

VASCULAR PLANTS OF WILLIAMSON COUNTY

Trianthema portulacastrum – DESERT HORSEPURSLANE, BLACK PIGWEED [Aizoaceae]

Trianthema portulacastrum L., DESERT HORSEPURSLANE, BLACK PIGWEED. Annual, semi-woody (no true wood), taprooted, several-stemmed radiating at base, mat-forming, much-branched often forked unequally successively at each node forming the continuing axis and a smaller lateral branch, prostrate and long-trailing, in range < 10 cm tall and robust axes to 100+ cm long; shoots with ± fleshy cauline leaves, dark green, at each node the 2 leaves notably different in size (anisophyllous), in range foliage essentially glabrous but inconspicuously papillate-hairy at base of blade; adventitious roots generally not produced along trailing shoots. **Stems:** cylindric, to 6 mm diameter (internodes) and to 10 mm (nodes), tough (fibrous) and smooth, typically zigzagged, principal internodes to 65 mm long and > adjacent leaves, somewhat swollen at each node. **Leaves:** opposite decussate (subopposite) on all shoots, simple, petiolate and fused across node, with “stipules”; petiole of 2 portions, to 11 mm long, of a pair the largest blade having the longer petiole; lower portion wedge-shaped in outline somewhat folded with colorless winglike margins, to 6 mm long, with several light green veins along central tissue; upper portion channeled and rounded on lower side, to 5 mm long, light green; “stipules” a pair spaced apart at top of lower portion, triangular, toothlike, glandular and reddish; blade rounded or roundish to broadly elliptic, < 8–20(–40) mm long, broadly tapered at base, entire and often wavy on margins, rounded obtuse to notched with broad reddish tissue at tip, pinnately veined with midrib raised on lower surface, lower surface glistening with domed to papillate cells. **Inflorescence:** leafy compound cyme = rapidly growing branched shoots, having a solitary formed in the fork of each branch (alternatively treated as having solitary flowers), bracteate; bracts subtending flower 2 and opposite, leaflike with petioles fused across node forming a pair of low ridges descending from the 2 petiole veins and on 1 side having a patch of papillate hairs, the upper portion of petiole < 1 mm long, the unequal blades to 6 mm and 4 mm long; bractlets subtending and appressed to flower 2 (bracteoles), unequal, broadly triangular with reddish, slender tip, 2–3.5 mm long, persistent; pedicel = axis internode, to 6 mm long. **Flower:** bisexual, radial, ± 3 mm across, ca. 5 mm long; hypanthium cup-shaped, ± 1 mm long, light green; **sepals** 4–5, alternate with overlapping bases, suberect to ascending from rim of hypanthium, subequal, ± ovate with a rounded to obtuse tip and subterminal extension of midvein, 2.5–3 × 1.2 mm, in range light pink with light green midvein on outer (lower) surface and rose-red, conic excurrent tip arising 0.5 mm below margin, glabrous except the extension papillate-puberulent and often point minutely 2-forked; **petals** absent = petaloid staminodes, 2–3+, arising at rim of hypanthium, obovoid to ovoid, to 3 × 2.5 mm, in range light pink; **stamens** to 13 (fertile stamens); filaments unequal within flower, 2–3.5 mm long, glistening white; anthers dorsifixed, dithecal, ca. 0.5 mm long, light pink, longitudinally dehiscent; pollen white; **pistil** 1; ovary superior, lower portion funnel-shaped, whitish, lacking hairs, with parallel veins, upper portion from midpoint, crownlike, ca. 1.5 × 1.5 mm, light green, with water-storing epidermal cells (vesicles) around the sinuses of wings, having a larger lower chamber with to 8 ovules and an upper chamber with 1 ovule; style 1, in depressed center, erect, linear and straight, ca. 2.5 × 0.25 mm, white, papillate with 2 stigmas. **Fruit:** capsule, circumscissile above midpoint, not straight at level of the hypanthium rim, to 8-

seeded, 6.5–7 mm long with lower portion concealed by fused petioles of bracts, lower portion funnel-shaped slightly bulging from seeds, to 4.5 × 3 mm, glossy and whitish aging papery, with persistent bractlets and hypanthium; upper portion resembling stubby smokestack somewhat constricted at midpoint, ca. 2.5 × 3 mm, purple-red (betalain) drying brown, top with depressed center (often with persistent style) and 2 flaring wings (lips), abscised upper portion dispersed with 1 seed (the largest and not visible) and lower portion with several seeds. **Seed:** with aril, plump kidney-shaped, 1.6–1.9 × 1.4–1.7 × ca. 1.2 mm, rough and dull, irregularly ridged and on the back some ridges with low crests, surface purple-red before drying, elaborate texture aging gray to brown concealing black seed coat; aril ca. 0.3 mm long on funiculus near hilum, ca. 0.3 mm long, translucent-opaque.

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