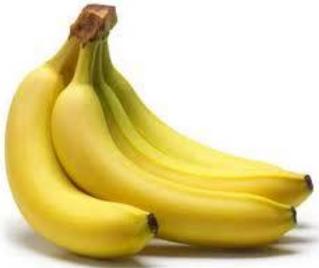




# Lecture 8

CLASS MONOCOTYLEDONS-MONOCTS  
LILIOPSIDA(MONOCOTYLEDONES,  
*MONOCOTYLEDONEAE* ,)



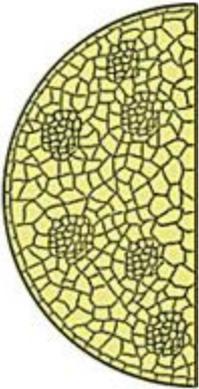


This class is 20-25% of the total number of angiosperms. It has 63,000 species, 3,100 genera, 122 families. They are mostly herbs.

Monocots form a monophyletic group, meaning that they share a common evolutionary history. It is widely believed that the monocots were derived from primitive dicots. Some of the earliest known monocot fossils are pollen grains dating to the Aptian Age of the Early Cretaceous Epoch (125 million–113 million years ago). Molecular clock studies (which employ differences in DNA to estimate when a group split from its ancestors) suggest that monocots may have originated as early as 140 million years ago.



# MAIN PROPERTIES OF MONOCOTS



The seed without endosperm

In basic they are herbs

The root system is fibrous root system or there are underground metamorphosis

The leaves often are simple

The flowers are 3 members

The perianth is simple

The axis organs have not cambium

The conducting bundle is close, is located disorderly, medulla is absent





**Monocotyledons (Liliopsida)**

Alismatidae

Liliidae

Arecidae

Commelinidae



# SUBCLASS ALISMATIDAE

This is the smallest subclass of monocots.

The Alismatales comprise herbaceous flowering plants of aquatic and marshy habitats, and the only monocots known to have green embryos other than the Amaryllidaceae. They also include the only marine angiosperms growing completely submerged, the seagrasses. The flowers are usually arranged in inflorescences, and the mature seeds lack endosperm.

- . *Elodéa canadensis*
- Family Hydrocharitaceae
- The native range of the species lies within North America, but it has been introduced in many parts of the world either intentionally or not. Europe has been particularly affected with the first record dating back as far as 1836. Since then, the species' presence has been confirmed in all continental European countries.



# SUBCLASS ARECIDAE

Subclass Arecidae is relatively small with about 5600 species, but many of its members are familiar, eg. palm trees, or exotic-leaved houseplants belonging to the aroid family.



# Palm family (ARECACEAE)

- **Palm fossils date back to the Upper Cretaceous period (80 Myr). Palms are unusual among monocots in having broad leaves and an arborescent (tree) habit (though without secondary growth). They are not deciduous and the vast majority are limited to tropical regions. Palms bear large inflorescences of small flowers near the top of the plant.**
- **Cocos nucifera-coconut**
- Use in medicine as diuretic, It is used to treat fish poisoning and etc



## . saw palmetto- *Serenoa repens*( *Serenoa Serrulata*, *Sabal Serrulata*)

- The medicinal use of Saw Palmetto dates back to the indigenous population of Central and South America. These people claimed that the fruit of the Saw Palmetto had diuretic, fortifying and calming properties. The Latin word, serrulata means "little saw" and refers to the sharp-edged leaves. The latter-day name of *Serenoa* pays homage to the well-known American botanist, Sereno Watson. The species name of *repens* means "creeping".
- The ingredient of of the prostatitis medicines and food supplement



# Subclass COMMELINIDAE

- A huge and very important subclass, with 15000 species. It contains the family Poaceae with 8000 species: these include not only the grasses of lawns and fields but the world's most important food crops; the cereals (wheat, barley, oats), rice, maize and sugar cane. Rushes and sedges are also in the Commelinidae.



# Order Bromeliales

## Family Bromeliaceae

### Pineapple (*Ananas sativa*)

Native to [South America](#) and [Central America](#), it is herb/

Ananas contain both bromelain and papain enzymes to which they owe their meat-tenderizing properties.

The fruit and roots are used by some peoples as anti-inflammatory, proteolytic agent, and a root decoction for diarrhea





# Grass family(*Poaceae* )

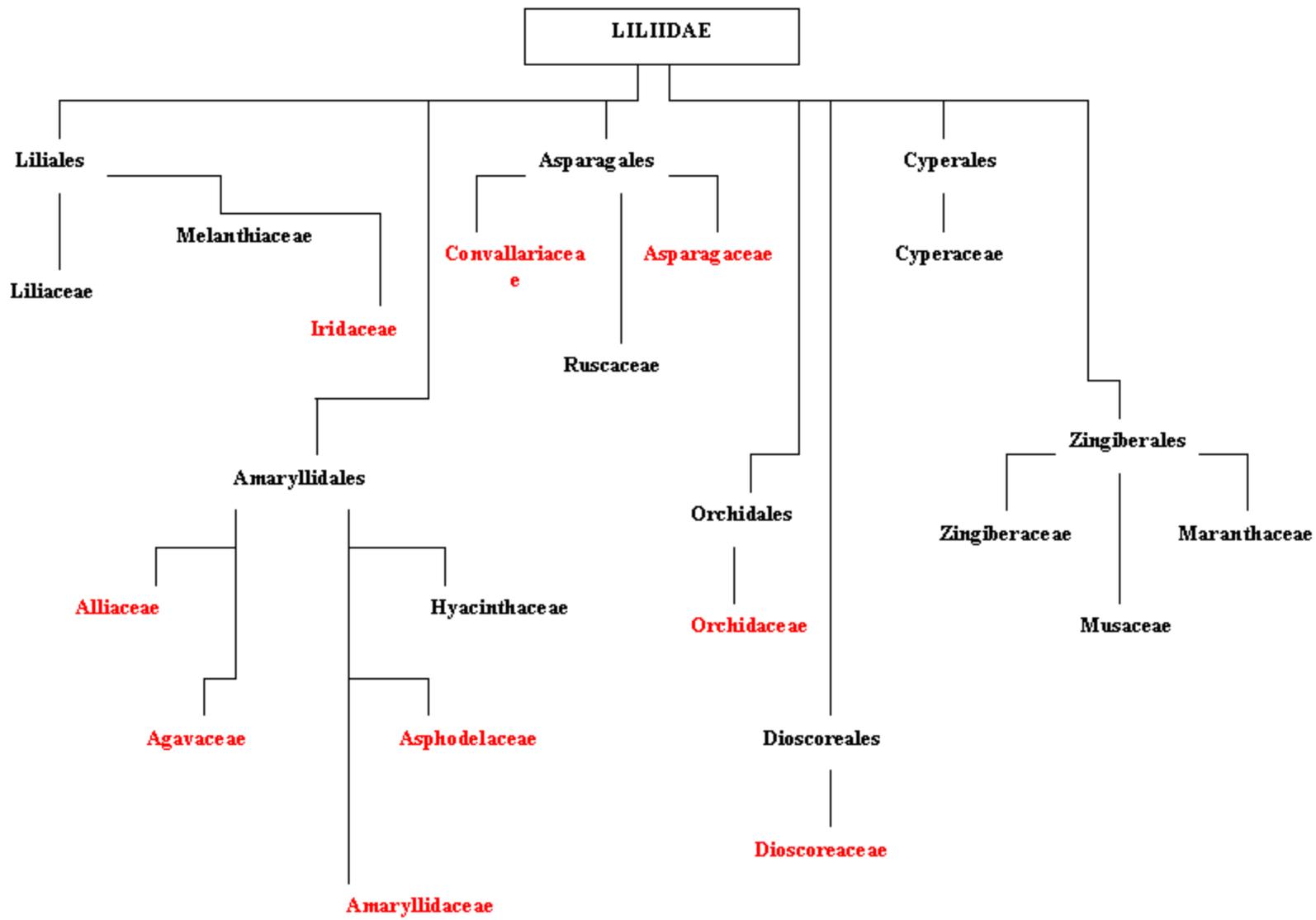
- **Poaceae**, formerly called **Gramineae**, [grass](#) family of monocotyledonous flowering plants, a division of the order [Poales](#). The Poaceae are the world's single most important source of food. They rank among the top five families of flowering plants in terms of the number of species, but they are clearly the most abundant and important family of the [Earth's](#) flora. They grow on all continents, in [desert](#) to freshwater and marine habitats, and at all but the highest elevations. Plant [communities](#) dominated by grasses account for about 24 percent of the Earth's vegetation.



**SPIKE**

# LILIIDAE Subclass

- Comprises 17 families including:
- Liliaceae; Alliaceae; Amaryllidaceae; Iridaceae; Orchidaceae; Trilliaceae)



## *Orchidaceae family*

Along with the Asteraceae, they are one of the two largest families of flowering plants.

The Orchidaceae have about 28,000 currently accepted species, distributed in about 763 genera.



The **Khari-bulbul** (*Ophrys caucasica*) is a flowering plant endemic to the [Karabakh](#) region. It is considered by some to be "official flower" of the region. It grows only in the [Shusha](#) region of the [Republic of Azerbaijan](#).

In 2014 an exhibition titled "Khari bulbul, a flower of peace and love" was organized by the Federal National Cultural Autonomy of Azerbaijanis in Russia. In March, 2014 a presentation ceremony of the Khari Bulbul flower took place in the United States Botanic Garden Conservatory



# Vanilla planifolia

- Vanilla is a flavoring derived from orchids of the genus *Vanilla*, primarily from the Mexican species, flat-leaved vanilla (*V. planifolia*). The word vanilla, derived from *vainilla*, the diminutive of the Spanish word *vaina* (*vaina* itself meaning a sheath or a pod), is translated simply as "little pod". Pre-Columbian Mesoamerican people cultivated the vine of the vanilla orchid, called *tlīlxochitl* by the Aztecs. Spanish conquistador Hernán Cortés is credited with introducing both vanilla and chocolate to Europe in the 1520s.





**Thanks for attention!**