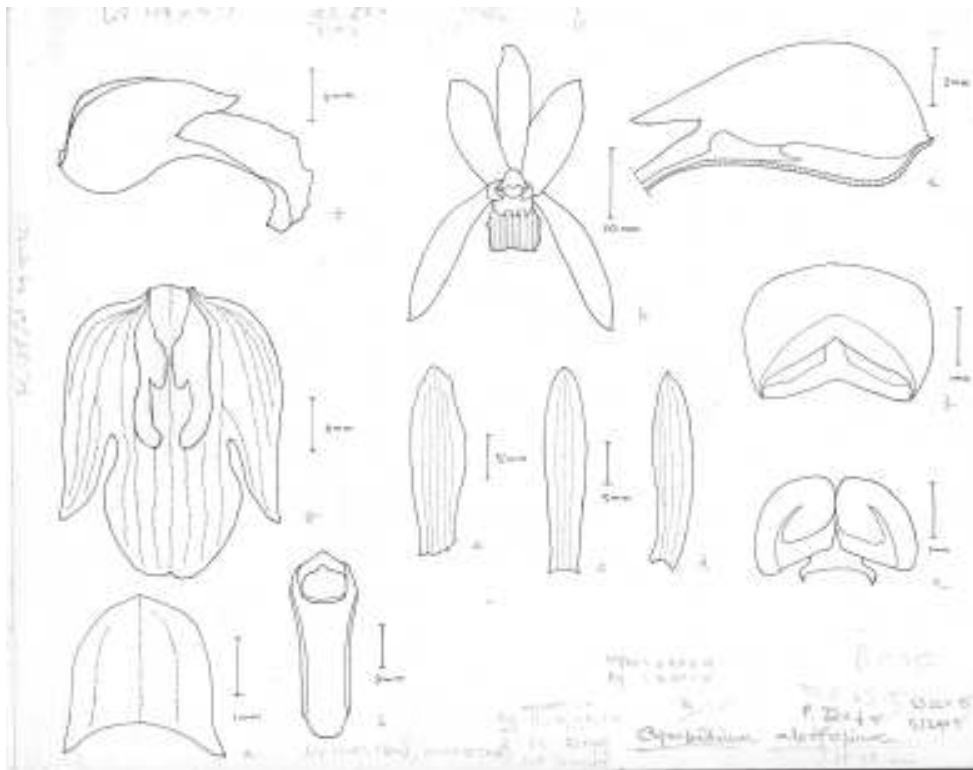


Fig. 4. a-k. *Cymbidium aloifolium*: a, Bract; b, Flower; c, Dorsal sepal; d, Lateral sepal; e, Petal; f, Lip (lateral view); g, Lip (flattened); h, Long section of lip in its basal half; i, Column (front view); j, Operculum; k, Pollinarium. (Drawn by S. Misra).

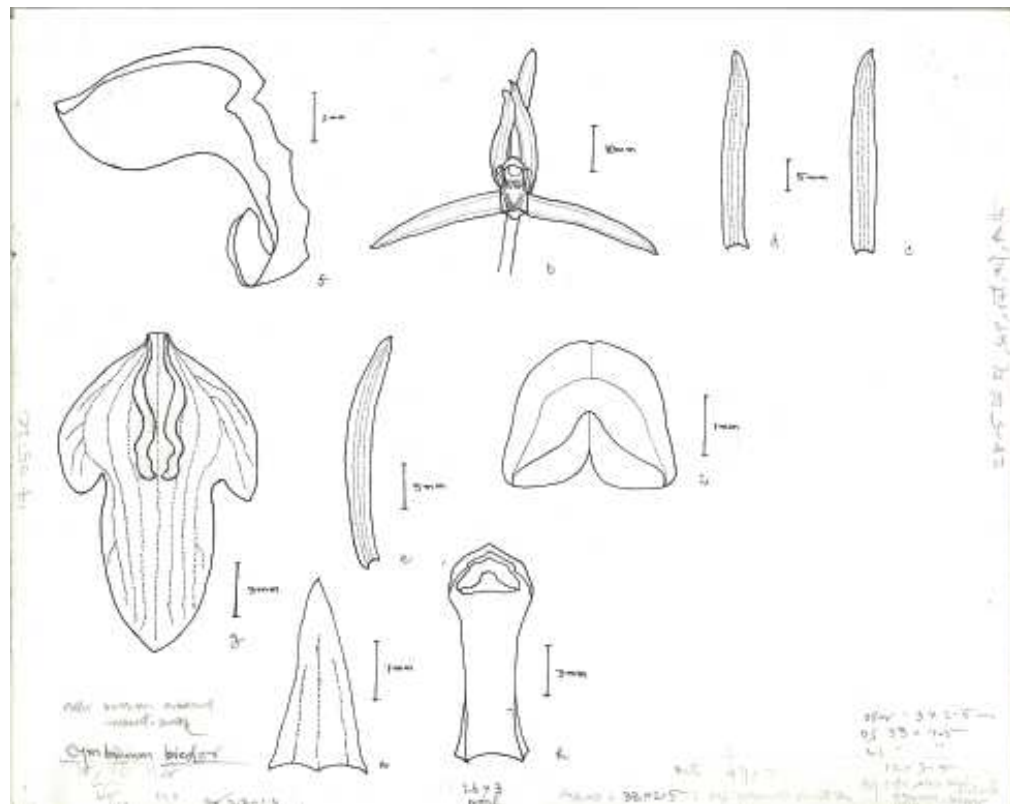


Fig. 5. a-h. *Cymbidium bicolor*: a, Bract; b, Flower; c, Dorsal sepal; d, Lateral sepal; e, Petal; f, Lip (lateral view); g, Lip, flattened; h, Column (front view). (Drawn by S. Misra).

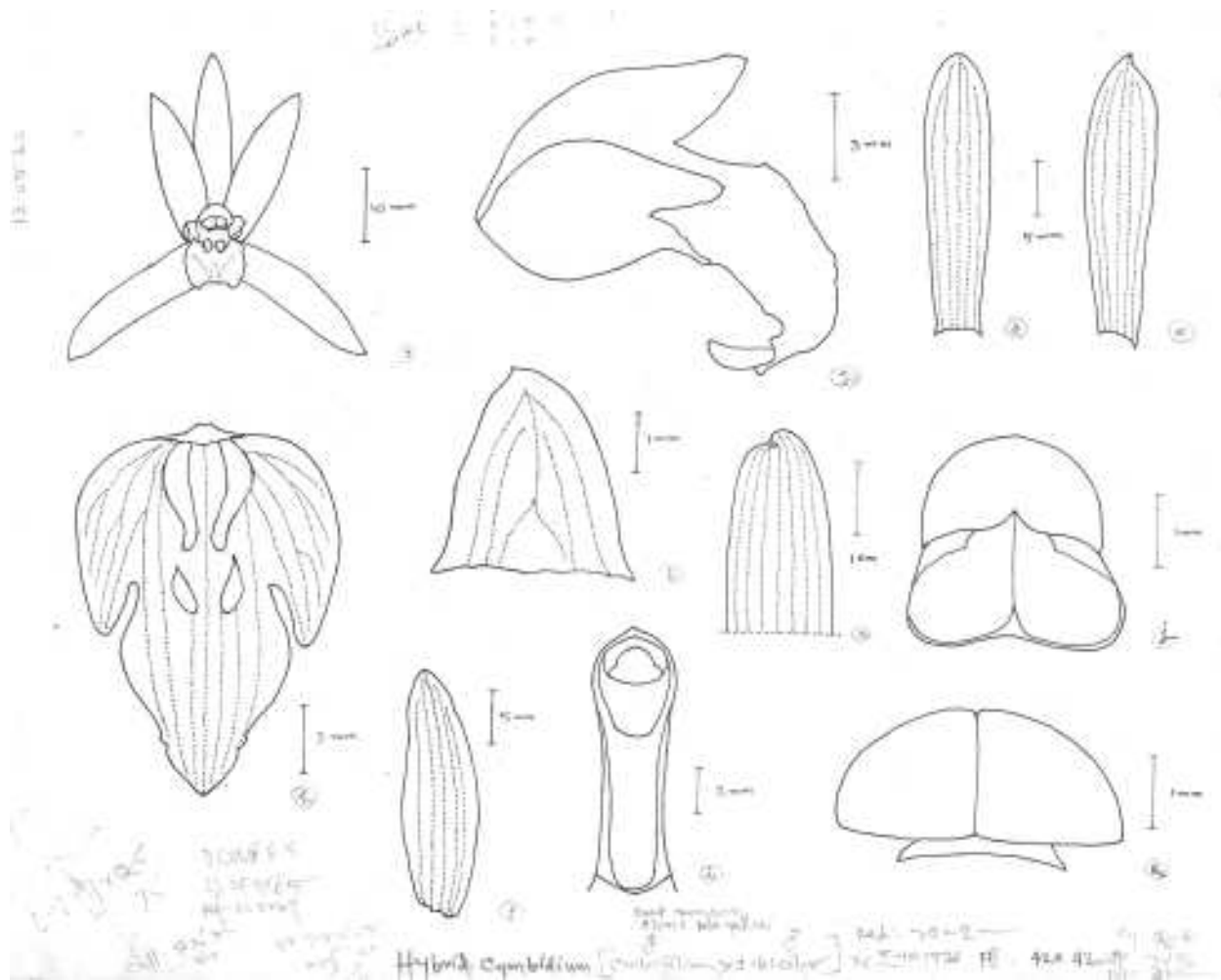


Fig. 6. a-k. *Cymbidium* Tej's Udai (hybrid between *C. aloifolium* and *C. bicolor*): a, Leaf apex; b, Bract; c, Flower; d, Dorsal sepal; e, Lateral sepal; f, Petal; g, Lip (lateral view); h, Lip (flattened); i, Column (front view); j, Operculum; k, Pollinarium. (Drawn by S. Misra).

proposal as *C. Tej's Udai*.

Acknowledgement

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Reference

Du Puy, D. and P. J. Cribb. 1988. *The Genus Cymbidium*. Christopher Helm and Timber Press, London and Portland.