Orchid Flower Structure
or
Locate and Name the Flower Segments

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by

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There are several physical characters in orchid flowers:

1. Column
2. Fused pollen = pollinia
3. Rostellum
4. Lip or pouch
5. Six flower segments
6. Bi-lateral symmetry

Finding the column is the key to locating the six flower segments in some orchid flowers.
Finding the column is the key to locating the six flower segments.

The column is attached, to the top of the seedpod, or ovary, at the top of the flower stem.

Or, the column is attached to the apex of the peduncle in spray-type orchids.

flower stem, or peduncle
The staminode is simply a broad and flattened end of the column. Slipper orchids have two stamens or pollinia on either side of the column. The ancestral third stamen has been modified into the staminode at the end of the column.
To locate the column in an unfamiliar flower, find the stem, follow it to the seedpod, or ovary, and through the six flower segments to the column.
The dorsal sepal is attached on the upper, or dorsal surface of the column.

The lip is attached on the lower, or ventral, surface of the column.

Occasionally, the ovary may, or may not, twist to place the lip up = nonresupinate.

The rostellum and stigmatic surface, or cavity, are also usually found on the lower column surface.
The dorsal sepal is directly across the column, whether the lip is up or down.
All orchid flowers have six segments in two sets of three.

Three sepals, and one is the dorsal sepal.

Three petals, and one is the lip or pouch.
All orchid flowers have six segments in two sets of three.

Three sepals, and one is the dorsal sepal.

Three petals, and one is the lip or pouch.

These six segments can take many different shapes.
To find the three sepals; begin at the flower stem, follow it past the seedpod, or ovary, to the back of the flower.

The sepals are attached first, at the back of the flower.

When the flower is in bud, the three sepals cover and protect the inner three segments.
The dorsal sepal is directly across the column, from the lip.

In *Masdevallia*, the three sepals are fused, or grown together, into a sepaline tube.

The flower still has six segments, plus the column.
In slipper orchids, the two lateral sepals are fused into a synsepal. These flowers, like all orchids, have six segments, even though it looks as if they have five.
This flower also has six segments.

- **dorsal sepal**
- **two petals**
- **pouch**

**synsepal** = two lateral sepals fused, or joined together, along the central vein.
The petals and lip are attached to the column, inside the sepals, toward the front, or face, of the flower.
The petals and lip are attached to the column inside the three sepals. The lateral sepal is behind the petals and lip.
Bi-lateral symmetry means the orchid flower may be divided in half by only one plane, located down the center, bisecting, or dividing, the dorsal sepal, column and lip or pouch into two, nearly matched, halves.
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This physical character may be used to evaluate some, but not all, orchid flowers for straightness, balance and proportion.
Remember:
From the back of the flower:

1) The column is attached to the apex of the ovary or seedpod.

2) The three sepals are attached to the column first.

3) The petals and lip are attached second, or inside the three sepals.

4) The lip is across the column from the dorsal sepal.
two lateral sepals

The lip is across the column from the dorsal sepal

two petals

lip

column

= **Six** flower segments, plus the column
In *Stanhopea*, the lip has three sections:

1. **Hypochile:** sack-like, attached to the column (hypo-kyle)

2. **Mesochile:** pinched-in middle, often, not always, with horns or side lobes

3. **Epichile:** the triangular, flattened tip
Orchid lips may have many different shapes, but a three-lobed lip is relatively common.

The two side lobes may stand up beside or wrap around and over the column.

Sometimes, the side lobes are large, compared to the central lobe or midlobe.

The side lobes may be much reduced or smaller than the midlobe.

The midlobe may bend downward, curl back or project forward.
Locate and Name the Flower Segments?

1. 
2. 
3. 
4. 
5.
1. Dorsal Sepal, attached to the column, behind the petals
2. two Petals
3. Column, attached at the top of the seedpod or ovary
4. Lip, across the column
5. from the dorsal sepal two fused, Lateral
6. Lip, across the column
7. two fused, Lateral
8. Sepals, attached behind the lip
9. Dorsal Sepal, attached to the column, behind the petals
All orchid flowers have the same six segments, plus a column. The lip is across the column from the dorsal sepal. Bi-lateral symmetry may be used, in some orchids, to evaluate straightness, balance and proportion.
In orchids, the shapes are wildly variable - but the underlying flower structure is the same.
If a bumblebee can find the correct flower segment... we can too!