**Acer yangbiense** (Aceraceae), a New Species from Yunnan, China

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**Abstract.** *Acer yangbiense* Y. S. Chen & Q. E. Yang, a new species from Yangbi County, Yunnan Province, is described and illustrated. This species is similar to *Acer leipoense* Fang & Soong from western Sichuan in having a pale gray abaxial surface of the leaves, a much longer glabrous infructescence and fruiting pedicels, and convex nutlets, but differs by its larger 5-lobed leaves with a cordate base, abaxially densely pubescent veins and veinlets, and pubescent young branchlets and petioles.

**Key words:** Acer; Aceraceae; China; Yunnan.

In the course of checking specimens of the Chinese Aceraceae in the herbarium of Sichuan University (SZ) in 2001, a specimen from Yangbi County, Yunnan, R. C. Ching 22525, caught our attention. Fang Wen-Pei identified it as *Acer kunghshanense* Fang on the determinavit slip in 1959, although this species was not formally published by him and C. Y. Chang until 1966 (Fang, 1966). At first glance this specimen is somewhat similar to *A. kunghshanense* in having leaves abaxially densely hairy, but differs in having 5-lobed leaves, a pale gray abaxial surface of the leaves, a glabrous infructescence, and convex nutlets. In contrast, *A. kunghshanense* has 3-lobed leaves, a yellow-brown abaxial surface of the leaves, a pubescent infructescence, and ovoid-globose nutlets. This specimen is more similar to *A. leipoense* in having a pale gray abaxial surface of the leaves, a glabrous infructescence, and convex nutlets, but differs by its 3-lobed leaves, which are abaxially densely hairy along the veins and veinlets, and thus may represent an undescribed species. Unfortunately, this specimen is in poor condition, with the infructescence being incomplete, so in April 2002 the first author made an expedition to Yangbi County in northwest Yunnan to collect more specimens. A large tree bearing young fruits was found. Although flowering specimens were unavailable, some fruits that were still bearing perianths and anthers were gathered. This confirmed to the authors that the plant really is a new species.


Species *A. leipoense* affinis, sed differt foliis majoribus, 10–20 cm longis, 10–25 cm latis, 5-lobatis, basi cordatis, nervis et venis subtus densissime pubescentibus.

Deciduous tree, up to 20 m tall; trunk up to 20 cm diam.; branchlets of the present year greenish, pubescent; branchlets of the previous year brown-green, pale gray pubescent; those more than two years old light brown or dark brown, glabrescent, with noticeable brown-yellow lenticels; winter buds ovoid, dark brown, imbricate scales about 9 pairs, tomentose outside, dropping off soon after the flowers or leaves have matured. Leaves chartaceous, 10–20 × 11–25 cm, usually broader than long, shallowly 5-lobed, base cordate, deep green above, glabrous, pale green beneath, abaxially very densely pubescent along veins and veinlets; basal lobes usually smaller, apex acuminate, or accidentally absent; middle and lateral lobes triangular-ovate, apex acuminate, entire or remotely toothed with a few sinuous teeth; primary veins 5, impressed on the upper surface, conspicuously prominent below; central lobe with 7 to 9 pairs of parallel lateral veins; petioles 4–17 cm long, pale gray pubescent. Racemes glabrous, pendulous, arising from leafless lateral buds of 2- or 3-year-old branchlets. Flowers hermaphroditic, yellow-green; sepals 5, ovate-oblong, ca. 4.5 × 4 mm, yellow-green, glabrous; petals 5, ovate, yellow-green, base narrow. Infrastaminal disk glabrous; stamens 8; filaments ca. 2–3 mm long; anthers ovoid, ca. 1 mm long; styles 2, base

united, the free portion curved downward; stigmas 2, simple. Inflorescence pendulous, ca. 9–32 × 7 cm; fruits 9 to 17 per raceme, red-green when young, brown-yellow when mature; wings together with nutlets 4.7–5.5 × 1.4–1.7 cm, strongly veined, spreading at acute or nearly right angles; fruiting pedicels 2.7–3.4 cm long, glabrous; nutlets ca. 7 mm diam., middle convex, globose, villous.
Distribution and habitat. This species seems restricted in distribution. So far it is known only from its type locality, a valley in the western slope of Mt. Cangshan, Yangbi, northwestern Yunnan. Just above this area grows a large forest of *Rho-
dodendron delavayi* Franchet. Its population is small, consisting of no more than 10 trees sparsely scattered near a small village. It is therefore to be considered a rare and endangered species. According the IUCN red list categories and criteria, Ver-
sion 3.1 (IUCN, 2001), it should be categorized as a critically endangered species.

Taxonomic remarks. According to Ogata (1965), Acer sect. Lithocarpa Pax is characterized by having dioecious flowers, racemose inflorescences from leafless lateral buds, and buds with 8 to 12 pairs of imbricate scales. This section includes a few species with ranges from the Himalayas to Japan. Among them, A. leipoense subsp. leipoense is found only in Leipo County in Sichuan Province, and A. leipoense subsp. leucotrichum Fang only in Baoping and Tianquan Counties in Sichuan Province. The first author made an expedition to find these two subspecies in western Sichuan in 2001, but failed to find specimens of either one. We have also examined specimens of Aceraceae in the major herbaria in China and found just two specimens each of A. leipoense subsp. leipoense and A. leipoense subsp. leucotrichum. To our knowledge, the two subspecies of A. leipoense are also critically endangered. The two subspecies of A. leipoense and A. yangbiense can be distinguished from the remaining species in section Lithocarpa Pax by having a pale gray abaxial surface of the leaves, convex nutlets, and a much longer infructescence and fruiting pedicels.

Acer yangbiense is similar to A. leipoense subsp. leipoense in having a pale gray abaxial surface of the leaves, a long glabrous infructescence and fruiting pedicels, and convex nutlets, but differs by its larger 5-lobed leaves very densely pubescent abaxially along veins and veinlets, and pubescent young branchlets and petioles. Acer leipoense subsp. leucotrichum is different from the new species by the pubescence character.

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Literature Cited


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