# Morphological characterization of natural orchids *Dendrobium* spp.

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INTRODUCTION

Dendrobium is composed of 1600 kinds of sympodial epiphytic orchids. Dendrobium is described by soft leaves over the entire length, or in some species, ending in two bearish leaves. The flower arrangement is terminal or near terminal, arranged into one to many of flowers with extremely different sizes, sizes and color ranges. Dendrobium is very popular in cut flowers and interior scenes. They are also valuable as potted plants and hanging pots. Many orchid species are hung on branches or walls to covering exposed branches and walls (De et al, 2015).
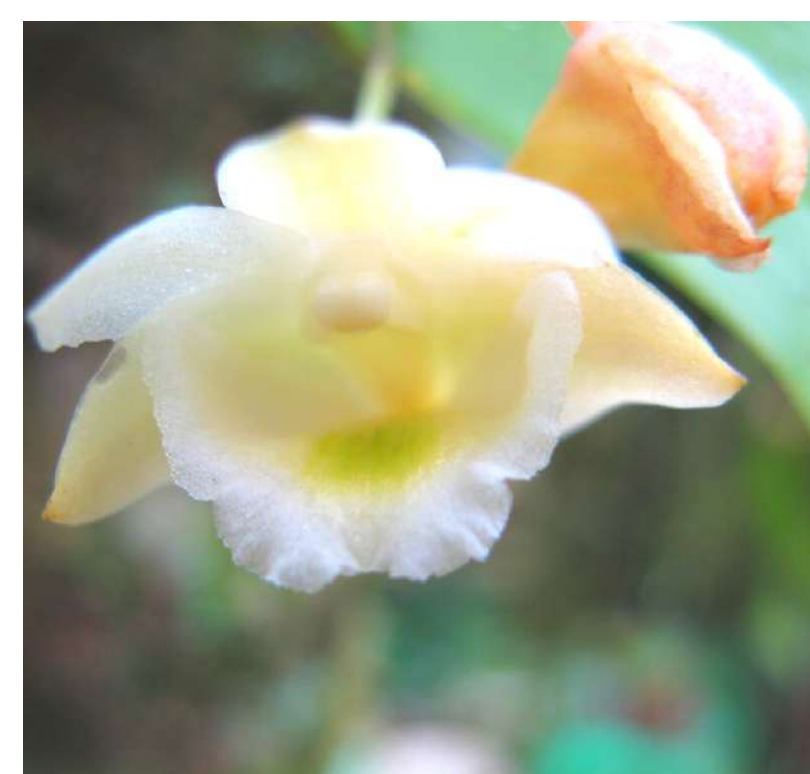
Dendrobium mirbellianum *Dendrobium lamellatum* *Dendrobium anosmum* *Dendrobium bracteosum* *Dendrobium purpureum*

RESEARCH PURPOSES

Figure out the quantitative morphological characteristics of five species of Dendrobium and find parents to use in hybridization.

RESEARCH METHODOLOGY

The research was conducted by observing the morphology of the orchid directly. Morphological characterization consists of 20 characters using a guide developed by (BALITHI 2007). Data analysis was performed using the NTSYS-pc program version 2.02i to determine the genetic distance.

CONCLUSION

The dendrogram results based on the similarity matrix are divided into two clusters, five species have 1.50 value of similarity coefficient. The first cluster is composed of *D. mirbelianum* only, the second cluster is composed of *D. lamellatum, D. purpureum, D. bracteosum* and *D. anosmum* which have more distant relationships with other three orchids on the second cluster.

D. lamellatum and *D. purpureum* have the closest similarity coefficient with 0.81 value which have bigger chance to use the parents in hybridization.

RESULT

The Table

Character	Quantitative data				
	D. mirbelianum	*D. lamellatum*	*D. anosmum*	*D. bracteosum*	*D. purpureum*
Leaf length	19 cm	9.13 cm	7.8 cm	7.8 cm	11.4 cm
Leaf width	5.5 cm	2.4 cm	1.9 cm	1.1 cm	3 cm
Leaf thickness	0.1 cm	0.1 cm	0.1 cm	0.1 cm	0.1 cm
Pseudobulb length	17 cm	2.5 cm	11 cm	5.5 cm	3 cm
Pseudobulb width	2.5 cm	1.48 cm	0.9 cm	0.59 cm	0.79 cm
Pseudobulb thickness	2.5 cm	0.5 cm	0.8 cm	0.54 cm	0.76 cm
Flower length	3.2 cm	1.5 cm	6 cm	2.3 cm	1.4 cm
Flower width	4.9 cm	1.35 cm	5.5 cm	2.5 cm	0.5 cm
Length of dorsal sepal	2.3 cm	0.9 cm	3.8 cm	1.5 cm	0.5 cm
Width of dorsal sepal	0.8 cm	0.6 cm	0.7 cm	0.4 cm	0.2 cm
Length of lateral sepal	2 cm	1.2 cm	3.8 cm	1.7 cm	1 cm
Width of lateral sepal	0.7 cm	0.7 cm	0.8 cm	0.4 cm	0.4 cm
Length of petal	2.5 cm	0.8 cm	3.5 cm	1.2 cm	0.5 cm
Width of petal	0.7 cm	0.4 cm	1 cm	0.25 cm	0.2 cm
Length of flower stalk	23 cm	0.2 cm	3 cm	0.2 cm	0.2 cm
Length of structure flower	21 cm	0.2 cm	3.3 cm	3 cm	0.5 cm
Diameter of flower stalk	0.35 cm	0.08 cm	0.3 cm	0.1 cm	0.2 cm
Flowers bloom duration	60 days	14 days	9 days	40 days	30 days
Number of flower bud	14	6	26	8	22
Number of flower stalk	3	5	1	1	7

The Dendrogram