

## PLANT CLASSIFICATION AND NOMENCLATURE LECTURE

Although students in Indoor Plants class do not have to learn the often-difficult-to-pronounce formal names of plants, it is important that they have somewhat of an appreciation of what's involved in categorizing and naming plants.

The process of categorizing plants is called **Plant Classification** and is nothing more than a systematic arrangement of plants into certain groups and even subgroups based on characteristics common to the group.

This system of classifying plants is based on structural similarities (primarily flowers and fruits) and common ancestry (relationship by descent).

Plant classification divides these groups in a hierarchical manner (from highest level to lowest level). One scheme commonly used is:

KINGDOM - (highest)

DIVISION - (next highest)

CLASS - (next)

ORDER - (next)

FAMILY - 'Family' is highest group that is commonly used in classification reference because it is small enough to see or clearly distinguish among members of the group. Example is Gesneriad Family and Begonia Family,

GENUS - (next)

SPECIES - (next)

VARIETY - (sometimes)

CULTIVAR - (sometimes)

When we deal with genus, species, variety and cultivar, we are referring to groups or terms in the classification system that are commonly used in the **NOMENCLATURE** of plants.

"**NOMENCLATURE**" is nothing more than a system of naming plants using an international vocabulary primarily of Latin terms that have been standardized by experts in the field. These Latinized or formal names are referred to as the "Scientific" names or the "Botanical" names of the plants.

Similar plants are placed in the same Genus. In fact, your book gives characteristics of an entire Genus and then addresses individual plants within it. These individuals within Genera (plural of genus) are called "Species" and differ from one another mainly in the appearance of their flowers.

Only in rare cases is a variety name assigned; this means that the plant has some very special distinguishing feature which "botanists" (as distinguished from "horticulturist") feel is notable enough to be formally recognized in the scientific name.

(In general "botanist" tends to be less application-oriented than "horticulturist"; also horticulture is branch of agriculture dealing with certain specific types of plants - flowering and foliage plants for indoor and outdoor purposes, nursery crops etc. Botany is not branch of agriculture - plants involved may or may not have application to people.)

If a plant has a **Cultivar** name, it is because that plant was isolated or manipulated by a "horticulturist" because it exhibits some characteristic different from the wild species type, such as flower difference, foliage difference, form or growth habit difference etc. So, cultivars are generally not found growing in the wild. The word "Cultivar" is actually derived from Cultivated Variety.

Below is the formal classification and nomenclature of a typical plant (Swiss Cheese Plant).

Kingdom - Plantae (Plant)

Division - Angiospermae (Angiosperm)

Class - Monocotyledoneae (Monocot)

Order - Arales

Family - Araceae (Arum Family - Philodendron, Dieffenbachia, Peace Lily)

Genus - Monstera

Species - *deliciosa*

The scientific name or botanical name is written:

Monstera deliciosa - Like all scientific names, it must conform to a set of rigid rules with genus name beginning with a capital letter and the species name usually beginning with a small letter. Both names are always underlined or italicized (commonly in books).

In the case of Croton:

Codiaeum variegatum pictum with a variety name, it is also underlined and beginning

with a small letter.

In the case of the variegated wax plant, it is written:

**Hoya carnosa 'variegata'** - with cultivar name in single quotes. The rule is that the cultivar name is ALWAYS in single quotes, and may or may not be capitalized.

Sometimes, a plant such as the common geranium is written as:

**Pelargonium x hortorum** - in this case the "x" indicates that the plant is a hybrid, which is a plant produced from breeding 2 plants of the same genus, but of different species.

Another type of hybrid - much rarer in occurrence, may arise from breeding 2 plants from completely different genera, such as Fatshedera, whose parents are in the Fatsia and Hedera genera. The scientific or botanical name of this plant would be written as xFatshedera lizei.

These types of hybrid plants usually do not occur in the wild, but were created from sexual reproduction (sexual propagation).

As stated earlier, you won't be expected to know the scientific name of the plants we discuss and that you'll learn in Greenhouse 7A. We'll use common names throughout the semester. But be aware that common names may vary a lot depending on country, region of country and even local pockets within regions.

Ex. Swiss Cheese plant is also commonly known as Split-leaf Philodendron. but not so commonly known as the Mexican breadfruit plant, a name very unfamiliar to us in the eastern US.

Also, quite often common names put plants in groups that don't pertain to the plant at all.

Ex. Strawberry begonia is neither a begonia nor a strawberry.

However, the scientific name cannot be stressed enough because they are international in usage and cause less confusion. They are unique to one and only one plant and are subject to FEWER CHANGES because they are accepted internationally and cannot change at the whim of anyone. **Only experts in the field have the accepted authority to make changes in the scientific names.**