

Sisymbrium altissimum L., TUMBLE MUSTARD. Annual, taprooted, rosetted, 1-stemmed at base, branched only in upper canopy, erect, 12–70(–100) cm tall; shoots with basal leaves and cauline leaves, basal leaves withered at anthesis, pilose-hirsute with radiating or slightly descending hairs grading to glabrous above midplant, the hairs unbranched, to 3 mm long. **Stems:** cylindric, to 4 mm diameter, with a short ridge descending from each leaf, tough, glaucous, lower stems often sparsely pilose and purplish. **Leaves:** helically alternate, deeply pinnately lobed with 4–6 lobes per edge (lower leaves) or 2–3 lobes per edge (the uppermost cauline leaves), petiolate and never clasping, without stipules; petiole channeled, 20–45 mm long (lower leaves) to 5–12 mm long (upper cauline leaves), often aging purple, sparsely to densely pilose-hirsute (basal leaves) to glabrescent or glabrous (upper cauline leaves); blade of lower leaves oblong to elliptic or oblanceolate in outline, 100–130 × 20–65 mm, lobes alternate to opposite and spreading widely or \perp to leaf axis (sometimes bent backward), leaf axis narrowly winged between lobes and pilose to hirsute, wings and lobes sparsely long-ciliate on margins, terminal lobe trowel-shaped (trullate) in outline, ca. 1/2 blade length, typically with 1(2) pair of lobes at base, dentate to 2-dentate and often with 5–10 teeth per edge, acute at tip, lateral lobes asymmetrically lanceolate, 5–30 × 1–10 mm, each lobe wider at base on trailing edge (especially when lobes alternate), the smallest lobe at leaf base typically increasing to terminal lobe, leading edge of lobe with more teeth than trailing edge, pinnately veined with midrib whitish above and greenish and raised on lower surface; blade of upper cauline leaves progressively shorter, terminal and lateral lobes eventually linear to linear-elliptic, narrow, and entire or with few teeth. **Inflorescence:** raceme or panicle of racemes, terminal on main and lateral shoots, to 330 mm long, 20–110-flowered, open flowers overtopping buds and tips of ascending immature fruits equally but typically not surpassing flowers, glabrous to sparsely glabrescent; bract subtending panicle leaflike with 3–7 narrowly linear lobes; peduncle cylindric or weakly angled, < 7 mm long, axis of raceme \pm zigzagged; bractlets absent; pedicel at anthesis ascending to spreading and 6–8 mm long increasing 1.5 \times in fruit, with a pair of opposite, inconspicuous, thickish, stipulelike hairs at base. **Flower:** bisexual, radial, 7–10 mm across; receptacle dark green and nectar-producing but without well-defined nectaries; **sepals** 4, erect, slightly dimorphic, narrowly elliptic, 4.7–5.2 × 0.8–1.2 mm, the outer 2 sepals narrower than inner 2 sepals, green with membranous margins white (outer sepals) or pale green (inner sepals), hooded and horned at tip, glabrous; **petals** 4, clawed to long-tapered at base, oblanceolate-spatulate, 6.5–9 × 2.7–3 mm, claw to 3 × 0.7 mm, with midrib greenish and strongly raised on outer surface, limb \pm spreading, various shades of light yellow (white), pinnately veined; **stamens** 6, free, dimorphic, outer 2 short and inner 4 longer; filaments erect, ca. 3 mm long (outer stamens) and ca. 4.5 mm long (inner stamens), ca. 0.5 mm thick, pale yellow; anthers basifixed, dithecal, 1.7–2 mm long, light yellow, arrow-shaped at base, blistery-glandular on back of connective prior to dehiscence, longitudinally dehiscent; pollen pale yellow; **pistil** 1, at anthesis 6–7 mm long, with stigma exerted at level of long stamen anthers; ovary superior, 4-sided in \times -section, straight, greenish, glabrous, 2-chambered, each chamber with many ovules; style \pm absent; stigma capitate, 2-lobed, green. **Fruit:** siliqua (silique), dehiscent by 2 valves parallel to septum, many-seeded, linear, 55–90 × 1 mm, rigid, somewhat bulging by seeds, 6-sided, in each chamber seeds in 1 row; beak absent. **Seed:** oblong to squarish, 0.7–1 × 0.55–0.8

mm, yellowish brown to olive brown, dull or slightly granulate on faces. Late March–early June (under cultivation).

Naturalized. Annual collected only once in range. The description is based on plants that were grown from seed under greenhouse conditions.

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