

## Monocotyledons 3

### A. Families to Know on Sight

#### 1. Orchidaceae (orchid family) – p. 153

Diagnostic Summary: More or less succulent herbs often, often rosette in habit, with or without a pseudobulb, or sometimes with well-developed internodes; mostly epiphytic in the tropics, terrestrial in temperate zones; flowers irregular (monosymmetric) with lower petal modified into *labellum*, and single stamen plus pistil fused into *column*. Fruit a capsule.

Generalized Flora Formula:

Ca<sup>3</sup>, petaloid but distinct from Co Co<sup>2+1</sup> (labellum) A<sup>1</sup>, pollinia  $\bar{G}^{[3]}$ , column Strongly monosymmetric

#### 2. Arecaceae or Palmae (palm family) – not in book

Diagnostic Summary: Trees or shrubs with unbranched aerial stems terminated by a rosette of large, sheathing, pinnately compound or palmately lobed, plicate leaves; flowers tiny, regular (polysymmetric), aggregated into large, showy panicles. Fruit a berry or drupe.

Generalized Flora Formula: P<sup>3+3</sup> A<sup>6</sup>  $\bar{G}^{[3]}$  Small, in large, showy panicles subtended by spathe

### B. Genera to Know (you can write your own key to genera)

#### Orchidaceae – p. 153

- 1) *Cattleya* (succulent herbs)
- 2) *Phalaenopsis* (succulent herbs)

#### Agavaceae – p. 177 (included in

#### Asparagaceae by APG III)

- 3) *Agave* (succulent herbs or shrubs)
- 4) *Yucca* (herbs, shrubs or small trees)

#### Bromeliaceae – not in book

- 5) *Aechmea* (herbs)
- 6) *Ananas* (herbs)

#### Strelitziaceae – not in book

- 7) *Strelitzia* (herbs to small trees)

#### Musaceae – not in book

- 8) *Musa* (rosette herbs to small “trees”)

#### Arecaceae or Palmae – not in book

- 1) *Chamaedorea* (small trees)
- 2) *Phoenix* (shrubs to trees)
- 3) *Serenoa* (trailing rosette shrubs to small trees)
- 4) *Trachycarpus* (trees)

#### Asphodelaceae – not in book

- 5) *Aloe* (succulent herbs, shrubs or small trees)

### C. Some Economic Botany

- 1) Agavaceae is the source of agave (*Agave*), the source of sap that leads both to the production of tequila and agave “nectar”, and of numerous ornamental plants.
- 2) Arecaceae is the source of coconuts (*Cocos nucifera*), dates (*Phoenix dactylifera*), and numerous ornamental trees.
- 3) Asphodelaceae is the source of Aloe Vera (from *Aloe vera* and other species such as *Aloe feroxii*) and numerous ornamentals protected under CITES.
- 4) Bromeliaceae is the source of numerous bromeliads of horticultural importance.
- 5) Musaceae is the source of cultivated bananas and plantains from the genus *Musa*.
- 6) Orchidaceae is the source of orchids, which are important ornamentals and, due to poaching, are protected under CITES. Fermented capsules of the Vanilla Orchid (*Vanilla planifolia*) are the source of vanilla flavoring.
- 7) Strelitziaceae is the source of numerous tropical ornamentals from the Bird-of-Paradise genus, *Strelitzia*.
- 8) Zingiberaceae (a relative of Musaceae) is the source of ginger (*Zingiber officinale*), cardamom (*Elettaria cardamomum*) and numerous tropical ornamentals.