

Typha L. CATTAIL

Typha domingensis Pers., SOUTHERN CATTAIL. Perennial herb, emergent aquatic or in wet mud, evergreen, clonal forming dense monospecific colonies, rhizomatous, fibrous-rooted, unbranched above base, erect, 140–350+ cm tall; monoecious; shoots vegetative or fertile shoots in clones, leafy from base to ca. 3/4 height, with 1–3 ascending basal leaves without blade or a diminutive blade and 8–11+, erect to ascending cauline leaves having blades, glabrous, not glaucous, bases of leaves conspicuously slippery mucilaginous when severed from rhizome; rhizome horizontal, cylindrical, > 7 mm diameter, with airy, spongy soft tissue (aerenchyma) enclosing vascular cylinder and in center, with tuberous swellings below shoots, the swellings spheroid to irregularly shaped, to 25–50 mm thick, solid.

Stems: elliptic-cylindric, hidden by leaf sheaths and white, internodes condensed (basal leaves) to 240 mm long (cauline leaves), smooth. **Leaves:** alternate distichous, simple and sheathing; sheath open, 18–33 mm long (basal leaves) to 300–1000+ mm long (cauline leaves), initially white becoming greenish where exposed, membranous on margins, the margins free on lower leaves or overlapping most of length of upper leaves, tapering or curved approaching blade or sometimes lobed at top (typically without auricles), with mucilage glands on inner surface, the mucilage glands narrowly oblong to elliptic or linear, initially colorless in fresh material aging brown or orange-brown; ligule absent; blade strap-shaped (wide-linear to narrowly oblong), 320–2600+ × 5–23 mm, 1–3 upper leaves > inflorescence, tough, entire and translucent on margins, blunt-acute at tip gradually tapered starting 150–200 mm from tip, parallel-veined, dull, smooth, with mucilage glands on lower 10–20 mm of concealed upper surface at base, crescent-shaped in \times -section at base changing to inflated and 1-convex (changing to 2-convex lens-shaped on extremely long leaves) and then to flat on portion tapered to tip, inflated portions spongy with conspicuous, longitudinal, air-filled chambers having thin diaphragms (aerenchyma).

Inflorescence: unisexual “spikes” (spikelike), on terminal stalk, each stalk erect with fertile portion 350–600+ mm long having 1(–2 \pm contiguous) pistillate spikes having dense and tightly packed pistillate flowers and sterile flowers (lower inflorescence) and with 1 terminal spike of densely packed staminate flowers, unisexual spikes 0–15 mm apart (interrupted), each with thousands of flowers; peduncle stemlike, cylindrical, to 6 × 8 mm diameter, tough, green, smooth, glabrous; bract subtending each unisexual spike present or abscised before anthesis; bractlets subtending stalked flower 0–several; pedicel present.

Staminate inflorescence: cylindrical thick at base and tapered to tip, at anthesis (60–)140–220(–350) × 8.5–11.5 mm, yellow ochre to tan-colored aging darker, flowers abscising leaving roughened axis above pistillate spike; bractlet scalelike and flattened filamentous, 3–4 mm long and crooked, pale straw-colored at base to glossy orange-brown at tip, lanceolate-acuminate at tip or asymmetrically 2–3-forked; pedicel short. **Staminate**

flower: perianth absent; stamens 2–4; filaments threadlike, 3–3.7 mm long including fused as erect axis 1–3.5 mm long, white, flexible; anthers basifixed, dithecal, linear with a swollen tip (connective), 1.4–2.5 mm long, yellow with connective greenish and orangey, longitudinally dehiscent; pollen of individual grains, light yellow, copious, dry. **Pistillate inflorescence:** evenly cylindrical, at anthesis 135–240 × 7–17 mm increasing to 15–25 mm diameter in fruit, cinnamon or almond brown, suedelike, oblique with longitudinal groove at base on shorter side, with clusters of pistillate flowers arising from papillae (compound

pedicels), sterile flowers not evenly distributed; bractlets subtending or fused to base of pistillate flowers, threadlike but commonly expanded at \pm lanceolate tip, 2.5–3.6 mm long, pale straw-colored, the tip above flowers, acuminate and curved, 0.6×0.1 –0.2 mm, cinnamon brown. **Pistillate flower:** \pm radial, stalked (stipe), the stipe ca. 0.8 mm long, with a whorl of fine hair at base, the hairs 2–2.5 mm long increasing in fruit, whitish; **pistil** = ovary atop a stipe, lanceoloid to ellipsoid, ca. 0.5×0.2 mm, pale green to transparent, 1-chambered with 1 ovule; style 1–2 mm long, pale green or white at base to arched and cinnamon brown at tip; stigma narrowly lanceolate with acuminate tip (resembling tip of bractlet), cinnamon brown. **Sterile flower (carpodia):** 2.2–2.5 mm long, stalked (stipe), stipe with 2(–4) whorls of fine hairs along stipe and having a swollen sterile ovary at tip, the hairs fine, ca. 1.8 mm long (lower whorl) or 1 mm long (upper whorl) and slightly exceeding pistil; **stamens** absent; **pistil** 1, with sterile ovary, obovoid, ca. 0.7×0.35 mm, light green, papillate on top, abortive style < 0.2 mm long. **Fruit:** follicle, on stipe having whorls of many fine hairs, dispersal unit 8–9 mm long, wind-dispersed or floating on water, in water splitting longitudinally along 1 edge, 1-seeded, follicle fusiform. Summer.

Native. Aquatic perennial herb observed throughout range growing in fresh or brackish water as an emergent in dense clones along creek and pond margins and in ditches and channels wherever mud remains wet year-round. *Typha domingensis* is the common cattail in range. It appears in patches ranging from less than two meters tall with slender leaves and relatively slender inflorescences to more robust clumps (drier sites) to four meters tall with wider leaves and inflorescences. When the leaf is pulled from the plant, the white base is slimy and mucilaginous. This species may have one, rarely two, pistillate spikes per stalk, but they are always cinnamon brown. Flowers are difficult to interrupt, by professionals as well as amateurs, because they are so highly modified that one cannot determine by normal means the homology of bracts and floral parts; without an obvious perianth, nomenclature of the parts cannot be treated in standard ways. The pistillate flower matures as a one-seeded follicle attached to a stalk (stipe) with fine hairs at the base, and these units are initially wind-dispersed, except they often land on water and thereby also can float to a new germination site. In range the narrow-leaved clones of *T. domingensis* have been misinterpreted as *Typha angustifolia* (narrow-leaved cattail), which does not produce mucilage, although the two species elsewhere can co-occur and also hybridize.

B. A. Prigge & A. C. Gibson