

# 香港桦木科一新种——香港鹅耳枥

童毅华<sup>1,2</sup>, 彭权森<sup>3</sup>, 夏念和<sup>1\*</sup>

(1. 中国科学院华南植物园, 中国科学院植物资源保护与可持续利用重点实验室, 广州 510650; 2. 中国科学院大学, 北京 100049; 3. 香港渔农自然护理署香港植物标本室, 香港)

**摘要:** 报道了桦木科(Betulaceae)鹅耳枥属(*Carpinus* L.)一新种——香港鹅耳枥(*C. insularis* N. H. Xia, K. S. Pang & Y. H. Tong)。香港鹅耳枥与太鲁阁鹅耳枥(*C. hebestroma* Yamamoto)及多脉鹅耳枥(*C. polyneura* Franch.)相似,但习性灌木状,叶具13~16对侧脉,先端锐尖,边缘锯齿的芒尖较短,果苞宽半卵形或半卵形,长8~14 mm,小坚果顶端密被长柔毛且疏具树脂状腺体,与后两者易于区别。

**关键词:** 桦木科; 鹅耳枥属; 香港鹅耳枥; 香港; 新种

doi: 10.3969/j.issn.1005-3395.2014.02.002

## *Carpinus insularis* (Betulaceae), A New Species from Hong Kong, China

TONG Yi-hua<sup>1,2</sup>, PANG Kuen Shum<sup>3</sup>, XIA Nian-he<sup>1\*</sup>

(1. Key Laboratory of Plant Resources Conservation and Sustainable Utilization, South China Botanical Garden, Chinese Academy of Sciences, Guangzhou 510650, China; 2. University of Chinese Academy of Sciences, Beijing 100049, China; 3. Hong Kong Herbarium, Agriculture, Fisheries and Conservation Department, Hong Kong, China)

**Abstract:** A new species of *Carpinus* L. in the Betulaceae, *C. insularis* N. H. Xia, K. S. Pang & Y. H. Tong, is described and illustrated. The new species is similar to *C. hebestroma* Yamamoto and *C. polyneura* Franch., but differs in its shrubby habit, 13 – 16 pairs of lateral veins of leaves, acute leaf apex, shorter mucrones of the leaf marginal teeth, fruiting bracts 8 – 14 mm long, broadly semi-ovate or semi-ovate, and nutlets sparsely resinous-glandular and densely villous at apex.

**Key words:** Betulaceae; *Carpinus* L.; *Carpinus insularis*; Hong Kong; New species

During a recent botanical expedition to Violet Hill in Hong Kong, China, a fruiting shrubby plant of the genus *Carpinus* L. of Betulaceae caught our attention. This plant, obviously belonging to section *Carpinus* because of the presence of asymmetric and loosely overlapping bracts of female flowers and the nutlets with prominent ribs as well, had not been previously recorded from Hong Kong. After careful comparison of the plant with herbarium material and consultation of relevant literature<sup>[1-4]</sup>, we are forced to

the conclusion that it represents a new species, which we describe below.

*Carpinus insularis* N. H. Xia, K. S. Pang & Y. H. Tong, **sp. nov.** (Fig. 1)

**Type:** China. Hong Kong: Violet Hill, 22°14'25.30" N, 114°11'55.04" E, alt. 190 m, 21 Aug. 2013, K. Y. Tam *s. n.* (holotype, IBSC; isotype, HK).

**Diagnosis:** This species is similar to *C. hebestroma* Yamamoto and *C. polyneura* Franch., but differs from

Received: 2014-01-13

Accepted: 2014-01-22

This study was supported by the Project "Compilation of the Chinese Version of Flora of Hong Kong" (AFCD/SQ/110/11) Agriculture, Fisheries and Conservation Department, the Hong Kong Special Administrative Region.

\* Corresponding author. E-mail: nhxia@scib.ac.cn

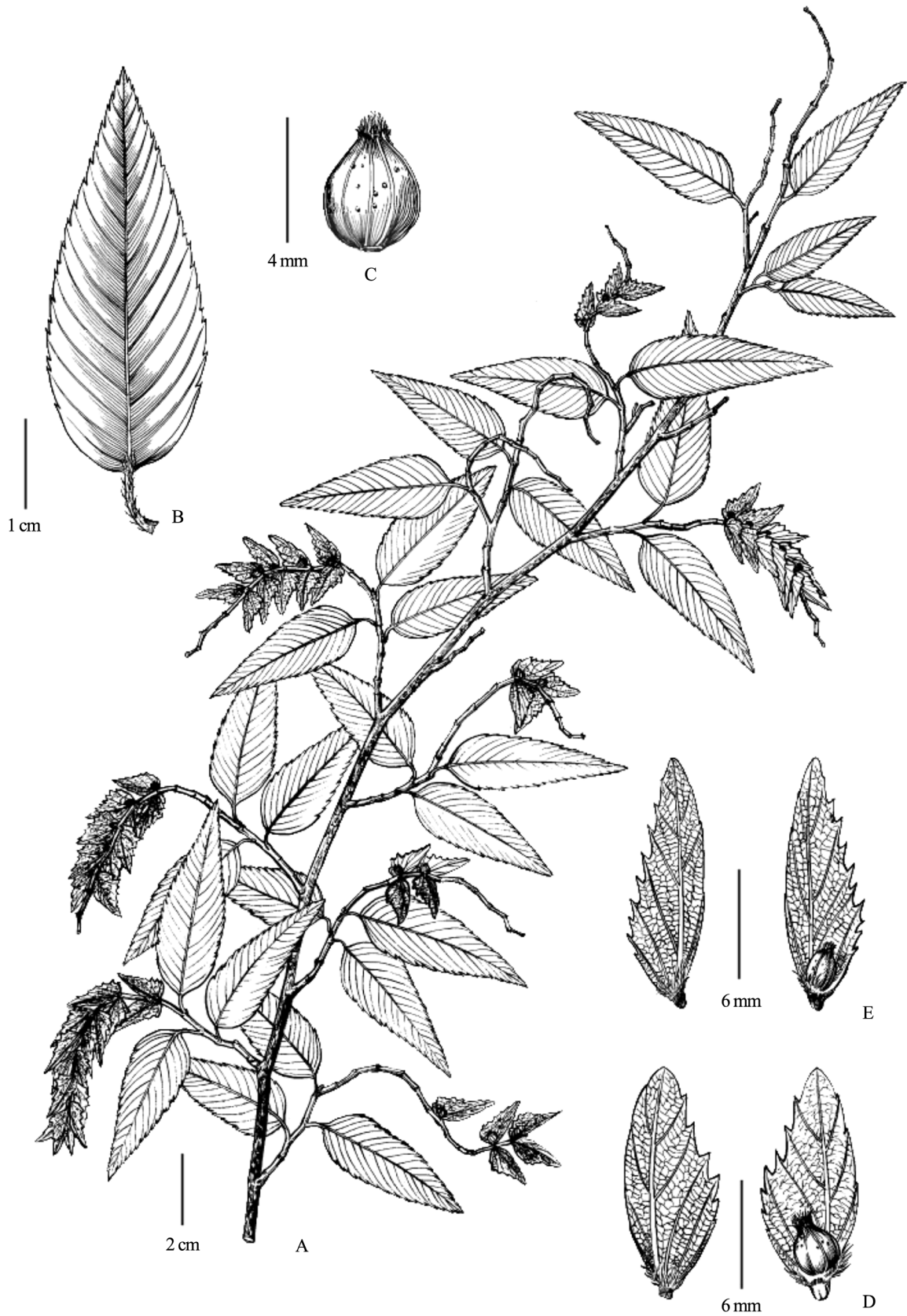


Fig. 1 *Carpinus insularis* N. H. Xia, K. S. Pang & Y. H. Tong, sp. nov. A: Fruiting branch; B: Adaxial leaf surface; C: Nutlet; D: Broadly semi-ovate fruiting bract (right: adaxial view; left: abaxial view); E: Semi-ovate fruiting bract (right: adaxial view; left: abaxial view). (Drawn by Ding-han CUI from the holotype)

them by having a shrubby habit, 13 – 16 pairs of lateral veins, an acute leaf apex, shorter mucrones of the leaf marginal teeth, fruiting bracts 8 – 14 mm long, broadly semi-ovate or semi-ovate, and nutlets sparsely resinous-glandular and densely villous at apex.

Deciduous shrubs 3 m tall; bark grey. Branchlets purplish brown, initially sparsely villous and lenticellate, later glabrescent. Petiole 6 – 10 mm, adaxially villous and pubescent initially, later glabrescent, abaxially pubescent or glabrous; leaf blade ovate-lanceolate, 4 – 6 cm × 1.5 – 2 cm, thickly papery, midvein adaxially and abaxially villous, lateral veins abaxially villous with barbate axils, base rounded, margin simply mucronate-serrate (or rarely doubly mucronate-serrate) with short mucrones to 0.3 mm long on the serrations, apex acute, lateral veins 13 – 16 on each side of midvein. Infructescence together with peduncle 3 – 4 cm long, villous and pubescent; fruiting bracts asymmetric, semi-ovate or broadly semi-ovate, 8 – 14 mm × 3 – 5 mm, villous along veins, outer margin irregularly dentate, without basal lobe, inner margin entire or slightly dentate towards the apex, with inflexed basal auricle, apex acute, veins 4 – 5, reticulate veins prominent. Nutlets ovoid, 2.5 – 3.5 mm long, sparsely resinous-glandular, densely villous at apex, prominently 8 – 10-ribbed.

**Distribution and habitat:** *Carpinus insularis* is currently known only from the type locality. It grows in thickets on a hill slope at an altitude of 190 m. In the type locality we found only a population comprising

about ten mature individuals within an area of about 100 m<sup>2</sup> on a steep slope, and we failed to discover other populations despite an exhaustive search.

**Phenology:** Flowering time unknown; fruiting from August to October.

**Etymology:** The specific epithet “*insularis*” refers to the occurrence of the new species in Hong Kong Island.

**Notes:** *Carpinus insularis* is similar to both *C. hebestroma* Yamamoto endemic to Taiwan<sup>[3]</sup> and *C. polyneura* Franch. from the mainland China in the general aspect of leafy branches and in the leaf shape, but differs in the shrubby habit, 13 – 16 pairs of lateral veins of leaves, acute leaf apex, shorter mucrones of the leaf marginal teeth, fruiting bracts 8 – 14 mm long, broadly semi-ovate or semi-ovate, and the nutlets sparsely resinous-glandular and densely villous at apex. A detailed comparison of the three species is given in Table 1.

Six species and one variety of *Carpinus* had been previously reported from Guangdong and Hainan<sup>[5]</sup>, both closely adjacent to Hong Kong. All of these taxa are trees confined in mountainous areas at altitudes of 450 – 1600 m in northern Guangdong except for one variety, i.e., *C. londoniana* H. Winkl. var. *lanceolata* (Hand.-Mazz.) P. C. Li, which occurs in montane forests at altitudes of 600 – 800 m in Changjiang and Ledong, Hainan<sup>[5]</sup>. Our new species is at once distinguishable from all these taxa by the shrubby habit.

Table 1 Comparison of *Carpinus insularis*, *C. hebestroma* and *C. polyneura*

Character	<i>C. insularis</i>	<i>C. hebestroma</i>	<i>C. polyneura</i>
Habit	Shrub	Tree	Tree
Lateral veins of leaves	13 – 16 pairs	11 – 12 pairs	16 – 22 pairs
Shape of leaf apex	Acute	Acute or acuminate	Acuminate or caudate
Length of mucrones of serrations (mm)	0.3	0	1
Shape of bracts	Semi-ovate or broadly semi-ovate	Broadly semi-ovate	Semi-ovate or broadly semi-ovate
Indumentum of nutlets	Densely villous at apex	Usually pubescent	Densely villous at apex and sparsely pubescent elsewhere
Resinous glands on nutlets	Present	Present	Absent
Distribution	Hong Kong	Taiwan	Fujian, N Guangdong, Guizhou, Hubei, Hunan, Jiangxi, Shaanxi, Sichuan, Zhejiang

The genus *Carpinus*, comprising about 50 species, is mainly distributed in temperate regions of the Northern Hemisphere<sup>[6]</sup> with some extending to subtropical and tropical montane regions<sup>[7]</sup>. *Carpinus insularis* is the first species of the genus found to occur in the lowland area near the Tropics of Cancer. Its discovery, therefore, is important for a better understanding of the phytogeography and dispersal of *Carpinus*.

**Acknowledgements** We are grateful to the Directors and Keepers of the A, IBSC, IBK, P and TAI herbaria for allowing to examine their specimens or scanned specimen photos. Our thanks also go to Prof. Khoo Meng WONG and Prof. Qin-er YANG for their comments on the manuscript, and Mr. Ding-han CUI for preparing the illustration.

## References

- [1] Li P Q, Alexei K S. *Carpinus* [M]// Wu Z Y, Raven P H. Flora of China, Volume 4. Beijing: Science Press & St. Louis: Missouri Botanical Garden Press, 1999: 289–300.
- [2] Li P C, Cheng S H. Betulaceae [M]// Kuang K Z, Li P C. Flora Reipublicae Popularis Sinicae, Tomus 21. Beijing: Science Press, 1979: 44–137.(in Chinese)
- [3] Liao J C. Betulaceae [M]// Huang T C. Flora of Taiwan, Volume 2, 2nd ed. Taipei: Editorial Committee of the Flora of Taiwan, 1996: 44–50.
- [4] Hu H H. The Silva of China: A Description of the Trees Which Grow Naturally in China, Volume II Betulaceae-Corylaceae [M]. Beijing: The Fan Memorial Institute of Biology and the National Forestry Research Bureau Ministry of Agriculture and Forestry, 1948: 1–209.
- [5] Wu T L. Corylaceae [M]// Wu T L. Flora of Guangdong, Volume 8. Guangzhou: Guangdong Provincial Publishing Group, Guangdong Science and Technology Press, 2007: 47–49.(in Chinese)
- [6] Wu Z Y, Zhou Z K, Sun H, et al. The Areal-types of Seed Plants and Their Origin and Differentiation [M]. Kunming: Yunnan Publishing Group Corporation, Yunnan Science & Technology Press, 2006: 1–566.(in Chinese)
- [7] Wu Z Y, Peng H, Li D Z, et al. The Angiospermous Flora of China [M]// Wu Z Y, Chen S C. Flora Reipublicae Popularis Sinicae, Tomus 1. Beijing: Science Press, 1979: 121–583.(in Chinese)