

Flowerheads vary in form, floret composition, and sexuality. Some species have flowerheads with only disk, disk-like, or ligulate florets; others have both disk and ray florets in each flowerhead. Some species have male and female reproductive parts in each floret (**bisexual**), others have separate male and female florets on the same plant, still others have entire plants with only male or female florets. We present the asters in three groups based on their flowerhead

type: **Discoid**, **Radiant**, and **Disciform** (all disk or disk-like florets), **Radiate** (disk and ray florets), and **Liguliflorous** (ligulate florets only).

Cultivated members include western sunflower, safflower, thistles, artichoke, tarragon, sages, European chamomile, and chicory. With 23,000 species worldwide and about 200 in our area, this is the largest family of eudicots and the second largest family of vascular plants (second only to the orchid family).

	Discoid	Radiant	Disciform	Radiate	Liguliflorous
<i>Florets</i>	Disk florets only	A type of discoid head; disk florets only	Resemble discoid heads; typically disk florets in center, surrounded by filiform florets; filiform florets only in pistillate <i>Baccharis</i> heads	Disk florets in center, surrounded by a ring of ray florets	Ligulate florets only
<i>Floret Size</i>	All florets about same-sized	Outer disk florets large, often bilateral	All florets about same-sized	All disk florets about same-sized	All florets about same-sized
<i>Floret Sex</i>	Each floret bisexual (rarely male-only with sterile ovary, e.g., male florets of <i>Baccharis</i>)	Each floret bisexual	Disk florets (bisexual or male) surrounded by tubular female filiform or naked florets	Disk florets generally bisexual, all fertile, sometimes male; ray florets female or sterile	Each floret bisexual
<i>Examples</i>	<i>Artemisia tridentata</i> , <i>Cirsium</i> , <i>Bebbia</i> , <i>Pluchea</i> ; male florets of <i>Baccharis</i> have a small sterile ovary	<i>Chaenactis</i> , <i>Lessingia</i> ; <i>Centaurea</i> has sterile outer florets	<i>Artemisia californica</i> and <i>A. douglasiana</i> , <i>Pseudognaphalium</i> , female heads of <i>Baccharis</i>	<i>Encelia</i> (rays sterile), <i>Eriophyllum</i> , <i>Helianthus</i> , <i>Pentachaeta aurea</i> , true asters	<i>Agoseris</i> , <i>Malacothrix</i> , <i>Microseris</i> , <i>Stephanomeria</i> , <i>Tragopogon</i>

Flowerhead Anatomy and Major Types

