

PSILOTACEAE

松叶蕨科 song ye jue ke

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Plants small to medium-sized, epiphytic or on rocks. Rhizomes creeping, brown, with protosteles or siphonosteles, bearing rhizoids; roots absent. Stems erect or pendulous, green, unbranched or dichotomously or pinnately branched; branches ridged to sulcate or complanate. Leaves small or rudimentary, with a single vein (microphylls) or lacking veins (enations), spirally or distichously alternate, sessile or subsessile, dimorphic; trophophylls scalelike and subulate-triangular, or lanceolate to narrowly ovate; sporophylls deeply bifid. Sporangia appearing solitary at or above bases of sporophylls, large, 2- or 3-lobed (sometimes interpreted as synangia of 2 or 3 unlobed sporangia), thick-walled, lacking an annulus, each lobe dehiscing longitudinally by a slit. Spores reniform, monoletate, many (> 1000) per sporangium, exospore translucent, rugulate to foveolate. Gametophytes subterranean (*Psilotum*), non-photosynthetic, cylindrical, mycorrhizal. $x = 52$.

Two genera (*Psilotum*, *Tmesipteris*) and ca. 17 species: tropics to temperate regions; one species in China.

Zhang Libing. 2004. Psilotaceae. In: Zhang Xianchun, ed., *Fl. Reipubl. Popularis Sin.* 6(3): 244–245.

1. PSILOTUM Swartz, *J. Bot.* (Schrader) 1800(2): 8, 109. 1801.

松叶蕨属 song ye jue shu

Plants small to medium-sized, often epiphytic. Rhizomes long creeping, mostly dichotomously branched. Stems erect to somewhat pendulous, glabrous, repeatedly dichotomously branched; branches green, ridged or complanate. Leaves reduced, veinless, sessile, dimorphic; trophophylls scalelike, subulate-triangular; sporophylls deeply bifid. Sporangia 3-lobed, attached at bases of sporophylls. Spores oblong in polar view, reniform in equatorial view, monoletate, foveolate.

Two species: widespread in tropical and warm-temperate regions; one species in China.

Psilotum complanatum O. Swartz, which differs from *P. nudum* in its flattened stems 1.5–3 mm wide, has been reported from Malaysia and Oceania (among other regions). It eventually may be discovered in S China.

1. *Psilotum nudum* (Linnaeus) P. Beauvois, *Prodr. Aethéogam.* 112. 1805.

松叶蕨 song ye jue

Lycopodium nudum Linnaeus, *Sp. Pl.* 2: 1100. 1753.

Rhizomes creeping, terete, brown, with dense rhizoids. Aerial stems erect to somewhat pendulous, green, with dense white stomata, 15–50 cm, 0.8–1.5 mm wide, glabrous, unbranched proximally, distally repeatedly dichotomously

branched, 3-angled or -ridged. Trophophylls subulate-triangular, 1–2 mm, herbaceous; sporophylls deeply bifid, lobes narrowly subulate, 2–3 mm. Sporangia yellow to yellowish brown, obtriangular-globose, 3–4 mm in diam., (2 or)3-lobed. $2n = 104, 208$, ca. 312.

Epiphytic on trees or rock crevices; near sea level to 1000 m. Anhui, Chongqing, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Taiwan, Yunnan, Zhejiang [widespread in tropics and subtropics of Old and New Worlds, extending northward to Korea and Japan].

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