

# A taxonomic synopsis of Altingiaceae with nine new combinations

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## Abstract

A taxonomic synopsis of the Altingiaceae is presented, including the taxonomic enumeration and distribution of 15 recognized species based on studies of 1,500 specimens from 24 herbaria throughout the distributional range of the taxa. Previous phylogenetic analyses based on several molecular markers have shown that *Altingia* and *Semiliquidambar* are nested within *Liquidambar*. All *Altingia* and *Semiliquidambar* species are now formally transferred to *Liquidambar*, which has the nomenclatural priority. The following nine new combinations are herein made: *Liquidambar cambodiana* (Lecomte) Ickert-Bond & J. Wen, *L. caudata* (H. T. Chang) Ickert-Bond & J. Wen, *L. chingii* (Metcalf) Ickert-Bond & J. Wen, *L. gracilipes* (Hemsl.) Ickert-Bond & J. Wen, *L. multinervis* (Cheng) Ickert-Bond & J. Wen, *L. obovata* (Merrill & Chun) Ickert-Bond & J. Wen, *L. poilanei* (Tardieu) Ickert-Bond & J. Wen, *L. siamensis* (Craib) Ickert-Bond & J. Wen, and *L. yunnanensis* (Rehder & Wilson) Ickert-Bond & J. Wen.

## Keywords

*Altingia*, Altingiaceae, *Liquidambar*, *Semiliquidambar*, taxonomic synopsis

## Introduction

The Altingiaceae (the sweet-gum family) are a small family of trees that have been traditionally classified into members with a predominantly temperate distribution (*Liquidambar* L.) and those with a largely tropical to subtropical distribution (*Altingia* Noronha, *Semiliquidambar* H. T. Chang). The family is valued worldwide

for its timber and fragrant resin (styrax) and is locally highly prized for the roots and bark used in traditional Chinese medicine (Vink 1957; Zhang et al. 2003; Ickert-Bond et al. 2007). Most noteworthy to biologists, Altingiaceae show a fascinating intercontinental disjunction in temperate regions of North America, W Asia and some higher elevational montane areas in subtropical Asia and Mexico (Ickert-Bond and Wen 2006). Furthermore, deep molecular divergence coupled with a high level of morphological similarity suggests a conserved morphology of some species, i.e., morphological stasis, an evolutionary phenomenon that has been proposed for many animal groups as well as some plants (Ickert-Bond and Wen 2006). Other members of the Altingiaceae exhibit morphological divergence in response to habitat diversity in the subtropics of eastern Asia. One member of the sweet-gum family, *Semiliquidambar*, has puzzled scientists since its discovery in the 1960s, due to its rarity and morphological intermediacy between the other two genera (Ferguson 1989).

Generally, the Altingiaceae were considered closely related to the Hamamelidaceae (see below). The family is recognized by the solitary capitate woody infructescences with many bicarpellate fruits, and male inflorescences in heads aggregating into racemes. Other systematic characters that differentiate the two families are less well known and understood. It is now generally agreed that the Altingiaceae are a distinct family (Magallón et al. 1999); for detailed comparisons see our other contributions (APG II 2003; Pigg et al. 2004; Ickert-Bond et al. 2005, 2007; Ickert-Bond and Wen 2006; APG III 2009).

The family name Altingiaceae is based on *Altingia*, first named by Noronha (1790) in honor of the former General Governor Alting of the East Indian colonies of the Netherlands (Hayne 1830). The family was formally designated in 1843 by Horaninow (Hoogland and Reveal 2005). The scientific name for *Liquidambar* L. is a combination of the Latin and Arabic words *Liquidus* and *Amber* meaning fragrant liquid or balsam (Yaltrik and Efe 2000). Most authors have recognized *Altingia* and *Liquidambar* to be members of the Hamamelidaceae s.l., most often at the subfamily level, while Endlicher in his *Genera Plantarum* (1840) segregated the Altingiaceae [s. *Balsamiflueae*] from the Hamamelidaceae s. str and placed Altingiaceae in *Juli-florae*, between Platanaceae and Salicaceae, while the Hamamelidaceae were placed in *Discanthae*, between Loranthaceae and Bruniaceae. Subfamily Altingioideae was recognized by J. Williams in his revision of Balfour's Manual of Botany in 1855. Bentham and Hooker (1883) treated *Liquidambar* and *Altingia* as distinct genera alongside other typical genera of Hamamelidaceae, without mention of subfamilies, but they recognized two categories (Abteilungen): (1) with the ovary containing 2- many ovaries, and (2) with the ovary containing a single ovary. Reinsch (1890) retained the traditional one family concept, but departed from the general consensus by splitting the Hamamelidaceae based on morphological and anatomical characters, that he considered to be more fundamental than the fruit, into three subfamilies: (1) Altingioideae including *Altingia* and *Liquidambar* and (2) Bucklandioideae including *Exbucklandia* R.W. Brown and *Rhodoleia* Champ. ex Hook., and (3) Hamamelidoideae including *Corylopsis* Siebold & Zucc., *Dicoryphe* Thouars, *Distylium* Siebold & Zucc., *Eustigma* Gardner & Champ., *Fothergilla* L., *Hamamelis*

L., *Loropetalum* R. Br., *Parrotia* C.A. Mey., *Sycopsis* Oliv. and *Trichocladus* Pers., (*Semiliquidambar* was not known at the time).

Baillon (1871) explicitly excluded *Liquidambar* and *Altingia* from the Hamamelidaceae, contrary to Bentham and Hooker, who included these two genera in the family. Baillon placed them in an intermediate position between Hamamelidaceae and Platanaceae. Traditionally, the Hamamelidaceae s.l. (including Altingiaceae) have been considered as a member of the Hamamelididae Takht. (Cronquist 1981; Takhtajan 1997). Recent molecular studies have shown this assemblage to be polyphyletic and support Altingiaceae and Hamamelidaceae s. str. as members of the saxifragoid clade within a larger rosid clade (Chase et al. 1993; Magallón et al. 1999; Soltis et al. 2000; APG II 2003; Fishbein and Soltis 2004; Soltis et al. 2007; APG III 2009; Soltis et al. 2011). Furthermore, relationships among some Saxifragales, and the remaining families (Altingiaceae, Cercidiphyllaceae, Daphniphyllaceae, Hamamelidaceae, and Paeoniaceae) also remain unclear (Feng et al. 1998; Qiu et al. 1998; Hoot et al. 1999; Savolainen et al. 2000; Fishbein et al. 2001; Soltis et al. 2000). In maximum likelihood analyses of a five-gene data set, Fishbein et al. (2001) recovered an optimal topology with Daphniphyllaceae and Hamamelidaceae sister to the remaining members of the clade; however, the precise branching order of these two early-diverging members of Saxifragales was unclear. Following Daphniphyllaceae and Hamamelidaceae, Altingiaceae, Cercidiphyllaceae, and Paeoniaceae appeared as successive sisters to a core clade of Saxifragaceae, Haloragaceae and Crassulaceae. Fishbein et al. (2001) also showed that the poor resolution obtained in Saxifragales is not due to violations of assumptions or to combining data partitions having conflicting histories or processes. Rather, their analyses suggest instead that the initial diversification of Saxifragales was indeed rapid. Within Saxifragales molecular phylogenetic results have rarely supported a sister relationship between Altingiaceae and Hamamelidaceae s. str. (e.g., Hoot et al. 1999; Fishbein et al. 2001, but see Fishbein and Soltis 2004). Most recently, based on over 50,000 bp Jian et al. (2008) have found strong support for a clade composed of the Paeoniaceae + woody clade (Cerdiphyllaceae, Daphniphyllaceae, and Hamelidaceae) (Altingiaceae)) to be sister to the rest of the Saxifragales. The sister group relationship of Altingiaceae with Hamamelidaceae plus Cerdiphyllaceae and Daphniphyllaceae was also strongly supported in a supermatrix approach by Soltis et al. (2013).

*Altingia* and *Liquidambar* are each defined by several morphological characters and have been maintained as separate genera in modern taxonomic treatments (Vink 1957; Tardieu-Blot 1965; Zhang et al. 2003). Analyses based on several molecular markers suggest that *Altingia* is nested within *Liquidambar* (Shi et al. 1998; Shi et al. 2001; Ickert-Bond et al. 2005; Ickert-Bond and Wen 2006; Ickert-Bond et al. 2007, Wu et al. 2010) and that *Semiliquidambar* is of intergeneric hybrid origin between *L. formosana*–*L. acalyicina* and *A. obovata* or *A. chinensis*. Yet our morphological analysis supports *Altingia* and *Liquidambar* as mutually exclusive sister clades (Ickert-Bond et al. 2005, 2007). The apparent incongruence of these phylogenies appears to be due to morphological convergence.

Characters that distinguish *Liquidambar* from *Altingia* are related to an open wind pollination syndrome and may represent convergences to temperate habitats, particu-

larly, the presence of anthers borne on long filaments and the loss of stomium bifurcations would facilitate the wind dispersal of pollen (Hufford and Endress 1989), while long narrow styles on exserted fruits (Fig. 2D) may aid in the capture of pollen on the broad stigmatic surfaces in open habitats of temperate *Liquidambar*. Furthermore, additional synapomorphies for *Liquidambar* may also represent adaptations for a temperate distribution. These characters (elongate and tapered carpel shape, seeds with distal wings, and more tightly constructed infructescences) are related to seed rather than pollen dispersal. Several other families (e.g., Platanaceae) show a similar convergence among temperate members (Tiffney 1986; Crane 1989).

Character-state changes in *Altingia* seem to correlate with tropical and subtropical environments in eastern Asia and Indochina, whereas changes in *Liquidambar* correlate with temperate sites, where the genus is found today. Of the eight characters defining *Altingia* (Fig. 2A, B), four are reversals (characters 2–5: ratio of leaf length to width, leaf division, venation, and stipule size) (see fig. 86 of Ickert-Bond et al. 2007). The availability of diverse habitats in tropical and subtropical eastern Asia and Indochina facilitated the diversification of *Altingia* species in response to recent active uplifts of mountains in eastern Asia since the Tertiary (Morley 1999; Wen 1999, 2001; Ickert-Bond and Wen 2006).

To maintain the monophyly of the group in question (Potter and Freudenstein 2005), we place all taxa of Altingiaceae in *Liquidambar* (the earliest available name), and maintain the conserved name Altingiaceae for the family. Appropriate new combinations are provided below.

## Methods

We evaluated all currently recognized taxa within *Altingia*, *Liquidambar*, and *Semiliquidambar*. Our study is based on: (1) field observations from throughout the distributional range of the taxa, with field visits to sites in Mexico (Veracruz), Vietnam, Cambodia, Indonesia and Guangdong, Hainan, Hong Kong, Hubei, Jiangxi, and Zhejiang provinces in China, and (2) the analysis of specimens in 24 herbaria (including available types): A, BK, BM, C, E, F, FI, FN, FUS, GH, HGAS, HN, IBSC, ISTO, K, LINN, LU, N, NFU, NY, P, PE, SYS, US. We previously provided detailed examination of the fruit anatomy and morphology (Pigg et al. 2004; Ickert-Bond et al. 2005; Ickert-Bond et al. 2006, 2007) and here provide an overview of some of the features that have been used to characterize the genera both for ovulate and staminate infructescences. Measurements were made with an electronic caliper (Mitutoyo mod. CD-6"CS).

Pollen of selected species from all three genera were studied to assess the taxonomic utility in this group. Pollen samples were obtained from herbarium material deposited at F unless otherwise noted (*L. chinensis* [S. Ickert-Bond 1319]; *L. excelsa* [Widjaja s.n.], *L. gracilipes* [S. Ickert-Bond 1344], *L. obovata* [Wang 36153], *L. poilanei* [S. Ickert-Bond 1296], *L. siamensis* [S. Ickert-Bond 1281], *L. acalyicina* [Chui 3191 (MO)], *L. formosana* [C. Tan 93025 (2 sheets, MO)], *L. styraciflua* [Vazquez T. 153], *L. chingii*

[*S. Ickert-Bond* 1330, *S. Ickert-Bond* 1320], and acetolyzed (Erdtman 1960), OTOTO coated (Kelley et al. 1973; Chissoe et al. 1994, 1995), freeze fractured (Skvarla et al. 1988), dried with HMDS (Nation 1983; Chissoe et al. 1994), mounted on stubs with double-sided tape, coated with approximately 200 Å of gold in a Denton Vacuum Desk II vacuum evaporator or sputter coated with a gold/palladium target (60/40) in a Hummer VI Sputter Coating System (Chissoe and Skvarla 1996), and viewed with a JEOL JSM-880 scanning electron microscope (SEM) at 10–15 kV.

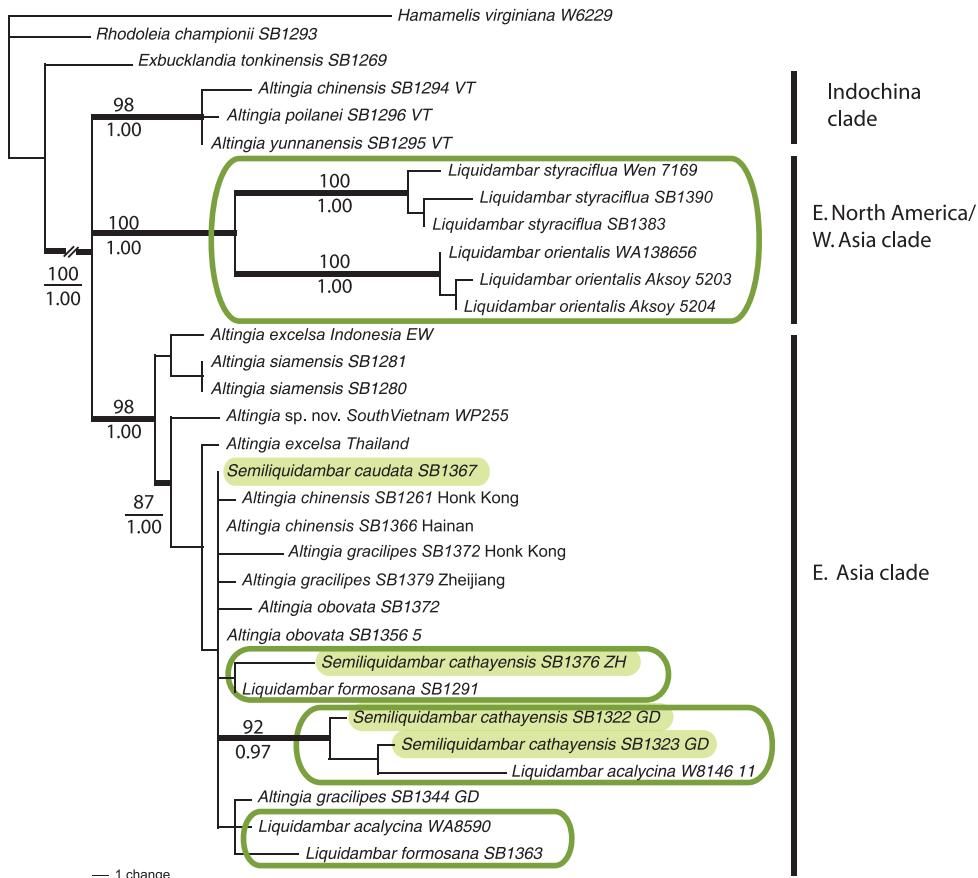
## Data resources

The data underpinning the analyses reported in this paper are deposited at GBIF, the Global Biodiversity Information Facility, <http://ipt.pensoft.net/ipt/resource.do?r=altingiaceaeSynopsis>.

## Taxonomic treatment

**Altingiaceae** Horan., Osnov. Bot.: 271. 1841, nom. conserv. TYPE: *Altingia* Noronha, 1790. – Validated by a reference to an effectively, but not validly published Blume & J. Fischer (Fl. Javae 17–18: 3. 1829, as *Balsamifluae*) family name with a description in Latin and proposed as an alternative name. – Isonyms: Horaninov, Tetricyty: 25. 1843 (“Altingiaceae (s. *Balsamifluae*”), validated by a reference to Blume & J. Fischer (1829); see also Lindley, Veg. Kingdom: 253. 14–28 Mar 1846, validated by a description in English). The earlier Hayne (Flora 13: 172. 1830) name is a nom. nud.

Trees, deciduous or evergreen; terminal buds perulate, narrowly ovoid. Leaves petiolate; stipules usually present, linear, ± adnate to base of petioles, caducous, leaving small scars; leaf blade palmately 3–7(or more)-lobed, or if entire lanceolate to ovate or obovate, leathery, discolorous, margin usually crenate-serrate, occasionally entire, venation pinnate or leaf blade palmately 3–7(or more)-lobed, venation actinodromous. Plants monoecious. Male inflorescence a globose to shortly cylindrical, pedunculate, many-flowered head, grouped in terminal or subterminal, compound racemes or panicles; each flower with 1–4 basal bracts. Female inflorescences capitata, subterminal or in lower part of male inflorescence, long-pedunculate, 5–30-flowered. Flowers unisexual. Sepals and petals absent. Male flowers: stamens (4–) many; filaments very short or absent; anthers obovate-ovoid, thecae 2-sporangiate, each dehiscing by a longitudinal slit or rudimentary valve, apex truncate; pollen spheroidal, polyporate. Female flowers: staminodes (also interpreted as carpellodes) absent or needlelike; ovary semi-inferior; ovules ca. 30–50 per locule, axile; styles subulate, divergent, often strongly recurved; stigmas papillose, basal parts or whole styles persistent in fruit. Infructescences globose, base truncate. Capsules woody, dehiscing loculicidally by two 2-lobed valves, also septicidally; staminode teeth and styles not persistent. Seeds many, upper ones sterile, one

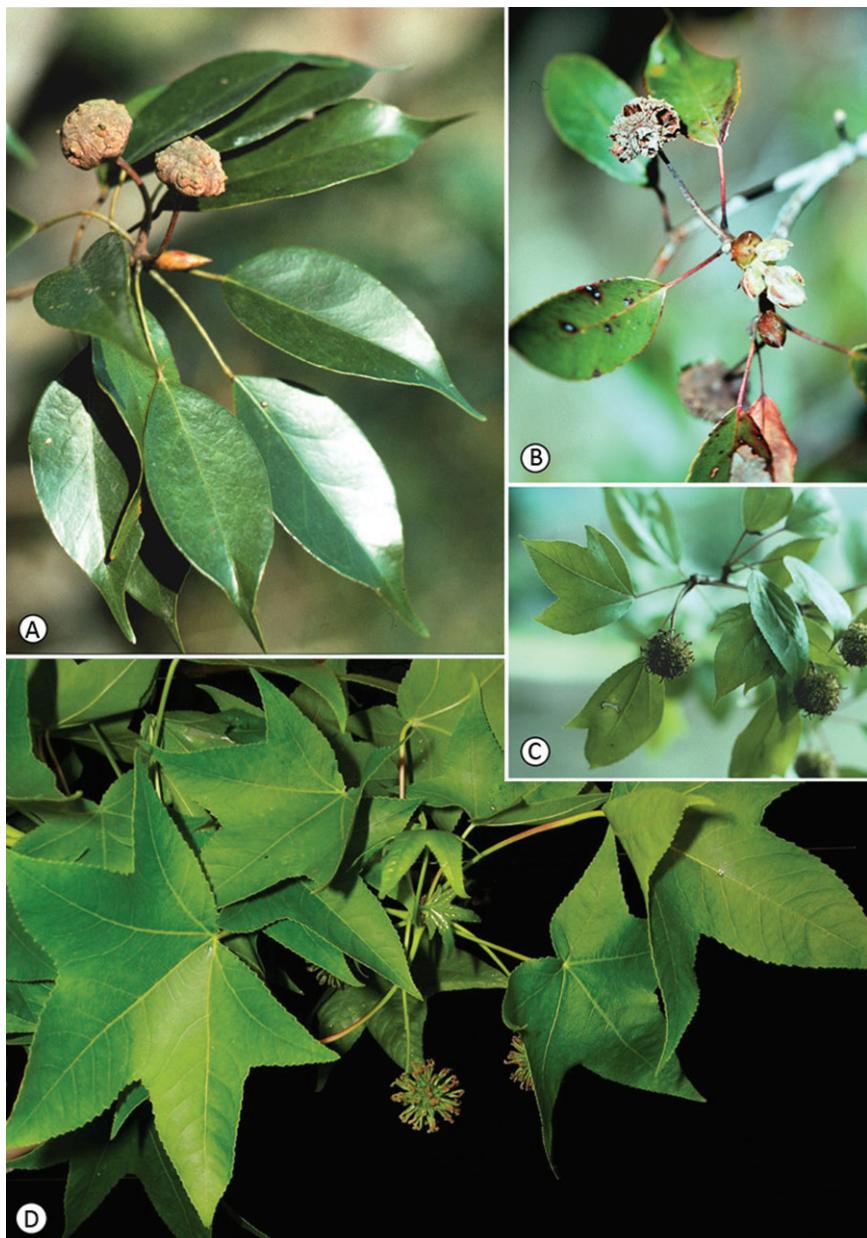


**Figure 1.** Phylogenetic relationships of Altingiaceae based on maximum likelihood analyses of combined cpDNA data. Phylogram is one of 14 trees ( $-InL=9927.72$ ) derived from maximum likelihood analyses showing rates of substitution under K81uf+I model of substitution evolution (Modified from Ickert-Bond and Wen 2006). Note: Break in branch lengths for the OG at left, and *Semiliquidambar* taxa with green shaded boxes, clades that include *Liquidambar* taxa have green outline boxes.

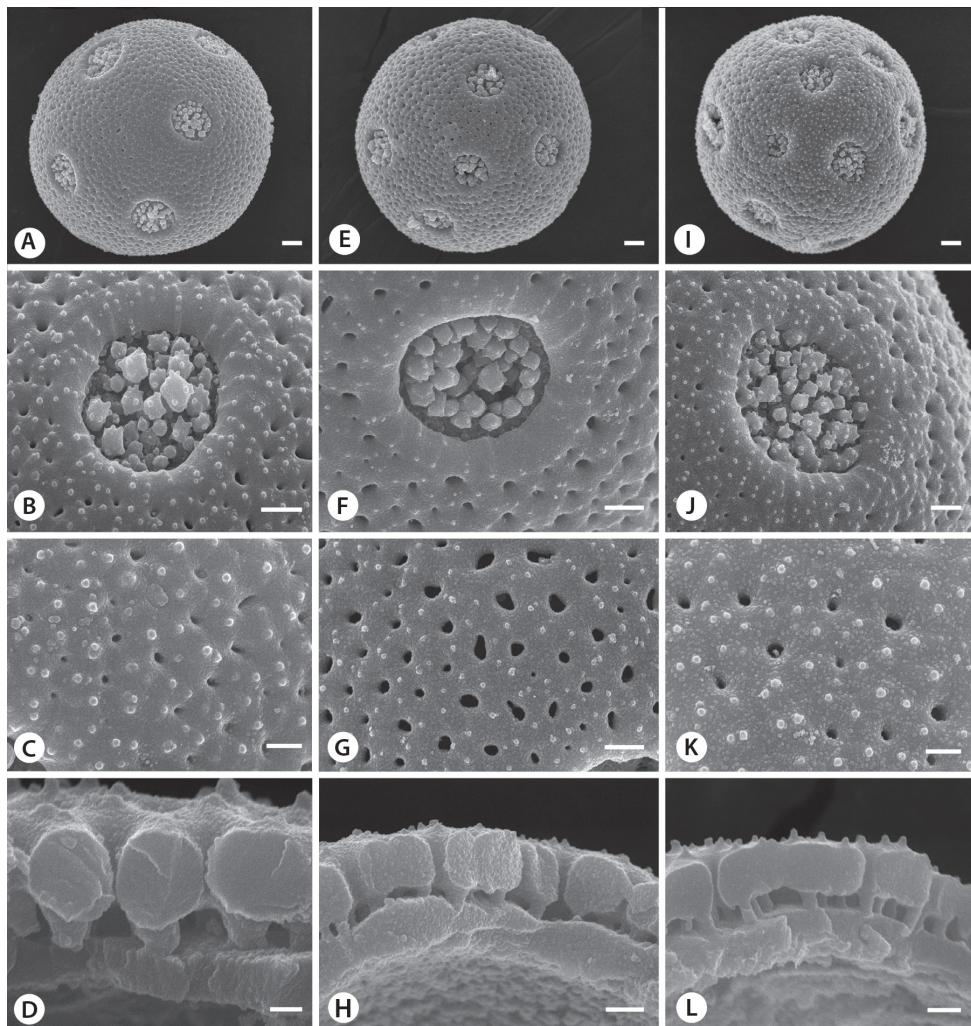
or a few lower ones fertile, flattened, narrowly winged along margin or only at apex; seed coat thick and hard; endosperm thin.  $2n = 32$ .

One genus and ca. 15 species: E, W, and SE Asia, Central, and North America.

Pollen morphology appears uniform throughout the family with spherical, pentaporate grains (Fig. 3A, E, I), that show scabrae and irregularly shaped perforations on the tectum (Fig. 3B–C, F–G, J–K) and a tectate-columellate exine (Fig. 3D, H, L; Ferguson 1989). Zavada and Dilcher (1989) found slight differences in the breadth of the columellae between *Liquidambar styraciflua* and *Altingia obovata* based on TEM imagery. Our analysis of the exine using freeze-fracturing and SEM shows slight difference of this characters between *Liquidambar excelsa* (= *Altingia excelsa*, Fig. 3D)



**Figure 2.** Morphological variation in Altingiaceae. **A** *Liquidambar gracilipes* with obconical flattened infructescences and short styles. Leaves are simple, entire, choriaceous, and show a characteristic drip tip at the apex **B** *Liquidambar siamensis* also shows obconical flattened infructescences with simple leaves that have a serrate margin and lack of a drip tip **C** *Liquidambar chingii* showing variation in leaf morphology from palmately three-lobed leaves at left, to two-lobed leaves and simple leaves on the same branch. Infructescences are globose with long styles **D** *Liquidambar styraciflua* showing palmately five-lobed, chartaceous leaves, and globose infructescences with long styles.



**Figure 3.** Pollen diversity in Altingiaceae. **A–D** *Liquidambar excelsa* **E–H** *Liquidambar gracilipes* **I–L** *Liquidambar styraciflua* **A** Pentaporate, spheroidal pollen grain **B** Details of pore showing the characteristic disintegration of the tectum **C** Details of the tectal surface displaying scabrate and irregularly-shaped perforations **D** Details of tectate-columellate exine, note columellae slightly thicker than those of comparable magnification in **H** and **E** Pentaporate, spheroidal pollen grain **F** Details of pore showing the characteristic disintegration of the tectum **G** Details of the tectal surface displaying scabrate and irregularly-shaped perforations **H** Details of tectate-columellate exine with thinner columellae than in **D** of *Liquidambar excelsa* **I** Pentaporate, spherical pollen grain **J** Details of circular pore showing eroded tectum in the pore proper **K** Details of tectal surface with irregularly-shaped perforations and scabrate **L** Details of the tectate-columellate exine with thin columellae as compared to *Liquidambar excelsa* in **D**. Scale bars: **A, E, I** = 2 µm, scale bars: **B, F, G, J** = 1 µm, scale bars: **C, H, K, L** = 500 nm, scale bar: **D** = 200 nm.

and *L. styraciflua* (Fig. 3L), but the columellae in *Liquidambar gracilipes* (= *A. gracilipes*, Fig. 3H) appear to be of equal width to those in the ones examined from *L. styraciflua* (Fig. 3L).

### Key to the species of *Liquidambar* s.l.\*

- 1 Leaves consistently palmately-lobed
- 2 Leaves of mature trees with three lobes, sometimes 5 in juvenile condition
- 3 Infructescence subglobose, with stout styles 4–6 mm long, curved; seeds with circular flange ..... 1. *L. acalycina*
- 3' Infructescences globose, with fine styles 7–10 mm long, coiled; seeds with a terminal wing ..... 7. *L. formosana*
- 2' Leaves of mature trees with more than 3, mostly 5 lobes, sometimes more than 5 lobes present
- 4 Infructescences with narrow style bases (up to 18 mm wide); areas between fruits appearing as a smooth rim ..... 11. *L. orientalis*
- 4' Infructescences with broad style bases (up to 30 mm wide); areas between adjacent fruits appearing braided ..... 14. *L. styraciflua*
- 1' Leaves variable, mostly unlobed or varying to lobed within a single branch
- 5 Leaves tri-nerved, mostly palmately-lobed, seldom unlobed ..... 5. *L. chingii*
- 5' Leaves pinninerved, strictly unlobed
- 6 Infructescences obconical with 5–8 fruits, base of the infructescence with a prominent “skirt”
- 7 Leaves coriaceous, 2–3 cm wide, glossy above; margin entire, less often serrate; fruits up to 2 cm broad ..... 8. *L. gracilipes*
- 7' Leaves chartaceous, 3–4 cm wide, dull above; margin serrate; fruits broader than 3 cm ..... 13. *L. siamensis*
- 6' Infructescences mostly subglobose, with 10–30 fruits, base of the infructescence lacking a “skirt”
- 8 Leaves glossy above, margins distinctly revolute upon drying; endemic to Cambodia ..... 2. *L. cambodiana*
- 8' Leaves dull above, margins not curled; of broader distribution in southeast Asia
- 9 Petioles 0.5–1.2 cm long
- 10 Leaves elliptical ..... 4. *L. chinensis*
- 10' Leaves obovate
- 11 Leaf base acute, apex obtuse, lateral veins 8–10, conspicuous beneath ..... 10. *L. obovata*
- 11' Leaf base subcordate to rounded, base acute, lateral veins 5–6, not prominent beneath ..... 12. *L. poilanei*

- 9' Petioles 2–5 cm long
- 12 Leaves chartaceous ..... 6. *L. excelsa*
- 12' Leaves coriaceous
- 13 Leaves 4–7 cm long, apex caudate, petioles slender, 1–1.5 mm thick; infructescences 1–2 cm broad ..... 3. *L. caudata*
- 13' Leaves 8–13 cm long, apex acute, petioles stout, 2–3 mm thick; infructescences 2–3 cm broad ..... 15. *L. yunnanensis*

\* *Liquidambar multinervis* is poorly understood at present and is not included in the key.

***Liquidambar* L., in Sp. Pl. 2:999. 1753.**

<http://species-id.net/wiki/Liquidambar>

*Altingia* Noronha, in Verh. Bal. Gen. v. (1785) Art. ii. 9; ed. II. 41, nom. cons., syn. nov.  
*Semiliquidambar* H. T. Chang, in Acta Sct. Nat. Sunyatseni: 35, 1962, syn. nov.

**Type.** *Liquidambar styraciflua* L.

**1. *Liquidambar acalycina* H. T. Chang, Acta Sci. Nat. Univ. Sunyatseni, 1959 (2): 33. 1959. TYPE. CHINA: Hunan: Wugang, H. T. Chang 4701 (holotype: IBSC 001053!).**  
[http://species-id.net/wiki/Liquidambar\\_acalycina](http://species-id.net/wiki/Liquidambar_acalycina)

**Distribution.** China (Anhui, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, Sichuan, and Zhejiang). **Representative specimens examined.** CHINA: Fujian: Wuyi Mountain, *Wuyi Shan* Team 80-225 (MO); Wuyishan, Hengkeng, H.-Y. Zou 1984 (MO); Guangdong: Ruyuan Xian, C. Wang 44102 (MO); Guangxi: Damiashan, Shanshan Qu, Cidong Xian, Jiuwanshan, S.-Q. Chen 14715 (MO); Guizhou: Yinjiang Xian, along the trail between Zhangjiaba and Huguoshi on the west side of the Fanjing Shan mountain range, *B. Bartholomew* 1660 (GH); Yinjiang Xian, vicinity of Xiapingsho on the west side of the Fanjing Shan mountain range, *B. Bartholomew* 1758 (GH, MO); Hubei: Lichuan, *Metasequoia* Region of Lichuan Xian (Hsien), vicinity of Lojiaba on the W side of the valley, *B. Bartholomew* 1950 (GH); no locality, E.H. Wilson 513 (GH); vicinity of Shui-sa-pa, J.L. Gressitt 2415 (GH); Hunan: Henyuan, Gouloushan, J.B. Zuo 356 (MO); Hengshan, Nanyue, Longci, S.-Q. Chen 3346 (2 sheets, MO); Yizhang, Mangshan, Datangken, L.-H. Liu 542 (MO); Jiangxi: De-Xin, De-xin county, K. Yao 11486 (GH); Lushan, M.L. Nie 91192 (MO); Sichuan: S. Wushan, A. Henry 52181 (GH); Zhejiang: Linan Xian, Changhua, Bailongtanshan, P.L. Chiu 961 (MO).

**Cultivated.** Arnold Arboretum, grown from seeds collected from Hubei province during the Sino-American Botanical Expedition (*SABE* 1950 [GH]) near Lojiaba in the *Metasequoia* Valley of Lichuan Xian in October 1980.

**2. *Liquidambar cambodiana* (Lecomte) Ickert-Bond & J. Wen, comb. nov.** Basionym: *Altingia cambodiana* Lecomte, Bull. Mus. Hist. Nat. Paris 30: 391 (1924). TYPE. CAMBODIA: Mont d'Eléphant, Se mean phnom, Poilane 263 (holotype: P [P00749065!]; isotype: P [P003173561!]).

urn:lsid:ipni.org:names:77134706-1

[http://species-id.net/wiki/Liquidambar\\_cambodiana](http://species-id.net/wiki/Liquidambar_cambodiana)

**Note.** A unique species with only three specimens from one locality in Cambodia known. The protologue does not include reference to where *Poilane 263* is deposited. Furthermore, the two specimens at P are the only ones that include both “*Poilane 263*” and the locality information on the sheet (agreeing with the type description). The other two sheets, one at the Smithsonian (US 150518!) and one at the Edinburgh Botanic Gardens Herbarium (E 00181744!) include only labels that state *Herb. Mus. Paris, Altingia cambodiana H. Lec. Institute Scientifique de Saigon – M. Poilane Reçu le 20 May 1921*. These two later sheets (US 150518! And E 00181744!) most likely were part of the original material that Lecomte saw when he described *A. cambodiana*.

**Distribution.** SW Cambodia. **Representative specimens examined.** CAMBODIA. *M. Poilane s.n.* (US 150518!), (E 00181744!).

**3. *Liquidambar caudata* (H. T. Chang) Ickert-Bond & J. Wen, comb. nov.** Basionym: *Semiliquidambar caudata* H. T. Chang, Acta Sci. Nat. Univ. Sunyatseni, 1962: 39. 1962. TYPE. CHINA: Fujian: Shaxian County, *FUS expedition 53260* (holotype; FUS 47396- seen as photo!).

urn:lsid:ipni.org:names:77134707-1

[http://species-id.net/wiki/Liquidambar\\_caudata](http://species-id.net/wiki/Liquidambar_caudata)

*Semiliquidambar cuspidata* H. T. Chang, Acta Sci. Nat. Univ. Sunyatseni, 1962: 39, 1962. TYPE. CHINA: Zhejiang: Jingning, Hangzhou Botanical Garden 7303 (holotype: PE [PE1392499!]; isotype: MO [MO4525923!]).

**Note.** This taxon is similar to *A. gracilipes*, but its leaves are not strongly 3-nerved at the base.

**Distribution.** Fujian and Zhejiang provinces of China. **Representative specimens cited.** CHINA: Zhejiang: Ye Ling, Tai Shun County, Z.G. Mao 10237 (MO 4491051); Ying Chuan, Jing Ning county, S.Y. Chang 4837 (MO 4491052, MO 4536933).

**4. *Liquidambar chinensis* Champ., Kew Journ. Bot. 4: 164, 1852.** TYPE. CHINA: Hong Kong, Champion 325 (lectotype here designated: K [H2007/01764!]).

[http://species-id.net/wiki/Liquidambar\\_chinensis](http://species-id.net/wiki/Liquidambar_chinensis)

*Altingia chinensis* (Champ.) Oliver ex Hance, in J. Linn. Soc. 13: 103, 1873.

*Altingia chinensis* f. *pubescens* X.H. Song, in J. Nanjing Inst. Forest 4: 49, 1984. TYPE: CHINA: Guizhou: Libo, X.H. Song 1348 (holotype: NFU!).

**Note.** No specimen was mentioned in the type description. *Champion* 325 (K) is the only Champion specimen of *Altingia* found by us so far. It bears a label with a hand-written identification *Liquidambar* sp. nov. by Champion (based on comparison with other holotype material described by Champion at K). This specimen is thus designated as the lectotype for *Liquidambar chinensis* Champ.

**Distribution.** China (Guangdong, Guangxi, Guizhou, Hainan, Hong Kong), Vietnam. **Representative specimens examined.** CHINA: **Guangdong:** Kwai Shan, Tsing-lo-kong village, Ho-yuen district., W.T. Tsang 28544 (A); Lin Fa Shan, Sam Hang Shek T'au Village, Hwei-yang District, W.T. Tsang 25942 (A, E); Naam Kwan Shan, Tsengshing District, W.T. Tsang 20218 (E, MO); Poon Yue district, C.O. Levine 3158 (MO); Xinyi Xian, C. Wang 31828 (MO); **Guangxi:** Chen Pien District, S.P. Ko 56024 (A); Foo Lung, Sup Man Ta Shan, H.Y. Liang 69714 (A); Pingnan Xian, C. Wang 39334 (MO); Shap Man Taai Shan, near Hoh Lung village, SE of Shang-ze, Guangdong border (Shang-ze district), W.T. Tsang 22577 (A); Shap Man Taai Shan, near Iu Shan village, SE of Shang-ze, Guangdong border, Shangze district, W.T. Tsang 22189 (F); She-Feng Dar Shan, S. Nanning, R.-C. Ching 7937 (A); Tong Shan (along Guangdong border), near Sap-luk Po village (Waitsap district), W.T. Tsang 22788 (A); **Hong Kong:** Aberdeen Rd., H.C. Tang 590 (HK), Y.S. Lau 206 (HK); Jardin Botanique, E. Bodinier 1042 (E); Hong Kong Botanical Garden, S. Ickert-Bond 1274 (F); Lokchong, C.L. Tso 21049 (F); Luk Keng, Shek Pan Tam, P.-S. Choi s.n. (HK); Ma On Shan, K.E. Wong s.n. (HK); Shing Mun Country Park, Shing Mun Arboretum, S. Ickert-Bond 1261 (F); **Zhejiang:** Feng Yang Mtn., H.-Y. Zou 307 (A), H.-Y. Zou 761 (MO). VIETNAM: **Lao Cai:** SaPa, A. Petelot 2332 (MO); M. Brillet 19 (P, 2 sheets).

5. *Liquidambar chingii* (Metcalf) Ickert-Bond & J. Wen, comb. nov. **Basionym:** *Altingia chingii* Metcalf, Lingnan Sc. Journ. 10: 413, 1931. **TYPE.** CHINA: Fujian: near Zhejiang border, 2800 ft., R.-C. Ching 2244 (holotype: SYS [SYS53818!]; isotypes: A [A 00043389!], IBSC [IBSC 001070!], NY [NY 00356121!], PE [PE 217977!]), SYS [SYS000957151!].

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[http://species-id.net/wiki/Liquidambar\\_chingii](http://species-id.net/wiki/Liquidambar_chingii)

*Altingia chingii* Metcalf var. *parvifolia* Chun, Sunyatsenia 1: 241, 1934. *Semiliquidambar cathayensis* H. T. Chang var. *parvifolia* (Chun) H. T. Chang, in Acta Sct. Nat. Sunyatseni: 38, 1962. **TYPE:** CHINA: Guangdong, Ying Tak, Wentong Shan, in mixed woods, H.Y. Liang 61283 (holotype: IBSC [IBSC001069!]; isotype: PE [PE 512712!]). *Semiliquidambar cathayensis* H. T. Chang, Acta Sunyatseni: 37, 1962. **TYPE.** CHINA: Guangdong: Ruyuan, S.P. Ko 53448 (holotype: IBSC [IBSC001068!]; isotype: PE [PE 509073!]).

*Semiliquidambar cathayensis* H. T. Chang var. *fukienensis* H. T. Chang, in Acta Sct. Nat. Sunyatseni: 38, 1962. TYPE. CHINA: Fujian: Zhangping, *Y. Ling* 4522 (holotype: PE [PE419004!]; isotype: PE [PE83570!]).

*Semiliquidambar chingii* (Metcalf) H. T. Chang, in Acta Sct. Nat. Sunyatseni: 38, 1962.

*Semiliquidambar chingii* (Metcalf) H. T. Chang var. *longipes* Y. K. Li & X. M. Wang, in Acta Botanica Yunnanica 8: 275, 1962. TYPE. CHINA: Guizhou: Lipo Xian, Wujahe, *Exped. of Guizhou Academy of Science* 76536 (holotype: HGAS!; isotype: SYS [SYS00072758!]).

*Semiliquidambar coriacea* H. T. Chang, in Acta Sct. Nat. Sunyatseni: 39, 1962.

TYPE. CHINA: Guandong: Ruyuan, *C. Wang et C.Y. Li* 44074 (holotype: SYS [SYS123416!]; isotype: IBSC [IBSC001071!], PE [PE723787!]).

**Distribution.** China (Fujian, Guangdong, Guangxi, Guizhou, Jiangxi) and Vietnam (Ha Giang, Lao Cai). **Representative specimens examined.** CHINA: **Guangdong:** Da

Ling Tan, Shan Shuai, Li Shan, *Peixiang Tan* 58681 (A); Hua Nan Agriculture University, specimen plant garden, Guangzhou, *Zhiming Wu* 85062 (MO); Nanling National Forest Park, *S. Ickert-Bond* 1307 (F), 1308 (F), 1310 (F), 1311 (F); Zhong Ba Shui, Zhong Ba, Yao Zu county, *L. Deng* 6681 (MO); **Hainan:** Bai Shui Ling, Dali County, Dali Mountains, Chengpo district, Qiungzhou County, *L. Deng* 3549 (MO); Qiongshong, Ying Ge Ling, eastern slope, *National Geographic Society Hainan Expedition* 46 (MO). VIETNAM: **Ha Giang:** Vi-Xuyen District, Minh-Tan community, *H. Ngoc Kinh* 169 (HN).

6. *Liquidambar excelsa* (Noronha) Oken, Allg. Naturgesch. iii. (3) 1539, 1841. **Basionym:** *Altingia excelsa* Noronha, Verh. Batav. Genootsch. Kunsten. 5(2): 9, 1790. [http://species-id.net/wiki/Liquidambar\\_excelsa](http://species-id.net/wiki/Liquidambar_excelsa)

*Altingia caerulea* Poir., Encycl. [J. Lamarck & al.] Suppl. 5: 545, 1819.

*Liquidambar rasamala* Blume, Cat. Gew. Buitenz. 6, 1823.

*Liquidambar altingiana* Blume, in Flora Javae 17: 8, tt. 1,2, 1829.

*Liquidambar cerasifolia* (Wall. & Griff.) Voigt, Hort. Suburb. Calcutt. 301. 1845.

**Distribution.** China, Bhutan, India, Indonesia (Java, Bali, Sumatra), Malaya, Myanmar, and Thailand. **Representative specimens examined.** BHUTAN. Sarbhang district: above Noonpani, 16 km along Sarbhang-Chirang road, *A. Grieson* 3581 (E). CHINA. YUNNAN: between Muang Hing and Szemao and the Szemao hills proper, Southern Yunnan, *J.F. Rock* 2768 (GH); between Tengyueh and Lungling, *J.F. Rock* 7174 (GH); no locality, *G. Forrest* 18414 (GH); Ping-pien Hsien, *H.T. Tsai* 61528 (GH); Shweli valley, *G. Forrest* 8763 (E, GH). INDIA. East Bengal, *Griffith* 3380 (A, GH, P); Jingale Bam near Nagahill, *Prain* 769 (GH); Kachin Hills, Saden, Upper Burma, Mokim, *Shaik s.n.*; Ind. Or., *Griffith* 286 (GH); Ceylon, Royal Botanic Gardens, Peradeniya, sect. C 276, *D.M.A. Jayaweera* 1617 (GH). INDONESIA. Bali, Dedugul, *Dumat* 414 (MO), Bali Timur, Tabana. 2 km W of Candi Kuning, in natural areas of Kebun Raya, beyond introduced *Altingia* forest,

*McDonald & Ismail* 4966 (E, GH); Dutch West Indies, *van de Koppel* 3299 (MO); East Timor, Koepang, *De Voogd* 1772 (A); Java, *Field Museum* 373260 (A); Java, Ijoboshan, *C.S. Sargent s.n.*; W. Java, Nirmala Estate, gu Halimum area, Blukar and remnant of forest, *M.J. v. Balgooy* 2912 (GH); West-Java, Res. Batavia. Pasir Tjarewed, Land Boland, west of Bogor (Buitenzorg), elev. 600 m., *Bakhuisen* 6372 (MO); West Java, relict tree tp Tjibodas Mt. Garden, Gunung Gedeh (Mt.), *Willem Meijer s.n.* (MO); N. Sumatra, Karo plateau, Kaban Djahe, *J.A. Loerzing* 17368 (A); South East Java, *H. O. Forbes* 1201 (GH); Sumatra, Res. Benkaelen and Afd. Redjang, *T.H. Endert* 1068 (A); Sumatra, Sumatra's Westk. *Moera-Laboch For. Serv. Neth. Ind.* 18066 (A). **MYANMAR.** East of Paungdaw Power Station, west bank of the Paungdaw chaung river, *J. Keenan* 1407 (E), 1528 (MO); Patkai Mts., *G. Schaap* 13 (A); gorge of the Hkrang Hka, North Triangle (Hkinhum), *F. Kingdon-Ward* 20761 (A); south of Hpuginhku village, *J. Keenan* 3679 (E); Tenasserim Division, Tavoy District, *J. Keenan* 1940 (A). **THAILAND.** Nakhon Nayok, Khao Yai National Park, *T. Smitinand* 10848 (E); NE Kjonkaen, Phu Khieo, Game Reserve, ca. 80 km E of Phetchabun, *Kyoto University* 41655 (A).

**7. *Liquidambar formosana* Hance, Ann. Sc. Nat. Ser. V. v. 215, 1866. TYPE. CHINA: Taiwan: Martio 1864, *R. Oldham* s.n. (lectotype here designated, P [P00749063!]; isolectotypes: NY [NY00356137!], P [P00749064!]).**

[http://species-id.net/wiki/Liquidambar\\_formosana](http://species-id.net/wiki/Liquidambar_formosana)

*Liquidambar acerifolia* Maxim., in Bull. Acad. Petersb. x. 486, 1866.

*Liquidambar edentata* Merrill, in Journ. Arnold Arb. viii. 6, 1927. (TYPE. CHINA: Fujian [Fukien]: probably near Foochow, *F.T. Metcalf & T.C. Chang* 877, fruit only (Lectotype here designated: UC [UC 288168!]).

*Liquidambar maximowiczii* Miq., Ann. Mus. Bot. Lugd. Bat. 3: 200, 1867.

*Liquidambar rosthornii* Diels, Bot. Jahrb. Syst. 29(3-4): 380, 1900.

*Liquidambar tonkinensis* A. Cheval. in Bull. Econ. Indochine, n. s. 10: 839, 1918.

**Note.** A few specimens from Hunan and Guangdong exhibit pubescent stems, leaf surfaces and lobing attributable to young plants, previously annotated by Merrill (1934) as “*L. formosana* var. *heterolobata*”: *Tsang* 20927 (MO, SYS), *B. Xiong* 8845, 9492, 10032 (MO), Hupeh Prov.: *Wilson* 513 (GH-2 sheets). This variety has never been formally published. These specimens are here referred to *L. formosana*.

The type of *Liquidambar edentata* Merrill is a mixture of a) *L. formosana* Hance [UC288168] as a single fruit mounted on the sheet, and b) a large branch of *Acer tutcheri* Duthie. Thus, lectotypification is required. One of the duplicates of *F.T. Metcalf and T.C. Chang* 877 at UC [UC258487] bears a label with the original handwriting of Merrill: “*Liquidambar edentata* Merr.”, but the reference to the original publication (“Journ. Arnold Arbor. 8:6. 1927. Type in US Natl. Herb.”) is not Merrill’s own handwriting and was probably later added (as determined by John Boggan [US] from comparison with other holotype material at US described by Merrill). All duplicates of

*Metcalf & Chang* 877 [A 258487!, SYS 00072571!, UC 258487!] consist only of the branch of *Acer tutcheri*, without the *Liquidambar* fruit.

**Distribution.** China (Anhui, Chongqing, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hong Kong, Hunan, Hubei, Jiangsu, Jiangxi, Shanxi, Sichuan, Taiwan, and Zhejiang), Laos, and Vietnam. **Representative specimens examined.** CHINA: **Anhui:** *K. Ping* 1597 (MO); Chien Shan Hsien, Tien Chu Shan, Chien Shan Hsien, *C. S. Fan* 280 (GH); Chiuhwashan, *S.C. Sun* 1302 (GH); Wang Shilong, Hefei Shi, Zushan, east slope, *H.L. Yin* 2031 (MO); Hwa Shan, *C.S. Fan* 75 (E); **Chongqing** (formerly in Sichuan Prov.): Chengkou Shi, *T.L. Dai* 103616 (MO); Nanchuan Hsien, *W.P. Fang* 811 (A); **Fujian:** Fan Hsioh Niao, Shaowu and vicinity, *F.P. Metcalfe* 9360 (GH); Hinghwa Dist., *H.H. Chung* 1006 (GH); Nanping Shi, Mangdangshan, *G.-S. He* 6179 (MO); Nanping Shi, 3800 Kan, *G.-S. He* 5677 (MO); Minhow Hsien: Pehling, near village dwellings, *H.H. Chung* 2132 (GH); Sing-Shan, Foochow and vicinity, *C.C. Tang* 4655 (MO); Yenping: Buong Kang, *H.H. Chung* 3589 (GH); Yenping: Cha-ping, on slope, *H.H. Chung* 2901 (GH); **Gansu:** Wan Xian, Bikou, *Z.-Y. Zhang* 14271 (MO); Wan Xian, Motianling Shan, Baishui Jiang Nature Reserve, ENE of city of Bikou, *D.E. Boufford et al.* 37528 (MO); **Guangdong:** Chong Uen Shan near Kau Fung, Loh Ch'ang District, *W. Tsang* 20927 (A, MO); Guangdong, Canton and vicinity, *C.O. Levine* 1731 (MO); Lok F'au Mt., *C.O. Levine* 1572 (MO); Lung T'au Shan, Iu village and Yeung uk village, *Lignan Team* 12347 (MO); Nanling National Forest Park, *S. Ickert-Bond* 1305 (F); Nanling National Forest Park, *S. Ickert-Bond* 1305 (F), *S. Ickert-Bond* 1309 (F); Nanxiong, *L. Deng* 6602 (MO); Near Ninling city, on hill side, *S. Ickert-Bond* 1321 (F); Road to Jiangxi, along river, ca. 5 km S of Shitang city, *S. Ickert-Bond* 1326 (F); Road to Hunan from Nine Peaks, ca. 7 km outside of town, *S. Ickert-Bond* 1324 (F); Wan Tong Shan, Ying Tak district, *T.M. Tsui* 417 (MO); Yang Shan, and vicinity, South of Lin-chow, Yang Shan district, *T.M. Tsui* 516 (MO); *T.M. Tsui* 660 (2 sheets, MO); Xinyi Xian, *C. Wang* 31824 (MO); Guangchow, White Cloud Hill on the way to the Temple, *H.H. Chung* 866 (GH); **Guangxi:** *A.N. Steward* 442 (GH); Chuen Yuen, *T.S. Tsoong* 81972 (GH); Longjing, Dadinshan, *P.X. Tan* 57605 (MO); Loh Hoh Tsuen, Ling Yun Hsien, *A.N. Steward* 29 (GH); Mts. Surrounding Pa Lau village, near Sui-Luk, SW o Nanning (Sui-luk village), *W.T. Tsang* 21817 (GH); San-min village and vicinity, P'an-ku-shan and Ch'ao- t'ien-shan, Kwei-lin district, *W.T. Tsang* 28068 (GH); Ta Tseh Tsuen, *A.N. Steward* 1075 (GH); **Guizhou:** Jiangkou Xian, Baishuidong (white water cave) above the Minxiao River, SW of Jiangkou, *B. Bartholomew* 773 (GH); Lungli, *H. Handel-Manzetti* 185 (GH); **Hainan:** Bak Sa, *S. K. Lau* 25962 (GH). Bawangshanling, *Z.-X. Li* 3841 (MO); Chim Shan, Maan Ts'uen and vicinity, Ling Shui (Ling-tui) district, *H. Fung* 20245 (MO); Ka Chik Shan, Ka Chik Shan and vicinity, *S.K. Lau* 1645 (GH); Kam Kong, Yik Tsok Mau, *Canton Christian College Herbarium* 7700 (MO); Lingshui Xian, Nanqui, *L. Deng* 3116 (MO); Pak Shik Ling, Pak Shik Ling and vicinity, Ku Tung Village (Ching Mai district), *C.I. Lei* 355 (GH); Yangxin Xian, Longgang Zhen, *C.-L. Ye* 9689 (MO); Ya Xian, *X.-R. Liang* 62343 (MO); Yonlin, Yaichow, *F.C. How* 20124 (MO); **Hong Kong:** Chung Chi College, *S.Y. Hu & K.H. Yung* 46 (MO); Chinese University of Hong Kong campus, *S.Y. Hu* 20064 (MO); *S.Y. Hu* 20953 (GH),

MO); Hau T'ong Shan, Fuk Lung Monastery, Sin-Fung District, Fung Shue, *Y.M. Taam* 779 (GH); Hong Kong University campus, *H.C. Tang* 1473 (GH); Shing Mun Country Park, at the crossroads of Lead Mine Pass and Main Dam, *S. Ickert-Bond* 1260 (F); **Hubei**: Changchow, White Cloud Hill on the way to the Temple, *H.H. Chung* 866 (GH); Chikungshan, border of the provinces of Hupeh and Honan, on the divide between the Yang-Tze and the Hwai-ho rivers, *L.H. Bailey* s.n. (GH); Hinghwa Dist., *H.H. Chung* 1006 (GH); Hupeh (W) Arnold Arboretum Expedition, *E.H. Wilson* 795 (E); Lin District, *C.O. Levine* 3302 (GH); *A. Henry* 5218 (GH); *A. Henry* 7630 (GH); Lung T'au Shan, Iu village and Yeung uk village, *Lignan* 12347 (MO); Western Hupeh, Feng Heang, *E.H. Wilson* 513 (GH); W. Hupeh, *E.H. Wilson* 218 (GH); Xinyi Xian, *C. Wang* 31824 (MO); Yang Shan and vicinity, South of Linchow, Yang Shan district, *T.M. Tsui* 660 (MO); Yenping, Cha-ping, *H. H. Chung* 2901 (GH); **Hunan**: Henyu-ang, Goulowshan, *J.B. Zuo* 356 (MO); Liuyuang Xian, Longfa Zhen, Shizhu Feng, *B. Xiong* 2922 (MO); P'ing T'ou Shan, T'ang Wan village, Yi Chang district, *W.T. Tsang* 23613 (GH); Yushun Xian, Zhengxi, *X-G. Li* 204950 (MO); **Jiangsu**: Changsu, *T.Y. Cheo* 1149 (MO); Haichow village, *J. Hers* 2264 (GH); Hua Shan, Nanking, *W.R. Carles* s.n. (E); Kinling, *E.H. Wilson* 1639 (GH); Liu Liu Shan, near Haichow, *J. Hers* 608 (GH); Mao Shan, Tanjang, *Tso* 1803 (GH); Nanking, *S.S. Chien* 1019 (GH); Yun-Tai-Shan, northern headland of Liuhe, extending into Kou Linhong, Lianyungong Bay, *SAYTBET* 45208 (GH); Yun-Tai-Shan, Lian-yun-gang, NE of Jiangsu prov., *K. Yao* 8505 (MO); Yuntai, Zikiang Shan (Purple Mountain), N extension of Mao Shan; NE of Sun Yat-Sen Memorial and Tomb, *SAYTBET* 45272 (GH); **Jiangxi**: Chuen Yuen, *T.S. Tsoong* 81972 (GH); De-Xin county, *K. Yao* 11561 (GH); Gangmaiping Xiang Huangyangjie, *B. Xiong* 5706 (MO); ); 3 km from Julianshan Nature Preserve entrance, *S. Ickert-Bond* 1327 (F); Kinkiang, *E.H. Wilson* 1628 (GH); Oo Chi Shan, near Lam Uk Village, Lungan district, *S.K. Lau* 4809 (GH); San-min village and vicinity, P'an-ku-shan and Ch'ao-t'ien-shan, Kwei-lin district, *W.T. Tsang* 28068 (GH); Sang-su-ling, near Sih-cha-chieh Kan River, about 60 mi south of Nanchnag, Kinagsi, *H.H. Chung* 40 (GH); **Shanxi**: Yuyang Xian, Xiaoguojiaba, *K.-J. Fu* 5799 (MO); **Sichuan**: *T. T. Yu* 229 (GH, MO); **Taiwan**: Chiayi Hsien, Fanlu Hsiang, area nearby Pantienyen, *Y.-R. Lin* 516 (MO); Formosana Hokuto, *A. Faurie* 279 (GH); Hsinchu Hsien, Wufengm Wushishan, *S. Saito* 8371 (MO); Kelung, *O. Warburg* 9810 (GH); Nanto, Province Nanto, *E.H. Wilson* 10031 (GH); Wuu Tsau street, *T. Sozan* 13490 (GH), *L.L. Liu* et al. s.n. (MO); Taipei, University campus, *Y.R. Cheun* s.n. (GH, MO); Tamsui, *A. Henry* 425 (GH); Taitum, *U. Faurie* 45 (GH); **Zhejiang**: Feng Yang Mountains, *H.-Y. Zou* 140 (GH); Kwangsi, Yung Hsien, Ta Tseh Tsuen, *A.N. Steward* 1075 (GH); Langquan, Taishui, *R.C. Ching* 4823 (GH); Lishui, Dagantou, *S. Chang* 6242 (MO); Sang-su-ling, near Sih-cha-chieh Kan River, about 60 li souht of Nanchnag, Kinagsi, *H.H. Chung* 40 (GH); Taichow, *R.-C. Ching* 1578 (GH), *R.-C. Ching* 4823 (GH); Tien Tai Shan, Kwohchingze, *C.Y. Chiao* 14238 (GH). **LAOS**: Bolikhamsay, Khamheut district, Ban Namphao, ca. 5 km east of town proper, *D.D. Soejarto* 11399 (GH); haut plateau, bassin d'attopen, *Harmand* 13007 (P). **VIETNAM**: **Cao Bang**: Ha Lang, municipality Thang Loi, vicinity of Thang Loi village, *P.K. Loc* et al. 1704 (MO); **De Quang**: Quang Tri,

Lao Bao, *M. Poilane* 1317 (P); **Bac Giang:** Sau (Annam), Tonkin, foret de Pho-ve, *A. Chevalier* 2964 (P); **Ha Tay:** Da Chong, *A. Petelot* 5747 (A); Mt. Bavi National Park, close to Park headquarters, roadside, *S. Ickert-Bond* 1290 (F), Mt. Bavi National Park, roadside, *S. Ickert-Bond* 1291 (F); **Hoa Binh:** Kim Boi, *T. Tien Phuong* 2539 (HN); **Lang Son:** Dong Dang, *B. Balansa* 1156 (P); Huu Lien District, Huu Lien Municipality, Huu Lien Protected Area, near village of Lan Cau, *D.K. Harder et al.* 4180 (MO); Lai moi sau cuoi, Savanne cay go, Chi lang, *N. Tang Khoi* 420, 421 (HN); **Nghe An:** Ke hhe, *Donnat* 38180 (P); Reserve forestier de Co - Ba (Vie-Nhe), *F. Fleury* 30170 (P); **Ninh Binh:** Cuc Phuong National Park, headquarters, east of helipad, *N.M. Cuong* 93 (GH, MO); **Phu Tho:** Foret de Dao gia, pres de Phu Tho, *A. Chevalier* 37471 (P); **Than Hoa:** Phong Y, *M. Poilane* 1610 (P); **Tuyen Quang:** Reserve forestiere de Niu-La, *F. Fleury* 37961 (F); **Vinh Phuc:** Ngoc Thanh, Me Linh, *Phuong* 4647 (2 sheets, HN).

**8. *Liquidambar gracilipes* (Hemsl.) Ickert-Bond & J. Wen, comb. nov. Basionym: *Altingia gracilipes* Hemsl., in Hook. Ic. Pl. t. 2837, 1907. TYPE. CHINA: Fujian, *S.T. Dunn* Hb. Hongk. 2682. (Lectotype here designated HK [HK 10948!]; isolectotypes: A [A 00043390!], IBSC [IBSC 001001!])**

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[http://species-id.net/wiki/Liquidambar\\_gracilipes](http://species-id.net/wiki/Liquidambar_gracilipes)

*Altingia gracilipes* Hemsl. var. *serrulata* Tutcher, Hong Kong Administrative Report 1914: M31. TYPE. CHINA, Hong Kong, Ukautang, *W.J. Tutcher* Herb. Hongkong No. 10947) (holotype: HK [HK 10949!, collected 25/5/1914]; isotypes: HK [Garden Department Hong Kong 1711!, collected 25/5/1914], HK [HK10950!])

*Altingia gracilipes* Hemsl. f. *uniflora* H. T. Chang, Sunyatsenia 7: 74: 1948. TYPE. CHINA, Fujian, *Y. Ling* 2295 (holotype: IBSC 001003!)

**Distribution.** China (Fujian, Guangdong, Hong Kong, and Zhejiang). **Representative specimens examined.** **CHINA: Fujian:** Jian Ou, Wang Mu Lin, *Fujian Forestry Coll.* 41 (MO); Long Yan, Jiang Shan, Shuang Che, *H. Chen* 1272 (F, MO); Nan Ping, Mang Tang Mountains, *G. He* 4690 (MO), *G. He* 5479 (MO), *G. He* 6155 (MO); Yong An, Hong Tian, *Fujian Team* 5567 (MO); Yungyung Mts., Fujian, central, *S.T. Dunn* 2682 (GH); **Guangdong:** Chaochow district, *N.K. Chun* 42718 (MO); Da Pu, Yan Shang, Min Ying, *L. Deng* 5438 (MO); Da Pu, Feng Xi, *X. Wang* 153 (MO); Da Pu, Ying Jian, *Z. Li* 963 (MO); Da Pu, Pu Cheng, *X. Li* 202545 (MO); Feng Xun, Da Tian, Bei Xi, *X. Li* 200921 (MO); He Yuan, Xin Feng Jian, *B. Yu* 103106 (MO); He Ping, Qing Zhou, *Z. Wei* 120579 (MO); Jiu Lian Xiang, Xiao Shui, *Z. Wei* 120217 (MO); Lian Ping, Zhong xin, Da Shui, *Y. Liu* 242 (MO); Ping Yuan, *L. Dong* 4331 (MO); Qiao Lin, Shi Hu, *L. Dong* 4685 (MO); Raoping Xian, *N.K. Chun* 42718 (2 sheets, MO); Rao Ping, Feng Huang, *X. Li* 200701 (MO); Rao Ping, Feng Huang Yu, *H. Zeng* 72101 (MO); Tung Koo Shan, Tapu district, Tan Shue, *W.T. Tsang* 21697 (GH, HK, P); Wu Hua, Shuang

Hua, Z. Li 1162 (MO); Wu Hua, Qi Mu Zhang, Y.-J. Wang 56484 (MO); Xin Yi, Da Wu Lin, Z. Feng 36293 (MO); Yam Na Shan [Yit Nga Shan] Mei [Kaying] District, W.T. Tsang 21514 (GH), Yunfu Xian, C. Wang 37057 (MO); **Hong Kong:** M.T. Sin & W.K. Woo s.n. (HK); Pat Sin Leng Country Park, Nam Chung trail, S. Ickert-Bond 1272 (F); Nam Chung, D. Lau 43 (GH, MO), T.W. Lau 98 (GH, MO), Y.-W. Lam 1429 (HK), K.-L. Yip 4082 (MO); Pat Sin Leng, Plover Cove Country Park, Plover Cove Reservoir, S. Ickert-Bond 1266 (F); Pat Sing Leng Nature Trails, L.T. Lo 629 (HK); Sha Tau Kok-luk Keng, S.Y. Hu 9984 (GH); Wu Kau Tan N.T., S.Y. Hu & Y.C. Kong 175 (MO), Y.S. Lau 2634 (HK); **Zhejiang:** Between Ping Yung and Tai Suan, R.-C. Ching 2199 (E); Feng Yang Mtn., H.-Y. Zou 79 (MO), H.-Y. Zou 151 (GH), H.-Y. Zou 762 (GH); Long Qian, Ju Shui, P.L. Chiu 1072 (MO); Qing Yuan, Wu Du Mountain, Z.G. Mao 10231 (MO); Shui Chang, Pu Nang, P.L. Chiu 1470 (MO); Taishun Hsien, Y.L. Keng 316 (GH).

**9. *Liquidambar multinervis* (Cheng) Ickert-Bond & J. Wen, comb. nov.** Basionym: *Altingia multinervis* Cheng, in Notes For. Inst. Nat. Centr. Univ. Nanking, Dendrol. Ser., No. 1, 3 1947. TYPE. CHINA: Guizhou: Chishui, Tiantaishan, 29 Oct 1938, P.C. Tsoong 256 (holotype, N seen as photo!; isotype, SYS 72729!).  
 urn:lsid:ipni.org:names:77134710-1  
[http://species-id.net/wiki/Liquidambar\\_multinervis](http://species-id.net/wiki/Liquidambar_multinervis)

**Note.** Specimens of *L. multinervis* show long-petioled papery leaves, with 10 lateral veins, and serrate margin, closely resembling *L. siamensis* or *L. excelsa*. Broken infructescences of the specimen at N suggest few fruits per infructescence, thus underscoring the closeness to *L. siamensis*, while Cheng (1947) described its close affinity with *L. yunnanensis*. This species is poorly understood, we have only seen the type collection that consists of a branch with multiple leaves and a crushed infructescence. The distributional discontinuity of *L. multinervis* in N Guizhou from those of *L. siamensis* and *L. excelsa* much further south may warrant specific status, but more material is needed. N Guizhou is not well explored botanically and with more exploration of this area, we might be able to better characterize this taxon in the future.

**Distribution.** China, N Guizhou.

**10. *Liquidambar obovata* (Merrill & Chun) Ickert-Bond & J. Wen, comb. nov.** Basionym: *Altingia obovata* Merrill & Chun, in Sunyatsenia, 2: 238, 1935. TYPE. CHINA: Hainan: Yaichow, Ngai Yen, F.C. How 70369 (holotype: NY [NY 00356124!]; isotypes: A [A00043391!], HK [HK1713!], SYS [SYS 00095710!]).  
 urn:lsid:ipni.org:names:77134711-1  
[http://species-id.net/wiki/Liquidambar\\_obovata](http://species-id.net/wiki/Liquidambar_obovata)

**Distribution.** China, Hainan. **Representative specimens examined.** CHINA: Hainan: no locality, H.Y. Liang 64371 (E), H.Y. Liang 64734 (GH), H.Y. Liang 62594 (P);

*C. Wang* 35691 (MO); *C. Wang* 35897 (GH); Ding'an Xian, *C. Wang* 36153 (MO); Lingshui Xian, *C. Wang* 36638 (MO); Mo San Leng, *N.K. Chun* 44321 (GH); Qiong Zhong county, Cheng Po district, Da Li village (up?), Baishui Ling, Deng, *Liang* 3685 (MO); Wanling County, Liulan Mts., *Y. Zhong* 4321 (MO); Wanling county, Wumie district, Tongtie mountain (Ling), *Z. Li* 4972 (MO).

### 11. *Liquidambar orientalis* Mill., Gard. Dict. ed. 8, n. 2, 1768.

[http://species-id.net/wiki/Liquidambar\\_orientalis](http://species-id.net/wiki/Liquidambar_orientalis)

*Liquidambar imberbis* Ait., Hortus Kew. (W. Aiton) 3: 365, 1789.

*Liquidambar orientalis* Mill. var. *integriloba* Fiori, Ann. R. Inst. Sup. Agr. For. Naz. 9: 153, 1924.

**Note.** *Liquidambar orientalis* still needs lectotypification. The prologue states as follows: ‘*The seeds were sent by Mr. Peyssonel from the Levant, to the French king’s garden at Marli, a few of which were sent to me by Mr. Richard, the king’s gardener, which succeeded in the Chelsea [Physic] garden.*’

When examining type material from FI of var. *integriloba* and the typical *L. orientalis* no clear distinction of lobing was observed. The FI specimens were identified as *L. orientalis* var. *integriloba* (*A. Fiori* 230 – 2 sheets, *A. Fiori* 231 – 2 sheets, *G. Jannone* s.n. – 1 sheet, *A. Fiori* s.n. – 1 sheet). When comparing material from Turkey (ISTO), the specimens collected by *Aksøy* 5202 (2 sheets) have margins that are sometime lobed beyond the typical 5-lobing, also observed in *Aksøy* 5201 (ISTO-1 sheet), and *Aksøy* 5203 (ISTO - 4 sheets), while specimens identified as *L. orientalis* var. *integriloba* lack such lobing, as seen in *Aksøy* 5204 (ISTO-3 sheets) also from Turkey. This specimen (*Murray* 1020 – GH, MO) lacks the typical lobing of var. *orientalis* and could thus be considered var. *integrifolia*.

**Distribution.** Southwestern Turkey and on the Greek island of Rhodes. **Representative specimens examined.**

**TURKEY:** C<sub>2</sub> Mugla: Kaycepra, *Goner* 9145 (MO); C<sub>2</sub> Mugla: Kargi, 10 km N of Fethiye, *G. Polunin* 14923 (E); Mughla near Dogusbelen, *Danish Bot. Trans-Asia Expedition III*, No. 2081 (E); Mugla, between Köycefiz and Kavak *Aksøy* 5203 (ISTO); Mugla: Distr. Marmaris, Er. Koezcegiz, *Khan* 45 (E); Isparta, Sütçüler, Karacaören *Aksøy* 5204 (ISTO); Koezcegiz, *J.S. Andersen* 2081 (E); near Severagno, *Khan et al.* 45 (E); Paludal place (marsh), 1 km NE of Marmaris, *E. Murray* 1020 (A, E, MO); Vil. Mughla near Dogus belen, *P.H. Davis* 13474 (E).

**GREECE:** collini a sud di Severagno, *G. Jannone* s.n. (FI); Peveragno, secus rivulum “Pelicano”, *K.H. Rechinger* 8550 (E); convento d’Iskiati, *A. Fiori* 130 (FI), *A. Fiori* 230 (FI); era Alaeruna ed Apallaua, lengo il fiemme Saduras, *A. Fiori* 231 (FI); Rhodes Island, between Malona and Archangelos, *K. Boratynska et al.* 15 (K); between Malona and Archangelos, old trees along small stream, very frequent, *K. Boratynska* 164 (K); Salakos, hedges near stream, *Davis* 40317 (K); SE of Salakos, along stream, below orchard, *K. Boratynska* 15 (K). **Cultivated:** Italy: Rome, *Martinetto* s.n. (ASU). USA: Washington, University of Washington Arboretum, *A.L. Bogle* 1561 (ASU).

**12. *Liquidambar poilanei* (Tardieu) Ickert-Bond & J. Wen, comb. nov. Basionym: *Altingia poilanei* Tardieu, Fl. Camb., Laos & Vietn., Fasc. 4, 95 (1965), in adnot.**

**TYPE. VIETNAM: SaPa, M. Poilane 12844 (holotype, P 00317366!).**

urn:lsid:ipni.org:names:77134712-1

[http://species-id.net/wiki/Liquidambar\\_poilanei](http://species-id.net/wiki/Liquidambar_poilanei)

**Distribution.** Vietnam. **Representative specimens examined:** VIETNAM. Lao Cai: Sa Pa, China-Vietnam Team 8462 (HN); Ta Pinh Hmong village, some of the last remaining forest by small river across from rice paddies, S. Ickert-Bond 1296 (F).

**13. *Liquidambar siamensis* (Craib) Ickert-Bond & J. Wen, comb. nov. Basionym: *Altingia siamensis* Craib, in Kew Bull. 1928, 68. TYPE. THAILAND: Müang Pan, 700 m, evergreen forest, Doi Duan, Kerr 5110 (holotype: BK257949!).**

urn:lsid:ipni.org:names:77134713-1

[http://species-id.net/wiki/Liquidambar\\_siamensis](http://species-id.net/wiki/Liquidambar_siamensis)

*Altingia tenuifolia* Chun ex H.T. Chang, in Acta Sci. Nat. Univ. Sunyatseni, 1959(2): 34, 1959. TYPE. CHINA: Guizhou [Kweichow], Dushan, Y. Tsiang 6677 (holotype, IBSC!, isotypes: A [A00043392!], E [E00181734!], NY [00356122!]).

*Altingia angustifolia* H.T. Chang, Acta Sci. Nat. Univ. Sunyatseni, 1961 (4): 52, 1961. TYPE. CHINA: Guangdong, Dapu, in dense forests, 10 Jun 1957, L. Deng 5031 (holotype: IBSC (IBSC 001000!); isotype: PE (PE00029853!)).

*Altingia takhtajanii* Thai, Bot. J., URSS, l. 996, 1965. TYPE. VIETNAM: Chieng-ve, Moc-chan, alt. 770 m, 13-III-1963, *Thai Van Trung* 108 (holotype: LE!).

**Distribution.** China (Guangdong, Yunnan), Cambodia, Laos, N Thailand, and Vietnam. **Representative specimens examined.** CAMBODIA. Forêt de Phnom Penh, Komnhan, *M. Bejaud* 877 (P). KAMPOT: Bokor National Park, Pokopvil waterfall, near the head, *S. Ickert-Bond* 1280 (F), 1281 (F); Kampot, Bokor National Park, upper Popovill waterfall head, *M. Monyrak* 10 (A); INDONESIA. Java, Preanger Takoka, Koordes 15754 (P). LAOS: Fam Neva et M. Ham, *M. Poilane* 2000 (A, P); haut cours de la Zehepone entre A Chieng et Klem Zalo, *M. Poilane* 13500 (P); Pak Song, Sedone Prov., Sedone, *J.E. Vidal* 4461 (P). THAILAND. NAKORN NAYO: Khao Yai, Hardial 601 (A), *J.F. Maxwell s.n.* (MO); Nakhon Nayok, Khao Yai National Park, *T. Smitinand* 10848 (E); Nam Phnom, Prov. E., District Chaiyaphum, *C.F. van Beusekom* 4102 (MO). UNION OF MYANMAR: Tenasserim division, Tavoy district, east of Paungdaw Power Station, west bank of the Paungdae chaung, *J. Keenan* 1407 (E, MO). VIETNAM: semi flumen Da one in foret Bieu Loa, *L. Pierre s.n.* (P); DA NANG: Tourane, 100 km S of Hue, the later being Loureiro's type locality for the majority of the Cochinchina species, *J. Clemens* 3388 (A, MO, P); GIALAI-KONTUM: Dac Long, Dac Glai, Kontum, *N. Kin Dao* 182 (HN); Kbang, Kong Ha Nung, So Nglang, Xa Dong, Dac Glay, va mot so tinh Khac, no collector 745 (HN); So Rang, An Khe, *V. Xuan Phuong* 586 (HN);

**Khánh Hòa:** Cay to hop, Nhatrang, *M. Poilane* 3228 (P); Hon Ba Mtns., Suoi Cat Village, *D.D. Soejarto DDS 13561* (MO); Nui Chua National Park, Ninh Hai Distr., Vinh Hai Municipality, *J.C. Regalado et al. HLF4449* (MO); **Lam Dong:** en peu au sud de la Mation agu cole de Blao pres du Haut Donai, *M. Poilane* 22153 (P); Loc Tan, Bao Lac, *N. Tien Ban* 469 (HN), *H. Tue* 523 (HN). **Ninh Thuan:** Ka Rom pro: Phanrang, *M. Poilane* 9938 (2 sheets, P); **Son La:** Song Ma, *N. Tien Ban* 110 (HN).

**14. *Liquidambar styraciflua* L., Sp. Pl. 999, 1753. TYPE: *Kalm*, Herb. Linn. No. 1134.1 (LINN), (lectotype designated by Wijnands in Bot. Commelins: 109. 1983, [LINN HL1134.1, seen as image!]).**

[http://species-id.net/wiki/Liquidambar\\_styraciflua](http://species-id.net/wiki/Liquidambar_styraciflua)

*Liquidambar barbata* Stokes, Bot. Mat. Med. iv. 332, 1812.

*Liquidambar gummifera* Salisb., Prod. 393, 1796.

*Liquidambar macrophylla* Oerst., Am. Centr. 16 t. 10, 11, 1863. TYPE. NICARAGUA: Monte Pantasmo. A.S. Oersted 3050 (lectotype designated by Sosa in Flora Veracruz 1:2. 1978 [C], as photo at MEXU; isolectotype [F!]).

*Liquidambar styraciflua* var. *macrophylla* (Oerst.) Nied. in Engl. & Prantl, Nat. Pflanzenfam. 3, Abt. 2a: 124, fig. 69H, 1891.

*Liquidambar styraciflua* var. *mexicana* Oerst., Amer. Centr. 16, t. 11. 1863. TYPE. MEXICO: Veracruz: H. Bartholomé, F.M. Liebmann 3052 (lectotype designated by Sosa in Flora Veracruz 1:2. 1978 [C], as photo at ALA! and XAL).

**Representative specimens examined.** **BELIZE:** Cayo: Chiquibul, Ceibo Grande to Main Divide, *A.K. Monro* 2626 (MO), Ceibo Grande to drill sites track, *M. Pena* 1046 (MO); Chalate, Vicinity of La Palma, Dept. of Chalatenango, *P.H. Allen* 7265 (F). **EL SALVADOR:** Dept. Chalatenango: Along trails from San Ignacio to Las Pilas, west slope, *J.M. Tucker* 1209 (F); Chalate, El Jute, *S. Calderon* 1928 (F); Hacienda San Miguel near Metapan, *M.C. Carlson* 757, (F); On the road between San Salvador and La Palma, *M.C. Carlson* 608 (F); Salvador, Ana, forested slopes between Rio San Miguel and summit of Cerro El Pinal, Pine-aok zone, mountains near Finca San Jose, 10 km, *N.C. Fassett* 28302, (F, GH, MO); San Ignacio, La Palma, *M. Hernandez* 558 (MO); San Jose Igenio, P.N. Montecristo, *V.M. Martinez* 142, 454, (MO); 20 kms al SO de Montecristo, *R.A. Molina* 12578 (F). **GUATEMALA:** Cerro Negro, *J.A. Steyermark* 51726 (A); Chicoyonito, Dept. Alta Verapaz, *J.D. Smith* 1855 (GH); Cocola, Reion de Cocola, northeast of Carcha, Dept. Alta, *P.C. Standley* 70309 (A); Dept. Alta Verapaz, Coban, *H. Tuerckheim* 1804 (E, GH, MO); Dept. Huehuetenango: Cerro Victoria, *J.A. Steyermark* 49713, (A); Dept. Zacapa: pine-covered slopes, Sierra de las Minas, *J.A. Steyermark* 29732 (A); Dept. Zacapa: along Rillito del Volcan de Monos, *J.A. Steyermark* 42409, (A); Huehne, Yalambohoch, *E. Seler* 3024 (GH); Nebaj, Dept. Quiche, *A.F. Skutch* 1739 (A); Sierra de las Minas, near San Geronimo, *W.A. Kellerman* 6412 (MO); Valley of Rio de las Violetas, north of Nebaj, *G.R. Proctor* 25212 (F, MO); Verapaz, Baja Verapaz. Mun. Chilasco, 6km al SW de Chilasco,

*L.P. Tenorio 14900 (MO).* **HONDURAS:** Aldea El Carmelo, 1 km SE of Valle de Angeles, *G. Amador 172* (F); Floresta de pino-liquidambar de la Monatana Zanquin, *R.A. Molina 2834* (F, GH); Lempira, Celaque National Park, ca. 7 km of Gracias, *T.F. Daniel 9628* (MO); Rio Pijol Valley, 6-7 km south of Nueva Eperanza, *R.L. Liesner 26609* (MO); Trencheras, 20 km N of Siguatepeque, *R. Howard 627* (A); Valle Encantado, slopes of Mt. Uyuca, *P.H. Allen 11181* (A); **Dept. Morazan:** entre Pena Blany, Lo de Ponce, *L.O. Williams 17113* (GH); slopes of Cerro de Uyuca, *P.C. Standley 887* (F); **Dept. Altantida:** vicinity of La Ceiba, near Danto river, *T.G. Yuncker 8776* (GH); **Dept. of Comayagua:** edge of ravine near El Achote, *T.G. Yuncker 5830* (F, GH); El Achote, near Siguatepeque, *P.C. Standley 56158* (A); **Comaya:** bosque mixto y humedo de Barranco Trincheras, *R.A. Molina 10807* (F); R. Selan, *V.J. Rodriguez 2840* (F); vicinity of Siguatepeque, *P.C. Standley 6497* (F); **Cortes:** Montana de Cusuco, Cordillera de Idalfonso, *R.A. Molina 7254* (F); Montaña San Cristobal, sur de Agua Fria, *R.A. Molina 7614* (F); Montaña Agua Fria, *R.A. Molina 11342* (F); Montana San Idalfonso entre Banaderos y Cusuco, *R.A. Molina 11454* (F). **El Paraiso:** Guinope, *V.J. Rodriguez 1883* (F); Montaña Teupasenti, entre Junquillo y Teupasenti, *R.A. Molina 11940*, (F); Mt. Volcan, *L. Williams 12190* (F); Paraiso; **Lempira:** Montana de Celaque, SE portion of massif, *G. Davidse 34570* (MO); Mount Elaque National Park, *J. Renfrow 16* (MO); **Moraza:** 20 km de Tegucigalpa, Montaña La Tigra, *A. Rubio 63* (MO); Bosques del Volcan de Guaimaca, Cordillera Misoco, *R.A. Molina 6127* (F); Campamento de Las Flores, *P.C. Standley 13708* (F); Cerca de Montaña La Tigra, *R.A. Molina 13755* (F); Faldas de Uyuca, *R.A. Molina 983* (F); Los Planes. 25 km al N.E. de Tegucigalpa, *S. Y. Chevez 119* (MO); Pinares entre La Piramide y Zambrano, *R.A. Molina 11034* (F); Region of El Quebracho, *P.C. Standley 23747* (F); Valle Encantado, slopes of Mt. Uyuca, *P.H. Allen 11181* (F); **Ocotepeque:** Cordillera Merendon 10 km from Nueva Ocotepeque, *R.A. Molina 22235* (F); **Olanch:** Montaña La Bellota en Cordillera Almendares, *R.A. Molina 8430* (F); **Siguate:** 7.5 km SW of Gracias, Lempira. Celaque National Park, *T. Hawkins 176* (MO); Alrededor del Centro de Visitantes, *D. Mejia 357* (MO); Guamil alrededor de Los Planes, *D. Mejia 402* (MO). **MEXICO:** **Chiapas:** A 500 m al N de Rayon, camino de Pichucalco, *S.E. Martinez 24118* (MO); 3 km northwest of Pueblo Nuevo Solistahuacan, *R.F. Thorne 40034* (MO); at Rincon Chamula, 12 km northwest of Pueblo Nuevo, *P.H. Raven 19784* (F); Colegio Linda Vista (Yerba Buena), *G.L. Webster 17747* (MO); Colonia Kokijaz, *A. Mendez Ton 6087* (MO); Mpio. De Bochil, Puliupul, *C.H. Perino 3262* (MO); Ridge with Montane Rain Forest- Pine Oak, *D.E. Breedlove 21762* (MO); San Andres Larrainzar, *L.G. Gonzalez 233* (MO); Steep slope with montane rain forest, *D.E. Breedlove 34365* (MO); West of Tenejapa Center, *D.E. Breedlove 6886* (F); **Hidalgo:** 5 kms al oeste de Tianguistengo, *M. Hernandez 5630* (MO), *M. Hernandez 6912* (MO); 5 kms al oeste de Tianguistengo, district Zacualtipan, *H.E. Moore 1925* (GH); 4 kms al oeste de Tianguistengo, (*styraciflua*) (MO); along Highway 85, *D.H. Norris, 17397* (MO); district Jacala, municipality Chapulhuacan, *H.E. Moore 2176* (GH); district Molango, municipality Molango, *H.E. Moore 1995* (GH); **Nuevo Leon:** Dulces Nombres, *F.G. Meyer 2799* (MO); **Oaxaca:** 12 km al N de Guevea de Humboldt, distr. De Juchitan, *R. Torres 2541* (F); Distrito Mixe: Municipio de Totontepec: Totontepec, *Reyes Rivera, J. 257* (MO); Loma del Guayabo, Huautla de Jimenez, *M. Hernandez 448* (MO);

Municipio de Santiago Comaltepec: La Esperanza, *R. Lopez Luna* 27 (MO); Municipio de Totontepec: Totontepec, *R.J. Rivera* 907 (MO); Municipio de Totontepec, Chinantequila, *E. Vargaz Ruiz* 44, 124 (MO); **Puebla:** Region Orizaba (second label states Xalapa), *M. Bourgeau* 2412 (GH); **Tamaulipas:** Rancho del Cielo (property of Frank Harrison), ca. 7 km WNW of Gomez Farias, *W. Burger* 26 (F); En el Rancho El Julilo, *S.E. Martinez* 3872 (F); **Veracruz:** 1 km above and NW of San Andres Tlalnehuayocan, *M. Nee* 26198 (F); 1 km al norte de Banderilla, Mun. Banderilla, *J.I. Calzada* 5246 (F); 1 km NW of Elotepec along (impassable), *M. Nee* 28898 (F); 2 km al NE de Banderilla, Rancho La Mesa, Banderilla, *M.G. Zola* 500 (F, MO); 3 km SSW of Zongolica along gravel road to Chichiquila, Mun. Huatusco, *M. Nee* 29442, 29444 (F); 6 km (by road) ESE of Ixhuacan de Los Reyes, Mun. Ixhuacan de Los Reyes, *M. Nee* 22484 (F, GH); 10 km north of Huatusco in typical *Liquidambar* forest, *G.K. Arp* 4186 (F); 18 mi North of Jacala on Highway 85, *D. Seigler* 3601 (F); along Huayacocotla-Zontecomatlán rd., between Barro, La Calabaza and 5 km by road SE of Zilacatipan, Mun. Huayacocotla, *M. Nee* 26885 (F); along very winding road from Naolinco to Misantla, 13 km by road S of turnoff to Yecuatla and 6 km by road N of Paz de Enriquez, Mun. Yecuatla, *M. Nee* 26393 (F); about 8 mi N of Teziutlan, toward El Mohon (near border of state of Puebla), *E.W. Manning* 53823 (GH); between Coscomatepec and Huatusco, *F. Boutin* 3480 (F); Camino Bastonal a Santa Marta, *Gomez-Pompa* 5382 (F); Camino a Rancho Nuevo, Huayacotla, *M. Hernandez* M 1499 (F); Cerca de San Fernando, camino a San Fernando, *O.R. Ortega* 1234 (F); Cerro de Macuitepetl, Xalapa, *M.G. Zola* 697 (F); Cerro de San Martin, *J.I. Calzada* 539 (F); Cerro de Villa Rica cerca de Mundo Nuevo, *C.G. Castillo* 1803, (F); Coacoatzintla, *R. Ortega* 837 (F); Consolapan, 4 km al norte de la desviacion, *J.I. Calzada* 5250 (F); en el volcan Santa Marta a 25 km al N de Catemaco, *S.E. Martinez* 3972 (MO); entre Zongolica y Nepopoalco, Zongolica, *T.V. Vazquez* 153 (F); gorge at Puente Acabaloya, ca. 1 km SE of Xico Viejo, *M. Nee* 26295 (F); Jalapa, *C.G. Pringle* 7754 (GH), *C.L. Smith* 1778 (GH); Jardin Botanico y Arboretum de Instituto de Investigaciones Sobre Recursos Bioticos (INIREB), ca., 4km SSW of Xalapa, *H.H. Iltis* 942 (F); kilometro 7, carretera San Adresito, Xalapa, *M.G. Zola* 616 (F); Lado SE de Laguna Catemaco, *J.H. Beaman* 5148 (F); Los Tuxtlas, Ocotal Grande, 5 km N de Mecayapan, Ibarra, *G. Manriquez* 2339 (MO); Mun. Juchique Ferrer La Cima, Plan de las Hayas, *M. Hernandez* 1610 (F); Mun. San Andres Tuxtla, Cerro Vigia al E de Volcan San Martin, *J.H. Beaman* 6276 (F); Mun. San Andres Tuxtla, cima del Volcan San Martin, *J.H. Beaman* 5970 (F); Mun. Xalapa, Jardin Botanico Clavijero, 3 km SE of Xalapa, *M. Nee* 29700 (F); Nacaxtla, Zongolica, *T.V. Vazquez* 260 (F); N Banderilla, *J. Dorantes* (MO); Bastonal-Sierra Santa Marta road, *A. Gentry* 32417 (MO); Near Highway 130 between Huachinango and Tulancingo, *J. Conrad* 3262 (F); Near Huatusco, *F. Boutin* 3494 (F); Nogales, *E. Matuda* 1157 (MO); Parque Ecologico of the Jardin Botanico Fco. Javier, Clavijero, 2km SW of Jalapa along road to Coatepec, *M. Nee* 23457 (F); Paz de Enriquez cloud forest, 15 km south of Misantla, *L. Bohs* 1798 (GH); Orizaba, *Botteri* 860 (GH); Paxopel, Municipio de Cacoatzintla, *F.A. Ventura* 19250 (MO); Rancho del Mesa, Municipio Banderilla, *R.W. Marquez* 997 (F); Rancho Nuevo entre Plan de las Hayas y Tierra, *C.G. Castillo* 1350 (F); Ridge on S side of gorge of Cascada de Texolo, 3 km SE of Villa Xico (Xico=Jico), *M. Nee* 26005 (F); Road to microwave station from Ran-

cho Chula Vista near Coscomatepec, *F. Boutin* 3485 (F); Sierra de Sta. Marta, *M. Sousa* 3548 (F, MO); Loc. Choapan, Mpio. Santiago Choapan, *L.P. Tenorio* 5329 (MO); Tenejapa, carretera Huatusco - Coscomatepec, *R. Avendaño* 277 (F); Tlalneuayocan, *M.G. Zola* 651 (F); Vaxin, cerca del Volcan San Martin, *M. Sousa* 3433 (F, MO); vicinity of small dam, 1/2 km W of Cinco Palos and 8 km NW of Consolapan, Mun. Jalapa, *M. Nee* 29689 (F); Xonamanca, Zongolica, *T.V. Vazquez* 286 (F); Camino al Sumidero, Xalapa, *M.G. Zola* 746 (F). **NICAGARAGUA: Jinotego:** Esteli, N slope of Cerro El Fraile, *W.D. Stevens* 18095 (MO); Finca Aventina, in sierra east of Jinotega, *P.C. Standley* 10026 (F); Hacienda La Balestina, situada a unos 10 km E de la ciudad de Jinotega, *A. Grijalva* 250 (MO); Macizos de Penas Blancas, *W.D. Stevens* 11510 (MO); N slope of Volcan Yali, *W.D. Stevens* 15074 (MO); **Madriz:** 5 km SW of San Juan de Rio Coco, *W.D. Stevens* 17665 (MO); 5.2 km N of San Fernando, *W.D. Stevens* (MO); Cerro El Fraile, *P.P. Moreno* 22766 (MO); **Matagalpa:** 5 km east of Yucul, *C.E. Hughes* 330 (MO); Cerca de entrada a bosque de Selva Negra, *M. Araquistain* 3538 (MO); El Ocotal km 134 between Matagalpa and Santa Maria, *R.A. Molina* 20435 (F, MO); Macizos de Penas, Blancas, SE side, *W.D. Stevens* 21054 (MO); Sta. Maria de Ostuma, Cordillera Central de Nicaragua, *L.O. Williams* 28004, 23388 (F); **Wiwili:** Departamento de Nueva Segovia: ca. 5.2 km N of San Fernando, valley of Rio San Fernando, *G.W. Stevens* 3248 (MO); Jinotega, Municipio de Wiwili, Reserva Natural Kilambe, Comunidad Aguas Frias, sector Caballo, *R. Rueda* 16311 (MO); **Nueva Segovia:** Cerro Mogoton, *J.T. Atwood* 9 (MO), *D.A. Neil s.n.* (F); Cerro Mogoton, 0.5 km W of El Volcan, 3.5 km NE of Dipilto, *S. Tomlin* 176 (MO); Dipilto, El Placer, km 247 carretera a Las Manos, *P.P. Moreno* 25910 (MO); Rio Arenal de Yali, Jalapa, *J.T. Atwood* 6816 (MO). **U.S.A.: Alabama:** Alabama Biological Survey, Auburn, Earle, F. S., (MO); Alabama, Rt. 11, near Knoxville, *C.F. Reed* 102737 (MO); Bienville Blvd., near Cadillac Sq., Dauphin Island, *R. Deramus* 1043 (MO); Rt. 21, 1 mi S of Riedmont, *C.F. Reed* 149022 (MO); Rt. 31, near Stapleton, *C.F. Reed* 103825 (MO); **Arkansas:** 0.8 mi north of Arkansas-Louisiana state line; Hulton, *B.F. Bush* 2425 (MO); Boston Mountains, *P.H. Raven* 26323 (MO); Bottoms, P.O. Malvern, Hot Springs Co., *D. Delmaree* 14502 (MO); Brazil, *D. Delmaree* 10971 (MO); Bruton, *J.M. Greenman* 4299, (MO); Flat woods, P.O. Star City, *D. Delmaree* 16748 (MO); Lake City, *D. Delmaree* 6945 (MO); Lookout Mountain. Near the line between Tennessee and Georgia which crosses the mountain, *J.R. Churchill s.n.* (MO); Monticello PO, *D. Delmaree* 1661 (MO); Near Nogo, *G.M. Merrill* 61 (MO); Nogo, *G.M. Merrill* 168 (MO); Ponca, *L. Hubricht* 1357 (MO); Rush, Marion County, along streams, *E.J. Palmer* 6031 (MO); Springs National Park, *L.H. Pammel* 189 (MO); Westfork, *E.J. Palmer* 8223 (MO); Woods along White River, near Calico Rock, *E.J. Palmer* 35546 (MO); Yell County: Bridge over the Petit Jean River, 2.6 miles north of Ola on State Hwy., *T.G. Lammers* 8304 (F); **Connecticut:** Driftway Lane, *F.C. Seymour* 20577 (MO); Woods, Tokeneke, near Darien, *R. C. Ward s.n.* (MO); **Florida:** Eglin Air Force Base; 11.7 mi east of Florida State Route 285 on Air Force Base Route 213, *J.S. Miller* 9554 (MO); Gainesville and vicinity of Lake Alice, *T.B. Croat* 25056 (MO); Near Jacksonville, *A.H. Curtiss* 4530 (MO); Hummock land, vicinity of Eustis, Lake County, *G.V. Nash* 860 (MO); Swales along Rt. 17, N of Yulee near Goodbread Circle, *C.F. Reed* 102948 (MO); Tall Timbers Research Station on S-12 north of

Tallahassee, *D.A. Breil* 376 (MO); Woods near Oak Hill, Volusia Co., *C.F. Reed* 35659 (MO); Woods, Rt. 41, 2 mi N of Brooksville, *C.F. Reed* 101308 (MO); **Georgia:** 1/2 mi S of Brewton, *G.L. Bracewell* 42 (MO); 2.4 mi E of Ailey on US 280, *J.C. Solomon* 2070 (MO); Alapha River swamp, 6 mi S of Stockton, *J. Norsworthy* (MO); Edge of Damp woods, Leslie, *R.M. Harper* 1391 (MO); Farm Woods, Rt. 301 just N of Ogeechee River, *C.F. Reed* 116746 (MO); Flood plain and banks of Ty Creek, *W.R. Faircloth* 3374 (MO); Hammock area (elevated terrain) surrounded by low pinelands on the E side of Moody AFB Reservation, *W.R. Faircloth* 3709 (MO); **Illinois:** 2.9 mi S of Gorham Rd. on ILL 3, then 3.9 mi E on Turkey Bayou Rd., bank of the big muddy river, *J.C. Solomon* 3719 (MO); Fountain Bluff, mesic woods along summit roadside, *R. Carlson s.n.* (MO); Horseshoe Island, *G.N. Jones* 12054 (MO); Mound city, *E.J. Palmer* 14826 (MO); Near Mississippi River, Chester, *E.J. Palmer* 44553 (MO); Tunnel Hill, *E.J. Palmer* 15227 (MO); **Indiana:** Awensville, *C.F. Reed* 3213 (MO); Near Arlington, *C.F. Reed* 3494 (MO); Brandywine, *C.F. Reed* 2840 (MO); Calvert Co., *C.F. Reed* 2463 (MO); Damp woods along River R. near Herald Beach, *C.F. Reed* 30915 (MO); David Hill Park, Balto, *W.N. Lee* 6 (MO); Double Rock Park, Parkerville, *L.E. Schauer s.n.* (MO); Flats Region, Guthrie Memorial Tract, *R.C. Friesner* 10161 (MO); Indian Head, *C.F. Reed* 3079 (MO); Lower Marlboro, *C.F. Reed* 4829 (MO); marches just south of Curtes Bay, Brandens Shore, *C.F. Reed* 31066 (MO); Middle River, *C.F. Reed* 3094 (MO); Oak-maple woods, Rt. 313, 1 mi N of Mossey, *C.F. Reed* 127985 (MO); on Rantan Formation, Elk Neck State Park at Rogus Harbor Boating facility cutoff, *C.F. Reed* 126623 (MO); Pt. Lookout .527, St. M., *C.F. Reed* 2476 (MO); Shiloh, *C.F. Reed* 409 (MO); Swampy woods E of Patiewment, S of Upper Marlboro, *C.F. Reed* 22817 (MO); Swampy woods near Pomonkey, *C.F. Reed* 23414 (MO); Wicomico, *C.F. Reed* 2533 (MO); woods along road to Southland Bog, *C.F. Reed* 125997 (MO); woods just north of East Riverside, *C.F. Reed* 29353 (MO); Woods Point Park, Bush R., *C.F. Reed* 128078 (MO); woods south of Drum Point, *C.F. Reed* 29290 (MO); Warwick, between Rt. 282 and Rt. 301, *C.F. Reed* 136283 (MO); **Kentucky:** 1 mile north of Cogswell, Rowan County, wet ditches, *C.F. Reed s.n.* (MO); 1 mile north of Cogswell, Rowan County, wet ditches, *C.F. Reed* 13437 (MO); along Ison Creek, on igneous mica-peridotite dike west of Stephens, *C.F. Reed* 115816 (MO); along Axley Branck, Morehead, *H. Williston* 111 (MO); along Maxon Rd., just w of Concord, off Rt. 60, *C.F. Reed* 110706 (MO); Bowling Green, *S.F. Price s.n.* (MO); Georgetown, *C.F. Reed* 81477 (MO); Low woodlands, Rte. 68, near Erie, *C.F. Reed* 129641 (MO); Near Reed, Rt. 60, *C.F. Reed* 117576 (MO); Near Wago, Rt. 90. 3 mi W of Albany, *C.F. Reed* 52888 (MO); Redd Hallow, L.B.L., 0.5 mi W of Kentucky 94, *K. Hutchens* 12 (MO); Rt. 42, Skylight, *C.F. Reed* 44907 (MO); Robey's Swamp, 3 mi NW of Franklin, *C.F. Reed* 82311 (MO); Rt. 45, 1.5 mi NE of Water Valley, *C.F. Reed* 52801 (MO); Rt. 470, Larue Co., near Buffalo, *C.F. Reed* 45066 (MO); Woods at Lovely, *C.F. Reed* 75623 (MO); Woods, Di-ohmans Springs, 7 mi NW of Barbourville, *C.F. Reed* 7176 (MO); Woods near Goddard, Fleming Co., *C.F. Reed* 10446 (MO); **Louisiana:** 15 ft. from University Lake along Louisiana 42, S of Baton Rouge, *K. Sijam s.n.* (MO); 2 miles north of Gorum, Kisatchie Wood, Natchitiches Parish, *J. Ewan* 17630 (MO); 6 mi West of Ruston on Louisiana 507, *P. Lohman* 31 (MO); Cemetery, waste area and neighboring woodlands, *J.K. Parrott* 427

(MO); Cypress Creek bottom, two miles N of Vienna, *G. Fischer* 20 (MO); just north of D'Arbonne Fire Tower, *P. Both* 315 (MO); Ponchatoula, Williams Lumber, (MO); **Mississippi**: Meramec State Park. Cambell Hollow, *D. Dress* 4 (MO); Natchez, *F. Shimak s.n.* (MO). Ocean Springs, Shekan, J., (MO); **Missouri**: at base of limestone bluffs alongs Frederick Pork near “The Narrows”, west of Calm, *J.A. Steyermark* 18919 (MO); base of Black Mtn., *J.A. Steyermark* 21077 (MO); base of wooded lime slopes along spring branch of Williams spring on east side of current river, T25N, R1E, sect. 34, SW of Grandin, *J.A. Steyermark* 11853 (MO); Bilsted, Gum near Illmo, *A. Christ s.n.* (MO); Campbell Mts., *B.F. Bush* 227 (MO); Ca. 8 mi NE of Salem (T35 R4W S33 S2 SE4), Upper Ozark Section of Ozark Natural Division. Indian Trail conservation Area, *T. Smith* 3500 (MO); Columbia, near corner of Paquin an Waugh Streets, *C. Dietrich* 265 (MO); Kirkwood, *F. Comte* 437 (MO); low ground area in valley Blue Spring Itol, T27 N, R7 E sect. 20, 2 mi E of Chaonia, *J.A. Steyermark* 6313 (MO); lowland woods between Menfro and Belgique, 2 mi southwest of Belgique, *J.A. Steyermark* 14027 (MO); on a siding of the Terminal Railroad Association , *V. Muehlenbach* 3361 (MO); Pleasant Grove, *B.F. Bush* 258 (MO), *K.K. Mackenzie* 421 (MO); Poplar Bluffs, *G. Letterman s.n.* (MO), *H. Eggert s.n.* (MO); rich swampy woods on elevated portion, *J.A. Steyermark* 8662 (MO); Timber Tract, 10 mi southwest of Wolf Island; Low woods along mud creek, T26N, R7E, sect. 20, 2 mi northwest of Rombauer, *J.A. Steyermark* 11294 (MO); Williamsville, *E.J. Palmer* 4805 (MO); Woods, Butler County, *B.F. Bush* 3721 (MO); **North Carolina**: Dry open woods east of Chapel Hill off 15-501, *J.P. May* 95 (MO); near Sisk's house, foot of Table rock, *S.K. Small* 292 (MO); Swamps, Bladen Country, Biltmore , 4178, (MO); Open marshy area, Durham, *C. Henniger s.n.* (MO); Woods just S of Grandy, Currituk Co., *C.F. Reed* 41634 (MO); **Oklahoma**: Broken Bow, *E.J. Palmer* 10496 (MO); growing on flat ground in valley, *H. Newton* 94 (MO); near Page, *G.W. Stevens* 2634 (MO); wet sandy loam soil in a wood, 4 mi SW of Broken Bow, *R. Stratton* 585 (MO); **Pennsylvania**: N of Boulevard, along Philadelphia-Trenton border of P.R.R., Cedar Grove, *J.W. Adams* 177 (MO); **South Carolina**: 1 mile north of Bloomfield, low pasture, beside Hwy 25, *A. Chandler* 2047 (MO); Anderson, *J. Davis s.n.* (MO); McKinney Spring, *J. Davis s.n.* (MO); Simpson's Mill near Anderson, *J. Davis s.n.* (MO); Upper coastal plain, sandy soil, *M.L. Conrad* 11171 (MO); **Tennessee**: Hancock-Claiborne County line, Damp cove, *Vogenberger* 8066 (MO); Knoxville, *A. Ruth s.n.* (MO); Aumville (?), *A. Ruth* 271 (MO); Nashville 12 mi west on River Rd., *E. Quaterman* 1036 (MO); Near Memphis, *E.J. Palmer* 17516 (MO); Near Shepherd, *E.J. Palmer* 17478 (MO); **Texas**: 2nd Bottom, *E.D. Marshall* 8711 (MO); Big Thicket National Preserve. Lance Rosier Unit. Ca., *J. Stone* 3096 (MO); Houston, *B.F. Bush* 16, 22 (MO); Livingston, Polk county, *E.J. Palmer* 5235 (MO); **West Virginia**: Banks of James River, near Richmond, *J.R. Churchill s.n.* (MO); Camden Ave., near Ritchie St., Buchanon, *G.B. Rossbach s.n.* (MO); Carrollton, Isle of Wight Co, *C.F. Reed* 102408 (MO); Huntington, *Williams* 306 (MO); Miles Creek, Rt. 58, 6 mi S of South hill, *C.F. Reed* 53398 (MO); Paducah, McCracken County, *E.J. Palmer* 17884 (MO); Pigeon creek near Enons School, Mingo County, *E.E. Berkley* 966 (MO); Rt. 617 off Rt. 205, NE of Edgehill, *C.F. Reed* 130382 (MO); woods near Norfolk, *F. Blanchard* vicinity of Norfolk, *M.C. Jensen s.n.* (MO); Walls Run Creek at Rt. 10 near Rt. 609, *C.F. Reed* 89698 (MO);

woods south of Suffolk, *C.F. Reed 8946* (MO); *s.n.* (MO); woods, 8 mi SW of South Hill, Rt. 58, Mecklenburg Co., *C.F. Reed 53404* (MO); woods along Rt. 14, Mattaponi, King and Queen Co., *C.F. Reed 45994* (MO); woods just E of Pohick Church, on Old Colchester Rd., *C.F. Reed 103177* (MO); woods just W of Camplain P.O., Rt. 17, *C.F. Reed 100957* (MO).

**15. *Liquidambar yunnanensis* (Rehder & Wilson) Ickert-Bond & J. Wen, comb. nov.** Basionym: *Altingia yunnanensis* Rehder & Wilson, in Sargent Pl. Wilson. I: 422 (1913). TYPE. CHINA: Yunnan: Mengtze, A. Henry 10395 (Holotype: A [A0043393!]; isotypes: K [H2007/01764!], NY [NY00356723!]).  
 urn:lsid:ipni.org:names:77134714-1  
[http://species-id.net/wiki/Liquidambar\\_yunnanensis](http://species-id.net/wiki/Liquidambar_yunnanensis)

**Distribution.** China (Yunnan), Vietnam. **Representative specimens examined.** China, Yunnan, Mengtze, A. Henry 11082 (A). Vietnam: **Lao Cai:** road to O'Qui Ho, SaPa, *Institute Bot. Yunnanica s.n.* (HN); **Cao Bang:** Cao Son, *Poilane 19024* (P000317376!).

### Doubtful names

1. *Altingia indochinensis* H. T. Chang, Acta Sci. Nat. Univ. Sunyatseni, 1961 (4): 53 (1961). Type: Indochina, without locality, *M. Poilane 2000*. We have not located the type specimen.

According to Chang (1961), this species is closely allied to *A. gracilipes* Hemsl. and its variety *A. gracilipes* Hemsl. var. *serrulata* Tutch., but differs from them by longer, oblanceolate or oblong leaves which are cuneate at the base, more robust petioles, and multiflorous heads.

### Excluded names

1. [Araucariaceae *Altingia cunninghamii* in Hort. Brit. [Loud.] 403 (1830)].

Notes: =*Araucaria cunninghamii*]

*Altingia cunninghamii* J. Ross, Hobart Town Almanack (1835) 66.

**Remarks.** Given as a name without description by G.Don in J.C. Loudon, Hort. Brit. (1830) 403. Not in Index Kewensis. "lately discovered by Mr. Ronald Gunn, at the falls of the river Meander and also by Mr. J.W. Scott, the collector on the banks of the Huon".

2. [Araucariaceae *Altingia excelsa* in Hort. Brit. [Loud.] 403 (1830)].

Notes: =*Araucaria excelsa*]

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