

# Orchid Diversity and Classification

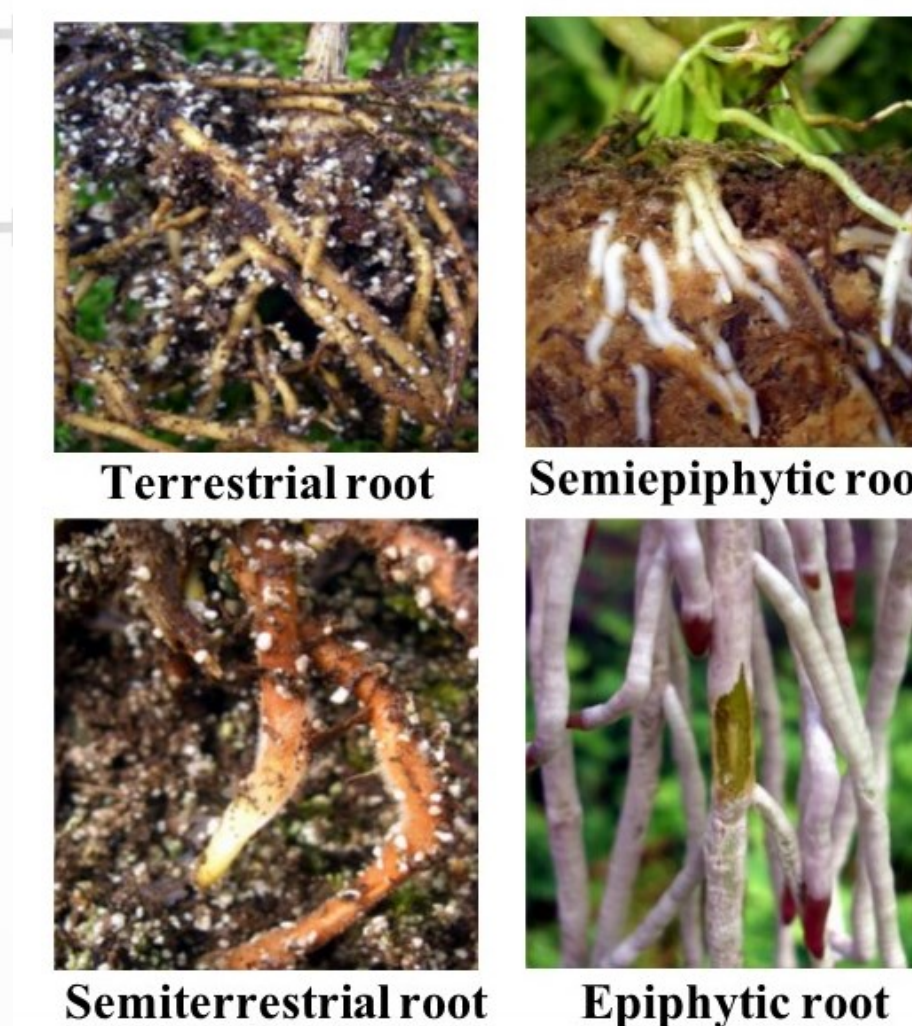
By Dr. Tanapoom Laojunta, Faculty of Agricultural Production, Maejo University



Orchids are in the Family Orchidaceae comprising more than 800 genus, 30,000 varieties and 100,000 hybrids. It is a family of flowering plants that have number of species in the world most. We can find orchids in the tropics and the temperature areas or even in the desert areas. Actually, orchids are the closest in remembrance to lilies. Like the hippopotamus, it is similar to a whale. Characteristics of both the orchid plants and flowers have a lot of variety; from flowers that have beautiful shapes and colors to strange shapes and colors that often catch the eye of those who see it. Orchid colors range from bright to dark. Interestingly, orchids are regarded as flowering plants having the highest evolution among general flowering plants. In Europe in the year 300 BC. Theophrastus, who is known as the father of botany, recorded about an orchid called Orchis. This is the origin of the word 'Orchid today'. The orchid called 'Orchis' has bulbs in the soil that look like 'testis' so it is named as 'Orchid'. The cultivation of orchids in China began in the Sung dynasty. (960-1279) and it mostly was *Cymbidium Phaius* and *Calanthe*. In 1899, a French botanist name Noel Barnard found that the seed of a terrestrial orchid called 'Neottia' which has fallen down in an area of decayed leaves can grow into a new plant. Thus, there was an experiment in growing orchid seeds. In addition, the hybrid obtained from *Laeliocattleya* can be cultivated and grown but there are very few. Later on, another type of the terrestrial orchid has been tried to use the juice obtained from the bulb of a terrestrial orchid to grow '*Bletilla hyacinthina*' seeds. The seed of this orchid varieties can also grow as a new orchid plant. In addition, there was an experiment using pressed juice mixed with sugar and grown from *Laelia* seeds. It was found that the *Laelia* seeds could grow well. Knudson reported about fungi. There was the creation of sugar which is important to orchid seed germination. Besides, there was the development of artificial food to grow orchids called Knudson's C medium.

## Orchid Classification based on root Characteristics or system

The classification of orchid types based on root characteristics or system is beneficial to orchid cultivation. This is because the grower. Growers will be able to use this criterion to decide on the use of planters and containers that have characteristics/properties appropriate to the type of orchid root system. In addition, consideration is giving to the arrangement of planting equipment and planting methods that are appropriate to facilitate the orchid's roots to grow and be strong. Orchid is a large family of plants with widely varying characteristics. This makes it possible to classify orchids into 4 types based on their root systems.



## Classification of orchid based on Principles of Botany

Nowadays, the classification is in accordance of Robert Dressler's principle which can be divided into 6 subfamilies: *Apostasioideae*, *Cypripedioideae*, *Spiranθοideae*, *Ochidoideae*, *Epidendroideae* and *Vandoideae*. However, it has been improved by many botanists, especially the last four subfamilies.

*Apostasioideae* (Subfamily Apostasioideae) Its flower characteristics are similar to those of the lily family. It comprises two genus: *Apostasia* and *Neuwiedia*



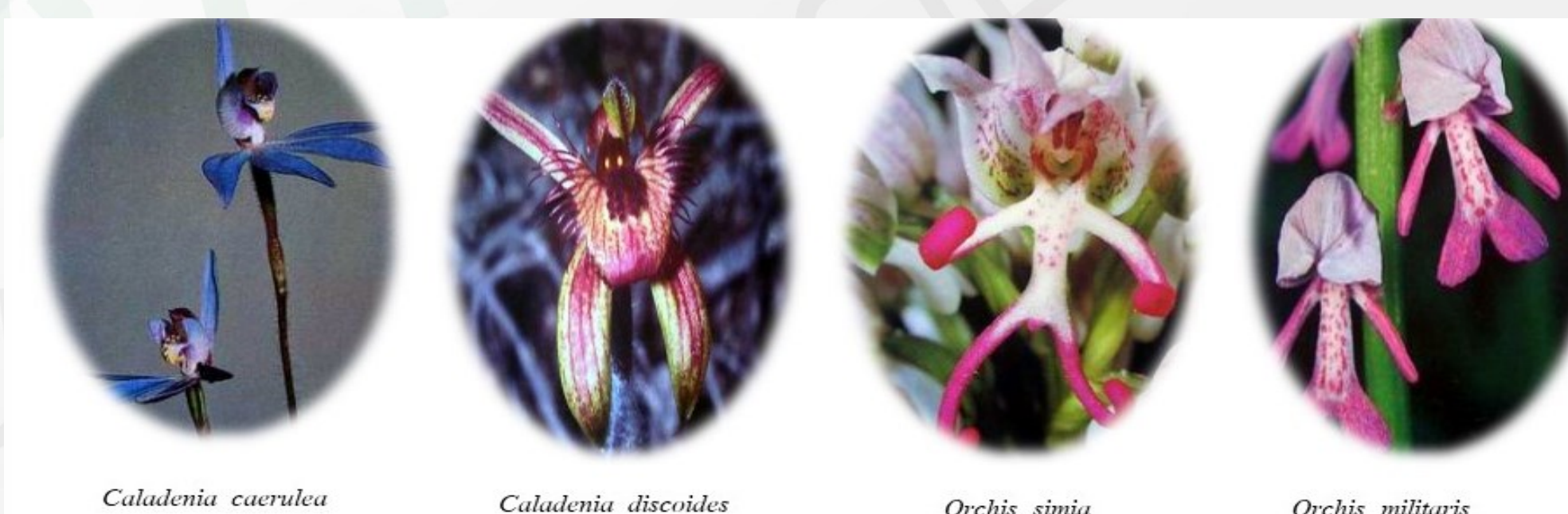
*Cypripedioideae* (Lady's Slipper) There are separate pollen clusters opposite each other on the stamen.



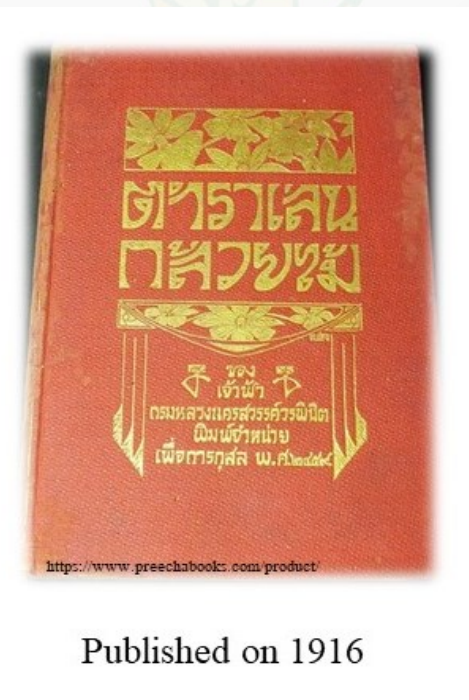
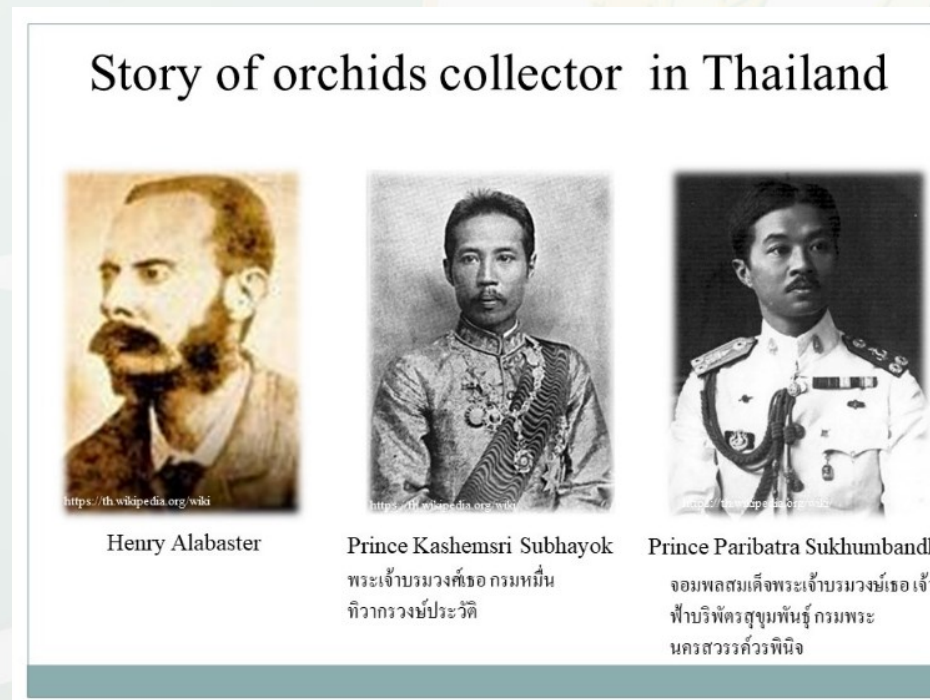
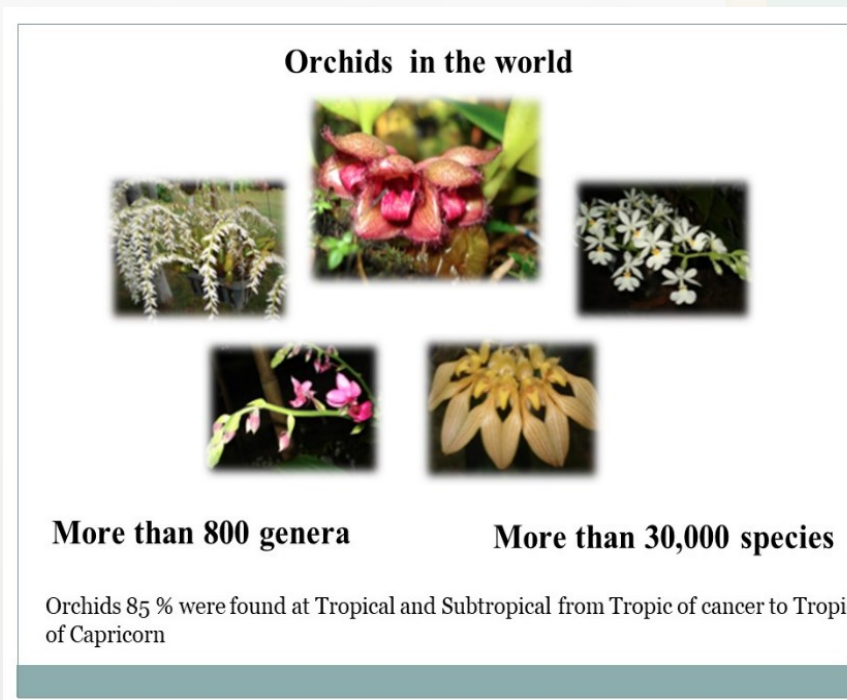
*Spiranθοideae* It has plump, pleated leaves. Pollen clusters are crumbly and mostly contain viscidium at the anther tips. At the base, the anthers are close to the pistil basin.



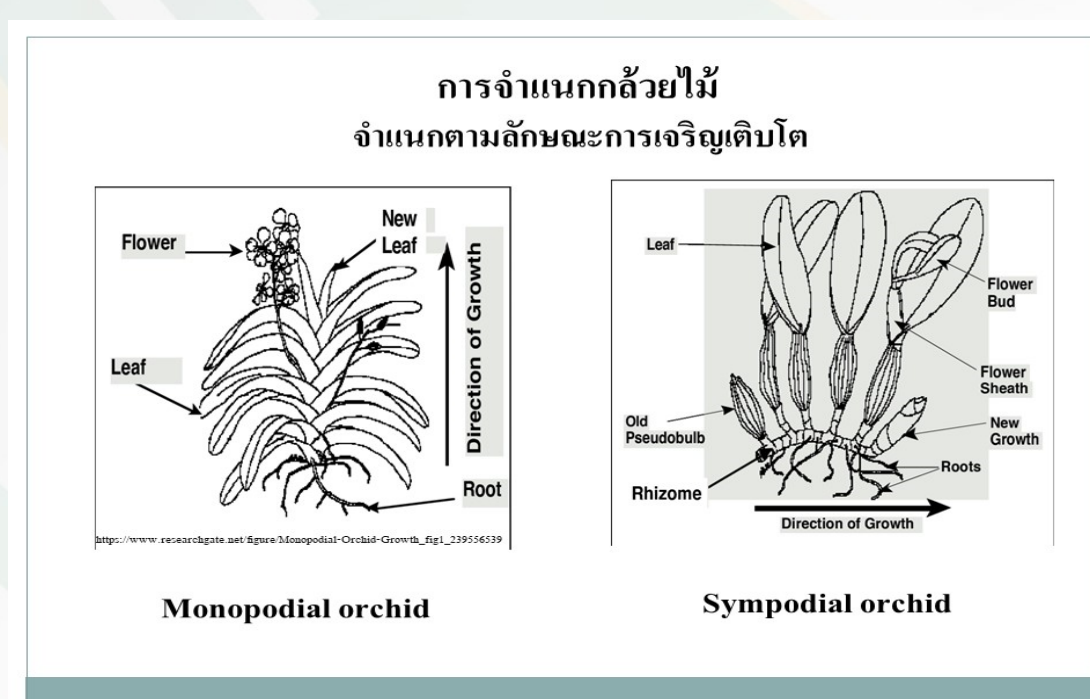
*Ochidoideae* It has thick plump leaves. There is a pollen cluster attached to the viscidium at the base of the anther. The base of the anther is connected to the tip of the stamen. It mostly has roots to store food and its dormancy periods are the dry season and the cold season.



## Epidendroideae



In Thailand, the cultivation of orchids has been practicing for more than 100 years. This began with Mr. Henry Alabaster who introduced orchids from abroad to Thailand. When he died, His Royal Highness Prince Krommuen Thiwakornwong (Prince Kashemri Subhayole) purchased the orchids. Later on, Prince Paribatra Sukhumbandu inherited, studied and wrote 'The Orchid Playbook' in 1916.



## Growth Characteristics of Orchids

Growth orchids requires knowing the growth characteristics of orchids because they are very important in propagation. Growth performance of orchids can be divided into two forms as follows:

1. Monopodial: This orchid has a long stem that keeps growing taller and has roots growing out next to the leaf sheaths. After a long time the part at the base will dry up and die due to old age. Hence, propagation of this type of orchids requires using the method of cutting off the top but must also cut off the part that has roots attached to it. When propagated by cuttings a shoot will grow out of the bud ion the side of the stem. Sometimes, it may occur at the same time on two shoots. The flowering (inflorescence emergence) in this way occurs on the side of the stem. (The top area of the leaf sheath). This orchid type includes *Rhynchostylis*, *Vanda*, *Mokora*, *Ascocentrum*, *Phalaenopsis* and *Arachnis*, etc.

2. Sympodial: The true stem of an orchid lies flat on the ground surface, which is academically called a rhizome. The rhizome has a section of joints having two buds each to become a large shoot. When the shoot develops, it forms a pseudobulb and it will continue to create rhizomes it there is perfect growth. If the orchid grower has good skills, he will be able to grow large clumps of orchids and produce many pseudobulb, making it more beautiful. This orchid type includes *Dendrobium*, *Cattaleya*, *Lady's slipper* and *Oncidium*.

