

# Nomenclatural changes in *Magnolia*

by M. J. Harvey

The aim of this article is to report on some name changes suggested recently by Kunihiko Ueda (Department of Botany, Faculty of Science, Kyoto University, Kyoto 606, Japan) and to explain some of his arguments. Ueda is searching into the origins of the names of the cultivated Japanese *Magnolia* species, attempting to go back to the earliest literature and the specimens which form the basis for the application of the names. Two papers (Ueda 1986a, b) deal with three species and will be treated here. A further paper (Ueda 1985, not seen) confirms the application of the names *M. heptapeta* and *M. quinquepeta*.

## *M. hypoleuca*

In the first paper Ueda deals with *M. hypoleuca* Siebold et Zuccarini 1845, the Japanese Umbrella Tree. This is a fairly simple case, the only rival name being *M. obovata* Thunberg 1794. The rules of nomenclature state that, all other things being equal, the earliest name must be used. There is a starting date, 1753, before which names do not count but that does not apply here.

In this particular case all other things are not equal as is explained by J.E. Dandy, quoted in Treseder 1978, p. 49, and confirmed by Ueda. The problem is the reference to the type specimens of *M. obovata*. Thunberg had labeled a specimen in his herbarium *M. obovata* and Rehder and Wilson 1913 had accepted this as sufficient to

designate a type specimen. However, in the original publication Thunberg had actually cited two drawings resulting from Kaempfer's expedition to Japan early in the 18th century. These drawings had been published as engravings by Joseph Banks in 1791. These illustrations were already the types of the names *M. denudata* and *M. liliiflora* respectively. Hence the name *M. obovata* becomes a later and illegitimate synonym of what we now call *M. heptapeta* and *M. quinquepeta*. The next available name for the Japanese Umbrella Tree is *M. hypoleuca*, which name has already been in general use for many years so there is no surprise or inconvenience in this conclusion. This is not the case with the remaining two names.

## *M. tomentosa*

The next name that Ueda considers is *M. tomentosa* Thunberg 1794a. This name is validly published but has never been regarded as anything other than a synonym, even though the names with which it is synonymous were published later.

The problem arose from arguments over which specimen Thunberg had in mind when he made the original description. Nowadays, when anyone names a plant, a *type specimen* has to be designated in the original publication of the name. This specimen then serves as an arbiter in case of disputes over the meaning of the written description. However, in Thunberg's time (1748-1828) this rule had not been definitely

formulated. In cases where no type specimen was designated by the original author one has to carry out a fairly exhaustive study of the circumstances surrounding the situation. One has to search through the author's herbarium, study the specimens, the labels, their dates, any annotations, the handwriting and also any figures which might have been drawn by an artist from the specimens. Having done this study, a later researcher can sometimes put a finger on a particular specimen and say, "That is the one that scientist X had in front of him when the original description was written." A type specimen which is selected at a later date as a result of such a search is called a *lectotype*, from *lecto*—I select, and the whole *M. tomentosa* problem hinges upon the choice of a lectotype.

The problem was initially tackled by Rehder and Wilson in 1913 in their influential paper which practically set the standard for names for the next half century. The argument hinges on two of Thunberg's herbarium sheets preserved in Uppsala, Sweden. One

sheet has a twig with leaves only and is numbered 12886; the twig is not from a *Magnolia*. The other sheet, which is a *Magnolia*, has a twig with flowers but no leaves and is numbered 12887. For various reasons Rehder and Wilson assumed that Thunberg had described the species from the leafy state and hence that No. 12886 was the lectotype. This assumption got rid of the problem for *Magnolia* because the twig, while the leaves are vaguely magnolia-like, is from a species of *Edgeworthia* (Thymeleaceae) and hence irrelevant to *Magnolia*. Curiously, a few years later Rehder (1916) changed his mind about this choice and stated that Thunberg must have had a *Magnolia* in mind and hence that the flowering *Magnolia* on sheet No. 12887 was relevant, but this has been ignored since.

Going into other circumstantial evidence as to what Thunberg had in mind when he coined the name *M. tomentosa*, Ueda points out that in the same year (1794b) Thunberg published a catalogue of specimens kept at Uppsala. In this list appear the names *M. sericea* and *M. tomentosa*, the same names are written on sheets 12886 and 12887 respectively in his handwriting. Rehder and Wilson appear to have missed this important clue because it means that in effect Thunberg had selected his own lectotype and that he had selected No. 12887, the magnolia with precocious flowers. The name *M. sericea* is a *nomen nudum*, in other words a name without a description and must be ignored.

Thunberg again indicated that he had No. 12887 in mind when in 1805 he published a drawing of *M. tomentosa* which appears to have been drawn by an artist from sheet

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12887. Thus we can assume that the lectotype of *M. tomentosa* is sheet 12887 and that Rehder and Wilson were incorrect in later changing it to sheet 12886 (*Edgeworthia*).

Thus the oldest name for the star magnolia is *M. tomentosa* Thunberg 1794, and names such as *M. stellata*, which dates from 1846 when Siebold and Zuccarini originally published it as *Buergeria stellata*, and *M. halleana* Robinson ex Parsons, 1875, are later synonyms and can be discarded.

#### *M. praecocissima*

The remaining name to be considered is *M. praecocissima* Koidzumi 1929. This name was coined at a rather late date because of the difficulties of finding a type specimen of the early-flowering tree that the Japanese call 'kobushi.' We have long known this species under the name *M. kobus* DC. 1817. Kaempfer earlier had rather neatly coined the new-Latin word 'Kobus' from the Japanese and De Candolle adopted this when he made the official description.

The problem in this case is not only in finding a type specimen to which 'kobus' can be attached but also in deciphering what was intended in the early years of the 19th century by the various synonyms that were published. The various Europeans concerned with the problem had not seen the living plants, were working from rather inadequate dried fragments and were confusing two or three species.

Without going through the whole tortuous argument that Ueda presents, the problem arises because De Candolle had a very loose attitude (by present-day standards) toward the description of new species and the citing of specimens. He described *M. kobus* largely by copying the description of *M.*

*gracilis*, which Salisbury had named and figured in 1807. When *M. gracilis* is traced back to its specimen, it turns out that this is a synonym of the late-flowering species now called *M. quinquepeta* (*liliflora*). The argument gets complicated here but the other synonyms that De Candolle cited are also referable to *M. quinquepeta*. Thus the name *M. kobus* cannot be used as the scientific name for the 'kobushi.' Koidzumi realized this in 1929 and correctly provided a name, description and a type specimen for the early-flowering tree. Hence we have been applying the name *M. kobus* incorrectly for 169 years to 'kobushi' but we should now use *M. praecocissima* Koidz.

So it looks as if we are going to have to get used to a couple of unfamiliar names unless someone comes up with an alternative interpretation. How do you pronounce Latin names? Well there are a few rules which apply as follows: *tomentosa* is easy, tow-men-TOW-za; *praecocissima* is more of a tongue twister and goes pry-ko-KISS-i-ma or Pry-ko-SISS-i-ma. The *ae* is a diphthong with the value of the vowel in, say, 'high.' *Tomentose* means thickly covered with matted hairs; *praecocissima* means very early, literally, most precocious.

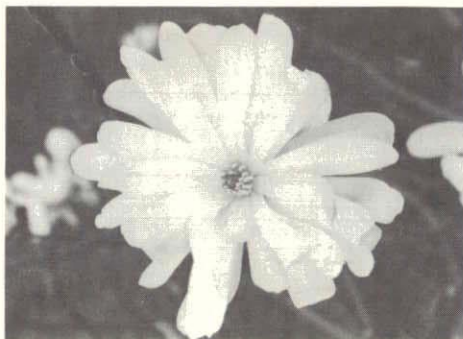


*M. stellata* 'Royal Star'

What do the above changes imply for the hypothesis that *M. tomentosa* (*stellata*) is a form of the species *M. praecocissima* (*kobus* auct.)? Well, not a great deal; you simply substitute the names. I am not certain at this juncture as to the implication of the fact that the earliest name is now *M. tomentosa* and whether this would give it precedence. I would, however, like to point out a subtle but important difference between the name changes discussed earlier and the latter problem.

The rules that govern the names of plant species are published as the International Code of Botanical Nomenclature, which is revised every six years. In the Code are the basic rules by which names are given and, where there is a choice of competing names, which one is to be chosen. The rules are well laid out and, while there may occasionally be room for some creative interpretation, you eventually get a clear answer for each species and that is then universally used. That is not to say that everyone is going to be pleased, and as I write this I can anticipate quite a few groans at names such as *tomentosa* and *praecocissima* replacing the familiar *stellata* and *kobus*. However, we have no real escape from these changes and if we don't adopt them the next generation will. There is a separate Code governing the names of horticultural and agricultural varieties.

The situation is different with the reduction of *M. tomentosa* to a variety of *M. praecocissima*. This is the result of the exercise of a *taxonomic opinion*. There are no rules governing the application of opinions regarding the hierarchical level of a taxon. In this case a plant previously recognized as a species is judged to be only a variety of



*M. stellata*

another species. You may agree with this judgment or not. Whether such an opinion becomes generally accepted depends on the esteem in which the person making the change is held and the degree to which the taxonomy of the group in question is thus improved. The rules of nomenclature come into play once an opinion has been expressed but do not themselves have anything to say about forming a taxonomic decision. So we can go on arguing about the taxonomic status of *M. tomentosa* (*stellata*) but not about the name itself.

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