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CHANGIOSTYRAX, A NEW GENUS OF STYRACACEAE FROM CHINA

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Abstract A new genus *Changiostryax* is described from China, and amendments are made to the original description of the new combination *Changiostryax dolichocarpus*. The genus is allied to *Sinojackia* Hu, but differs in trunk without spines, buds with scales, flowers 4-merous, ebracteate, calyx tube truncate, stamens 8, equal, connective not prolonged, ovary half-inferior, stigma entire, fruits obovate, 8-ribbed, terminated by a long rostrum, tapering to base into a long stipe, densely villose. It is also similar to *Halesia* Ellis in flowers 4-merous, but differs prominently in fruits not winged. A key is given to the genera of Styracaceae.

Key words Styracaceae; new genus; *Changiostryax*

While preparing a taxonomic review of the genus *Sinojackia* Hu, the author has noticed for the first time that the species *S. dolichocarpa* C. J. Qi from Central China has no spines which are present on the trunks of other species. Further observations on both wild and cultivated species of the genus indicate that *S. dolichocarpa* C. J. Qi differs from other representatives of the genera of Styracaceae in a number of characters, especially those of flowers and fruits. It seems adequate to ascribe this species to an additional genus, *Changiostryax*.

This new genus is allied to *Sinojackia* Hu but differs in trunks without spines, buds with scales, racemes umbellate, flowers 4-merous, ebracteate, calyx truncate, corolla 4-lobed, stamens 8, equal in length, connective not prolonged beyond the loculi, ovary half-inferior, stigma entire, fruits very long, densely villose, obovate, 8-ribbed, terminated by a long rostrum and tapering to base into a long stipe. It is also similar to the genus *Halesia* Ellis in buds with scales, flowers 4-merous, ebracteate, and connective not prolonged, but in that genus the calyx tube 4(-5)-toothed or subentire, stamens of 2 unequal lengths, stigma 4-lobed, ovary inferior, 2-4-locular, each locule with 4 ovules, fruits prominently 2- or 4-winged, terminated by a persistent style base.

The genus is named in honor of professor H. T. Chang, Curator of Herbarium of Zhongshan (Sunyatsen) University, whose rich knowledge of Chinese botany have contributed a great deal to plant systematics.

Up to date, 12 genera have been recognized in the family Styracaceae. Of which 11 are represented and 3 are endemic in China. The following is a key to the genera of Styracaceae.

Key to the genera of Styracaceae

1. Stamen 5; leaves entire, rusty-tomentose with stellate hairs 1. *Pamphillia* Mart.

1. Stamen more than 5; leaves dentate 2
2. Inflorescence compound-dichotomous 2. *Bruinsmia* Boerl. et Koord.
2. Inflorescence not dichotomous 3
3. Ovary almost completely superior 4
3. Ovary 2/3 to completely inferior 5
4. Seeds winged at both ends; filaments connate to top into a tube; fruit a capsule
..... 3. *Alniphyllum* Matsum
4. Seeds wingless; filaments free or connate only at base; fruit various
..... 4. *Styrax* Linn.
5. Connective prolonged beyond the loculi 6
5. Connective not prolonged beyond the loculi 7
6. Connective 2-3-toothed; fruit a loculicidal capsule, not rostrated; trunk without
spines 5. *Huodendron* Rehd.
6. Connective entire; fruit indehiscent, rostrated; trunk with spines
..... 6. *Sinojackia* Hu
7. Flowers 4-merous 8
7. Flowers more than 4-merous 9
8. Calyx tube 4- or rarely 5-toothed; fruits glabrous, 4- or 2-winged, terminated by per-
sistent style base 7. *Halesia* Ellis
8. Calyx tube truncate; fruits densely villose and stellatopilose, 8-ribbed, with long ro-
strum and stipe 8. *Changiostyrax* Chen
9. Flowers solitary or fasciculate; ovary imperfectly 5-locular
..... 9. *Melioidendron* Hand.-Mazz.
9. Flowers in racemes, cymes or panicles; ovary 3-locular, rarely 4-5-locular 10
10. Flowers densely arranged; fruits not winged and ribbed, terminally umbonulated
..... 10. *Parastyrax* Smith
10. Flowers loosely arranged; fruits ribbed or winged 11
11. Stigma obscurely 3-lobed; fruits small, 0.8-2.5 cm long, obscurely 5 ~ 10 ribbed or
5-winged, terminated by a rostrum 11. *Pterostyrax* Sieb. et Zucc.
11. Stigma entire; fruits large, 3.5 ~ 12 cm long, 5-10-ribbed or smooth, not winged and
rostrated
..... 12. *Rehderodendron* Hu *hangiostryax* C. T. Chen, gen. nov.

Genus novum *Sinojackiae* Hu affine, sed trunco sine caulispina, gemma squamata, racemo umbelliformi, flore ebracteato, 4-mero, apice calycis truncato, lobis corollae 4, staminibus 8, aequilongis, connectivis non prolongatis, ovario semi-infero, stigmate indiviso, fructu longissimo, apice rostro acuminato, in medio obovato, 8-anguloso, versus basin gradatim angustato in stipitem distincta, Genus *Halesia* Ellis similis, sed fructibus sine alis differt.

Flores albi, in racemos umbelliformes dispositi; pedicellis villosis; calycis tubus turbinatus, dense villosus, medio ovarii dentibus non notabilibus; corolla adnatus, apice

truncatus, campanulata, 4-partita, lobis imbricatis villosis; stamina 8, aequilonga, 1-seriata prope basin corollae inserta, filamentis linearibus, in brevi-tubum parte inferiore connatis superiore liberis; antherae oblongae, longitudinaliter dehiscentes, connectivis non prolongatis; ovarium semi-inferum, 4-loculare, extus lanatum; stylo lineari, stigmate terminale haud lobato; ovula 8, in quoque loculo 2-seriata. Fructus longissimus, ligneus, indehiscens, estus dense villosus ex stellato-pilosus, apice longissime rostratus, in medio obovatus, 8-angulosus, versus basin angustatus et longissime stipitatus, exovarpio tenue, mesocarpio suberoso, endocarpio ligneo indurato. Semen 1 oblongo-lineare, testa crustacea, albumine carnosio. Arbor decidua; gemmae ovoideae squamatae. Folia alterna, chartacea, laxe minute serrata, exstipulata.

Species unica: *c. dolichocarpus* (C. J. Qi) C. T. Chen. Hunaniae boreo-occidentalis incola.

Changiostyrax dolichocarpus (C. J. Qi) C. T. Chen, comb. nov.

Sinojackia dolichocarpa C. J. Qi in Acta Phytotax. Sin. 19 (4): 526 ~ 528, 1981, tab. 1. 527; S. M. Hwang in Fl. Reip. Popu. Sin. 60 (2): 145 ~ 147, 1987; C. J. Qi in L. K. Fu, China Red Data Book, 1: 638 ~ 639, 1992.

Descriptio emendata: Fructus 7 ~ 8 cm longus, apice longissime rostratus, 2 ~ 4 cm longus, in medio obovatus, 0.8 ~ 1.1 cm diametro, 8-angulosus, versus basin gradatim angustatus in stipitem, stipite 2 ~ 3.5 cm longo, exocarpio tenue, extus griseo-brunneo-villoso, mesocarpio suberoso, endocarpio ligneo indurato octo-vel sedecim-gono in sectione transversali, stipite fructifero 1.5 ~ 2.5 cm longo.

Deciduous trees 8 ~ 12 m tall, trunk grayish brown, 12 ~ 25 cm in chest-height diameter. Current year's shoots reddish brown, glabrous, longitudinal striate, second year's branches pale brown, bark vertically fissured and peeling off. Bud with scales. Leaves alternate, chartaceous; petiole 4 ~ 7 mm long; blade ovate-oblong or oblong, 8 ~ 13 cm long, 3.5 ~ 4.8 cm wide, apex acuminate, base rounded or broadly cuneate, margin rimotely and minutely dentate, with 8 ~ 10 pairs of lateral veins, sparsely pubescent in vein axils beneath, glabrous elsewhere. Flowers late March to April. Inflorescences alteral on second year's branches, umbellate racemes, (3 ~) 5 ~ 6 flowered, ebracteate. Pedicel 1.4 ~ 2.5 cm long, gray lanate-villose. Calyx turbinate, densely gray lanate-villose, apex truncate. Corolla yellowish white, deeply 4-parted, lobed imbricate, elliptic-oblong, 9 ~ 14 mm long, 5 ~ 7 mm wide, villose outside. Stamen 8, equal in length, 7 ~ 10 mm long; filaments ling-linear, united at base; anthers oblong, longitudinally dehiscent. Ovary half-inferior, 4-locular, lanate. Style subulate, 6 ~ 8 mm long. Stigma entire. Ovules 8 in each cell, 2-seriate, usually most undeveloped. Fruits 7 ~ 8.5 cm long, apex with long rostrum, 2 ~ 4 cm long, obovate at middle, 0.8 ~ 1.1 cm in diameter, longitudinally 8-ribbed, tapering to base into a stalk, 2 ~ 3.5 cm long; exocarp thin, densely grayish brown villose; mesocarp corky; endocarp woody, hard, octo- or sedecim-gonal in cross section. Fruiting pedicel 1.5 ~ 2.5 cm long. Seed 1, oblong-linear, ca. 1 cm long, smooth.

The basic chromosome number of the species is $2n = 24$ (to be published).

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Hunan: Shimen in valley along stream, Alt. 400 m, June 29, 1979. P. C. Cai 20049 (type of *Sinojackia dolichocarpa* C. J. Qi at CSFI! , isotype at IBSC!); ib. Alt. 450 m, April 30, 1980. P. C. Cai 80-01 (CSFI); ib. Alt. 340 m June 21, 1983. B. Z. Wu 83002 (CSFI); ib. Alt. 480 m. May 30, 1987. C. L. Long 87323 (CSFI); Sangzhi, in valley near stream, Alt, 560 m, Oct. 15, 1994. C. T. Chen et al. 940004 (IBSC); ib. Alt. Alt. 560 m, April 30, 1995. C. T. chen 9504020 (IBSC) .

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中国安息香科一新属——长果安息香属

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A **摘要** 本文描述了安息香科一新属——长果安息香属, 并对新组合长果安息香的原始描述作了修订。本属与秤锤树属近缘, 但树干无茎刺, 具鳞芽, 总状花序伞形, 花无苞片, 四基数, 花萼管顶端平截, 花冠 4 深裂, 雄蕊 8, 等长, 药隔不突出, 子房半下位, 柱头不分裂, 果实特长, 密被长柔毛, 上部果喙细长, 中部倒卵形, 具 8 条纵棱, 下部渐狭, 延长成柄状, 可以区别。本属的芽具鳞片, 花无苞片, 四基数, 与银钟花属相似, 但后者的花萼管顶端具 4 裂片, 雄蕊 8~16, 不等长, 子房下位, 柱头 4 分裂, 果实无毛, 具 4 或 2 翅和缩存花柱基部, 无果喙, 与前者明显不同。文中还给出了安息香科分属检索表。

关键词 安息香科; 新属; 长果安息香属