

Plantago ovata Forssk., WOOLLY PLANTAIN, INDIAN WHEAT, PASTORA. Annual, taprooted, rosetted, 1–several-stemmed at base, acaulous, with several–many erect axillary inflorescences, in range 12–20 cm tall; shoots = several basal rosettes with ascending, grasslike leaves, densely soft-hairy, the hairs fine, white, with swollen bases. **Stems:** = scapelike peduncles, leaf-bearing portion < 30 mm long. **Leaves:** helically alternate, simple, 40–120 mm long, petiolate, without stipules; petiole < 25 mm long, often indistinct from blade, half-sheathing stem and wide at base; blade linear to linear-lanceolate, 25–100 × 4–8 mm, somewhat folded upward, entire or remotely toothed on margins with minute, nipplelike teeth, long-acuminate at tip, parallel-veined and typically 3-veined with veins visible on lower surface, villous to woolly. **Inflorescence:** spike, mostly elevated above leaves, cylindric to ovoid, in range 15–30 × 7–8 mm, with > 30 flowers, flowers densely crowded and helically arranged; peduncle cylindric (when fresh), 1 mm diameter, tough and wiry, greenish, solid, densely soft-hairy with short-villous hairs and shorter kinky hairs having swollen bases; spike axis densely long-hairy; bractlet subtending flower and mostly concealing calyx, cupped and roundish to broadly ovate or spade-shaped, 3–4 × 3–4 mm, broadly scarious but green to reddish on midvein, broadly tapered at base, obtuse at tip, midrib stiff and keel-like pointed at and ± extended to tip, with tufts of long hairs at base, persistent; pedicel < 0.3 mm long. **Flower:** bisexual, radial, 5–6 mm across, protogynous; receptacle small, with tuft of fine villous hairs on outer surface; **sepals** 4, appressed to ovary, ± equal, cupped-elliptic to cupped-ovate, 3.2–4 mm long, with thick, green midvein and broadly scarious on margins, the margins sometimes asymmetric, acute to nearly rounded at tip, glabrous or with several long hairs only at base, midvein flat or slightly keeled, persistent around fruit; **corolla** 4-lobed, glabrous; tube narrowly funnel-shaped to cylindric, ± 3 mm long, expanded and translucent around ovary, constricted and brownish orange above; lobes spreading to slightly reflexed, broadly elliptic-obovate cupped upward, 2.2–3 mm long, scarious but reddish along midline (becoming brownish orange), broadly tapered at base, broadly acuminate to obtuse at tip, 1-veined; **stamens** 4, alternate with corolla lobes, fused to corolla tube; filaments free portion 3–3.5 mm long, pinkish to rose-purple; anthers exserted, versatile, dithecal, plump arrow-shaped, 1.3–2.2 mm long, pale yellow, longitudinally dehiscent; pollen pale yellow; **pistil** 1, at anthesis 5–5.5 mm long, on a short stalk (gynophore); ovary superior, ellipsoid compressed front-to-back, 0.8 mm long, glossy green and purplish along septum, 2-chambered, each chamber with 1 ovule; style 3–5 mm long, greenish white at base; stigmatic region purplish, puberulent with 2 strips of colorless ascending short hairs (opposite septum). **Fruit:** capsule, dehiscent around fruit slightly below midpoint (circumscissile), 2-seeded, ca. 3.5 mm long, above midpoint maturing purplish and drying brown; lower portion of fruit persistent. **Seed:** hemi-ellipsoid, in range 2.7–3 × 1.3–1.5 mm, orangey brown, smooth, sometimes shiny or frosted, concave on inner face, the concavity bordered by a rim, partially covered by a ragged white membrane except for 2 areas on each side of hilum, the rim thick, grooved basally; mucilaginous when wet. Mid-December–early February.

Waif (native). Annual first positively identified in range in 2006 growing on recently cleared *Ceanothus megacarpus* chaparral with native and naturalized annuals and young native subshrubs along Piuma Road (SMM), probably transported there by construction equipment. *Plantago ovata*, a desert species, closely resembles the widespread *P. erecta*

and was suspected of occurring in SMM, but if present elsewhere in range, *P. ovata* certainly is obscure. The desert species is densely soft-hairy and has shiny, rather than dull, seeds, and its sepals are approximately the same length as the bractlet.

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