**FLOWERS**

A major diagnostic feature of angiosperms is the flower. A **flower** is a modified reproductive shoot, basically a stem with an apical meristem that gives rise to leaf primordia. Unlike a typical vegetative shoot, the flower shoot is determinate, such that the apical meristem stops growing after the floral parts have formed. At least some of the leaf primordia of a flower are modified as reproductive sporophylls (leaves bearing sporangia). Flowers are unique, differing, e.g., from the cones of gymnosperms, in that the sporophylls develop either as stamens or carpels.

**FLOWER PARTS**

The basic parts of a flower, from the base to the apex, are as follows. The **pedicel** is the flower stalk. (If a pedicel is absent, the flower attachment is sessile). Flowers may be subtended by a **bract**, a modified, generally reduced leaf; a smaller or secondary bract, often borne on the side of a pedicel, is termed a **bracteole** or **bractlet** (also called a **prophyll** or **prophyllum**). Bracteoles, where present, are typically paired. [In some taxa, a series of bracts, known as the **epicalyx**, immediately subtends the calyx, as in *Hibiscus* and other members of the Malvaceae].

The **receptacle** is the tissue or region of a flower to which the other floral parts are attached. From the receptacle arises the basic floral parts. The **perianth** (also termed the **perigonium**) is the outermost, non-reproductive group of modified leaves of a flower. If the perianth is relatively undifferentiated, or if its components intergrade in form, the individual leaf-like parts are termed **tepals**.

In most flowers the perianth is differentiated into two groups. The **calyx** is the outermost series or whorl of modified leaves. Individual units of the calyx are **sepals**, which are typically green, leaf-like, and function to protect the young flower. The **corolla** is the innermost series or whorl of modified leaves in the perianth. Individual units of the corolla are **petals**, which are typically colored (non green) and function as an attractant for pollination.

Some flowers have a **hypanthium** (floral tube), a cuplike or tubular structure, around or atop the ovary, bearing along its margin the sepals, petals, and stamens. Many flowers have a **nectary**, a specialized structure that secretes nectar. Nectaries may develop on the perianth parts, within the receptacle, on or within the androecium or gynoecium (below), or as a separate structure.

The **androecium** refers to all of the male organs of a flower, collectively all the stamens. A **stamen** is a microsporophyll, which characteristically bears two thecae (each theca comprising a pair of microsporangia. Stamens can be leaf like (laminar), but typically develop as a stalk like **filament**, bearing the pollen-bearing **anther**, the latter generally equivalent to two fused thecae.

The **gynoecium** refers to all of the female organs of a flower, collectively all the carpels. A **carpel** is the unit of the gynoecium, consisting of a modified megasporophyll that encloses one or more ovules. A **pistil** is that part of the gynoecium composed of an **ovary**, one or more **styles** (which may be absent), and one or more **stigmas**.

In some taxa, e.g. Aristolochiaceae and Orchidaceae, the androecium and gynoecium are fused into a common structure, known variously as a **column**, **gynandrium**, **gynostegium**, or **gynostemium**. A stalk that bears the androecium and gynoecium is an **androgynophore**, e.g., Passifloraceae.