

53. TUPISTRA Ker Gawler, Bot. Mag. 40: t. 1655. 1814.

长柱开口箭属 chang zhu kai kou jian shu

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Macrostigma Kunth.

Herbs perennial, rhizomatous, monopodial. Rhizome usually ascending, rarely creeping, thick, stout, sometimes slightly woody. Stem very short. Leaves basal, alternate fasciculate or distichous equitant, distinctly petiolate or not; leaf blade narrowly lanceolate to ovate. Scape axillary. Inflorescence a terminal spike, 2- to many flowered, without sterile bracts apically; bracts deltoid to ovate, usually shorter than flowers. Perianth segments 6 or 8, connate for 1/2–2/3 their length into a tube, fleshy; lobes spreading. Stamens 6 or 8; filaments nearly wholly adnate to perianth tube; anthers positioned lower than stigma, dorsifixed. Ovary 3- or 4-loculed; ovules 2 per locule. Style 1, cylindric, 4–12 mm; stigma peltate to mushroom-shaped, 2–7 mm in diam., fleshy. Fruit a berry, 1-seeded.

Fourteen species: Bhutan, China, India, Indonesia, Malaysia, Myanmar, Nepal, Sikkim, Thailand, Vietnam; four species (three endemic) in China.

The syntype specimens of *Tupistra cavaleriei* H. Léveillé can be identified as *Amischotolype hispida* (A. Richard) D. Y. Hong (Commelinaceae). *Tupistra esquirolii* H. Léveillé & Vaniot is referable to *Curculigo capitulata* (Loureiro) Kuntze (Amaryllidaceae). The identity of *Tupistra bambusifolia* H. Léveillé & Vaniot and *T. bambusifolia* var. *rubromaculosa* H. Léveillé & Vaniot (in H. Léveillé, Mem. Pontif. Accad. Romana Nuovi Lincei 24: 349. 1906) remains uncertain. The types, from Guizhou, have not been seen by the present authors but were said by McKean (Notes Roy. Bot. Gard. Edinburgh 44: 176. 1986) to resemble *Zingiber pleiostachyum* K. Schumann (Zingiberaceae), which is endemic to Taiwan.

- 1a. Flower subtended by 1 bract; style ca. 12 mm 1. *T. grandistigma*
- 1b. Flower subtended by 2 or 3 bracts; style 4–8 mm.
 - 2a. Spike 18–25(–35) cm; peduncle slightly longer than spike; stigma 5–7 mm in diam. 2. *T. longispica*
 - 2b. Spike 2.5–10 cm; peduncle shorter than spike; stigma 2–3 mm in diam.
 - 3a. Stigma mushroom-shaped; rhizome ascending; spike 6–10 cm 3. *T. fungilliformis*
 - 3b. Stigma peltate; rhizome creeping; spike 2.5–4.5 cm 4. *T. pingbianensis*

1. *Tupistra grandistigma* F. T. Wang & S. Yun Liang in F. T. Wang & Tang, Fl. Reipubl. Popularis Sin. 15: 249. 1978.

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Rhizome rather short, 1.5–2 cm thick, stout; nodes dense. Leaves 3–5 or more, basal, distichous equitant; petiole 2–5 cm; leaf blade oblong-oblancheolate, 65–110 × 7.5–12 cm, glabrous, apex acuminate. Spike 6–16 cm, several to many flowered; peduncle 5–15 cm; bracts 1 per flower, deltoid, ca. 1.8 × 1 mm. Perianth campanulate, ca. 1.4 cm; tube ca. 5 mm; lobes black-purple, lanceolate, 8–10 × 3–4 mm, fleshy. Filaments with very short free part; anthers elliptic, 2–2.5 mm. Ovary subglobose, 3–5 mm. Style ca. 1.2 cm; stigma capitate, dilated, 6–7 mm in diam. Berries globose, 1.2–2 cm in diam. Fl. Mar, fr. Jun. *2n* = 38*.

Forests; ca. 1600 m. Guangxi, S Yunnan [Vietnam].

2. *Tupistra longispica* Y. Wan & X. H. Lu in Y. Wan, Bull. Bot. Res., Harbin 4(4): 168. 1984.

长穗开口箭 chang sui kai kou jian

Rhizome 2–3 cm thick, stout; nodes dense. Leaves 4–6, basal, nearly distichous equitant; petiole 10–20 cm; leaf blade oblanceolate, 90–150 × 12.5–18 cm, glabrous, apex acuminate. Spike 18–25(–35) × 1.5–2 cm, densely many flowered; peduncle 20–33 cm; bracts 2 per flower, pink, 3–7 × 3–6 mm, membranous. Perianth adaxially white turning yellow, abaxially pale purple, shortly campanulate, 1–1.3 × 1.3–1.8 cm, fleshy; tube 3–4 mm; lobes recurved, oblong-ovate, 7–9 × 3–4 mm. Filaments basally widened, free part ca. 1 mm. Ovary subglobose. Style 7–8 mm; stigma peltate, suborbicular, dilated, 5–7 mm in

diam., 3-lobed. Fl. Nov.

• Forests on limestone slopes along valleys; 300–400 m. WC Guangxi (Long'an Xian).

3. *Tupistra fungilliformis* F. T. Wang & S. Yun Liang in F. T. Wang & Tang, Fl. Reipubl. Popularis Sin. 15: 249. 1978.

伞柱开口箭 san zhu kai kou jian

Rhizome ascending, short, 1–2 cm thick, stout; nodes dense. Leaves 2 or more, basal; petiole 14–16 cm; leaf blade linear-lanceolate, 4–20 × 1–1.5 cm, papery, glabrous, apex acuminate. Spike 6–10 × 1.2–2 cm, usually laxly several flowered; peduncle 1.5–3 cm; bracts 2(or 3) per flower, brownish yellow, 4–7 × 4–11 mm, membranous. Perianth subcampanulate, 1–1.5 cm; tube 3–7 mm; lobes purple, ovate, 5–8 × 4–6 mm, fleshy. Filaments with very short free part. Ovary ovoid, 1.5–2 × ca. 2 mm. Style 4–5 mm, 3-angled; stigma mushroom-shaped, ca. 2 mm in diam. Berries ovoid-globose, ca. 12 × 5 mm. Fl. Dec–Jan, fr. Dec–Jan of following year. *2n* = 38*.

• Rocks in forests; 1000–1600 m. Guangxi, SE Yunnan.

4. *Tupistra pingbianensis* J. L. Huang & X. Z. Liu, Acta Phytotax. Sin. 34: 592. 1996.

屏边开口箭 ping bian kai kou jian

Rhizome creeping, short, 2–3 cm thick, stout. Leaves basal, tufted or spaced, petiolate, oblong-lanceolate, 40–90 × 4.5–7 cm, thickly papery, apex acuminate. Spike procumbent, 2.5–4.5 cm, 2–7-flowered; peduncle recurved, 0.5–2.5 cm, fleshy; bracts 2 or 3 per flower, brownish yellow, broadly deltoid-ovate, 4–12 × 5–12 mm, subleathery. Perianth purple, 1.2–1.5 × ca. 1.5 cm, fleshy; tube white adaxially, 5–7 mm; lobes

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broadly deltoid-ovate, $5-7 \times 5-6$ mm, apex acute. Filaments with very short free part; anthers suborbicular, ca. 1.5 mm in diam. Ovary spheroidal, ca. 1.5 mm in diam. Style ca. 7 mm; stigma peltate, slightly inflated, ca. 3 mm in diam. Fl. Nov–Dec.

- Dense forests; ca. 1700 m. SE Yunnan (Pingbian Miao Zu Zizhixian).

