

*Stachys rigida* Benth. var. *quercetorum* (A. Heller) G. A. Mulligan & D. B. Munro, RIGID HEDGE NETTLE. Perennial herb, rhizomatous, fibrous-rooted, 1–several-stemmed at base, sometimes with slender, ascending lateral shoots from midplant, erect or ascending (decumbent), in range 40–80 cm tall; shoots with only cauline leaves, pilose to villous (never cobwebby) and in range commonly having minute, inconspicuous glandular hairs with yellowish heads (glandular hairs mostly absent), somewhat aromatic but weakly so on individuals with comparatively few glandular hairs. **Stems:** sharply 4-angled, in  $\times$ -section with flat sides, < 3 mm diameter, edges raised and often reddish, basal stems purplish, internodes long, with  $\pm$  downward-pointing hairs along edges and faces with scattered minute glandular hairs. **Leaves:** opposite decussate, simple, petiolate with pair fused connected by hairy ledges across node, without stipules; petiole 4–15+ mm long (the longest at ground level), crescent-shaped in  $\times$ -section, with nonglandular and glandular hairs like blade but several hairs > 2 mm long; blade ovate to broadly lanceolate, 20–90  $\times$  10–35 mm, rounded (cordate) at base, regularly serrate on margins, acute to obtuse at tip, pinnately veined with 3 principal veins at base having principal veins sunken on upper surface and conspicuously raised on lower surface, dull, in range nonglandular hairs soft and to 1 mm long, upper surface with scattered nonglandular and glandular hairs, lower surface densely glandular-hairy and hispid along veins. **Inflorescence:** interrupted, terminal, spikelike arrays of condensed cymes, axillary, in congested, headlike clusters of 2 per node (verticils), array with 5+ flowering nodes, in range each cyme 2–3(–4)-flowered (commonly 6 flowers per node), bracteate, villous and with minute glandular hairs; bract subtending cyme leaflike at the lowest nodes decreasing upward, bracts with petioles and mostly reflexed, reduced so often not obvious; axis internodes sharply 4-sided, to 25 mm long increasing in fruit; bractlets subtending pedicel 2(0 for central flower of cyme), threadlike, 0.5–1 mm long, hairy; pedicel < 1 mm long, villous and glandular-hairy. **Flower:** bisexual, bilateral, 7–10 mm across, to 10 mm long; **calyx** 5-lobed, green with upper side purplish red, villous and glandular-hairy; tube funnel-shaped, 4.5–6 mm long, many-veined but only principal veins of lobes conspicuous; lobes at anthesis spreading, equal, triangular with needlelike point,  $\pm$  1.5 mm long + point 0.5 mm long; **corolla** strongly 2-lipped, 14–17 mm long (straightened), upper side externally short-strigose with downward-pointing hairs and inconspicuous glandular hairs; tube + throat ca. 6–7 mm long, straight along top side but lower side shallowly saclike ca. 2 mm (dimple) from white base, light purple along backbone changing to pale lavender on sac, internally tube and throat defined by an oblique collar of white hairs corresponding to dimple, the hairs constricting chamber filled with nectar, internally with scattered hairs on lower side of sac and nearing lower lip with conspicuously white-papillate beard extending on lower lip; upper lip unlobed, spreading, hooded-obovate, 4–6 mm long, purple; lower lip 3-lobed or irregularly toothed, sharply descending, wedge-shaped to fan-shaped, ca. 7–8 mm long, white to pinkish with many tiny purplish spots and bands, lobes and margins often reflexed and lobes sometimes notched at tips; **stamens** 4, fused to corolla throat, upper stamens mostly within hood of upper lip but not appressed to it,  $\pm$  equal, lower stamens exerted slightly beyond lower lip; filaments of lower stamens arising in lower throat and free approaching upper throat, free portions 5–6 mm long, upper filaments arising on upper throat, free portions 4–5 mm long, filaments hemi-cylindric, pink to purplish, densely villous over most of length, upper filaments sharply bent above midpoint and with minute

glandular hairs; anthers dorsifixed, dithecal, ca. 1 mm long, purple, sacs stacked, longitudinally and downwardly dehiscent; pollen cream; **nectary disc** beneath pistil but exposed more on lower side, greenish, producing copious nectar; **pistil** 1; ovary superior, strongly 4-lobed united only at base, lobes ovoid,  $\pm$  triangular in  $\times$ -section, 0.7 mm long, whitish, flat on inner faces, 2-chamber, each lobe with 1 ovule; style attached to ovary base at center of ovary lobes (gynobasic), appressed to upper side of corolla throat and held in place by hairs on filaments, white, after exiting throat curved downward or bending 90° placing stigma midflower; stigma 2-branched, equal, spreading vertically  $\pm$  0.5 mm long, pointed at tips. **Fruits:** nutlets, 2–4, ovoid with 2 flat faces and 1 rounded face,  $\pm$  2.2 mm long, dark brown, glabrous, with pale blisters. Late February–late April.

Native. Perennial herb occurring in the same shady habitats as, and often growing in mixed populations with, *Stachys bullata*, in chaparral and southern oak woodland of SMM. *Stachys rigida* var. *quercetorum* was formerly treated as *S. ajugoides* var. *rigida* and also treated by some authors as a subspecies rather than a variety. Rigid hedge nettle is rarely collected, perhaps because it is so similar in general appearance with its congener that the less common form is not easily recognized. Although *S. rigida* var. *quercetorum* is often described as lacking glandular hairs and therefore not aromatic, our populations mostly have minute glandular hairs, so that feature is not diagnostic. The flower of this species has a corolla with a dimple defining the throat that is somewhat saclike on the bottom. The calyx of the two species is approximately the same length; because in *S. rigida* var. *quercetorum* the corolla tube and throat are much shorter while its calyx is nearly as long, the corolla throat is not prominent from a side view of the intact flower, whereas the longer, more evenly tapered corolla throat of *S. bullata* is well exerted from its calyx.  
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