

# *Euphrasia officinalis* L.

Standardized Common Name: Eyebright

**Family:** Scrophulariaceae

**Taxonomy:** *Euphrasia*, a taxonomically difficult genus, perhaps has about 170 species. In the most recent treatments of European *Euphrasia*, almost 50 species are recognized. These blend into one another to such a degree that many individuals or populations are impossible to identify, and some form hybrid swarms; thus, the number of truly separate species is probably much lower. *Euphrasia officinalis* L., which belongs to Sect. *Euphrasia*, was originally applied in a broad sense that encompassed many of these. As a narrower species concept gained favor, it was asserted that *E. officinalis* had become an ambiguous name through its broad application. The name *E. rostkoviana* Hayne is therefore commonly employed for the segregate species that includes the type specimen of *E. officinalis*. However, this does not conform to the rules of nomenclature, and *E. officinalis* remains the correct name for that species. Other very similar taxa presently recognized at the specific level include *E. drosocalyx* Freyn, *E. hirtella* Jordan ex Reuter, and *E. rivularis* Pugsley. The traditional concept of Eyebright would have included all of these and more.

**Description:** Annual herb, semi-parasitic. Stem to 35 cm high, erect, slender, branching. Leaves opposite, more or less sessile, pale green, bearing glandular hairs. Leaf shape highly variable within plants: lower stem leaves from narrowly ovate-lanceolate to ovate or oblong to orbicular, 3–17 mm long; base rounded, truncate or cuneate; margins crenate or somewhat serrate with 1–7 pairs of obtuse or acute teeth; apical lobe obtuse. Upper leaves subtending flowers deltoid or ovate to orbicular; base sometimes subcordate; apical lobe often acute; marginal teeth 3–9 per side, sometimes serrate with acute to acuminate teeth, basal teeth usually dentate or backward-pointing. Flowers solitary in leaf axils. Calyx with 4 teeth; teeth narrowly triangular to linear; apices acute, acuminate or awned. Corolla bilabiate, (6.5–)8–12.5 mm long; lower lip spreading with 3 emarginate lobes; upper lip hooded, 2-lobed; white or lilac especially on upper lip, with purplish veins and yellow spots in throat and on lower lip; outside pubescent. Stamens 4; anthers spurred, contained in upper lip; filaments bent. Fruit a capsule, 4–5.5(–6.5) mm long, oblong to elliptic, apex truncate to emarginate; seeds numerous, brown.

**Parts in Commerce:** Whole herb

## Identification:

### *Stem and leaves*

- Stems narrow, glabrous, pale green to purplish; lower parts of stem usually with internodes longer than subtending leaves
- Leaves quite variable in shape, but larger leaves usually broadly ovate or triangular; lower stem

leaves 3–17 mm long, with those at base smallest; upper floral leaves 5–15 mm long

- Leaves sessile or nearly so
- Margins with 1–9 pairs of teeth; teeth of lower leaves rounded, obtuse; teeth of floral leaves often narrower, more numerous and more acute, with basal teeth pointing outward or backward rather than forward
- Pale green, bearing multicellular glandular hairs; hairs long-stalked, with length of stalk often 10 times that of glandular head

### *Flowers and fruit*

- Flowers solitary in axils of floral leaves
- Calyx tubular, with 4 teeth; teeth narrowly triangular to almost linear, usually long-pointed.
- Corolla (6.5–)8–12.5 mm long; lower lip flat and protruding, with 3 large lobes, apices of lobes slightly notched; upper lip hooded, with 2 smaller lobes
- Corolla whitish or lilac, sometimes with lower lip white and upper lip lilac, with purplish veins and with yellow spots in throat and one yellow spot on lower lip
- Stamens 4, contained inside upper lip of corolla
- Capsule green, oblong, 4–6.5 mm long, usually not more than twice as long as broad; apex blunt or slightly notched

***E. stricta* J. P. Wolff ex J. F. Lehm.:** Eyebright is sometimes considered to include material from the *E. officinalis* and *E. stricta* species groups, while excluding material from species or microspecies outside these groups. As the *E. stricta* group is apparently not the most closely related to the *E. officinalis* group, nor proven to be chemically most similar, this circumscription seems difficult to justify. Linnaeus' original specimen of *E. officinalis* included some material of a second species, thought to be *E. stricta*. Possibly *E. stricta* remains official today because it was thereby shown to be included within the original concept of *E. officinalis*, but certainly some of the excluded species or microspecies would also have fit into Linnaeus' definition. *E. stricta* differs from *E. officinalis* in the following characters:

- Stem often stout, usually dark purple
- Leaves glossy, often dark green, with purple margins
- Leaves bearing multicellular glandular hairs whose

stalks are about 5 times as long as their heads, and sometimes nonglandular hairs or bristles

- Leaves usually narrowly ovate, never approaching orbicular; most bases form short petioles
- Leaf teeth narrower, less rounded; teeth of floral leaves all forward-pointing; teeth apices acute or with small points
- Floral leaves sometimes appressed to calyx
- Calyx often purple-tinged, with black veins, margins or blotches
- Corolla almost always under 10 mm long
- Capsule over 2.5 times as long as broad, with long straight hairs

Related “species,” such as *E. pectinata* Ten., that grade into *E. stricta* usually display small variations in these and other features.

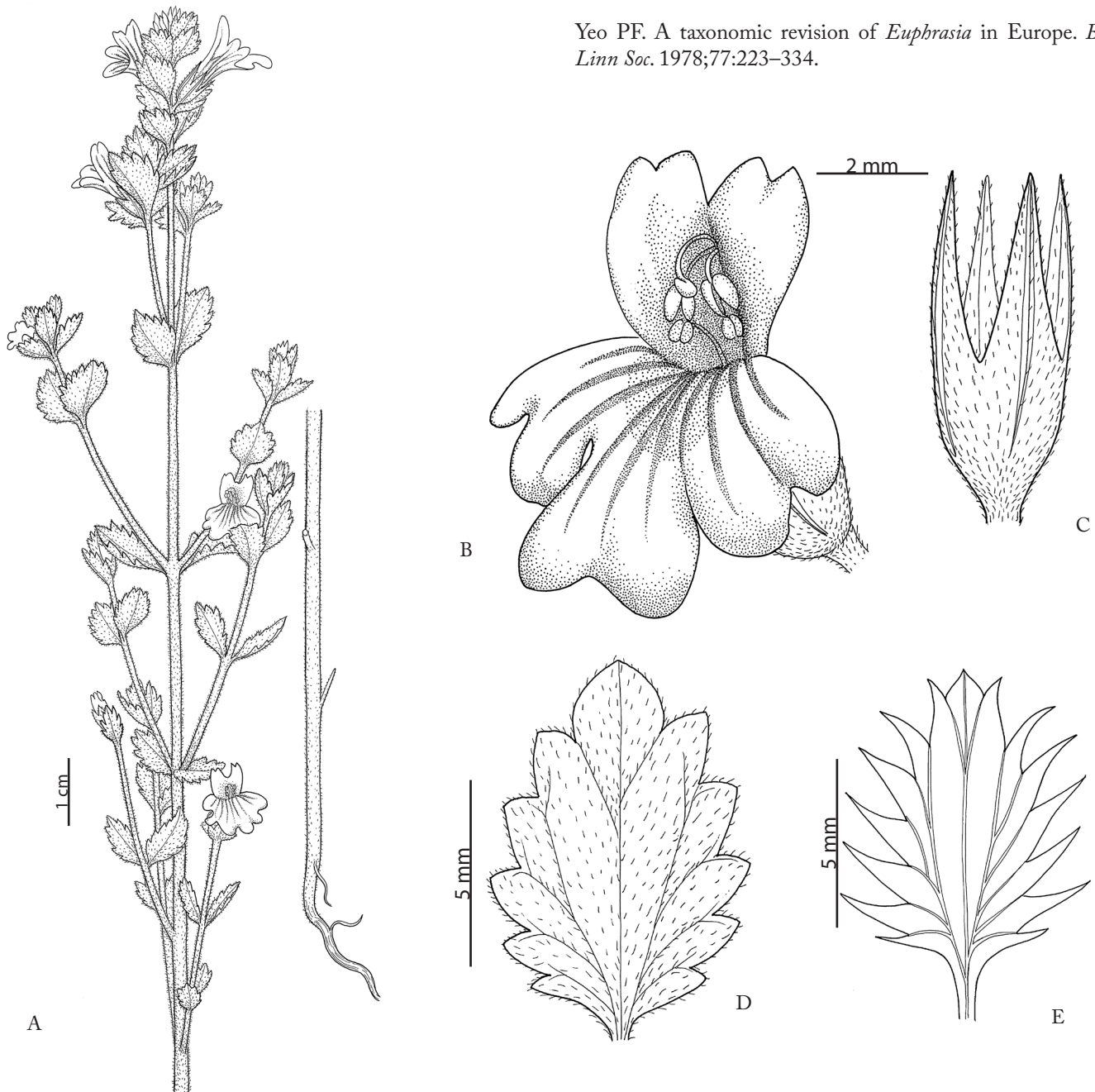
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**Figure 26:** a–d, *Euphrasia officinalis* habit, flower, calyx, and leaf; e, *E. stricta* leaf.