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Flora of Singapore precursors, 43: Notes on Viburnaceae in Singapore

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ABSTRACT. The family Viburnaceae is represented by one species in the native flora of Singapore: *Viburnum sambucinum* Reinw. ex Blume. The nomenclature and typification of family, generic, specific and varietal names relevant to the *Flora of Singapore* are reviewed. Three lectotypes are designated, two at the second step.

Keywords. Adoxaceae, lectotype, *Viburnum*

Introduction

Viburnum is a genus of about 200 species of small trees and shrubs mostly found across the temperate regions of the Northern Hemisphere but also extending into the mountainous regions of Central and South America and Southeast Asia. The genus is notable largely for the use of various species as ornamental plants, mostly in temperate regions.

One species, *Viburnum sambucinum* Reinw. ex Blume, has been recorded from Singapore, although the last known collection was made in 1921, so the species has been assessed as Nationally Extinct (Lindsay et al., 2022).

The purpose of this paper is to present a nomenclatural summary of the Viburnaceae as a precursor for the *Flora of Singapore*.

Name and circumscription of the family including *Viburnum*

The major novelty in this paper is probably the family recognised for *Viburnum sambucinum*. In the early literature for the region, *Viburnum* L. was generally included in the Caprifoliaceae (Clarke, 1882; Ridley, 1922; Kern & Van Steenis, 1951). Thorne (1983) formally proposed that a group of three genera (*Adoxa* L. [including *Sinadoxa* C.Y.Wu & al. and *Tetradoxa* C.Y.Wu here for the sake of simplicity], *Sambucus* L. and *Viburnum*) be split off from the Caprifoliaceae to form a separate family called the Adoxaceae. Later, the Caprifoliaceae were expanded by inclusion of Dipsacaceae and

Valerianaceae (Judd et al., 1994), so that the order Dipsacales consisted of just two families Adoxaceae and Caprifoliaceae, with Adoxaceae representing the basal clade. Some authors preferred to split the Adoxaceae sensu lato into three separate families Adoxaceae sensu stricto, Sambucaceae and Viburnaceae. However, it was discovered that Tinaceae, a family name based on the generic name *Tinus* L., had priority over Viburnaceae (Reveal, 2008). A proposal to conserve Viburnaceae was accepted and this meant that the correct name for the family including *Viburnum* as the sole genus became Viburnaceae. Two accompanying proposals that would have maintained Adoxaceae as the correct name when the family also includes *Adoxa* and *Sambucus* were not approved, so Viburnaceae is also the correct name for the combined family, as used here.

Nomenclatural synopsis

Viburnaceae Raf., Ann. Gén. Sci. Phys. 6: 87 (1820), nom. cons. – TYPE: *Viburnum* L.

Sambucaceae Batsch ex Borkh., Bot. Wörterb. 2: 322 (1797). – TYPE: *Sambucus* L.

Tinaceae Martinov, Tekhno-Bot. Slovar. 635 (1820). – TYPE: *Tinus* Mill.

Adoxaceae E.Mey., Preuss. Pfl.-Gatt. 198 (1839), nom. cons. – TYPE: *Adoxa* L., nom. cons.

Viburnum L., Sp. Pl. 267 (1753). – TYPE: *Viburnum lantana* L. (lectotype designated by Hitchcock in Sprague et al. (eds), Nom. Prop. Brit. Bot. 142 (1929)).

Opulus Mill., Gard. Dict. Abr., ed. 4 [s.p.] (1754). – *Viburnum* sect. *Opulus* (Mill.) DC., Prodr. 4: 328 (1830). – *Viburnum* subg. *Opulus* (Mill.) Dippel, Handb. Laubholzk. 1: 172 (1889). – TYPE: *Viburnum opulus* L. (lectotype designated by Fritsch, Nat Pflanzenfam. 4(abt. 4, lief. 66): 164 (1891)).

Tinus Mill., Gard. Dict. Abr., ed. 4: [s.p.] (1754). – *Viburnum* sect. *Tinus* (Mill.) Benth. & Hook.f., Gen. Pl. 2(1): 3 (1873). – *Viburnum* subg. *Tinus* (Mill.) Borkh. ex Fritsch, Nat Pflanzenfam. 4(abt. 4, lief. 66): 164 (1891). – TYPE: *Viburnum tinus* L. (lectotype designated by Hara, Ginkgoana 5: 180 (1983)).

Viburnum subg. *Lentago* Raf., Fl. Ludovic. 78 (1817). – *Lentago* (Raf.) Raf., Amer. Monthly Mag. & Crit. Rev. 2: 265 (1818). – *Viburnum* sect. *Lentago* (Raf.) Raf., Ann. Gén. Sci. Phys. 5: 351 (1820). – TYPE: *Viburnum lentago* L. (lectotype designated by Hara, Ginkgoana 5: 182 (1983)).

Viburnum sect. *Solenotinus* DC., Prodr. 4: 328 (1830). – *Solenotinus* (DC.) Spach, Hist. Nat. Vég. 8: 305 (1838). – *Viburnum* subg. *Solenotinus* (DC.) Fritsch, Nat Pflanzenfam. 4(abt. 4, lief. 66): 164 (1891). – TYPE: *Viburnum erubescens* Wall. ex DC. (lectotype designated by Hara, Ginkgoana 5: 189 (1983)).

Thyrsosma Raf., Sylva Tellur. 130 (1838). – *Microtinus* Oerst., Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 1860: 293 (1861), nom. illeg. superfl. – *Viburnum* sect. *Microtinus* Benth. & Hook.f., Gen. Pl. 2: 3 (1873). – *Viburnum* subg. *Microtinus* (Benth. & Hook.f.) Fritsch, Nat Pflanzenfam. 4(abt. 4, lief. 66): 164 (1891). – *Viburnum* sect. *Thyrsosma* (Raf.) Rehder in Sargent, Trees & Shrubs 2: 106 (1908), nom. illeg. superfl. – TYPE: *Thyrsosma chinensis* Raf., nom. illeg. (= *Viburnum odoratissimum* Ker Gawl.).

Oreinotinus Oerst., Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 1860: 281 (1861). – *Viburnum* sect. *Oreinotinus* (Oerst.) Benth. & Hook.f., Gen. Pl. 2(1): 3 (1873). – *Viburnum* subg. *Oreinotinus* (Oerst.) Fritsch, Nat Pflanzenfam. 4(abt. 4, lief. 66): 164 (1891). – TYPE: *Oreinotinus glabratus* (Kunth) Oerst. (= *Viburnum glabratum* Kunth) (lectotype designated by Hara, Ginkgoana 5: 183 (1983)).

Actinotinus Oliv., Hooker's Icon. Pl. 18: t. 1740 (1888). – TYPE: *Actinotinus sinensis* Oliv. (= *Viburnum plicatum* Thunb.).

Viburnum sect. *Solenolantana* Nakai, J. Coll. Sci. Imp. Univ. Tokyo 42(2): 19 (1921). – *Solenolantana* (Nakai) Nakai, J. Jap. Bot. 24: 13 (1949). – TYPE: *Solenolantana carlesii* (Hemsl.) Nakai (= *Viburnum carlesii* Hemsl.).

1. *Viburnum sambucinum* Reinw. ex Blume, Bijdr. Fl. Ned. Ind. 13: 656 (1826). – TYPE: Java, *C.L. Blume s.n.* (lectotype L [L0844629], designated here).

Viburnum integerrimum Wall. ex DC., Prodr. 4: 324 (1830). – TYPE: Pulo Penang, 1822, *N. Wallich s.n.* (holotype G-DC [G00665379]).

Viburnum forbesii Fawc. in Forbes, Naturalist's Wanderings E. Archipel. 506 (1885). – TYPE: Timor, [Tahaolat Mount], *H.O. Forbes 3587* (lectotype BM [BM014651226], first step designated by Kern, Reinwardtia 1: 136 (1951), second designated step here; isolectotype L [L.2980666]).

Notes. There are various specimens in L that probably came from the herbaria of Blume or Reinwardt that can be considered as original material for the name *Viburnum sambucinum*. I select here a specimen with a label in Blume's hand as lectotype. I refer the authority for the name to Reinw. ex Blume. In the original publication Blume attributed the name to Herb. Reinwardt. In an earlier publication (Blume, 1823), Blume listed the name with Reinwardt as the authority, so I think it is acceptable to consider

Reinwardt as the 'pre ex' author.

Kern (1951) referred to various gatherings as types without indicating in which herbarium the specimens were stored. In several cases such statements are taken as first-step lectotypifications refined here to specific herbaria. In each case the best available specimen has been selected as lectotype.

1.1 *Viburnum sambucinum* var. ***sambucinum***

Notes. Kern (1951) recognised these three varieties of *Viburnum sambucinum*. The Singapore collections all fall within the type variety.

1.2 *Viburnum sambucinum* var. ***subglabrum*** Kern, Reinwardtia 1: 130 (1951). – *Viburnum longistamineum* Ridl., J. Fed. Malay States Mus. 6: 151 (1915). – TYPE: Peninsular Malaysia, Pahang, Gunung Tahan, July 1911, *H.N. Ridley 16064* (lectotype K [K000898044], first step designated by Kern, Reinwardtia 1: 136 (1951), second step designated here; isolectotype BM [BM14651235]).

1.3 *Viburnum sambucinum* var. ***tomentosum*** Hallier f., Meded. Rijks-Herb. 14: 36 (1912). – TYPE: Sumatra, in silvaticis planitiei altae Sepirok, *F.W. Junghuhn s.n.* (lectotype L [L0001592], designated by Kern, Reinwardtia 1: 136 (1951)).

Viburnum sumatranum Miq., Fl. Ned. Ind., Eerste Bijv. 3: 537 (1861). – TYPE: Sumatra bor., regione montana Sipirok, *F.W. Junghuhn s.n.* (lectotype U [U0000966], designated by Kern, Reinwardtia 1: 136 (1951)).

Viburnum villosum Ridl., J. Straits Branch Roy. Asiat. Soc. 61: 10 (1912), nom. illeg. non Sw. (1788), nec Raf. (1808). – TYPE: Selangor, Bukit Kutu, May 1896, *H.N. Ridley 7597* (lectotype SING [SING0059735], designated by Kern, Reinwardtia 1: 136 (1951); isolectotype K [K000898043]).

Postscript

Viburnum sambucinum is extinct in Singapore. The reasons for its local demise likely relate to habitat loss and the species' absence from the areas of forest such as Bukit Timah and the Central Catchment that have been preserved. It would appear to be a good candidate for re-introduction, perhaps as an ornamental shrub in parks, and in the restoration of forest margins, if planting stock of lowland genotypes of the species becomes available.

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References

Blume, C.L. (1823). *Catalogus van eenige der merkwaardigste zoo in- als uitheemse gewassen, te vinden in 's Lands Plantentuin te Buitenzorg*. Batavia.

Clarke, C.B. (1882). *The Flora of British India*, vol. 3. London: L. Reeve. (Caprifoliaceae, pp. 1–17)

Judd, W.S., Sanders, R.W. & Donoghue, M.J. (1994). Angiosperm family pairs: Preliminary phylogenetic analyses. *Harvard Pap. Bot.* 5: 1–51.

Kern, J.H. (1951). The genus *Viburnum* (Caprifoliaceae) in Malaysia. *Reinwardtia* 1: 107–170.

Kern, J.H. & Van Steenis, C.G.G.J. (1951). Caprifoliaceae. In: Van Steenis, C.G.G.J. (ed.) *Flora Malesiana*, ser. 1, vol. 4, pp. 175–194. Djakarta: Noordhoff-Kolff N.V.

Lindsay, S., Middleton, D.J., Ho, B.C., Chong, K.Y., Turner, I.M., Ali Ibrahim, Alonso-García, M., Ang, W.F., Ashton, P.S., Athen, P. et al. (2022). Flora of Singapore: Checklist and bibliography. *Gard. Bull. Singapore* 74(Suppl. 1): 3–860.

Reveal, J.L. (2008). (1800–1802) Proposals to conserve the name Viburnaceae (Magnoliophyta), the name Adoxaceae against Viburnaceae, a "superconservation" proposal, and, as an alternative, the name Sambucaceae. *Taxon* 57: 303.

Ridley, H.N. (1922). *The Flora of the Malay Peninsula*, vol. 2. London: L. Reeve & Co. (Caprifoliaceae, pp. 1–3)

Thorne, R.F. (1983). Proposed new realignments in the angiosperms. *Nordic J. Bot.* 3: 85–117.