

**1. FAGUS** Linnaeus, Sp. Pl. 2: 997. 1753.水青冈属 *shui qing gang shu*

Trees deciduous. Bark smooth. Winter buds elongated, reddish brown, apex acute. Leaves alternate, 2-ranked, plicate in bud; secondary veins  $\pm$  parallel. Male inflorescence in leaf axils toward base of branchlets, a lax pedunculate head; flowers many; perianth 4–7-lobed; stamens 8–16; rudimentary ovary pubescent. Female inflorescences in axils of leaves; flowers usually 2, subtended by a single (3-or)4-parted cupule and surrounded by numerous bracts; styles 3, recurved. Cupules woody, (3 or)4-valved; bracts leaflike or filiform to short, triangular. Nuts (1 or)2(or 3), ovoid to 3-sided. Germination epigeal; cotyledons plicate.

Ten species: N temperate regions; four species (three endemic) in China.

The status of *Fagus chienii* W. C. Cheng (Contr. Biol. Lab. Chin. Assoc. Advancem. Sci., Sect. Bot. 10: 70. 1935) is uncertain. It is only known from the type collection (Pingwu, Sichuan) and is similar to *F. lucida*, except for having longer recurved cupule bracts.

Important timber trees.

1a. Cupules covered with leaflike bracts; leaf blade secondary veins curving upward, fusing near margin 1. *F. engleriana*

1b. Cupules covered with filiform and recurved or short, triangular bracts; leaf blade secondary veins ending in teeth.

2a. Cupules 2–2.5 cm ..... 2. *F. longipetiolata*

2b. Cupules 0.7–1.5 cm.

3a. Cupules 0.7–1 cm; leaf blade abaxially with glandular dots and tufts of hairs in axil; cupule bracts linear, recurved ..... 3. *F. hayatae*

3b. Cupules 1–1.5 cm; leaf blade abaxially without glandular dots and tufts of hairs but with silky pubescence on midvein; cupule bracts tuberculate, closely appressed ..... 4. *F. lucida*

**1. *Fagus engleriana*** Seemen in Diels, Bot. Jahrb. Syst. 29: 285. 1900.

米心水青冈 *mi xin shui qing gang*

*Fagus sylvatica* Linnaeus var. *chinensis* Franchet.

Trees to 25 m tall. Petiole 0.5–1.5 cm, glabrous; leaf blade ovate, elliptic-ovate, or rarely oblong-ovate, 5–9(–11) cm, abaxially glaucescent and glabrous except for long silky hairs along veins, base broadly cuneate to sometimes rounded or subcordate, margin sinuate, apex shortly acuminate; secondary veins 9–14 on each side of midvein, curving upward, fusing near margin. Peduncle 2–7 cm. Cupule 1.5–1.8 cm; basal bracts greenish, leaflike, glabrous, veined; apical bracts brownish, filiform, hairy. Nuts slightly exserted, apex with 3 small wings. Fl. Apr–May, fr. Aug–Oct.

• Broad-leaved and mixed forest on mountain slopes; 1500–2500 m. Anhui, N Guangxi, S Guizhou, Henan, NW Hubei, Hunan, Shaanxi, E Sichuan, Yunnan, Zhejiang.

**2. *Fagus longipetiolata*** Seemen, Bot. Jahrb. Syst. 23(Beibl. 57): 56. 1897.

水青冈 *shui qing gang*

*Fagus bijiensis* C. F. Wei & Y. T. Chang; *F. brevipedicellata* Hu; *F. clavata* Y. T. Chang; *F. longipes* (Oliver) H. Léveillé; *F. longipetiolata* f. *clavata* (Y. T. Chang) Y. T. Chang; *F. sylvatica* Linnaeus var. *bracteolis* Oliver; *F. sylvatica* var. *longipes* Oliver; *F. tientaiensis* Liou.

Trees to 25 m tall. Winter buds to 2 cm. Petiole 1–3.5 cm; leaf blade ovate to ovate-oblong, 9–15 cm, abaxially finely densely pubescent and glaucescent, base broadly cuneate to nearly rounded, margin remotely serrate, apex acute to acuminate; secondary veins 9–15 on each side of midvein, ending in teeth. Peduncle 1–10 cm. Cupule 2–2.5 cm; bracts linear, re-

curved, pubescent, apical ones to 7 mm but basally shorter. Nut as long or slightly shorter than cupule, with narrowed wings near apex. Fl. Apr–May, fr. Aug–Oct.

Broad-leaved evergreen and mixed mesophytic forests on mountain slopes; 300–2400 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Shaanxi, Sichuan, Yunnan, Zhejiang [Vietnam].

**3. *Fagus hayatae*** Palibin in Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 286. 1911.

台湾水青冈 *tai wan shui qing gang*

*Fagus hayatae* var. *zhejiangensis* M. C. Liu & M. H. Wu ex Y. T. Chang & C. C. Huang; *F. pashanica* C. C. Yang.

Trees to 20 m tall. Winter buds to 1.5 cm. Leaf blade rhomboid-ovate, 3–7 cm, covered with silky pubescence when young, glabrescent except for glandular dots and tufts of hair on midvein and abaxially on axils of secondary veins, base broadly cuneate to nearly rounded, apex acute to shortly acuminate; veins blackish when dry; midvein flexuous toward apex; secondary veins 5–9 on each side of midvein, ending in teeth. Peduncle 0.5–2 cm, pilose. Cupule 7–10 mm; bracts linear, recurved, 1–3 mm, pilose. Nut as long as cupule, with very small wings near apex. Fl. Apr–May, fr. Aug–Oct.

• Mountain ridges and summits in deciduous forests; 1300–2300 m. Hubei, Hunan, Shaanxi, Sichuan, N Taiwan, Zhejiang.

Occurs in three disjunct areas; the plants from each area are slightly different and have been treated as taxonomically distinct.

**4. *Fagus lucida*** Rehder & E. H. Wilson in Sargent, Pl. Wilson. 3: 191. 1916.

光叶水青冈 *guang ye shui qing gang*

*Fagus lucida* var. *opienica* Y. T. Chang; *F. nayonica* Y. T. Chang.

Trees to 25 m tall. Winter buds ca. 1.5 cm. Petiole 0.6–2 cm; leaf blade ovate to elliptic-ovate, 5–11 cm, lustrous green and glabrous except for silky pubescence abaxially on midvein, base broadly cuneate to rounded, margin slightly sinuate, apex acute to shortly acuminate; secondary veins 8–12 on each side of midvein, ending in minute teeth. Peduncle 0.5–1.5 cm, glabrous. Cupule 1–1.5 cm; bracts tuberculate, closely appressed, triangular mucronate, 1–2 mm, rarely apical ones slightly ascending. Nut slightly exserted, with minute or hardly evident wings near apex. Fl. Apr–May, fr. Sep–Oct.

• Mixed mesophytic forests on mountain slopes; 800–2000 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Sichuan, Zhejiang.

