

TYPHACEAE CATTAIL FAMILY

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Tall monoecious perennial herbs of aquatic and swampy habitats. STEMS extensively creeping rhizomes, bearing erect flowering stems, these jointless, simple, cylindric, pithy. LEAVES alternate, sessile, elongate-linear, equaling or exceeding the inflorescence, rather thick and spongy, glabrous, the bases sheathing, tapering to scarious or membranous auricled sheath apex. INFLORESCENCES terminal, densely crowded elongated cylindrical spikes, with staminate flowers above and pistillate below. FLOWERS very numerous, sessile, naked except for subtending capillary hairs, anemophilous; staminate flowers ephemeral, interspersed with numerous slender simple or forked hairs, or with linear to linear-lanceolate bracts; stamens 2-5; filaments free or united; anthers linear, basifixed; pistillate flowers brown, persistent on stout to almost hair-like "compound pedicels" (apparently the fusion of various pedicel bases), these 0.5-2 mm long, interspersed with sterile flowers and slender slightly clavate bracts; fertile flowers with a 1-carpellary pistil, the ovary 1-celled, with a single ovule; style linear, the stigma linear-lanceolate; sterile flowers much longer than the fertile ones, on elongated hairy stipes that terminate in a swollen, aborted ovary. FRUITS long stalked, minute nutlets, dry, tardily dehiscent, buoyant. SEEDS albuminous, striate, with mealy endosperm. A monogeneric family, 9-10 spp., widely distributed in temperate and tropical regions.

Typha L. Cat-tail

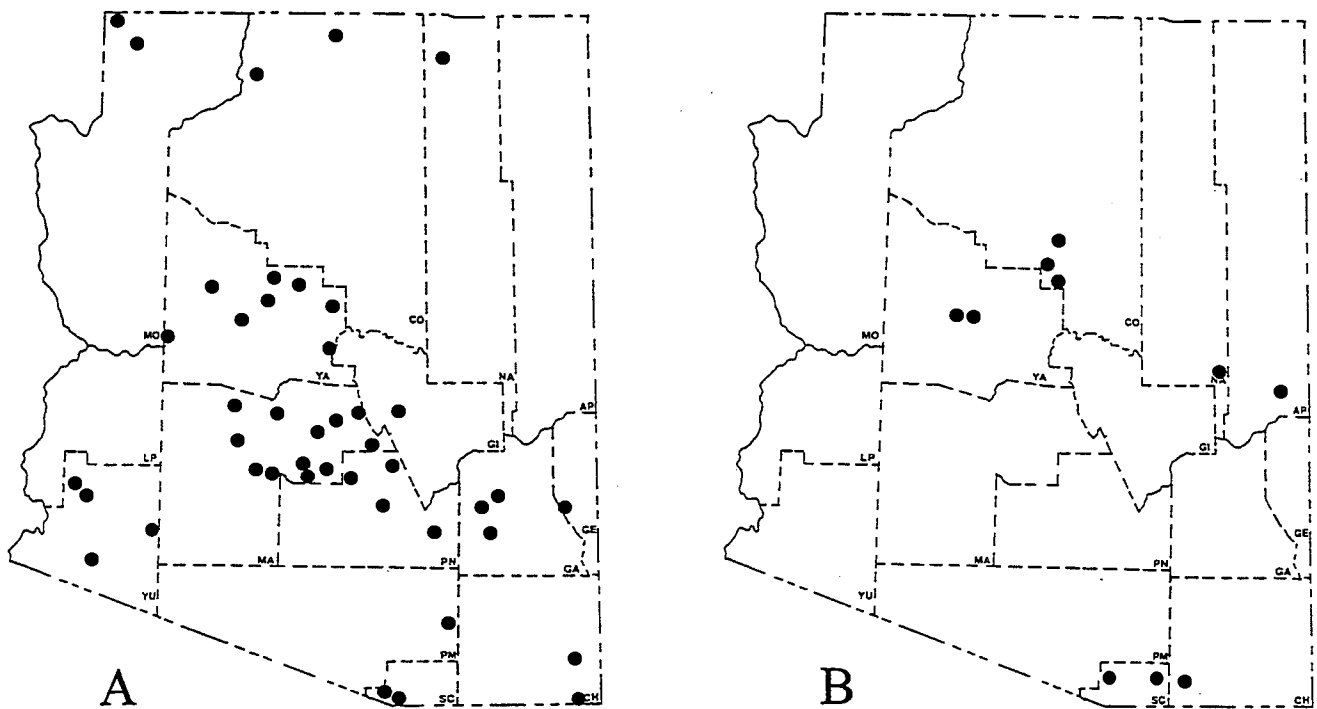
Characters of the family. (Greek: *typhe* = the ancient Greek name for the plant). Ca. 10 spp; 2 spp. in AZ. Reveal, J. 1977. Typhaceae. Pp. 468-471 in A. Cronquist et al. (eds.), *Intermountain Flora* 6.

1. Staminate and pistillate spikes usually contiguous, rarely slightly separated, the pistillate spikes dark brown; pistillate flowers without subtending bracts; "compound pedicels" slender, 1-2 mm long; leaves light green, 6-23 mm wide, flat on the back *T. latifolia*
- 1' Staminate and pistillate spikes usually separated by an interval of 1-4 cm, the pistillate spikes light brown; pistillate flowers with subtending bracts, but these occasionally minute; "compound pedicles" stout, 0.5-0.8 mm long; leaves light yellowish green, 6-12(-15) mm wide, flat but moderately convex on the back *T. domingensis*

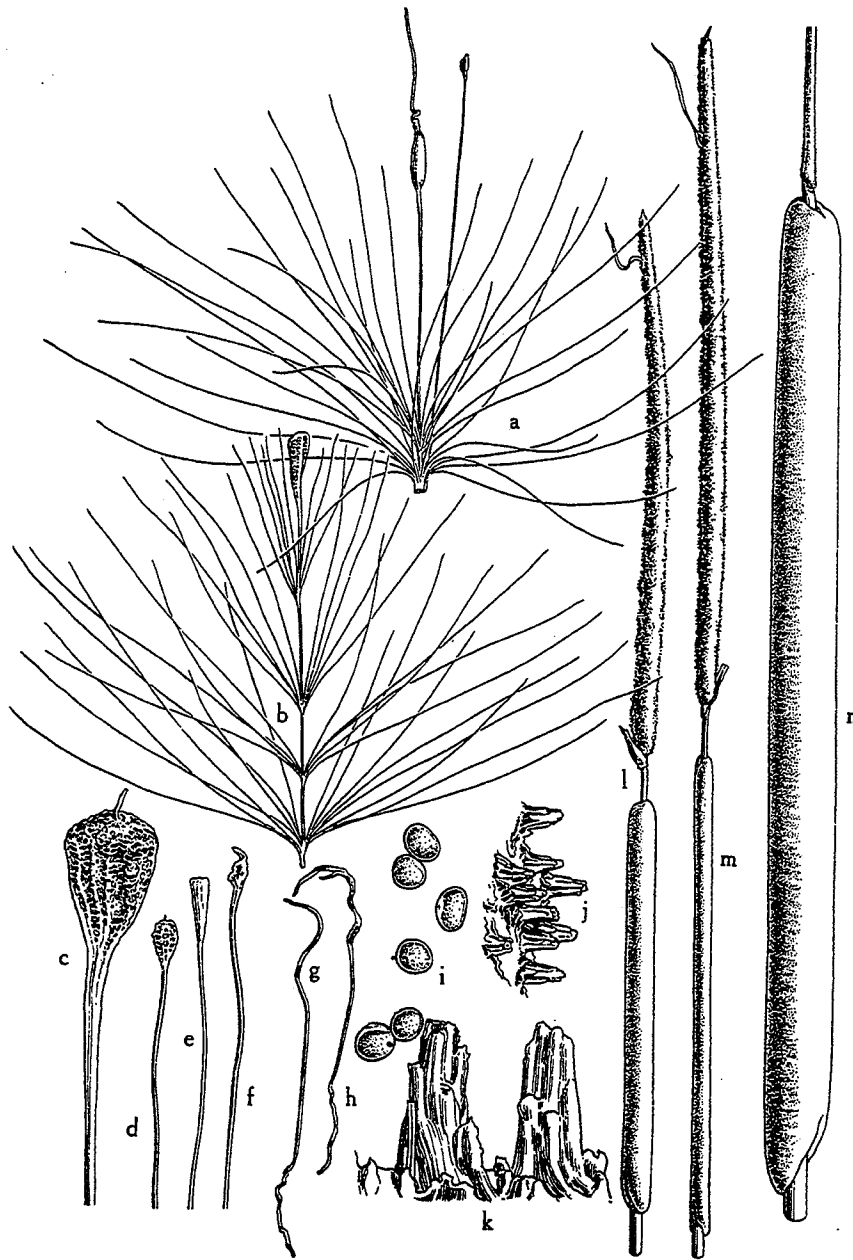
Typha domingensis Pers. (from Santo Domingo). Tule. —LEAVES 6-9(-12), light yellowish green, 6-12(-15) mm wide, flat but moderately convex on the back, the sheath cylindrical and open at the throat, with scarious margins tapering to the blade. INFLORESCENCES (including stems) 2.5-4 m tall, about as long as the leaves, with the pistillate and staminate portions separated by 1-4 cm; staminate spikes 20-40 cm long, the pistillate spikes light brown, 15-25 cm long, 1.5-2.5 cm thick. STAMINATE FLOWERS: pollen golden-yellow, in monads. PISTILLATE FLOWERS light brown, with obovate to oblanceolate, translucent to light brown bracts exceeding the stipe hairs, arranged on stout "compound pedicels" 0.5-0.8 mm long, these with numerous hair-like appendages, the stigma light brown, linear; surface of the main stem axis minutely bristly. FRUIT ellipsoid, 0.8-1 mm long. $2n = 30$. [*T. angustifolia* L. var. *domingensis* (Pers.) Griseb.; *T. truxillensis* Kunth; *T. bracteata* Greene]. —In brackish or fresh marshes, streams, rivers, ponds and lakes. All cos. except Apache, La Paz;

300-1800 m (1000-6000 ft); Mar-Nov (fr. Jun-Jan); N. Amer., C. Amer., W. Indies, and S. Amer.

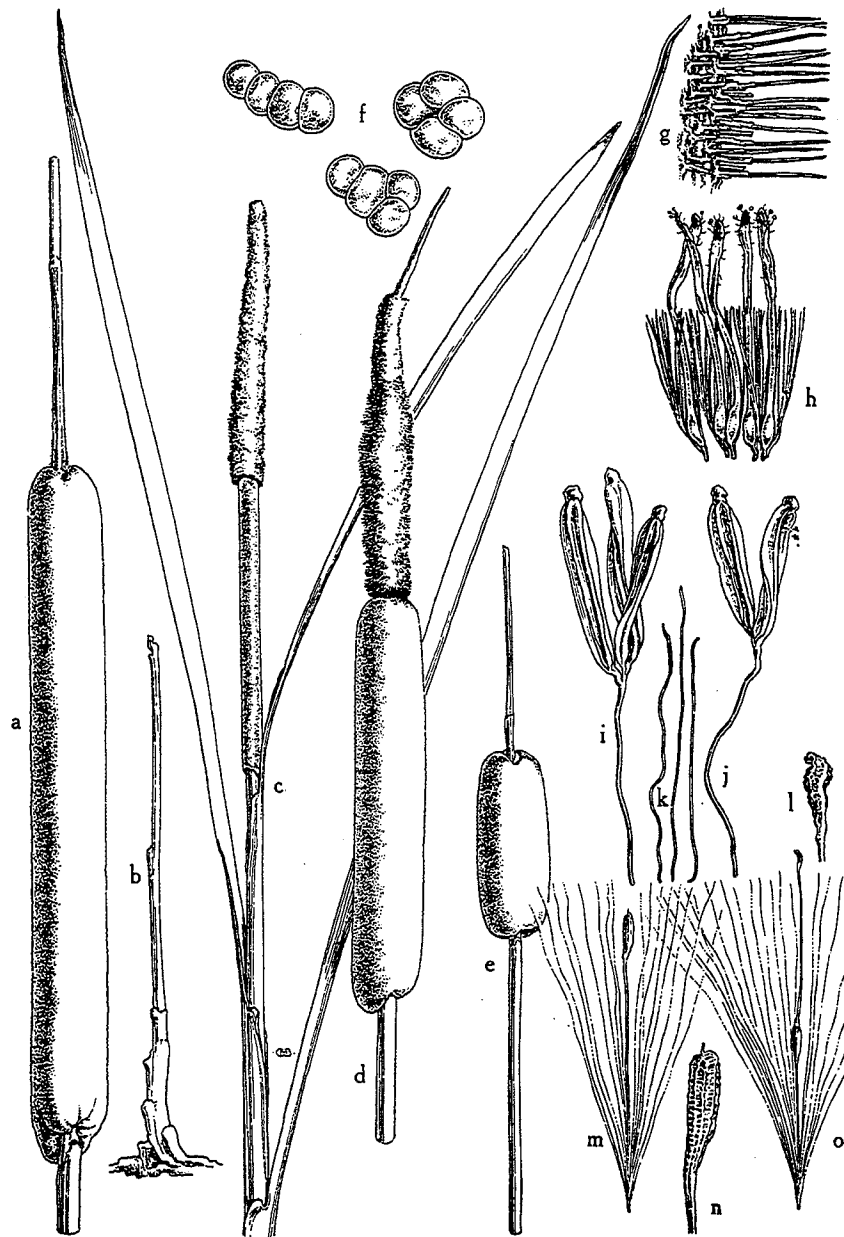
***Typha latifolia* L.** (broad leaved). Common Cat-tail. —LEAVES 12-16, light green, 6-23 mm wide, nearly flat, the leaf sheath cylindrical and open to the base, the scarious upper portion tapering or rarely truncate, not auricled. INFLORESCENCES (including stem) 1-3 m tall, as long as or slightly longer than the leaves, the pistillate and staminate portions contiguous, rarely slightly separated; staminate spikes 6-12 cm long, light brown; pistillate spikes dark brown, 10-18 cm long, 1.5-3 cm thick. STAMINATE FLOWERS: pollen orange or more commonly yellow, in tetrads. PISTILLATE FLOWERS without subtending bracts, on slender almost hair-like "compound pedicels" 1-2 mm long. FRUITS ellipsoid, 1 mm long. $2n = 30$. [*Massula latifolia* (L.) Dulac]. In shallow, slow-moving water of streams, lakes or marshy areas: Apache, Cochise, Coconino, Navajo, Santa Cruz, Yavapai, cos.; 1200-2500 m (4000-8200 ft); fl. May-Sep; (fr. Jul-Oct); common throughout Eurasia, n Africa, N. Amer., and C. Amer.



Typhaceae. Fig. 1. Distribution of: A, *Typha domingensis*; B, *T. latifolia*.



Typhaceae Fig. 2. *Typha domingensis*. a, fertile pistillate flower, showing mature ovary and the surrounding hairs originating at base of stipe, bract attached, $\times 8$; b, sterile pistillate flower terminating in a swollen, aborted ovary, hairs surrounding stipe in whorls, $\times 8$; c, aborted obovoid ovary tipped by rudimentary style, $\times 20$; d-f, typical bracts, showing variations in the swollen tips, $\times 12$; g and h, bracts of staminate flowers, slender, simple or laciniate, with dark brown, shiny tips, $\times 12$; i, 1-celled pollen grains, occasionally in pairs; j and k, "compound pedicels" of pistillate spike, j, $\times 9$, k, $\times 40$; l and m, spike, showing area of separation between the staminate part (above) and the pistillate part (below), $\times 0.25$; n, pistillate spike, $\times 0.40$. Reproduced with permission from *A Flora of Marshes of California* by Herbert L. Mason (1957), University of California Press, Berkeley. Copyright \copyright 1957 Regents of the University of California, \copyright renewed 1985 Herbert Mason.



Typhaceae Fig. 3. *Typha latifolia*. a, pistillate spike, $\times 0.4$; b, single, "compound pedicel" of pistillate spike, $\times 20$; c, upper part of plant, showing distichously arranged leaves and young contiguous spike with staminate flowers (above) and pistillate flowers (below), $\times 0.2$; d, somewhat older spike, $\times 0.4$; e, variation in spike size, $\times 0.4$; f, 4-celled pollen grains; g, group of "compound pedicels" of pistillate spike, $4\times$; h, young pistillate flowers, the pedicel not yet elongated, and fascicled, hair-like bracts, $\times 12$; i and j, stamens on branched filaments, $\times 6$; k, staminate bracts, commonly white or brown-tipped, $\times 6$; l, ob lanceolate, fleshy stigma, $\times 12$; m, sterile pistillate flower with ellipsoid, aborted ovary tipped by rudimentary style, the surrounding hairs, like those of the fertile flower, originating at base, $\times 4$; n, sterile ovary, light brown, $\times 12$; o, pistillate flower with mature, functional ovary, $\times 4$. Reproduced with permission from *A Flora of Marshes of California* by Herbert L. Mason (1957), University of California Press, Berkeley. Copyright \textcopyright 1957 Regents of the University of California, \textcopyright renewed 1985 Herbert Mason.