**Tupistra ashihoi** (Asparagaceae), a new species from north-eastern India

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*Tupistra* Ker Gawler (1814: 1655) belonging to Asparagaceae subfamily Nolinoideae (APG 2009, Chase et al. 2009), includes about 26 species (Govaerts 2016). These taxa spread mainly in south and south-east of continental Asia, including Nepal, Bhutan, India, Myanmar, China, Laos, Vietnam, Thailand and Malaysia (Tanaka 2003a, 2003b, 2010a, 2010b, Averyanov et al. 2016). This genus is characterised by leaves with slender petiolar base, relatively large stigma broader than the style, stout columnar style almost as thick as the ovary and usually tuberculate, dirty green, globular berry-like fruit (Tanaka 2003a, 2010a). In India, *Tupistra* is represented so far by four species, namely *Tupistra clarkei* Hooker (1894: 325), *T. nutans* Wall. ex Lindley (1839: 1223), *T. stoliczana* Kurz (1875: 199) and *T. tupistroides* (Kunth 1848: 12) Dandy (1932: 329).

In course of the study of the genus *Tupistra* in India, a very distinctive species was found growing in the Garden of Botanical Survey of India, Eastern Regional Centre, Shillong, Meghalaya. It was overlooked during last decades and its origin could not ascertain as different species of plants growing in the garden are introduced from the diverse areas of north-eastern India. Critical observations on the specimens and consultation of literature (Hooker 1894, Liang 1978, Jessop 1979, Liang & Tamura 2000, Tanaka 2003a, Tanaka 2010a, Tanaka 2010b, Averyanov & Tanaka 2012, Hu et al. 2013, Vislobokov et al. 2014, Averyanov et al. 2015, Averyanov et al. 2016) revealed that this species more or less resembles *T. grandis* Ridley (1900: 38), *T. grandistigma* Wang & Liang (1978: 8–10), and *T. sumatrensis* Tanaka (2003: 503), but differs clearly from them in many significant diagnostic characters. Therefore, it is described here as a new species with detailed photographic illustrations.

**Description of the new species**

*Tupistra ashihoi* D.K.Roy, N.Odyuo & Aver., sp. nov. (Figs. 1, 2)

Differs from *T. grandis*, *T. grandistigma* and *T. sumatrensis* by distinctly petiolate leaves, with wingless petioles, 15–25 cm long, comparatively shorter, elliptic-ob lanceolate leaf-blade, to 50 cm long, shorter pistil, 8–9 mm long and in hemispheric, distinctly 6-lobed stigma, to 2 mm thick.

Type:—INDIA. 20 December 2016, D.K. Roy 128909 (holotype, ASSAM!) prepared from a plant cultivated in Garden of Botanical Survey of India, Eastern Regional Centre, Shillong, Meghalaya.

Terrestrial clustering perennial herb, with leaves up to 60 cm high. Rhizomatous stem erect, stout, 1.5–2.0 cm in diameter, nodes dense, covered with remnant bases of sheath-leaves. Roots many, cord-like, thick, fleshy, 4–5 mm in diameter, velutinous. Sheath leaves straight, ensiform, 5–15 cm long, light green. Leaves 2–3, basal, erect, distinctly petiolate; petioles adaxially channelled, 15–25 cm long; leaf blade ob lanceolate elliptic, 35–50 × 11–12 cm, shortly acuminate at apex, tapering to the base, lathery, uniform glossy green, with prominent midvein abaxially, secondary lateral veins many, parallel, hardly visible. Peduncle erect, terete, to 14 cm long, arising from apical part of stem, axillary, with no sterile bracts. Spike straight, cylindric, to 22 cm long and to 4 cm in diam., with many flowers; rachis slightly angled longitudinally, fleshy. Bracts 2 per flower, concave, fleshy, light green, slightly tinged with purple; outer bract borne below flower, oblong-ovate, bai-shaped, 3–4 × 4.5–5 mm, apex strongly incurved, rounded; inner bract (bracteole) smaller, borne lateral to flower, obovate, 2–2.3 × 2.5–3 mm long, apex slightly upright curved and slightly cucullate. Flowers many, sessile, widely open. Perigone campanulate, 6-cleft, fleshy, dark purple-violet; tube 5–6 mm long; lobes narrowly ovate, 8–9 × 4–6 mm, spreading, straight to slightly incurved, obtuse to acute. Stamens 6; anthers sessile, dorsifixed, narrowly ovoid, intorse, 3 × 1 mm, dull yellowish, attached to the base of perigone lobes below stigma. Pistil 1; style white, columnar, slightly broadening upward, 4.5–5 × 2–2.5 mm, shallowly ridged longitudinally, glabrous; stigma convex to almost hemispheric, 7–8 mm in diameter, to 2 mm...
thick, white speckled with purple, becoming dark purple after anthesis, shallowly 5–6-lobed at margin, distal lobes broadly triangular, 1–1.5 × 1.5–2 mm; ovary superior, situated at extreme base of columnar pistil, 1.5–2 mm high, 3-locular. Fruit berry-like, subglobose, dark brown, irregularly tuberculate, 0.5–1 cm across, with persistent remnant of the style at apex. Flowering in September–October, fruiting in November–December.

**Etymology:**—The new species is named in honour of Ashiho A. Mao, Senior Scientist, Botanical Survey of India, Eastern Regional Centre, Shillong, Meghalaya, for his excellent contributions to the Plant taxonomy of north-eastern India.

**Distribution:**—The new species is currently known only from cultivated specimens in the Garden of Botanical Survey of India, Eastern Regional Centre, Shillong, Meghalaya, India.

**Taxonomic relationships:**—The comparison of morphology between the known species of *Tupistra* indicates that *T. ashihoi* shows similarity to *T. grandis*, *T. grandistigma* and *T. sumatrensis*. The new species differs from *T. grandis* by distinctly petiolate leaves with wingless petioles, up to 25 cm long (vs. poorly defined petioles up to 40 cm long, with wings), elliptic-ob lanceolate leaf blade up to 50 cm long (vs. sublinear, ob lanceolate or elliptic, up to 150 cm long), perigone lobes longer than tube (vs. perigone lobes shorter than the tube), anthers located at the base of the perigone lobes (vs. anthers located in the middle of the perigone tube), pistil, 8–9 mm long (vs. 14 mm long), thick, hemispheric, stigma to 2 mm wide, distinctly 6-lobed at margin, purplish white, becoming dark purple after anthesis (vs. thin, peltate, orbicular, obscurely crenulated at margins, white). From *T. grandistigma* the new species differs by longer spike, to 22 cm long (vs. 16 cm long), 2 bracts per flower (vs. 1), shorter perigone lobes, to 16 mm long (vs. 22 mm long). From *T. sumatrensis* the described plant differs by shorter spike, to 22 cm long (vs. 35 cm long), shorter perigone, to 16 mm long, with lobes longer than tube (vs. to 30 mm long, with lobes equal the tube), anthers located at the base of the perigone lobes (vs. located in the subbasal portion of perigone tube).

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**References**