

2. HEMIPTOLEA Planchon, Compt. Rend. Hebd. Séances Acad. Sci. 74: 131. 1872.

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Shrubs or trees, deciduous. Branchlets often rigid and spinose. Stipules 2, membranous, caducous, leaving a short transverse scar on each side of leaf base. Leaves distichous; leaf blade margin obtusely serrate; venation pinnate; secondary veins extending to margin, each ending in a tooth. Flowers appearing at same time as leaves, solitary or 2-4-clustered in leaf axil of young branches, polygamous, pedicellate. Perianth cupular, 4- or 5-parted. Stamens equal in number to tepals. Ovary laterally compressed, 1-loculed. Nutlet oblique, laterally compressed on both sides; perianth persistent, winged on apical half; wings crestlike. Embryo erect; cotyledons broad.

One species: China, Korea.

1. Hemiptelea davidii (Hance) Planchon, Compt. Rend. Hebd. Séances Acad. Sci. 74: 132. 1872.

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Planera davidii Hance, J. Bot. 6: 333. 1868; *Hemiptelea davidiana* Priemer; *Zelkova davidiana* (Priemer) Bean; *Z. davidii* (Hance) Hemsley.

Shrubs or trees, to 10 m tall. Bark dark gray to grayish brown. Branchlets grayish brown to brownish purple, pubescent; spines 2-10 cm. Winter buds ovate, usually 3-clustered in leaf axil. Stipules oblong to lanceolate, 3-4 mm. Petiole 3-5 mm, pubescent; leaf blade elliptic, elliptic-oblong, or rarely

obovate-elliptic, 4-7 × 1.5-3 cm, base ± cordate to rounded, margin with teeth obtuse, apex acute to obtuse; secondary veins 8-12 on each side of midvein. Fruit asymmetric, yellowish green, ovoid, 5-7 mm, winged only on one side; seed elongate and curved; stalk slender, 2-4 mm. Fl. Apr-May, fr. Sep-Oct. $2n = 56$.

Hill slopes, trail sides, planted around houses; below 2000 m. Anhui, Gansu, N Guangxi, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Nei Mongol, Ningxia, Shaanxi, Shandong, Shanxi, Zhejiang [Korea].

The hard wood is used for utensils, the bark fiber is used for manufacturing staple rayon and sacks, the tender leaves make a good beverage, and oil is extracted from the seeds.

