A MONOGRAPH OF *MELIA* IN ASIA AND THE PACIFIC
The history of White Cedar and Persian Lilac

D.J. MABBERLEY
Departments of Botany and Forestry, University of Oxford, Oxford, England

EFFECTIVE-PUBLICATION DATE: 5 SEPT 1984

Abstract

The wild forms of *Melia* in Asia are described and assigned to one species. The relationship of that taxon to plants cultivated in Asia, Europe, America and Africa is examined and it is concluded that selected forms have been long cultivated in both India and China. Groups of cultivars have been selected from these two centres of domestication and introduced to other warm parts of the world. The widespread Persian Lilac or *mindi kechil* seems to be of Indian stock and to have been widely introduced in America and Africa: mutant forms of it include the Texas Umbrella Tree. The Chinese cultivars are those widely grown in Japan and introduced thence to Europe as *M. japonica*. The whole complex is treated as one species (*M. azedarach*) comprising the wild populations and the two major groups of horticultural cultivars which are set out in a formal revision. All names in *Melia* and its synonyms applied to Asiatic and Pacific plants are identified in an appendix, while the typification of *M. azedarach* is set out in another.

WILD *MELIA* IN ASIA

In the Gunung Leuser Nature Reserve, Aceh, northern Sumatra, grow magnificent specimens of a species of *Melia*. Those collected by W. de Wilde and his wife (15884, 16548 – L!) in the Lau Alas valley in 1975 were noted as being 40 m tall with a diameter at breast height of some 60 cm; the flowers had white petals and the staminal tube was yellow at the apex, turning purple-red as the flower matured; the fruits were some 3 cm long, the twigs stout and heavily clothed with a fulvous stellate indumentum when young, while the leaflets of the bipinnate leaves were strongly acuminate with rather obtuse or even rounded bases and were up to some 6 cm long. These specimens are exceptionally fine examples of a forest species which seems to grow wild throughout the more seasonal forests of Indomalesia, from India, Burma and Malesia (absent from the Malay Peninsula and Borneo) to the Solomon Islands and tropical Australia. In India, it has been known as *M. superba* and *M. robusta*, names based on material collected from trees grown in the Calcutta Botanic Garden from seeds gathered in Soonda (? Carnatic) and 'Malabar' respectively by Andrew Berry, or as *M. composita* and more lately as *M. dubia*. In Burma, it is *M. birmanica*, in Indochina *M. composita* var. *cochinchinensis*; in Java it was described from cultivated material as *M. bogoriensis* while Timorese material has been called *M. candollei* and seems not to differ substantially from *M. azedarach* var. *australasica*, the White Cedar of tropical Australia. The specimens from Java and further east seem to be somewhat more glabrous than those collected in Sumatra, while material from Australia often has distinctly pink or even mauve flowers. Nevertheless this wide distribution with such minor variation is typical of Asiatic Meliaceae of drier forests and other more open vegetation, being very similar to that of *Turraea virens* L. (incl. *T. pubescens* Hell.) for example, while *Cipadessa*

baccifera (Roth) Miq., which is found only in the western part of the range of those two species, is again absent from the forests of the Malay Peninsula and Borneo.

Melia in Cultivation

Outside botanic gardens in Malesia, the common *Melia* cultivated is the Persian Lilac or Bead-Tree (fig. 1). It is typical *M. azedarach*, the type species of the genus, and is the only *Melia* to be seen in the Malay Peninsula and Borneo. In the first and in Singapore, it is known as *mindi kechil*. It is one of the most widely cultivated of all tropical trees and differs from the wild trees described above in its variably lobed or serrated leaflets, which are smaller, its relative glabrousness and its large lilac, blue, or occasionally white flowers. As it flowers precociously (even as seedlings sometimes – see van Steenis in *Flora Malesiana* I, 4 (1948) xxi – like a number of other species in cultivation, where this phenomenon is most readily observed), forms of it can be grown in conservatories in temperate countries and in bedding schemes. Selected hardy forms of this plant, which, when fully grown, is straggly and of poor form, may be grown outside in Europe, even in Great Britain where it was probably first cultivated in the sixteenth century.

The source of the European plants was probably Iran or elsewhere in the Middle East, where it has been long known and both its common English name as well as its specific epithet commemorate this. *Azedarach* is a Persian word, or at least a rendering of *āzādraxt* or *āzādiraxt*, which Laufer (*Field Mus. Nat. Hist. Publ.* 201, *Anthrop. ser.* 15, 3 (1919) 583) takes as the name for *Azadirachta indica* A. Juss. (*M. azadirachta* L.), the *neem* tree. The Arab philosopher and physician Avicenna (979–1037) refers to the name, which probably first appeared in a European text in the work of L'Obel (*Nova stirpium adversaria*. . .(1576)) as *Azedaraeth*. It has some medicinal properties but has been widely cultivated in the Mediterranean for shade and as a source of beads for rosaries and so forth, the fruits with a central channel through them when dried being ideally suited to this. Indeed the tree became known there as *arbor sancta* or *arbor pareiso* (i.e. Paradise) a name still common in Spanish-speaking countries. The earliest reference I have found to it is as *(is)zanzaliqu* on a stela of the Assyrian king, Assurnasirpal II, near the doorway of the palace leading to the throne room at Nimrud, the ancient military capital. The inscription is dated ca. 879 B.C. and describes the trees planted: Persian Lilac was one of the 42 species of tree in this Babylonian botanic garden (see D.J. Wiseman in *Iraq* 14 (1952) 24–44 and M. Levey in *Isis* 52 (1961) 94–95). It is very tough and is naturalized in many warm countries, sometimes becoming, as in Madagascar for example, an aggressive pioneer. By contrast, the White Cedar is rarely grown outside the tropics, where a number of selected cultivars are used in forestry and, in Great Britain, where it was introduced in the 1750s, it must be grown under glass.

According to Bailey (*Stand. Cyclop. Hort.* 2 (1933) 2024), *M. azedarach* is widely naturalized in the southern United States. He reports that 'Several forms have been found, a white-flowering and one with the segms. of the lfts. cut in narrow divisions. These forms are not constant, the seedlings frequently reverting to the typical species'. Such may be the forms described from cultivated plants and known as *M. sambucina* and *M. azedarach* var. *incisa* (Java) and var. *acuminatissima* (Sulawesi)

and var. *subtripinnata* (Japan), though the last may be a form of the *'tô sendan'* (see below).

A particularly precocious floriferous form has been named *M. floribunda*, though perhaps the most striking of all is that known as the Texas Umbrella Tree, which has a dense flattened crown. Bailey notes, 'The first tree that came to notice is said to have been found near the battlefield of San Jacinto, Texas, but with no record of its intro. there. If the fls. are not crosspollinated with the common sort, the percentage of seedlings which reproduce the exact umbrella shape seldom varies; hence it is supposed by some to be a distinct species'. Linnaeus himself described a variety *sempervirens* from cultivated Sinhalese material grown in Holland, a form which retained its leaves rather more then does the typical plant. However, the text to the plate (see fig. 1) in the *Botanical Magazine* (27 (1807) t. 1066) suggests that even the deciduous form would retain its leaves more effectively under stovehouse rather than greenhouse conditions in Europe. According to Watt (*Dict. Econ. Prod. India* 5 (1891) 221) these Sinhalese plants were brought south from northwest India. An apparently similar form seems to have arisen spontaneously in Argentina (Balozet in *Rev. Bot. App. Agr. Trop.* 33 (1933) 461).

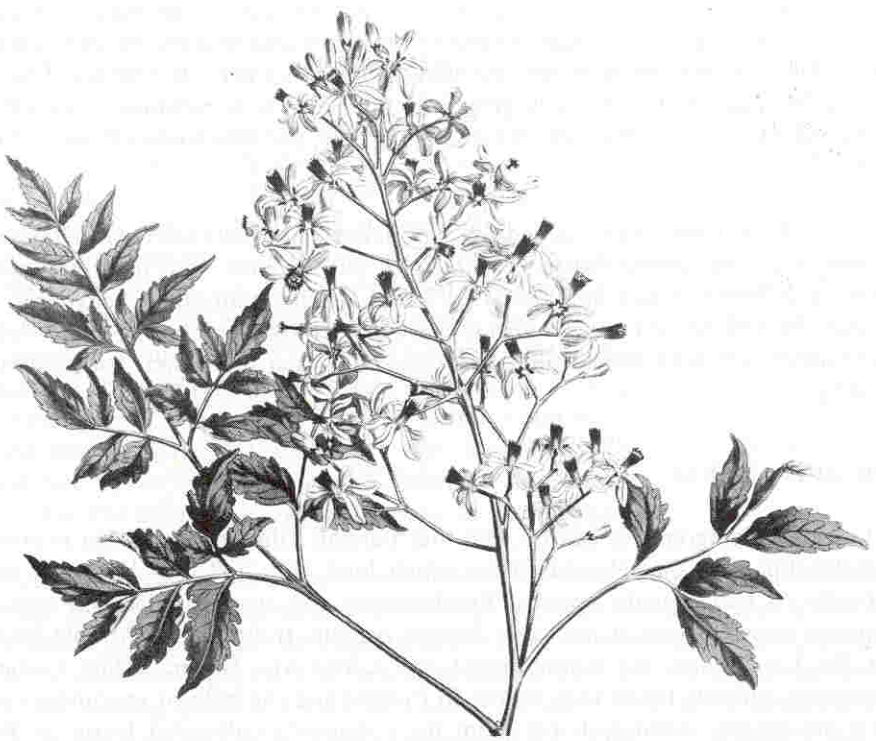

Fig.1. Persian Lilac as long grown in Europe.
Drawing by Sydenham Edwards from material cultivated in a nursery near London at the beginning of the nineteenth century (*Bot. Mag.* 27 (1807) t. 1066).

Melia, as circumscribed by Harms (1940), is an Old World genus*, and all neotropical populations are derived from introduced stock of *M. azedarach*. Of those in the West Indies (*'M. sempervirens'*, though whether they are the form Linnaeus named var. *sempervirens* is not clear), some were brought back to the Old World, much as other Old World plants such as the African *Parkia biglobosa* (Jacq.) R. Br. ex G. Don f. (Leguminosae) were. The *Melia* became naturalized, notably in West Africa. Specimens collected there were duly named *M. angustifolia* and living plants called *M. guineensis*, but there was never any doubt that these were of cultivated origin.

In the nineteenth century, a new source of cultivated *Melia* for European gardens was Japan: the trees were called *M. japonica* and had larger fruits and more entire leaflets. In Japan, they were known as *tô sendan*, i.e., *Melia* from China, and it was soon realized that these, like so many Japanese garden plants, were anciently introduced from China, where they had been long cultivated. The first mention of the plant in Chinese literature is in the ancient Taoist classic *Chuang-tze*, where it is said that the fruit was eaten by a fabulous bird: the text is c. 300 B.C. In Ch'ü Ta-chün's *Kuang-tsung hsin-yu* of 1700, there is an article on *k'u-lian* (*k'u* means bitter as in *k'u-li* (coolie), bitter strength), p. 641, 'It is very easy to grow. In the villages whenever a girl is born they always plant many of them in order to make vessels at the time when they marry. The fruit is bitter and should not be put in the mouth'. He also notes that it was much prized in antiquity and that the flowers were used for making incense, while in the late Ming and Ch'ing periods, the wood was used for patten-making. It was early grown in Japan for it is mentioned several times in the earliest extant anthology of Japanese poetry, the *Manyoshu* of the mid-eighth century.

Forms from China were named *M. toosendan* and plants selected in Japan were named, e.g., var *semperflorens*, f. *albiflora*, but Makino, who described many of these at different ranks and under different specific names, records (*Bot. Mag. Tokyo* 28 (1914) 35) that hybrids between 'subvar. *japonica*' and 'subvar. *toosendan*', which he named subvar. *intermedia*, occur when these forms are grown together.

The Story So Far

From the foregoing, it can be seen that Persian Lilac in cultivation is extremely variable but that the selected forms which look very different have not lost the capacity to form fertile hybrids. Furthermore, the stocks in Europe and North America seem to have at least two distinct origins: India via the Middle East (and via Sri Lanka and the Netherlands) and China via Japan. White Cedar is a somewhat variable forest tree, tender in Europe and the bulk of specimens referred to it are readily distinguishable from the commonly cultivated forms of Persian Lilac. As Harms noted, however, it would be misleading to infer from this that all specimens can be neatly pigeonholed, for there are specimens of White Cedar with

* See Pennington in *Flora neotropica* 28 (1981) 25 for fate of names published in *Melia* for native neotropical plants.

little indumentum or with rather serrate leaflets. Fully ripe fruits are rarely gathered and collectors do not always note the colour of the flowers, which changes with time in any case, while young leaves are often gathered with flowers, the mature ones being neglected. Furthermore, I have been quite unable to correlate differences in flower colour, leaf size, shape and indumentum with geography. Indeed, as far as the Asiatic representatives of *Melia* are concerned, then, I cannot but agree with Ramamoorthy (in Saldanha & Nicolson, *Fl. Hassan Dist.* (1976) 395) who notes, 'The taxa of this genus (species, varieties, etc.) apparently intergrade'.

In Africa, the matter is as yet not completely resolved in that there are apparently truly wild trees besides the cultivated Persian Lilac. Those in Angola have been included in *M. dubia*, i.e., White Cedar in the sense of this paper, by Exell and Mendonça, *Consp. Fl. Angol.* 1 (1951) 318. However, the limited material I have seen looks rather different and has been referred to the distinct species *M. volkensii* Guerke (East Africa) and *M. bombolo* Welw. (Angola). These clearly require further study but are something of a sideshow as far as the problem of the taxonomy of the bulk of *Melia* is concerned.

Possible Systematic Arrangements

Miquel, who worked on the Japanese cultivars as well as those found in Malesia, wrote (*Ann. Mus. Bot. Lugd. - Bat.* 3 (1868), 'in universum Meliae species nondum ab omni parte satis inter se comparatae novo indigent examine'. Harms, a reluctant 'lumper' elsewhere in Meliaceae, felt (1940, q.v. for detailed references of following works) that there were indeed only two species in Asia and the Pacific, and these were separable only with difficulty: *M. azedarach* (Persian Lilac) and *M. dubia*. The earlier monographer of the family, Casimir de Candolle (*in* DC., *Mon. Phan.* 1 (1878)), in the meantime, had maintained a number of previously described species as distinct and recognized three varieties of *M. azedarach*: var. *glabrior* (Persian Lilac), a superfluous name for the type variety, var. *australasica* (White Cedar) and var. *squamulosa* for forms of the wild tree with a rather heavy indumentum found in mainland Asia and Java. Koorders & Valeton (*in Med. 's Lands Pl. Tuin* 16 (1896)) recognized a number of species in the complex and designated the wild Javanese tree var. *javanica*. Pierre (*Fl. For. Cochinch.* (1897)) had the wild Indo-Chinese tree as var. *glandulosa* and Pellegrin (*in* Lecomte, *Fl. Gén. Indoch.* 1 (1911)) gave the name var. *cochinchinensis* to such a plant.

The cultivated forms have also been variously reduced to varieties, subvarieties or forms, though it would seem that if these are worth recognizing, a cultivar nomenclature would be more appropriate as it is in the provenances used in forestry. Indeed, two extreme types have already been thus designated (see below) but as for any further naming, particularly of the Chinese cultivars, this can be largely left to those who deal with the plants readily available in the trade. The problem from the botanist's standpoint is what to do with White Cedar, given that it is not apparently specifically distinct from the type, which is Persian Lilac (see Appendix II).

Of possible solutions, the simplest would be to amalgamate all the Asiatic plants and those introduced into the rest of the world as *M. azedarach*. This would have

the advantage of coping with the intermediate specimens and would leave open the question of the origin of the original 'Indian' material and the Chinese plants. Indeed, with the widespread cultivation of the tree and destruction of the original forest, it may now be quite impossible to reconstruct this history anyway. It would have the disadvantage, however, of throwing together cultivated and wild plants in Asia, where the wild ones are manifestly rather different in form and so forth as well as in value for horticulture. The opposite solution would be to maintain the wild Asiatic trees as one species whilst maintaining the widespread cultivated Persian Lilac as another, as Harms (1940) did. This solution conceals the apparent close relationship of the two 'species' notably in not coping with the rather intermediate position of the Chinese cultivars. In Malesia, it would be convenient to be able to distinguish the truly wild trees from the introduced exotics but as the whole cannot be honestly treated other than as a single species, some intraspecific system is required. With some cultivated plants, it has been found appropriate to name the presumed ancestral populations at the subspecific or varietal level, as in the case of the carrot, sugar beet and teasel for example. In making such a category for the wild plant, in this case, White Cedar, however, the cultivated plants would fall into the nominal variety or subspecies. This is exactly paralleled by the hypothesized state of affairs in the grape vine, *Vitis vinifera* L. (Burtt, *Biol. J. Linn. Soc.* 2 (1970) 233–238)), where Linnaeus is deemed to have made a type variety when actually naming an atypical variant as a variety, while the same plant would be the typical subspecies should an atypical subspecies be described in *V. vinifera*. In *M. azedarach*, such a formal system would be undesirable in any case, as the Chinese and the Indian cultivars would be drawn together in what would be, in effect, a polyphyletic taxon, segregated from the wild forms, to certain groups of which cultivar grouping is more closely allied than to one another.

In view of this, then, it seems preferable to take Burtt's advice and to avoid the artificiality of the formal infraspecific hierarchy and use an informal system, which, in this case, is very straightforward. The whole complex is to be known by its oldest name, *M. azedarach*, even though the type is a cultivated plant. Those cultivated plants which merit recognition as distinct should be given cultivar names by those who deal in the horticultural trade. No name seems to me to have been given at this level to the Persian Lilac in its commonest Indian or 'Japanese' forms, though there are a host of varietal names. The most precocious forms have already been called 'Floribunda', the Texas Umbrella Tree 'Umbraculifera'. Here then, from a botanist's standpoint, the synonyms pertaining to the wild tree are grouped together and those to the horticultural trees are tentatively grouped into Chinese and Indian cultivars.

MELIA L.

Melia L., Sp. Pl. 1 (1753) 384; Pennington, Blumea 22 (1975) 463. – Type: *M. azedarach* L.

Azedarach Mill., Gard. Dict. Abr. ed. 4 (1754) [170]. – Type: not indicated.

Zederachia Heist. ex. Fabr., Enum. Meth. Pl. (1759) 221, *nom. superfl. pro Melia* L.

Antelaea Gaertn., Fruct. Sem. Pl. 1 (1788) 277. – Type: *A. javanica* Gaertn.

Azedara Raf., Fl. Ludov. (1817) 135, *nom. superfl. pro Melia* L.

Azedaraca Raf., Med. Fl. 2 (1830) 199, *nom. superfl. pro Melia* L.

Trees, occasionally flowering precociously as shrublets. *Indumentum* of simple and stellate-tufted hairs. *Leaves* 2(3)-pinnate. *Inflorescence* thyrsoid, axillary. *Flowers* hermaphrodite and male on same tree. *Calyx* 5(6)-lobed to near base, lobes somewhat imbricate. *Petals* 5(6), free, imbricate. *Staminal tube* narrowly cylindrical, slightly expanded at mouth, 10(12)-ribbed, with 10 or 12 truncate, bifid or 4-fid filiform lobes; anthers 10(12), inserted at margin or just within tube, alternating with or opposite lobes. *Disk* small, surrounding base of ovary. *Ovary* 4–8-locular, each locule with 2 superposed ovules; stylehead capitate to coroniform with 4–8 short, erect or incurved stigmatic lobes. *Drupe* 3–8-locular; endocarp thick, bony, deeply dimpled at both ends; loculi 1(2)-seeded. *Seed* oblong, laterally compressed; testa leathery, sometimes slightly swollen and fleshy round hilum; embryo embedded in oily endosperm; cotyledons flat. *Germination* phanerocotylar; eophylls opposite, pinnatisect or trifoliolate. 2n = 28.

One species in Indomalesia with possibly two closely allied ones in south and east tropical Africa. Forms of the Indomalesian species are widely cultivated and naturalized throughout the warm parts of the world.

Systematic Arrangement of the Complex of Wild (Asiatic) and Cultivated Forms

Melia azedarach L., Sp. Pl. 1 (1753) 384. – Type: Holland, de Hartecamp, cult. *Hort. Cliff.* 161.1 (BM! lecto; see Appendix II).

Azederach deleteria Medik., Geschl. Malv. (1787) 116.
M. florida Salisb., Prodr. Hort. Chapel Allert. (1796) 317, *nom. superfl.*
Azedara speciosa Raf., Fl. Ludov. (1817) 30, *nom. superfl.*
Azedaraca amena Raf., Med. Fl. 2 (1830) 199, *nom. superfl.*
M. azedarach var. *glabrior* C. DC. in DC., Mon. Phan. 1 (1878) 452, *nom. superfl.* – *Azedarach sempervirens* (L.) O. Ktze var. *glabrior* O. Ktze, Rev. Gen. 1 (1891) 109.
A. vulgaris Gomez de la Maza in Repert. Med.-farm. Havana 5 (1894) 296 (n.v.).

Tree to 40 m, ± deciduous: bole fluted when old, to 60 (180) cm diam. *Bark* grey-brown, smooth, lenticellate, becoming lightly fissured or scaling with age; inner bark yellowish; sapwood whitish, soft; heartwood rusty brown. *Crown* of widely spread but sparsely branched limbs. *Twigs* upturned at ends of drooping branches, smooth, brown, lenticellate, with raised cicatrices. *Leafy twigs* ca. 6–8 mm diam., ± clothed with fulvous stellate hairs. *Leaves* 15–80 cm long with 3–7 pairs of lateral rachides, each with 3–7 leaflets, the most proximal of which sometimes replaced by short rachides with a few pairs of leaflets, ± weakly pubescent but usually subglabrous; petiole 8–30 cm, to 6 mm diam., terete, lenticellate, swollen at base; lateral rachides to 25 cm long, weakly ascendant, articulated with jointed main rachis and weakly swollen there; leaflets 3–6 (– 10) × 1–2.5 (– 3) cm, ovate or oblong-lanceolate to elliptic, base acute to rounded, apex acuminate, margin entire

to variously serrate, costae ca. 7–10 on each side, subsquarrose to weakly ascendant and arcuate, looped at margin; petiolules 3–7 mm. *Thyrses* 10–12 cm, axillary or borne on shoots with terminal bud (see Corner, *Wayside Trees* 1 (1940) 464); primary branches ca. 5–7.5 cm long, weakly ascendant, secondary to 2 cm, bearing fascicles of scented flowers; axes ± mealy pubescent; bracts 3–10 mm long, filiform, pubescent, caducous; bracteoles similar but smaller; pedicels ca. 2–3 mm long. *Calyx* ca. 2 mm diam.; lobes ca. 2 mm long, ovate, stellate- and simple-hairy without, margin ciliate. *Petals* 6–10 × 2 mm, narrowly oblong, white to lilac or bluish, stellate- and simple-hairy without, sometimes simple-hairy within, midvein conspicuous. *Staminal tube* subglabrous without, ± densely simple hairy within, lobes bifid, or 4-fid, sometimes irregularly so; anthers ca. 1.5 mm long, apiculate, ± hairy, inserted opposite lobes. *Disk* obscure and closely enveloping ovary. *Pistil* glabrous; stylehead ca. 0.75 mm diam. *Drupe* 2–4 cm long, 1–2 cm diam., plum-shaped, glabrous, yellow-brown when ripe; endocarp very hard. *Seed* ca. 3.5 × 1.6 mm, oblong, smooth, brown.

Wild trees are known from India, Nepal, Sri Lanka and tropical China south and east through Malesia (Sumatra, Java, Philippines (Luzon, Negros, Mindanao), Lesser Sunda Isls. (Flores, Timor, Wetar), New Guinea to tropical Australia and Solomon Isls. to 1200 m (1800 m in Himalayan tract) in forests, particularly seasonal ones including bamboo thickets (Thailand) and those on limestone, *Tamarindus* woodland and *Eucalyptus* savanna, where it may coppice. Cultivated forms persist and may become naturalized in secondary vegetation in warm parts of the world.

Uses

The wood of different forms of the species has been used for furniture and light construction, notably for ceilings, boats and tea boxes while, during the American Civil War, the trees were a commercial source of alcohol (10% by weight from the fruits). In tropical America, it has been grown in plantation for the production of fibreboard (Pennington in *Flora neotropica* 28 (1981) 24) and is important in the sports goods industries of Pakistan (Amjad & Mohammed in *Pak. J. For.* 1 (1980) 39). If not grown too fast, it is good for paper making (Singh *et al., Ind. For.* 103 (1977) 641). It has been used as fastgrowing coffee-shade and it is alleged that fruit trees grown under it remain relatively free of aphids. Indeed a decoction of the fruits has long been used as an insecticide for plants in India and China and fruits or leaves have been placed with dried fruit, clothing and in books to keep insects away. An extract has also been used as a fish poison.

Although there has been considerable confusion with *neem, Azadirachta indica* A. Juss., *M. azedarach* has been widely attributed with medicinal qualtities. Its root appears as *Cortex Meliae azedarach* in pharmacopoeias, but it is generally held that the bark is most efficacious, particularly as a vermifuge. For details of its action and other medicinal uses, see G.A. Stuart, *Chinese materia medica: vegetable kingdom* (1911) 261 and L.M. Perry, *Medicinal plants of East and Southeast Asia* (1980) 262. So valued are the fruits in the Malay Peninsula, that they have been imported from Szechwan.

The seeds also yield an oil and the trunk a gum but these have been little utilized, though the first is suitable for soap and hair oil (*Wealth of India* 6 (1962) 323 et *seqq., q.v.* for further uses of the tree).

Informal infraspecific classification

The names applied to the wild trees are set out below, followed by those applied to the 'Chinese' and 'Indian Cultivars'.

a. 'Wild' plants, White Cedar

?*Antelaea javanica* Gaertn., Fruct. Sem. Pl. 1 (1788) 277, *t. 58.* - type: 'Java' (Sri Lanka, *König* '120' (L, *teste* Hallier in Réc. Trav. Bot. 15 (1918) 33; lost *teste* Jacobs in Gdns' Bull. Sing. 18 (1961) 74; no duplicates found at BM or TUB).

Melia dubia Cav., Dissert. 7 (1789) 364, *?nom. provis.* (as with *Malpighia dubia* Cav., Dissert. 8 (1789) 413 (= *Heteropterys laurifolia* (L.) A. Juss., Malpighiaceae), it could be argued that this name is not validly published for, like the *Malpighia,* it is placed at the end of the generic account, here with the words, 'Exemplar unicum innominatum vidi in herb. D. de Lamarck, quod fructibus orbatum facile ad Trichiliam aut ad Meliam Linnaei pertinere poterit: itaque ut dubiam speciem hic adiungam quoadusque de fructu constet, et ad debitum genus reducatur'. Elsewhere in the work, where he is uncertain about the disposition of a species, as with *Banisteria sericea* (Dissert. 9 (1790) 429), he uses a '?', which is permissible (Int. Code Art. 34.2). Monographers, however, seem to have considered *M. dubia* valid even though it is so close to the borderline between provisional and valid (J.F. Veldkamp, pers. comm.) - *Azedarach sempervirens* (L.) O. Ktze. var. *dubia* (Cav.) O. Ktze, Rev. Gen. 1 (1891) 110. - Type: (?) Indonesia, (?) Java, *Sonnerat s.n.* (P-LAM! holo).

M. composita Willd., Sp. Pl. 2 (1799) 559. - Type: India, 1785, *Klein* in Hb. Willd. 8086 (B-WILLD!, holo).

M. robusta Roxb., Hort. Beng. (1814) 33, *nom. nud.*: Fl. Ind. ed. Carey 2 (1832) 397. - Type: India, Calcutta, cultivated in Bot. Gard. from seed collected by Berry in Malabar (?CAL; specimen labelled in Roxb.'s hand at G(!); specimen apparently collected from type tree by Carey in 1824 at E(!)).

M. superba Roxb., Hort. Beng. (1814) 33, *nom. nud.*; Fl. Ind. ed. Carey 2 (1832) 396. - *M. argentea* Hiern in Hook.f., Fl. Brit. Ind. 1 (1875) 545, *nom. in synon., sphalm. pro M. superba.* - Type: India, Calcutta, cultivated in Bot. Gard. from seed collected by Berry in Soonda (?CAL; EIC 1254 (K-W!) may be from this tree).

?*M. australis* Sweet, Hort. Brit. ed. 2 (1830) 85, *nom. nud.*; G. Don f., Gen. Syst. 1 (1831) 680. - Type: England, cultivated from material from Australia (?not preserved).

M. candollei A. Juss., Bull. Sci. Nat. Géol. 23 (1830) 239 - Type: Indonesia, Timor, (prob.) *Gaudichaud* (P-JU!, holo; L!, P!).

M. australasica A. Juss., l.c. – *M. azedarach* var. *australasica* (A. Juss.) C. DC. in DC., Mon. Phan. 1 (1878) 452 – *A. sempervirens* (L.) O. Ktze var. *australasica* (A. Juss.) O. Ktze, Rev. Gen. 1 (1891) 110. – Types: Australia, New South Wales, Port Jackson (P-JU!, syn; P!) & d'Entrecasteaux Isls. (P-JU!, syn; P!)

[*M. azedarach* sensu Blanco, Fl. Filip. (1837) 345 ('acedarach'), *non* L., s.s. Cf. Merr., Sp. Blanc. (1918) 209.]

[*M. flaccida* Zipp. ex Span., Linnaea 15 (1841) 182, *nom. in synon.*]

[*M. tomentosa sensu* Miq., Fl. Ind. Bat. 1^2 (1859) 532, *non* Roxb. (1832, i.e., *Chisocheton tomentosus* (Roxb.) Mabb.]

M. birmanica Kurz, J. Asiat. Soc. Bengal 43, 2 (1874) 183. – Type: Burma, Martaban, *Kurz* (?CAL, holo).

M. azedarach var. *squamulosa* C. DC. in DC., Mon. Phan. 1 (1878) 452. – Type: of de Candolle's syntypes, I select Java, *Zollinger* 166 (G-DC!, lecto; L!).

M. bogoriensis Koord. & Val., Med. 's Lands Plant. Tuin 16 (1896) 18. – Type: Indonesia, Java, Bogor, cultivated sub III B 12, 6 Dec. 1895 (BO, holo; L!)

M. azedarach var. *javanica* Koord. & Val. ibid., 15. – Type: of sheets in Koorders's herbarium (BO) labelled 'De hoc specimine agitur in libro ...' I select Indonesia, Java, Besuki, Curamanis, 17 Oct. 1889, *Koorders 5169β* (BO, lecto; L!)

M. composita var. *cochinchinensis* Pierre, Fl. For. Cochinch. 5 (1897) *t. 356A*. – *M. azedarach* var. *cochinchinensis* (Pierre) Pellegr. in Lecomte, Fl. Gén. Indoch. 1 (1911) 727. – Type: of Pierre's syntypes, I select Vietnam, Pay Ninh, Cai Công, 30 Apr. 1866, *Pierre 1737* (P!, lecto; L!). N.B. The other syntype, *Pierre 3366* (P!, L!), is a cultivated tree apparently referable to one of the 'Indian Cultivars'.

M. azedarach var. *glandulosa* Pierre, op. cit., t. 356B ('*M. composita* var. *biglandulosa*' in *ic.*). – Type: Vietnam, Saigon, cultivated in Bot. Garden, Feb. 1876, *Pierre* 1499 (P!, holo).

Tall forest trees to 40 m. *Leaflets* ± entire, dark above, pale below, when young densely stellate-tomentose like young shoots. *Flowers* sweetly scented, scentless or malodorous. *Petals* white or pale mauve, often pubescent within. *Staminal* tube creamish or pale mauve, darkening to purple with age. *Drupe* to 4 cm long.

Of the fastgrowing forms planted for forestry in the New World, one has been named 'Gigante' (Cozzo, *Rev. For. Argent.* 3 (1959) 127) but it is unclear whether this is intended to be a cultivar name or not, or, indeed, whether it is not more closely allied to forms of Persian Lilac. Other important forestry provenances include 'var. *gigantea*' (Ragonese & Garcia in *IDIA* 385–386 (1980) 110, *nom. non rite publ.*), characterized by its general robustness, hairy anthers and large fruits when compared with Persian Lilac, and treated as two cultivars: 'Gotz' and 'Garrasino INTA, Castelar', both widely planted in Argentina.

b. 'Chinese cultivars', *tô sendan*

?M. japonica G. Don. f., Gen. Syst. 1 (1831) 680. – *?M. azedarach* var. *japonica* (G. Don f.) Mak., Bot. Mag. Tokyo 28 (1914) 34, *nom. superfl.* – Type: England, cultivated from Japanese material (?not preserved).

M. toosendan Sieb. & Zucc., Abh. Akad. Muench. 4^2 (1843) 159. – *M. azedarach* subvar. *toosendan* (Sieb. & Zucc.) Mak., ibid., 35. – *M. japonica* var. *toosendan* (Sieb. & Zucc.) Mak., l.c., *nom. in synon.* – *M. azedarach* var. *toosendan* (Sieb. & Zucc.) Mak., J. Jap. Bot. 5 (1928) 20. – Type: Japan, cultivated from Chinese material, *Siebold s.n.* (?LE, holo; L! M!).

M. japonica Hassk., Cat. Hort. Bog. Alt. (1844) 219, *non* G. Don f. (1831) – *M. javanica* M.J. Roem., Syn. Hesp. (1846) 96. – *M. hasskarlii* K. Koch, Hort. Dendrol. (1853) 72. – Type: Indonesia, Java, cultivated from Japanese material (?BO, holo).

[*M. chinensis* Sieb. ex Miq., Ann Mus. Bot. Lugd.-Bat. 3 (1867) 23, *nom. in synon.*]

M. japonica G. Don f. var. *albicans* C. DC. in DC., Mon. Phan. 1 (1878) 457. – Type: Japan, Nagasaki, cultivated, *Oldham* 159 (B†, holo; N.B. *Oldham* 139 at L!).

M. japonica var. *semperflorens* Mak., Bot. Mag. Tokyo 18 (1904) 67. – *M. azedarach* subvar. *semperflorens* (Mak.) Mak., ibid., 28 (1914) 34. – Type: Japan, Tokyo, cultivated, 20 July 1903, *Makino s.n.* (?MAK, holo).

M. azedarach f. *albiflora* Mak., ibid. – *M. japonica* var. *albiflora* Mak., l.c., *nom. in synon.* – Type: Japan, Tosa, Sakawa, cultivated, *Makino s.n.* (?MAK, holo).

Small trees. *Leaflets* usually almost entire. *Flowers* sweetly scented. *Petals* mauve, pink or blue, occasionally white. *Staminal tube* purple.

This is the form commonly cultivated in Japan, though Indian forms are sometimes grown there, e.g. a white-flowered tree introduced from Lucknow in the 1960s or so (see Hisauchi in *J. Jap. Bot.* 45 (1970) 256). In Malesia it is rarely seen outside Botanic Gardens and has larger fruits than the commonly cultivated Persian Lilac does.

c. 'Indian Cultivars', Persian Lilac, Bead-tree, Chinaberry, *mindi kechil.*

N.B. the cultivars currently recognized as distinct are placed after the main synonymy.

M. azedarach s.s.

M. azedarach var. *sempervirens* L., Sp. Pl. (1753) 384. – *M. sempervirens* (L.) Sw., Prod. Veg. Ind. Occ. (1788) 67. – *Azedarach sempervirens* (L.) O. Ktze, Rev. Gen. 1 (1891) 109. – Type: Holland, de Hartecamp, cultivated, *Hort. Cliff.* 161/1α (BM!, lecto; see Wijnands *Bot. Commelijns* (1983) 145).

M. commelini Medik., Bot. Beobacht. 1782 (1783) 164. – *Azederach commelini* Medik. ex Steud., Nomencl. ed. 2, 1 (1840) 175 'Moench' & 2 (1841) 118, *nom. in synon.* – Type (lecto): Commelijn, Horti Med. Amst. 1 (1697) 147, *t. 76*, drawn from a plant raised from Sinhalese material in Holland.

[*A. odorata* Nor. in Verh. Bat. Genoot. ed. 1 (1791) art. 4,5, *nom. nud.*]

M. arguta DC., Prodr. 1 (1824) 622. – Type: Indonesia, 'Moluccas', ex Herb. Lambert, 1815 (G-DC!).

M. sambucina Bl., Bijdr. (1825) 162. – *M. azedarach* var. *sambucina* (Bl.) Miq. Ann. Mus. Bot. Lugd. – Bat. 4 (1868) 5. – *A. sambucina* (Bl.) O. Ktze, Rev. Gen. 1 (1891) 110. – Type: Indonesia, Java, cultivated, *Blume s.n.* (L! holo; P!).

M. angustifolia Schum. & Thonn. in Schum., Beskr. Guin. Pl. (1827) 214. – Type: Ghana, Elmina, cultivated, *Thonning* 59 (C (microfiche 67: 1, 3, 4!)).

M. guineensis G. Don f. in Loud., Hort. Brit. (1830) 168 & Gen. Syst. 1 (1831) 681. – Type: England, cultivated from seed from 'Guinea' (?not preserved).

?M. bukayun Royle, Illustr. Bot. Himal. (1835) 141, 144. – *M. bukheim* Griff., Itin. Notes (1848) 355, 403. – Type: India, *Royle* (?LIV).

M. cochinchinensis M.J. Roem., Syn. Hesp. (1846) 95. – Type: *M. azedarach sensu* Lour., Fl. Cochinch. (1790) 269.

M. orientalis M.J. Roem., l.c. – Type: *M. sempervirens sensu* Roxb.; EIC 1252E is inscribed *M. sempervirens* in Roxburgh's hand (K–W!; lecto).

[*M. lobata* [Hort. Donat. ex] Planch., Hort. Donat. (1858) 82, *nom. in synon.*]

[*Jacaranda fraxinifolia* [Hort. Donat. ex] Planch., l.c., *nom. in synon.*]

M. azedarach var. *subtripinnata* Miq., Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 24. – Types: Japan, *Burger s.n.* (?U), *Keiske s.n.* (L!).

M. azedarach var. *incisa* Miq., ibid., 4 (1868) 5. – Type: Indonesia, Java, cultivated (L (sheet 908. 133–712)!, holo).

M. azedarach var. *acuminatissima* Miq., l.c. – Type: Indonesia, Sulawesi, Amura, cultivated, Dec. 1840, *Forsten s.n.* (L!, holo).

[*M. composita* var. *cochinchinensis* Pierre, Fl. For. Cochinch. 5 (1897) sub *t. 356A, quoad spec. Pierre* 3366].

Small trees. *Leaflets* irregularly serrate, pale green. *Flowers* sweetly scented. *Petals* mauve, pink or blue, occasionally white. *Staminal tube* purple.

Persian Lilac is one of the most widely cultivated of all tropical trees and indeed is so readily grown as to be despised by the discriminating. Good forms with dark, heavily-scented flowers are extremely desirable nevertheless. There is an almost continuous supply of flowers and of fruits, which have long been used for beads (see Hoy & Catling in *Davidsonia* 12 (1981) 65–6 for illus.). The fruits are toxic to man, some 6–8 being considered a fatal dose, and also to pigs, but apparently not to birds, sheep or goats, (For a full account, see J.M. Watt and M.G. Breyer-Brandwijk, *Med. Pois. Pl. S. E. Africa* (1962) 745–751). In Uganda, where it is almost certainly naturalized, it is a particularly valuable source of timber for building poles, as these

are reputed to be immune to the attacks of termites (see Styles in *E. Afr. Agric. For. J.* 39 (1974) 416). Two cultivated forms have been given cultivar names:

i. cv. **Floribunda**

See L.H. Bailey Hort., Hortus Third (1976) 724. – *M. floribunda* Carr., Rev. Hort. 44 (1872) 470 *cum tab.* – *M. azedarach* var. *floribunda* (Carr.) Morren, Belg. Hort. 30 (1880) 176 *cum tab.* – Type: France, Paris, cultivated at Jardin des Plantes (?P).

A precocious form, flowering when only a few dm tall and used in bedding schemes (and greenhouse decoration in Europe).

ii. cv. **Umbraculifera,** Texas Umbrella Tree

See L.H. Bailey Hort., Hortus Third (1976) 724. – *M. azedarach* var. *umbraculifera* Knox in Gdner's Monthly 27 (1885) 260 – *M. azedarach* f. *umbraculifera* (Knox) Rehder, Bibliog. Cultivated. Trees, Shrubs (1949) 387. – Type: United States, Texas, trees discussed by Knox (?not preserved).

M. azedarach var. *umbraculiformis* Hort. ex Berck. & Bailey, Cycl. Amer. Hort. 2 (1900) 1001, *t. 1387, ?sphalm. vel mut. pro praec.*

A mutant with a flattened crown of branches. It apparently arose in Texas in the nineteenth century and is widely planted in the southern United States as a street tree.

Acknowledgements

I am indebted to Frank White, Terry Pennington and Brian Styles for their comments on a manuscript version of this paper and to Charlie Jarvis at the British Museum (Natural History) for his help in the tortuous matter of the typification of *M. azedarach*, set out in Apendix II. I am grateful to Professor A.F.L. Beeston and to Mr. R. Dawson for their guidance in the Arabic and Chinese literature respectively. The bulk of the work of this paper was carried out at the Rijksherbarium, Leiden, where I was supported by ZWO*, the Flora Malesiana Foundation and Greshoff's Rumphius Fund.

Reference

Harms, H. (1940), Meliaceae. *In* A. Engler & K. Prantl, *Nat. Pflanzenfam.*, ed. 2, 19b1: 1–172.

* Zuiver Wetenschappelijke Onderzoek (Netherlands Organization for the Advancement of Pure Research).

APPENDIX I

NOMINA DUBIA VEL EXCLUDENDA

Antelaea azadirachta (L.) Adelb., Blumea 6 (1948) 315 = *Azadirachta indica* A. Juss.

A. canescens Cels ex Heynh., Nom. Bot. Hort. 1 (1840) 38 = *sphalm. pro Anthelia ('Anthelea') canescens* Cels, Cat. Cult. Cels Prix Cour. 1842 (1842) 8, i.e., ? *Epipremnum* sp. (Araceae).

Azedarach edulis Nor., Verh. Bat. Gen. 5, ed. 1 (1791) art. 4, 5 *'edule', nom. nud.* = *Sandoricum koetjape* (Burm. f.) Merr.

A. elegans (Seem.) O. Ktze, Rev. Gen. 1 (1891) 110 = *Koelreuteria elegans* (Seem.) A.C. Sm. (Sapindaceae).

A. excelsa (Jack) O. Ktze, l.c. = *Azadirachta excelsa* (Jack) Jacobs.

A. fraxinifolia Moench, Meth. Suppl. (1802) 58, *nom. superfl. pro Melia azadirachta* L., = *Azadirachta indica* A. Juss.

A. nigra Nor., l.c. *'nigrum', nom. nud.* = *Dysoxylum excelsum* Bl. (*fide* Hassk., Cat. Hort. Bog. (1844) 221).

A. ramiflora Nor., l.c. *'ramiflorum', nom. nud.* = *D. parasiticum* (Osb.) Kost.

A. recisa Nor., l.c. *'recisum', nom. nud.* = *Toona sureni* (Bl.) Merr. (Noronã drawing at BM).

A. tomentosa (Roxb.) O. Ktze, Rev. Gen. 1 (1891) 110 = *Chisocheton tomentosus* (Roxb.) Mabb.

Melia azadirachta L., Sp. Pl. (1753) 385 = *Azadirachta indica* A. Juss.

M. baccata Wall., Cat. (1829) 1256, *nom. nud.* = *seq.*

M. baccifera Roth, Nov. Pl. Sp. (1821) 215 = *Cipadessa baccifera* (Roth) Miq.

M. elegans Seem., Fl. Viti. (1865) 36 = *Koelreuteria elegans.*

M. excelsa Jack, Mal. Misc. 1 (1820) 12 = *A. excelsa.*

M. fraxinifolia Salisb., Prodr. (1796) 317, *nom. superfl. pro M. azadirachta,* = *A. indica.*

M. iloilo Blanco, Fl. Filip. ed. 2 (1845) 241 = *Aglaia* sp. (*A. iloilo* (Blanco) Merr.).

M. indica (A. Juss.) Brandis, For. Fl. Ind. (1874) 67, *nom. superfl. pro M. azadirachta,* = *Azadirachta indica.*

M. integerrima Buch.-Ham. in Trans. Linn. Soc. 17 (1835) 231 = *Trichilia connaroides* (W. & A.) Bentv. (*Heynea trijuga* Roxb. ex Sims). See Mabberley in *Taxon* 26 (1977) 530.

M. koetjape Burm.f., Fl. Ind. (1768) 101 = *S. koetjape.*

M. latifolia Griff., Itin. Notes (1848) 402, *sphalm. pro Melica latifolia* Roxb. ex Hornem., = *Thysanolaena latifolia* (Roxb. ex Hornem.) Honda emend. Mabb. (*T. maxima*), Gramineae. See Mabberley in *Taxon* 33 (1984) 437.

M. montana Herb. Madras ex Wall., Cat. (1832) 214, n. 1256D, *nom. nud.,* = *C. baccifera.*

M. neilgherrica Walp., Rep. 4 (1857) 551, *sphalm. pro Munronia neilgherrica* Wight = *Munronia pinnata* (Wall.) Theob.

Melia parasitica Osb., Dagb. Ostind. Resa (1757) 278 = *D. parasiticum* (Osb.) Kost.

M. parviflora Moon, Cat. Pl. Ceyl. (1824) 35 = *C. baccifera.*

M. pendula Reinw. ex Miq., Ann. Mus. Bot. Lugd.-Bat. 4 (1868) 29, *nom. in synon.,* = *Chisocheton patens* Bl.

M. penduliflora Wall., Cat. (1829) n. 1255 = *C. penduliflorus* Planch. ex Hiern.

M. pinnata Stokes, Bot. Mat. Med. 2 (1812) 482, *nom. superfl. pro M. azadirachta,* = *A. indica.*

M. pubescens Reinw. ex Koord. & Val., Bijdr. Boom. Java 3 (1896) 91, *nom. in synon.,* = *Dysoxylum nutans* (Bl.) Miq.

M. pumila Moon, Cat. Pl. Ceyl. (1824) 35 = *Munronia pumila* Wight.

Melia tomentosa Roxb., Hort. Beng. (1814) 90, *nom. nud.*, Fl. Ind. ed. Carey 1 (1832) 394 = *Chisocheton tomentosus.*

APPENDIX II

THE TYPIFICATION OF *MELIA AZEDARACH*

During his stay in coastal Ceylon in the 1670s, the German-born, Dutch botanist and physician, Paul Hermann (1646–1695) collected specimens referable to *Melia azedarach*, the widely cultivated tree known as Persian Lilac, bead-tree or, in the Malay Peninsula, *mindi kechil*. In Hermann's posthumous *Musaeum zeylanicum* (1717), based on the specimens mounted or loose in his book herbarium, is (p. 3) Panukohumba (*Azedarach fructu polypyreno*), mounted in vol. 1, fol. 10, and Kirikohomba (p. 67, *Arbor fraxinifoliis flore caeruleo* CBP, *Azedarach* Dod., i.e., the widespread form of Persian Lilac long known in Europe), unmounted at that time.

Before Linnaeus was to deal with them in his *Flora zeylanica* (1747), based on the Hermann collection, he replaced the long established *Azedarach* by *Melia*, a Greek word for the Manna Ash, *Fraxinus ornus* L. (Oleaceae), which has leaves reminiscent of *Azadirachta indica* A. Juss. (*Melia azadirachta* L.) for they are simply pinnate whereas those of *M azedarach* are doubly so. *Melia* was first published in his *Hortus cliffortianus* (1738, p. 161), where the Persian Lilac is called *Melia foliis decompositis*. As a variety of this he cites another cultivated plant, from Sri Lanka, illustrated in Jan Commelijn's *Horti medici amstelodamensis* 1 (1697) 147, t. 76 and a name quoted by Commelijn, Jacob Breyne's *Azadirachta indica. . .flore albo subcaeruleo purpurascente majore* (*Prodromus fasciculi rariorum plantarum* 2 (1689) 21). Indeed it was Breyne who was the first to separate these two varieties in print, giving the widespread 'Syrian' plant, which he considered to be Avicenna's (i.e. Husain Ibn 'Abd Allah's) *Azadiracht*, the name ending '. . .*flore caeruleo majore*'. In the synonymy of the Ceylon plant, Breyne included *Azedarach floribus albis sempervirens* of Hermann, based on his examination of garden material, Hermann had shown him in the Hortus Botanicus at Leiden, and citing Hermann, *Horti academici Lugduno-batavi catalogus* (1687) 652 but without the synonyms in Hermann's book, for those are referable to *neem, Azadirachta indica*, for it is possible that Hermann mistook the garden material from Sri Lanka, introduced into the Netherlands in the 1680s, for *Azadirachta* which he had collected in Ceylon, his specimen in his book herbarium preserved at Leiden being inscribed *Azedarach floribus albis* (fol. 120). The *neem* was not to be grown in Europe for some decades yet and Breyne seems right, therefore, in having shorn Hermann's garden name of its synonyms.

When Linnaeus gained access to Hermann's main Ceylon herbarium, now preserved at the British Museum (Natural History), he included Panukohumba, the Ceylon plant, and not Kirikohomba, the Persian Lilac, in the typical form of his species (number 162), *Melia foliis duplicato-pinnatis* in *Flora zeylanica*. Another synonym of this typical form is his own *Melia foliis decompositis* from *Hortus cliffortianus* (i.e. the Persian Lilac) as well as Hermann's garden plant, again without synonyms, and the references to Breyne and Commelijn. In this case, the variety of the species is the commonly cultivated Syrian plant in which is included Kirikohomba. By the time of *Species plantarum* (1753), however, Linnaeus seems to have

changed his mind yet again, making Commelijn's (and therefore Breyne's and Hermann's garden plant) the atypical variety of the species under the name var. *sempervirens*, which epithet is taken from the cited *Azedarach sempervirens & florens* of Tournefort, who (*Inst.* 1 (1700) 616) included the earlier references too. The typical plant is Persian Lilac, again with the *Hortus cliffortianus* name but the phrase name next to the specific epithet *azedarach* is a new one, indicating a possible rethink of the circumscription by Linnaeus. However, it is written curiously, 'Melia foliis bipinnatis Fl. Zeyl. 162', though that name does not appear in *Flora zeylanica* but may be a mere rephrasing. Had he merely used the *Hortus cliffortianus* reference then the type specimen would clearly be that collected from live plants at George Clifford's garden at de Hartecamp near Haarlem in the Netherlands and now preserved in the British Museum (Natural History). As he did not amend this in later editions, it seems on the face of it that it would be wise to take *Flora zeylanica* into account, particularly as the only specimen in Linnaeus's own herbarium (543/1), although the Persian Lilac, has no indication of its age or origin. The only other *'Melia'* specimens there are (2) *Azadirachta indica* and (3) *?Sandoricum koetjape* (Burm. f.) Merr. Of the materials cited in *Flora zeylanica*, only Hermann's Kirikohomba i.e. the 'Syrian' plant collected by Hermann in Ceylon, was a specimen and it would have seemed to have been wise to select it as lectotype. The var. *sempervirens* is Hermann's plant Panukohumba from Ceylon which was later introduced to the Netherlands and confused by Hermann with *Azadirachta*. Indeed the common name for the latter in Ceylon is still Kohumba. This was identified as var. *sempervirens* by Trimen (*J. Linn. Soc. Bot.* 24 (1888) 141), though Rechinger in *Flora iranica* 133 (1978) 2 has this plant as the type of the species. This lectotypification seems not have taken the complicated history of the cultivated plants into account. Not surprisingly then, the confusing actions of Linnaeus have misled several workers and, sadly, Hermann's unmounted Kirikohomba cannot be found and there is no duplicate at Leiden or in the Sherard or DuBois herbaria at Oxford, both herbaria with a number of Hermann specimens. Of the elements in the protologue of *M. azedarach*, that referring to *Hortus cliffortianus* is supported by specimen 161/1 seen by Linnaeus and I therefore propose that it be the lectotype.