

The Genus *Porandra* (Commelinaceae) in Thailand

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ABSTRACT. A revision of the genus *Porandra* D.Y. Hong in Thailand is presented. Three species are recognised, *P. microphylla* Y. Wan, *P. ramosa* D.Y. Hong and *P. scandens* D.Y. Hong. The first two species are newly recorded from Thailand. A key to the species is provided together with illustrations, distributions and ecological data.

INTRODUCTION

The genus *Porandra* was established by Hong (1974) based on two species, namely *P. ramosa* D.Y. Hong and *P. scandens* D.Y. Hong. Since his work a third species, *P. microphylla* Y. Wan has been described from China (Wan, 1986). Faden (1998) considered *Porandra* to be probably conspecific with *Amischotolype* but Hong & DeFilipps (2000) maintained the genus. All species except *P. scandens* were considered endemic to China. The genus was separated from *Amischotolype* by its climbing habit and anther cells opening by apical pores.

In the course of preparing Commelinaceae treatments for the Flora of Thailand, *P. ramosa* and *P. microphylla* are newly recorded for the country. In addition, although Hong (1974) and Hong & DeFillips (2000) stated that rhizomes were absent, although we found long horizontal underground rhizomes in *P. microphylla* and *P. scandens* and they may also be present in *P. ramosa*.

TAXONOMIC ACCOUNT

PORANDRA

D.Y. Hong in Acta Phytotax. Sin. 12(4): 462. 1974; Faden, Fam. Gen. Vas. Pl. 4: 120. 1998. Type species: *Porandra ramosa* D.Y. Hong.

Perennial rhizomatous scandent herbs. *Leaf blades* alternate; petiole unwinged. *Inflorescence* a very compact globose head, subsessile. *Flowers* bisexual, subsessile. *Sepals* equal, sepaline. *Petals* free, equal, not clawed. *Stamens* 6, free, equal, all fertile; filaments bearded; anthers dehiscing by apical pores. *Capsules* trilocular, trivalved, seeds 2 per locule. *Seeds* arillate.

Three species mainly from southern China and adjacent areas. All the species are found in Thailand.

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KEY TO SPECIES

1. Anthers drip-shaped. Leaves often densely pubescent beneath, rarely glabrous with dense pubescence at the apex. Petioles, sepals and capsule densely pubescent **2. *P. ramosa***
1. Anthers subglobose-oblong or lanceolate-oblong. Leaves usually glabrous, rarely sparsely pubescent beneath. Petioles glabrous. Sepals and capsule sparsely pubescent or glabrous
2. Leaves (15-)18-25 by 3-5.5 cm, glabrous, densely ciliate along margins **3. *P. scandens***
2. Leaves 5-15(-16) by 1.5-4.5 cm, glabrous or with a line of dense puberulence near margin above, margin glabrous or ciliate at apex **1. *P. microphylla***

1. *Porandra microphylla* Y. Wan in Bull. Bot. Res. North-east. Forest. Inst. 6(4): 153. 1986; D.Y. Hong & DeFilipps in Fl. China 24: 24. 2000. Type: China, Guangxi, Long an, Longhushan Conservation Area, Wan Fu 85011 (holotype IBG, not seen; isotype GXSP, not seen). Figs. 1A-F & 2A.

Woody-like scandent herb, stems to 3 m long, ascending to 1.5 m tall. *Leaf blade* narrowly elliptic-lanceolate, 5-15(-16) by 1.5-4.5 cm, glabrous or with a line of dense puberulence above near the margin, base cuneate to obtuse, apex abruptly acuminate to caudate, margins slightly undulate, glabrous or ciliate at the apex; petioles pale green or dark purple, 5-8 mm long, glabrous; leaf sheaths 2-6.5 by 0.3-1 cm, densely puberulent on one side, mouth long-ciliate. *Inflorescence* a head ca. 1.5 cm in diam., usually with (2-)4-6 flowers; bracteoles ovate, 2.5-3 by 3-4 mm, sparsely pubescent on the outside and margins. *Flowers* white. *Sepals* green, ellipsoid, 6-7 by 2.5-4 mm, pubescent on the outside. *Petals* white, broadly elliptic or oblanceolate, 6-7 by 2.5-3 mm. *Stamens*: filaments 6-8 mm long, bearded; anthers subglobose-oblong, ca. 1-1.2 by 1 mm. *Ovary* subglobose, ca. 1.2 mm in diam., sparsely puberulent; style ca. 10 mm long. *Capsules* green, 1-3 in a head, ovoid, 8-10 by 6-8 mm, pubescent throughout. *Seeds* ellipsoid-reniform, ca. 4 by 3 mm.

Thailand.—NORTHERN: Chiang Mai (Doi Chiang Dao, Doi Inthanon).

Distribution.—China.

Ecology.—Common in hill-evergreen forest, alt. 800-2000 m; flowering and fruiting from August to February.

Vernacular.—Phak plap doi (พักประดอย) (Doi Chiang Dao-Chiang Mai).

Notes.—*P. microphylla* is distinct because of its leaves which are smaller and rather glabrous and its anthers which are subglobose-oblong and often smaller than in the other species. It was first recorded from China, but now it seems to have a much wider range.

Specimens examined: *G. Murata et al.* T-15173 (BKF), T-15658 (BKF); *C. Phengklai et al.* 7170 (BKF, K); *T. Smitinand & I. Alsterlund* 6656 (K); *T. Smitinand & J.A.R. Anderson* 7267 (BKF); *T. Thitimetharoch* 458 (Herb. Khon Kaen University).

2. *Porandra ramosa* D.Y. Hong in Acta Phytotax. Sin. 12(4): 462. 1974; D.Y. Hong & DeFilipps in Fl. China 24: 24. 2000. Type: China, Yunnan, Feng Qing, T.T. Yü 16255 (holotype PE, not seen). Figs. 1G-L & 2B.

Woody-like scandent herb. *Leaf blade* elliptic-lanceolate, 10–16 by 3–4 cm, densely brownish or rusty pubescent beneath or rarely densely pubescent at the apex, base acute to cuneate, apex acuminate to caudate, margins ciliate; petioles dark purple, 3–6 mm long, densely pubescent beneath or on both sides; leaf sheaths 3–5 by 0.3–1 cm, pubescent throughout and/or on one side, mouth long-ciliate. *Inflorescence* a head 1.5–2 cm in diam., usually with (4–)6–8 flowers; bracteoles broadly ovate, 2.5–4 by 3–5 mm, densely pubescent especially on midvein outside, margins often sparsely ciliate. *Flowers* pinkish purple. *Sepals* pale green or pinkish purple, ellipsoid, 7–8 by 3–4 mm, densely pubescent along midvein outside, margins often sparsely ciliate. *Petals* pinkish, elliptic-ob lanceolate, 7–8.5 by 2.5–3 mm. *Stamens*: filaments 7–10 mm long, pinkish-bearded; anthers purple, drip-shaped, 2–2.5 by 1.2–1.5 mm. *Ovary* subglobose, ca. 1 mm in diam., pubescent, style 10–13 mm long. *Capsules* purple, 1–3(–6) in a head, ovoid, 7–11 by 5–8 mm, pubescent apically. *Seeds* ellipsoid-reniform, 4–7 by 3–3.5 mm.

Thailand.— NORTHERN: Chiang Mai (Doi Inthanon, Mae Ka Pak); NORTHEASTERN: Loei (Khawk Moei-Phu Kradung).

Distribution.— China.

Ecology.— In hill-evergreen and gallery forests, alt. 1000–1500 m; flowering and fruiting from April to December.

Notes.— *P. ramosa* is readily distinguished from all other members of its genus by its unique drip-shaped anthers and densely pubescent petioles, sepals, capsules and leaves. Formerly known only from southern China but now known to occur in northern and north-eastern Thailand.

Specimens examined: *H.B.G. Garrett* 561 (K), 1132 (K, US); *T. Smitinand* 2526 (BKF, K).

3. *Porandra scandens* D.Y. Hong in *Acta Phytotax. Sin.* 12(4): 462. 1974; D.Y. Hong & DeFilipps in *Fl. China* 24: 24. 2000. Type: China, Yunna, Xishuangbanna, C.W. Wang 77909 (holotype PE). Figs. 1M–R & 2C.

Woody-like scandent herb, stems to 6 m long. *Leaf blade* elliptic-lanceolate, 18–25 by 3–5.5 cm, base acute-cuneate, apex acuminate-caudate, margins ciliate; petioles pale green or dark purple, 3–10 mm long, sometimes sparsely pubescent above; leaf sheaths ca. 4.5 by 0.5 cm, densely pubescent on one side, mouth ciliate. *Inflorescence* a small compact globose head ca. 1.5 cm in diam., usually with (4–)6–8(–10) flowers; bracteoles broadly ovate, 3.5–4 by 4–5 mm, glabrous, margins sometimes sparsely ciliate. *Flowers* white. *Sepals* pale green or pinkish purple, ellipsoid, 6–8 by 4–5 mm, boat-shaped, glabrous or sparsely pubescent on outside. *Petals* greenish white, elliptic-ob lanceolate, 6–8 by 2.5–3.5 mm. *Stamens*: filaments 6–8 mm long, white- or purplish-bearded; anthers purple, oblong-lanceolate, 1.5–2.5 by 1–1.5 mm. *Ovary* subglobose, ca. 1 mm in diam., glabrous or sparsely pubescent, style 10–13 mm long. *Capsules* 1–3(–6) in a head, broadly ovoid or subglobose, 8–11 by 5–9 mm, glabrous or sparsely pubescent on upper part. *Seeds* ellipsoid-reniform, 4–7.5 by 3–5 mm.

Thailand.— NORTHERN: Chiang Mai (Doi Chiang Dao, Doi Suthep, Fang), Chiang Rai (Mae Sariang, Mae Sruai), Kamphaeng Phet (Klong Lan, Mae Wong),

Lampang (Jae Sawn), Tak (Um Phang); NORTH-EASTERN: Loei (Phu Kradung, Phu Luang); EASTERN: Chaiyaphum (Ban Nam Phrom, Phu Kheio); SOUTH-EASTERN: Chanthaburi (Khao Soi Dao); SOUTH-WESTERN: Kanchanaburi (Kwae Noi River Basin, Si Sawat), Ratchaburi (Suan Pueng).

Distribution.— China, Laos, Vietnam.

Ecology.— In evergreen forest, alt. 250–1800 m; flowering and fruiting from April to December, flowers opening in late afternoon.

Vernacular.— Yaa ton (ຫຼັກຕິ່ນ), Phak plap doi (ຜັກປ່າບດອຍ) (Chiang Dao-Chiang Mai); Phak kap plee (ຜັກກາບປົກ) (Kamphaeng Phet); Sang phai (ສຳພັກ) (Phu Kradung-Loei).

Uses.— Cooked young leaves are edible (Suan Phueng-Ratchaburi).

Notes.— *P. scandens* is widespread from southern China to Thailand; *Y. Paisooksantivatana* & *P. Sangkachand* ,from Ratchaburi province ,(BK) 87–2083-Y .xtent of its rangee most-southern represents the

Specimens examined: *K. Bunchuai* 1684 (K), 1170 (K); *H.B.G. Garrett* 1409 (K); *R. Geesink, T. Hattink & C. Phengklai* 6700 (K), 6850 (K); *R. Geesink & P. Hiepko* 7890 (BKF, K); *A.F.G. Kerr* 3234 (K); *A. Kostermans* 834 (BKF, K); *K. Larsen* 43579 (US); *K. Larsen, T. Santisuk & E. Warncke* 2396 (BKF, K), 2546 (K), 2695 (BKF, K); *J.F. Maxwell* 73–187 (BK), 95–728 (BKF); *C. Niyomdham et al.* 4377 (BKF); *Y. Paisooksantivatana & P. Sangkhachand* Y-2083-87 (BK); *Prayad* 939 (BK); *Put* 3271 (BK, BM, K), 4545 (BK, BM, K); *J.F. Rock* 176 (US), 241 (US); *S. Sutheesorn* 2598 (BK); *T. Thitimetharoch* 410 (Herb. Khon Kaen University), 425 (Herb. Khon Kaen University), 445 (Herb. Khon Kaen University), 472 (Herb. Khon Kaen University); *P. Triboun* 1300 (Herb. Khon Kaen University).

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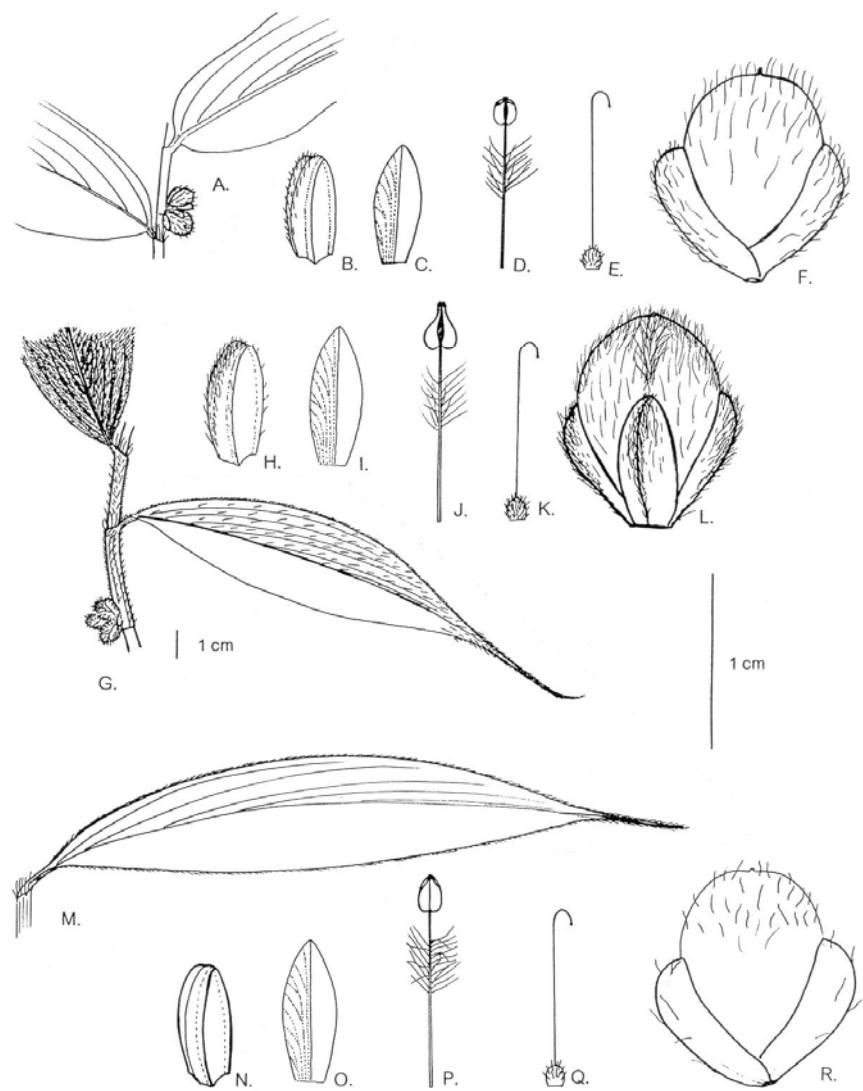


Figure 1. A–F: *Porandra microphylla* Y. Wan: A. leaves; B. sepal; C. petal; D. stamen; E. pistil; F. capsule and persistent calyx. G–L: *P. ramosa* D.Y. Hong: G. leaves; H. sepal; I. petal; J. stamen; K. pistil; L. capsule and persistent calyx. M–R: *P. scandens* D.Y. Hong: M. leaf; N. sepal; O. petal; P. stamen; Q. pistil; R. capsule and persistent calyx. Drawn by T. Thitimetharoch.



Figure 2. A. *Porandra microphylla* Y. Wan; B. *P. ramosa* D.Y. Hong, from T. Smitinand 2526 (K); C. *P. scandens* D.Y. Hong. Photographed by T. Thitimetharoch.