Taxonomic notes relating to *Ligustrum* (*Oleaceae*)

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Summary: *Ligustrum nepalense* Wall. is differentiated from *L. confusum* Decne. and *L. sinense* Lour.; *L. indicum* (Lour.) Merr. is sunk into *L. sinense* Lour.; *L. lindleyi* comb. nov. is established as the correct name for the plant previously called *L. massalongianum*; *L. leucanthum* comb. nov. for *L. molliculum* Hance and *L. acutissimum* Koehne; *L. hookeri* is shown to be *Olea capensis* L.; subsp. *chinense* subsp. nov. is described as the Chinese representative of *L. robustum* (Roxb.) Blume; subsp. *microphyllum* stat. & comb. nov. is established for the Chinese representative of *L. obtusifolium* Sieb. & Zucc.

During the preparation of an account of *Ligustrum* for the *European Garden Flora* and the English version of the *Flora of China* a number of nomenclatural and taxonomic points that need clarification or correction have become evident.

1. *Ligustrum nepalense* Wall. was first described in 1820 without the designation of any particular type, but twelve years later Wallich published a plate (Wallich 1832: t.270) which may be taken to represent his concept of this species. It represents a different plant from much of the material that has subsequently been named as *L. nepalense*. In fact, this name has been applied to two different entities, even by Wallich himself in his *Numerical List* under No. 2830 (Wallich 1831). A similar mix-up applied to *Wallich* 2820, as was evident to Blume, to judge by his comments under the names, based on this material, that he proposed (Blume 1850: 315).

Misled like many others, Merrill, in his commentary on Loureiro's *Fl. Cochinchinensis* (Merrill 1935: 307), sank *Ligustrum nepalense* Wall. under *L. indicum* (Lour.) Merr., and in this has been followed by subsequent authors. But Wallich's species is distinct from *L. indicum* (Lour.) Merr., most noticeably in the inflorescence, with its narrow, almost cylindrical, side branches (somewhat reminiscent of *L. quihoui* of China). Due in part to the confusion, a considerable synonymy has developed.

Furthermore, examination of collections of *L. indicum* from Hue, almost certainly the area of the type locality (*Squires* 103 & 346 and *Clemens* 3705, cited by Merrill *l. c.*), has shown that this species is the same as *L. sinense* Lour. The two epithets, *indicum* and *sinense*, have the same priority but it has been decided to maintain the name *L. sinense* and to sink *L. indicum* into synonymy. This is because the former name is more widely and better known in horticulture and because the species is a noxious woody weed in several parts of the warm temperate world. The plants from India that have been called *L. indicum* are, in fact, either *L. nepalense* or *L. confusum* Decne.

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The three species are closely related and may be distinguished as follows:

1. Pedicels 0–1 mm long; corolla tube ± equal to the lobes, tube and lobes 1·5–2·5 mm long
   2. Inflorescence rachis very densely pilose, branches of the inflorescence borne at right angles, or nearly so, to the main rachis, tertiary branches somewhat cylindrical with flowers sessile or almost so **L. nepalense**
   2. Inflorescence rachis ± tomentose, branches of the inflorescence borne at an acute angle to the main rachis, tertiary branches branching again, ± paniculate, pedicels 0·5–1 mm long **L. confusum**
1. Pedicels 1·5–3 mm long; corolla tube shorter than lobes, tube 0·75–1·25 mm long, lobes 2–2·5 mm long **L. sinense**

Ligustrum nepalense *Wall.* in Roxb., Fl. Ind. 1: 151 (1820), Numer. List 2830 (1831) & Pl. Asiat. Rar. 3: 44 t.270 (1832). Neotype, here selected: Nepal, Gondavari, Kathmandu Valley, 15 July 1965, *Schilling & Sayers* 562 (K). Fig. 1A.

L. bracteolatum D.Don, Prodr. Fl. Nepal. 107 (1825). Type: Nepal, Sambu, 17 & 18 June 1802, *Buchanan-Hamilton* (syntypes, BM).

L. spicatum Buch.-Ham. ex D.Don, *l. c.* (1825), *nom. illegit. superfl.*

Phillyrea grandiflora Wall., Numer. List 2820 (1831), *nom. nud.*

Ligustrum vestitum Wall., Numer. List 6304 (1832), *nom. nud.*

Olea grandiflora Wall. ex G.Don, Gen. Hist. 4: 48 (1837). Type: Nepal, *Wallich* 2820 pro parte (lectotype: *Wallich* 2820 "a", K-W, right-hand specimen, here selected; isolectotype K).

Visiania grandiflora (Wall. ex G.Don) DC., Prodr. 8: 289 (1844). Type as for *Olea grandiflora*.

Ligustrum wallichii Blume, Mus. Bot. 1: 315 (1850). Type: Nepal, *Wallich* 2820 pro parte, *nom. superfl.*

L. parviflorum Vis., Recens. Alt. Pl. Min. Cogn. Hort. Patav.: 7 (1859) & in Atti Reale Ist. Veneto Sci. Lett. Arti III 4: 137 (1859). Type: cultivated, ?PAD, n.v.

L. nepalense var. *vestitum* C. B. Clarke in Hook.f., Fl. Brit. Ind. 3: 617 (1882). Type: Nepal, *Wallich* 6304 (syntypes K, K–W).

[*L. indicum* sensu Hara in Enum. Fl. Pl. Nepal 3: 81 (1982), non (Lour.) Merr.]

DISTRIBUTION. India (Uttar Pradesh—Kumaun), Nepal and Burma.

INDIA. Kumaun, June 1845, *Thomson* 1179; Gurwhal & Kumaon, *Stewart* 627.

NEPAL. 1821, *Wallich* 2820 p.p., *Wallich* 2830 p.p., and *Wallich* 6304 (K–W); Godavari, Kathmandu Valley, 15 July 1965, *Schilling & Sayers* 562 (neotype K) & 10 Dec. 1965, *Schilling* 707; Sambu, 17 & 18 June 1802, *Buchanan-Hamilton* (BM, holotype of *L. bracteolatum*) & 22 April 1802, *Buchanan-Hamilton* (BM).

BURMA. Shan Hills, Noung-Taya, May 1888, *Collett* 799.

Ligustrum nepalense var. *vestitum* represents the very hirsute expression of this species, but variation in the degree of pubescence, on its own, is not taxonomically significant in *Ligustrum*.

Although there are specimens of *L. nepalense* collected by Wallich in his

FIG. 1. *Ligustrum nepalense*: **A** inflorescence in bud × ⅔, from *Schilling & Sayers* 562; *L. confusum*: **B** inflorescence × ⅔ from *Schilling* 809. Drawn by Pat Halliday.

herbarium, he did not visit Nepal and collect the species there until 1821 (the date of *Wallich* 2830), the year after the publication of the name. Nor did he cite type material in his protologue; perhaps it was collected by Buchanan-Hamilton, or Gardner, but one cannot be positive. Until, and unless, further evidence resolves this matter, it seems best to select a neotype, exhibiting good material from the original area. (I am grateful to Dr David Long and Dr Mark Watson, Royal Botanic Garden, Edinburgh, for help and advice with this problem.)

Ligustrum confusum *Decne.* in Nouv. Arch. Mus. Paris II 2: 24 (1879). Lectotype, here selected: India, "Bengal orient.", *Griffith* 3680 (P, isolectotype K). Fig. 2.

Olea roxburghii Wall. var. E, Wall., Numer. List 2816 (1831), pro parte.
O. grandiflora Wall. ex G.Don, Gen. Hist. 4: 48 (1837), pro parte, non typ. spec.
Visiania grandiflora (Wall. ex G.Don) DC., Prodr. 8: 289 (1844), pro parte, quoad spec. Nepal.
Ligustrum candolleanum Blume, Mus. Bot. 1: 315 (1850), pro parte, quoad spec. Nepal (holotype L?, n.v.).
L. kumaonense Decne. in *op. cit.*: 28 (1879). Type: Kumaon, Kapkot, *Strachey & Winterbottom* 2 (holotype P?, n.v.; isotype K).

DISTRIBUTION. India (north and east), Nepal, Sikkim, Bhutan, Burma, China (Yunnan) and Thailand. To judge from notes with several of the specimens, this species often grows on stream and river banks.
Selection of Material Examined:

INDIA. Uttar Pradesh: Kumaon, Baisai, *Strachey & Winterbottom* 1. West Bengal, Darjeeling district, "Sikkim", head of Rithoo, July 1881, *Gamble* 9487. Meghalaya: Shillong, 27 May 1911, *Burkill & Banajee* 56. Nagaland: Naga Hills, Kigwema, 22 April 1935, *Bor* 2727. Manipur: Nungba, Nov. 1907, *Meebold* 6184. Mizoram: Lushai Hills, Champhai, July 1927, *Parry* 188. Andaman Islands: S. Andaman, from Kodraghat to Chiriatapu, 12 Nov. 1977, *Balakrishnan et al.* 6467.

NEPAL: Phulchoke, S of Kathmandu, 2 June 1966, *Schilling* 809; Bhandukay – Yamphodin – Ghatte, 16 Nov. 1963, *Hara et al.* 6302568.

SIKKIM: Lachen – Lachoong, 1849, *Hooker* s.n.; Kulhait, 22 Oct. 1875, *C. B. Clarke* 25527.

BHUTAN: near Gyetsa, between Yuto La & Bumtang, 27°31′N, 90°39′E, 8 June 1987, *Grierson & Long* 1740; Punakha district, 2 km below Chuzomsa, Tang Chu, 27°30′N, 89°58′E, 20 Apr. 1982, *Grierson & Long* 4504.

BURMA: Wetwun, near Maymyo Plateau, 10 July 1913, *Lace* 6245.

CHINA. Yunnan: Simao ("Szemao"), *Henry* 12916; Mengzi ("Mengtze"), *Henry* 9353 & 9879; west of Tengyueh, 25°N, 98°36′E, April 1924, *Forrest* 24032; Lichiang Co., Yulong Shan, 30 May 1987, *Chamberlain et al.* SBLE276.

THAILAND: Chiang Mai, Bo Luang-Om Koi, 19 Jan. 1964, *Hansen et al.* 10794. Chiang Rai, Huey Dong, 15 Aug. 1926, *Winit* 1791. Nakhon Ratchasima, Khao Yai National Park, 21 Aug. 1968, *Smitinand* 10449. Ratchaburi, Bang Son, 14 March 1928, *Put* 1583. Surat, Kanchanadit, 2 Aug. 1927, *Kerr* 13119. Satul, Tapen Lak, 9 March 1928, *Kerr* 14408. Phuket, Ao Luk, 23 July 1972, *Larsen*

et al. 31251. Nakhon Si Thammarat, Nawng Wai, 7 March 1927, *Kerr* 12272.

The material from the eastern areas generally exhibits leaves which are smaller than those borne by specimens from further west.

The flowering specimen of *Griffith* 3680 at P has been selected as lectotype (there is a fruiting specimen under this number), the other syntype, *Hooker & Thomson* 9 is also in fruit, while *Hooker & Thomson* 5 is *L. perrottetii* A.DC.

Ligustrum sinense *Lour.*, Fl. Cochinch.: 19 (1790). Type: China, Guangdong, *Louriero* (holotype P).

Phillyrea indica Lour., *l. c.* (1790). Type: "Cochinchina", not traced.
Olea microcarpa Vahl, Enum. Pl. 1: 43 (1804), *nom. illegit.*
Ligustrum indicum (Lour.) Merr. in Trans. Amer. Phil. Soc. II 24 (2): 307 (1935).

DISTRIBUTION: southern China and Vietnam.
Selection of Material Examined:

CHINA. Sichuan: Mt. Omei, July 1904, *Wilson* 5017; Nanchuan Hsien, 29 Oct. 1928, *W. P. Fang* 5661. Hubei: Ichang, Oct. 1887, *Henry* 3619; Changlo Hsien, May & Dec. 1907, *Wilson* 754. Hunan: Ziyunshan, 15 Sept. 1984, *Z. Y. Li et al.* 1140. Jiangxi: Swe-chuan-Hsien, 5 June 1921, *Hu* 1069. Yunnan: Shangchang, above Yangbi, 9 May 1981, *Sino-British Exped.* 395. Guangxi: Kweilin, 1979, *P. P. Wan & K. S. Chow* 79177. Guangdong: Loh-fau Shan, March-April 1932, *T. M. Tsui* 87; Tai Mo Shan, 17 July 1932, *W. T. Tsang* 21216; Hainan, Janfengling, 1978, *K. S. Chow* 78473. Hong Kong: Lantau Island, 1 Dec. 1968, *S. Y. Hu* 6324; Shatin, 28 May 1968, *S. Y. Hu* 5084.

LAOS: Bassin d'Attopeu, 1875–77, *Harmand* s.n.; Muang Chu, 10 April 1932, *Kerr* 20994.

VIETNAM: Hué and vicinity, *Squires* 103 & 346; *ibid.*, *Clemens* 3705; Quang-Tri, 5 March 1920, *Poilane* 1032; Tonkin, Nov. 1918, *Eberhardt* 4387.

The material from the eastern areas generally exhibits leaves which are smaller than those borne by specimens from further west.

2. The name *Olea lindleyi* was given valid publication in 1837. However, the plant to which it was applied is a *Ligustrum*, and its epithet, unfortunately, has priority over the better known *massalongianum*.

Ligustrum lindleyi (*Wall. ex G. Don*) *P. S. Green* **comb. nov.**

Olea lindleyi Wall. ex G. Don, Gen. Hist. 4: 48 (1837), "Lindlei". Type: Bangladesh, Mt Sylhet, *W. Gomez* in *Wallich* 6305 (holotype K–W).
O. robusta Wall. var. *angustifolia* Wall., Numer. List 2822γ, nom. nud.
O. myrtifolia Wall. ex Voigt, Hort. Suburb. Calc.: 547 (1845), nom. nud.
Ligustrum massalongianum Vis., Ill. Piant. Nuov. 3: 27 t.4 (1856). Type: cultivated, Hort. Bot. Padova, PAD? n.v.; De Wildeman in Icon. Select. 1: 107–109, t.25 (1900).
L. massalongianum var. *lindleyi* (Wall. ex G. Don). C. B. Clarke in Hook.f., Fl. Brit. Ind. 3: 616 (1882).

DISTRIBUTION. India, Bangladesh, and Burma.

INDIA. Meghalaya, Khasia Hills, 1850, *Hooker & Thomson*, 1879, *Brandis* s.n. and *Griffith* 3684.

BANGLADESH. Sylhet, "Mont. Sillet", *Wallich* 2822γ.

BURMA. Myitkyina, in bed of Nmai hka, near Shingaw, 22 March 1938, *Kermode* 16611.

CULTIVATED. England: Hort. Bot. Kew., 16 Sept. 1880, *Nicholson* 2142; Coombe Wood Nursery, 1888. Spain: Barcelona, July 1919, *Sennen* 3736 and June 1921, *Sennen* s.n. U.S.A.: Los Angeles State & County Arboretum, 3 April 1967, *Griffiths* 5148.

It is not known for certain who introduced this species to cultivation in the West, but there is a specimen in BM from somewhere in India collected by Thomas Lobb, who was a collector for the nursery firm of James Veitch & Sons from 1843 to 1860. The date 1877 is sometimes cited as its date of introduction, but it was being grown at Padua before this.

3. Although *Phlyarodoxa leucantha* S. Moore, proposed as a monotypic genus, has generally been treated as a synonym of *Ligustrum obtusifolium* Sieb. & Zucc., examination of the type reveals that it is really the plant known as *L. molliculum* Hance (*L. acutissimum* Koehne). Moore's epithet has priority, and a new combination is therefore required.

Ligustrum leucanthum (*S. Moore*) *P. S. Green* **comb. nov.**

Phlyarodoxa leucantha S. Moore in J. Bot. 13: 229 (1875). Type: China, Jiangxi, Jiujiang (Kiukiang), 1873, *Shearer* s.n. (holotype K).

Ligustrum molliculum Hance in J. Bot. 20: 291 (1882). Type: Anhui, Wuhu, May 1881, *Bullock* in *Herb. Hance* 22003 (holotype BM).

L. acutissimum Koehne in Urb. & Graebn., Festschr. Aschers.: 201 (1904). Type: China, Hubei, *Henry* 5881 (holotype ? L or P, n.v.; isotype K).

DISTRIBUTION. China.

CHINA. Sichuan: 1889 *Henry* 5717. Hubei: 1886, *Henry* 612, 3165, 5881, 6583 & 7158; June 1900, *Wilson* 938; June and Nov. 1907, *Wilson* 315 & 315A and May 1907, *Wilson* 3503. Anhui: Chiu Hwa Shan, 2 May 1925, *R.-C. Ching* 2690, and 28 June 1925, *R.-C. Ching* 2797, and 4 Aug. 1934, *Fan & Li* 91; Li Shan, 5 Aug. 1925, *R.-C. Ching* 3113. Jiangxi: Jiujiang, 1873, *Shearer* s.n. and 22 May 1892, *Bullock* 205; Kuling, 19 Sept. 1922, *Steward* 2720. Zhejiang, Mohanshan, 21 July 1915, *Meyer* 1595.

4. The name *Ligustrum hookeri* Decne. was based on Bot. Mag. t.2921, which Hooker had named as *L. nepalense* var. *glabrum*. However, the plate depicts *Olea capensis*, and the provenance claimed for the material figured must have been erroneous. It is not *Ligustrum lucidum* as suggested by Chang & Miao (1986: 54), despite its superficial resemblance.

Olea capensis *L.*, Sp. Pl. 1: 8 (1753).

Ligustrum nepalense var. *glabrum* Hook. in Bot. Mag. 56: t.2921 (1829). Type: Hort. Bot. Glasgow (holotype K).
Faulia verrucosa Raf., Fl. Tellur. 2: 84 (1837). Based on *L. nepalense* var. *glabrum*.
Ligustrum hookeri Decne. in Fl. des Serres 22: 10 (1877). Based on *L. nepalense* var. *glabrum* Hook.

5. Two further novelties are required.

Ligustrum robustum (*Roxb.*) *Blume* subsp. **chinense** *P. S. Green* **subsp. nov.** a subsp. robusto inflorescentiis minoribus, 7–12 cm longis, 5–10 cm latis differt. Typus: China, Sichuan, *Wilson* 3500 (holotypus K).

L. thibeticum Decne. in Nouv. Arch. Mus. Nat. Hist. II 2: 21 (1879). Type: E. Tibet, *David* s.n. (holotype P, n.v.).
L. purpurascens Y. C. Yang in Contrib. Biol. Lab. Sci. Soc. China, Bot. 12: 112 t.7 (1939). Type: China, Sichuan, *W. P. Fang* 1986 (isotype K).

DISTRIBUTION. Widespread in southern and south-western China.

This subspecies is the Chinese representative of the otherwise Indian and Burmese *L. robustum*. It is readily distinguished by its smaller inflorescence, 7–12 × 5–10 cm, as compared with 12–28 × 10–18 cm in subsp. *robustum*. The flowers are also smaller: the corolla tube and lobes 1·75–2 mm long (1·5–1·75 mm in subsp. *robustum*), the anthers are larger, 1·75 mm long (in contrast to 1–1·5 mm, and the pedicels generally somewhat longer, (0·5–)1–2(–3) mm long (0·5–1(–2) in subsp. *robustum*).

According to B. M. Miao (in Chang & Miao 1986: 64–68 and in Chang & Qiu 1992: 155) this subspecies occurs in the provinces of Sichuan, Guizhou, Guangxi, Hunan, Yunnan, Jiangxi, Anhui and Fujian, and in Vietnam, although I have seen material only from Sichuan, Yunnan and Guizhou.

6. Ligustrum obtusifolium *Sieb. & Zucc.* subsp. **microphyllum** (*Nakai*) *P. S. Green* **stat. & comb. nov.**

L. ibota Siebold f. *microphyllum* Nakai in Bot. Mag. (Tokyo) 32: 124 (1918). Types: Cheju Do (Quelpart Is.), *Nakai 889, 1039, 4807 & 4814*, and *Ishinoya 254* (syntypes TI, n.v.).
L. ibota Siebold var. *microphyllum* Nakai, Fl. Quelpart Is. 73 (1914), nom. nud.
L. ciliatum Siebold ex Blume var. *microphyllum* (Nakai) Nakai, Trees & Shrubs Japan 1: 278 (1922); Nakai & Koidzumi, *op. cit.* ed.2, 1: 369 (1927).

DISTRIBUTION. Cheju Do (Quelpart Island), Korea and eastern China (Jiangsu and Zhejiang).

Miao (in Chang & Qiu 1992: 167) inadvertently classified this taxon as part of *L. ibota* Siebold & Zucc. However, this reflects the confusion between *L. ibota* Siebold & Zucc. (1846) and *L. ibota* Siebold (1830, nomen). Nakai attributed it to *L. ibota* Siebold (non Siebold & Zucc.) which is a synonym of *L. obtusifolium* Siebold & Zucc.

This subspecies is the small-leaved expression of the species (leaves 0·8–2 × 0·4–1·3 cm). In the Japanese subsp. *obtusifolium* they measure 2–5 × 1–2 cm.

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