

Spring-blooming DYCs (Damn Yellow Composites) of southern gardens

Gardeners are often perplexed and baffled by the great diversity exhibited in the plant family Asteraceae (also known as the Compositae). With over 20,000 species, this is truly an amazing and fascinating family (in terms of number of species second only to the orchid family), and widely distributed around the world in a broad range of habitats and in a myriad of growth forms. Most composites in the Southeast are herbs, a few species are shrubs or herbaceous vines. Despite the diversity represented in the family, the “composites” (sometimes called “comps”) have a number of features in common, and understanding these features is essential for clearly understanding the morphological latitude within the family, and being able to identify them using a dichotomous key. The key provided here is for common spring-blooming comps seen in the “South”, here from Virginia and the Carolinas south and west through north Florida, Georgia, Tennessee, as well as Alabama and Mississippi.

This following notes comprise much of the basic terminology involved. Note that you will need some magnification in order for this to work; we recommend a 10X hand lens.

--Flowers are congested into heads. At the base of each head is a ring or whorl of greenish (usually) bracts. These bracts are called involucre bracts or phyllaries. The phyllaries may be in a single row, edge to edge, or overlapping in a spiral.

--The individual flowers (sometimes called florets) are attached to a receptacle which may be flat, rounded, or cone-shaped.

--Flowers in Composites are very reduced, each with its 5 petals (the corolla) fused together. There are 3 kinds:

--“Disk flowers” are attached to the central part of the receptacle. They have a tubular corolla with 5 tiny corolla lobes at the top, thus star-shaped when viewed from above (radial symmetry).

--“Ray flowers” are attached at the edge of the receptacle, forming a ring. Ray flowers are tubular at the base, then strap-shaped, forming a conspicuous and usually colorful portion of the head. The tip of a ray corollas typically has 3 tiny lobes.

--“Ligules” are attached to the center of the receptacle, and are very similar to “ray” flowers. The strap-like corolla of a ligule will terminate in 5 tiny lobes. This flower type within the Asteraceae is found only within the subgroup named “Lactuceae”, which contains lettuce (genus *Lactuca*) and its relatives. Members of this subgroup almost always exhibit latex, usually white (or off-white) when injured or bruised.

--Each flower, no matter its type, consists of an ovary destined to become the 1-seeded fruit, or achene. (In some species, the ovary does not become an achene.)Achenes may be flattened or round in cross-section, or angled longitudinally (“prismatic”). Attached at the top of the ovary is usually a pappus, consisting of bristles, scales, or pointed awns. The pappus is absent in some species. When present, the bristles are said to be capillary, and hollow, much like a drinking straw. The bristles may be smooth, or minutely barbed (usually downward), or adorned with soft, elongated branches, and thus a plume-like or “plumose” bristle.

--Pappus bristles, when present, may be individually attached to the achene, or united at their bases in a ring.

--The pappus may be at the upper end of a of a "beak", an elongated, slender extension extending beyond and differentiated from the achene.

1. At least some of the achenes with obvious beak differentiated from achene body.....2.

2. Heads solitary at apex of unbranched stem.....3.

3. Stems leafy as well as basal.....**Tragopogon**

Tragopogon dubius, "Goat's beard", "Yellow salsify" April-July, piedmont and mountains. Two other species occur as well: *T. porrifolius* ("oyster plant") has purple-red flowers, and less common than *T. dubius*. The third is *T. pratensis*, with yellow flowers, but from Virginia and northward. It is a shame that this last species is not common for us, as its common name is "Jack-go-to-bed-at-noon". All three have an edible taproot, and all three are introductions from Europe.

3'. Stems without leaves, all basal**Taraxacum**

4. Achenes tan to pale brown**T. erythrospermum**

4'. Achenes red to reddish brown or purplish.....**T. officinale**

Taraxacum officinale, "Common dandelion" and **T. erythrospermum**, "Red-seeded dandelion" are very similar, differentiated essentially by the color of the achenes: some differences the amount of leaf lobing has been demonstrated as well. These are perennials, developing deep taproots, and both are introductions from Europe, within which many more species of *Taraxacum* occur. *Taraxacum officinale* is ubiquitous in North America; *T. erythrospermum* is less so. The latter has probably not been recognized by botanists, and may be more common than previously thought. Both species are edible, and both attract pollinators.

2'. Heads numerous, the stems variously branched.....4.

5. At least some of the achenes with plumose pappus bristles.....**Hypochaeris** (5)

6. Stems leafy; pappus bristles all the same length, all plumose.....
.....**Hypochaeris chillensis** "Brazilian cat's ear"

6'. Stems essentially leafless, or with a few bract-like leaves; pappus bristles of different lengths, some with tiny barbs, but not plumose.....6.

7. Plants essentially glabrous, free of hairs
.....**Hypochaeris glabra**, "Smooth cat's ear"

7'. Plants hairy, usually abundantly so, especially toward base
.....**Hypochaeris radicata**, "Spotted cat's ear"

Our species of Cat's ear are introductions from Europe or South America, and all produce a rather prominent rosette of basal leaves, as well as a stout taproot. They are effective pollinators, and can form impressive stands in yards when spared mowing.

5'. Achenes not plumose, but with tiny barbs.....
.....**Pyrrhopappus carolinianus**, "False dandelion"

This native species is widespread in the Southeast, commonly on lawns and roadsides, attracting pollinators, into the early summer. The common name "False dandelion" is at best uninformative.

1'. Achenes without beak (although sometimes narrowed distally)8.

8. Heads containing both disk and ray (ligulate) flowers; sap watery, not colored.....9.

9. Introduced perennial; stems without leaves (bracts are present, but much smaller than any basal leaves which develop after flowering) ...**Tussilago farfara**, "Colt's-foot"

This Eurasian native has been steadily migrating southward since its original introduction. It is now a common early spring-blooming component of gravelly roadsides and disturbed areas in the mountainous areas of North Carolina and farther north.

9'. Native annual plants; stems leafy, present before and during flowering.....
.....**Packera glabella**, "Butterweed"

"Butterweed" is a native species in much of the Southeast and into portions of the Midwest. It is at home in damp bottomlands and swamps, where it sufficiently sized populations can make spectacular stands in the spring. It often spreads to wet pastures, fields, and ditches.

8'. Heads containing ligulate disk flowers; stems with milky white or otherwise colored latex (*Senecio vulgaris* without latex)

10. Stems with few or no leaves, predominantly basal, the rosette persisting through flowering11.

11. Pappus either absent **OR** consisting of both scales and barbed bristles.....**Krigia**

12. Phyllaries reflexed downward in fruit; pappus absent or vestigial, bristles <2mm ...**Krigia cespitosa**, "Opposite leaved dwarf dandelion"

12'. Phyllaries erect in fruit; pappus well developed, of scales and bristles >4mm13.

13. Pappus of 5 scales **AND** 5 bristles.....
.....**Krigia virginica**, "Virginia dwarf dandelion"

13'. Pappus of many scales and bristles.....14.

14. Stem leafless, slender tubers present
..... **Krigia dandelion**, "Colonial dwarf dandelion"

14'. Stems leafy, tubers not present.....
.....**Krigia biflora**, "Two-flowered dwarf dandelion"

All of these *Krigia* species are native to the Southeast. *Krigia biflora* is a plant of rich woodlands, mostly of mountainous areas. The others are widespread.

11'. Pappus present, of barbed bristles.....15.

15. Perennial; Leaves with entire margins
.....**Hieracium venosum**, "Veiny hawkweed", "Rattlesnake weed"

This species is native from Alabama northeastward, frequently in woodlands and dry roadbanks. It is not weedy, but is included as a yellow-blooming composite of spring through summer.

15'. Annual; Leaves coarsely toothed or pinnately lobed.....**Youngia**

Youngia japonica is an Asiatic import, becoming more and more common. It is commonly seen in weedy, protected places, as in drip lines below eaves, and seems to tolerate shade well. A second species, **Y. thunbergiana**, is different in having a rather leafy stem: his species is very uncommon (at present) in the Southeast.

10'. Stems generally leafy, if with basal rosette this usually withered by flowering...16.

16. Pappus absent **OR** consisting of scales and bristles
bristles.....**Krigia (see lead 12 above)**

16'. Pappus present, consisting only of bristles.....17.

17. Achenes more or less flattened.....**Sonchus**

18. Leaf base lobes rounded; mature achene faces smooth, flat
.....**Sonchus asper**, "Prickly sow-thistle"

18'. Leaf base lobes pointed downward; mature achene faces with horizontal "wrinkles" or bumps.....
.....**Sonchus oleraceus**, "Common sow-thistle"

Both of our Sow-thistles are European natives and widespread as weeds in the Southeast. They often contain considerable size, with hollow stems, exuding plenty of latex when injured. Aphids are commonly seen on the upper stem and within the inflorescence, often in great abundance.

17'. Achenes round in cross section or angled, not flattened.....19.

19. Annuals (biennial); foliage green, in basal rosettes and/or stem.....20.

20. Foliage mostly basal**Crepis**

21. Stems with sticky glands, especially below; phyllaries without hairs.....

.....**Crepis pulchra**, "Small flower hawksbeard"

22'. Stems with or without abundant hairs, but without sticky glands.....

.....**Crepis capillaris**, "Smooth hawksbeard"

Of these two native hawksbeard species. *C. pulchra* is by far more widespread in the Southeast, blooming through mid-summer. *Crepis capillaris* is more common in and north of North Carolina, where it blooms until late autumn.

20'. Foliage basal and well distributed along stem...
.....**Senecio vulgaris**, "Common groundsel"

This species is widespread in North America after its introduction from Eurasia. It appears to be moving steadily southward. It is more a weed of disturbed grounds and railroad yards than most home gardens.

19'. Perennials; foliage with purplish veins, strictly basal
.....**Hieracium (see lead #11 above)**