



Head (page 1): A dense cluster of stalkless flowers attached to a receptacle. Heads in the aster family may be discoid (disc flowers only), ligulate (ray flowers only) or radiate (both disc and ray flowers). Heads of the aster family are illustrated below.

Ray flowers (arrow) which we think of as 'petals' around the rim of the head of this zinnia.



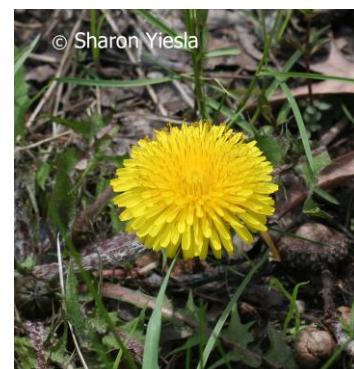
Disc flowers (arrow) found in the center of the head of the same zinnia.



A radiate head has both ray flowers and disc flowers. Note the outer ring of disc flowers are producing pollen while the interior flowers have not yet opened.



A ligulate head, like this dandelion, has only ray flowers.



A discoid head has only disc flowers, like this sea holly.





Head (page 2): Heads don't just occur in the aster family. Here are plants in other families that have heads. The flowers may be perfect or imperfect, but still stalkless and connected directly to the receptacle.

Sweet gum, *Liquidambar styraciflua*, is in the witch-hazel family: 1. Male flowers grouped in heads on a raceme. 2. Female flowers held in a pendulous head.



Buttonbush (*Cephalanthus occidentalis*) is in the madder family. The flowers are perfect and held in a head.



Osage orange (*Maclura pomifera*) is in the mulberry family. Here we see the female flowers held in a head.

