

Taraxacum officinale F.H. Wigg.

Standardized Common Name: Dandelion

Other Common Names: Common Dandelion, Dumble-dor

Family: Asteraceae (Compositae)

Taxonomy: *Taraxacum* includes perhaps 60 species, some of which are cosmopolitan weeds. Sect. *Taraxacum* consists primarily of *T. officinale* (in the broad sense). This is a usually asexual species, which has numerous slightly different triploid and tetraploid forms that propagate themselves without interbreeding and thereby maintain their individual features. As a result, literally hundreds of European races of *T. officinale* have been described as species. The biological concept of a species as a set of interbreeding populations is inapplicable to asexually reproducing species, and no practical justification exists for recognizing any of these entities.

Description: Perennial herb with short rhizome at the top of a long, cylindrical, branching taproot. Leaves all basal, short-petioled, spatulate to oblanceolate or occasionally obovate, to 40 cm long, 6 cm broad, membranous; base attenuate into petiole; apex obtuse; margins with large irregular, often backward-pointing teeth or nearly entire; upper surface dark green, lower surface pale. Inflorescence a head (capitulum), solitary, 2–5 cm in diameter; scape hollow, often purplish, containing white latex; involucre green, with 2 whorls of phyllaries, the outer short, the inner much longer and linear; all florets ligulate, perfect, golden-yellow, with short tube and 5-toothed strap. Fruit an achene (technically a cypsela), 2–4 mm long, drab or olive; pappus of numerous bristles, white, elongated, fused for most of length and free above.

Parts in Commerce: Root with rhizome, or leaves harvested before flowering

Identification:

Roots

- Long slender taproots, often branching
- 0.5–1.5 cm thick when dried
- Outer surface dark brown, longitudinally wrinkled (fresh root plump, often yellowish brown)
- In cross-section often irregularly shaped, with outer cork layer, alternating wide rings of whitish parenchyma and thin brownish rings of latex-bearing vessels making up most of the root, and a small yellowish cylinder of vascular tissue in the center
- Rhizome portion differs from root by presence of a small pith at the center of the vascular tissue
- Fracture corky; breaks easily
- Taste weakly bitter, sometimes slightly sweetish

Leaves

- Oblanceolate, sometimes approaching narrowly obovate; size variable
- Base tapering; petiole short
- Apex obtuse
- Margins usually with large irregular teeth at least on lower portion, rarely almost entire; teeth triangular, several on each side, pointing backward or straight out, often with smaller teeth on their margins
- Both surfaces sparsely hairy to glabrous; hairs white, weak, short, mostly along veins especially on upper surface
- Upper surface dark green, lower surface paler; midrib and primary veins may be purple-tinged
- Midrib prominent; venation otherwise usually weak and inconspicuous, sometimes raised on lower surface
- Primary veins pinnate, often parallel to lower concave side of teeth; if apical portion of leaf lacks teeth, primary veins usually somewhat forward-pointing and anastomosing well inside margin
- Taste bitter

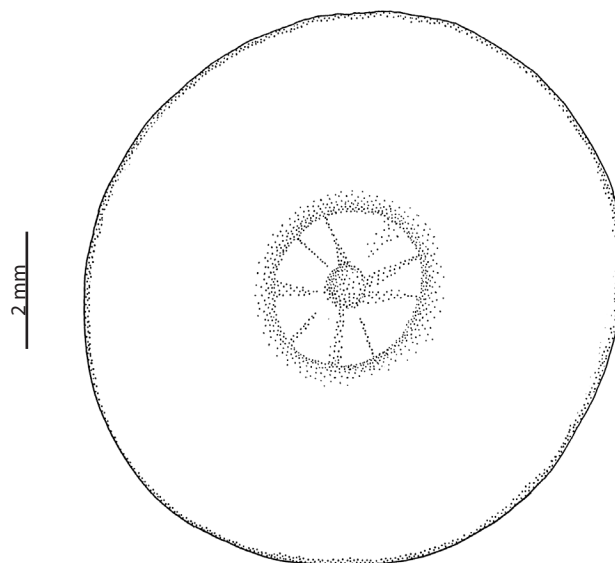


Figure 74: *Taraxacum officinale*, cross-section of young root with limited secondary growth.

Adulterants: Former substitutes for dandelion root include *Cichorium intybus* L. (Chicory, cf.), dock (*Rumex*) species, lettuce (*Lactuca*) species, and *Leontodon hispidus* L. (hawkbit). Numerous latex vessels are seen in roots of *Cichorium*, but they are in rays extending outward from the center, rather than in rings. Other features that may be found in incorrectly identified roots include:

- Yellow color throughout
- Fracture very hard and tough
- Vascular cylinder containing radial rays of xylem separated by narrow medullary rays
- Taste bitter

There are other species of *Taraxacum* that can be difficult to distinguish from *T. officinale*, though they are rarely reported to be substituted; whether this is because they are comparatively uncommon or because substitution goes unnoticed is unknown.

Leaves of other rosette-forming species such as *Cichorium* can be confused with those of *Taraxacum* in the spring. The rosette leaves of *Cichorium* are often only shallowly

toothed for much or all of their length, sinuate-margined, or with many narrow teeth projecting outward from a broad blade, whereas these conditions are atypical though possible in *Taraxacum*. Their leaf apices are often narrowly acute. *Cichorium* may be more strongly pubescent than *Taraxacum*, with ciliate leaf margins and hairs growing densely along veins, but this is not always the case.

References:

British Herbal Medicine Association. *British Herbal Pharmacopoeia*. BHMA; 1996:68–69.

Fernald ML. *Gray's Manual of Botany*, 8th ed. New York: American Book Company; 1950:1549–1553.

Richards AJ, Sell PD. *Taraxacum*. In: Tutin TG, Heywood VH, Burges NA, et al., eds. *Flora Europaea*. Vol. 4. Cambridge: Cambridge University Press; 1976:332–343.

Youngken HW. *Text-Book of Pharmacognosy*, 5th ed. Philadelphia, PA: The Blakiston Company; 1943:888–892.