

## Vascular Plants of Williamson County

*Clinopodium brownei* – SHELL-FLOWER, CREEPING CHARLIE [Lamiaceae]

*Clinopodium brownei* (Swartz) Kuntze (syn. *Micromeria brownei* var. *pilosiuscula*), SHELL-FLOWER, CREEPING CHARLIE. Aquatic perennial herb, clonal, stolon-bearing, fibrous-rooted, emergent or submersed, not rosetted, several-stemmed from principal nodes at base, mat-forming, with procumbent, spreading, and ascending shoots, in range to 15 cm tall; gynodioecious (= different clones); shoots with only cauline leaves, axes and often leaves pilose and short-pilose and having sessile glandular hairs, faintly aromatic when crushed; adventitious roots at nodes of lower stems (submersed or in wet substrate).

**Stems:** 4-sided, in range 1 mm diameter, light green, edges = ridges having pilose hairs, short-pilose across each node. **Leaves:** opposite decussate, simple with low teeth, petiolate connected with a pair of ledges across each node, without stipules; petiole crescent-shaped in  $\times$ -section, < 4 mm long; blade ovate, in range < 5–15  $\times$  < 4–12 mm, cordate at base, low-crenate on margins, obtuse at tip, pinnately veined having 3 or 5 veins at base and principal veins slightly raised on lower surface, on clone surfaces pilose or glabrous and having sunken sessile glandular hairs. **Inflorescence:** solitary, axillary flower 2 per node, lacking bracts; pedicel slender cylindrical, at anthesis spreading often with bend upward and 4–5 mm long aging to 12 mm long and recurved, green, inconspicuously puberulent. **Flower:** in range pistillate (expect also bisexual), bilateral, 4 mm across; **calyx** 5-lobed, 4–5 mm long, green; tube  $\pm$  cylindrical (slightly funnel-shaped), 3.5–4 mm long, conspicuously 13-ribbed, short-pilose along ribs mostly above midpoint and having sessile glandular hairs in furrows and on sides of ribs, orifice 1.5 mm across and hidden by a dense ring of white hairs inclined toward center, the hairs 0.6–0.7 mm long; lobes suberect, acute-ovate, 0.5–1 mm long, 3-veined at base, with sessile glandular hairs and on outer (lower) surface short-pilose hairs; **corolla** 1-lipped, in range ca. 7 mm long, outer surface with sessile glandular hairs where exposed; tube cylindrical, ca. 1  $\times$  0.6 mm, white, lacking hairs; throat funnel-shaped, ca. 2.5  $\times$  1.5 mm, mostly white or changing to pink-lavender approaching top, inner surface with 2 lines of papillate hairs on floor with a set of red-purple spots (nectar guides) in a bilateral pattern, sometimes top of throat lavender-purple; upper lip ascending, mostly unlobed or with a tiny notch and somewhat cupped, ca. 1.5  $\times$  1.5 mm, lavender to nearly white, puberulent-ciliate on margin; lower lip conspicuously 3-lobed, projecting from calyx, lateral lobes rounded, ca. 1.5  $\times$  1.3 mm, lavender or paler, central lobe fan-shaped and notched, ca. 2  $\times$  2 mm, mostly white and upper surface with at least 2 red-purple spots, margins of lobes not obviously puberulent-ciliate; **stamens** in range absent or 2 vestigial at top of corolla tube, faint filament or also with a diminutive anther; in other populations stamens 4 in 2 pairs having fertile anthers exerted; **nectary disc** below pistil, spheroid, ca. 0.6  $\times$  0.6 mm, light orange; **pistil** 1; ovary superior, 4-lobed, the lobes 3-sided ovoid, ca. 0.3  $\times$  0.2 mm, translucent, appearing like appendages on top of light orange nectary disc; style attached between lobes at base of ovary (gynobasic), on top of flower somewhat exerted from upper lip of corolla, in range ca. 6 mm long, white, approaching top unequally 2-forked, the stigmatic branches flattened with the short one (0.5 mm long) on top and the longer, lower one (1 mm long) curving downward. **Fruits:** in range not observed.

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