

Getting reunited with my wife, who had remained at Customs was more difficult but finally achieved. Several kinds of *Magnolia* bud wood were brought in, and all appear to have been top worked (chip buds) with initial success in September.

Among them are buds from the original 'Diva' tree at Caerhays, to insure that we have the original clone, since some propagators have been selling later generation seedlings as 'Diva'. I probably have the original clone, but there was some confusion about the provenance of my first bud-source tree. Hilliers, the most likely import source, now treats var. *diva* as synonymous with typical *M. sprengeri*, but offers both seedling and vegetatively propagated material of it. Seedlings, even from self pollination, will be variable, as witness the origination of cultivars 'Claret Cup' (in Bodnant Gardens, Wales) and 'Wakehurst' (at Wakehurst Place, Ardingly, Sussex), both from seed of 'Diva'. 'Diva' should be regarded as a cultivar, and vegetatively propagated if it is to bear 'Diva' for its cultivar name. ★★★

1974 Observations on *Magnolia Acuminata*

by J.C. McDANIEL

Whether it be *Amelanchier* or *Zelkova*, the careful observer can find differences in individual seedling trees, and among populations from different seed sources. So it is with the different seedlings and grafted branches of *Magnolia acuminata* which I have been watching in Champaign County, Illinois. Some of the most interesting are:

'Miss Honeybee'. This cultivar, registered by James Merrill, nurseryman at Painesville, Ohio, is precocious. It flowered in 1974 on two grafts set in 1973. It classifies as *M. acuminata* var. *subcordata* (Spach) Dandy (formerly var. *cordata* or *M. cordata*) and has larger yellow flowers than the usual trade "cordata" on a somewhat more vigorous but equally pubescent plant. It set seeds to crossing by the other clone of its variety here. Merrill has many grafts now of saleable size, at 870 Madison Ave., Painesville.

'Golden Glow', a still unregistered selection of yellow flowered *M. acuminata* brought from the Smokies (Sevier County, Tennessee) by Dr. Frank B. Gaylon, is otherwise more typical in everything except its flowers. These get quite yellow after opening.

Tree habit is the outstanding feature of a *M. acuminata* seedling collected at Hiram, Ohio by geologist George W. White, 305 S. McKinley, Champaign, Illinois. It is as straight and stiff growing as any pin oak, but without the oak's drooping lower branches. This clone, which is rather late in leafing out, looks good to graft as a tree for avenue planting. Its flowers are large but green.

Tulane University biologist Leonard D. Thien will publish soon in *American Journal of Botany* his "Floral Biology of Magnolia." He has studied the eight species native to southeastern United States. In his abstract he says: "The flowers are protogynous. They are pollinated by several species of beetles that enter buds as well as closed and open flowers to feed on nectar, stigmas, pollen and secretions of the petals. . . It is suggested that the flowers of *Magnolia* are highly specialized for exclusive pollination by beetles. . ."

While I have frequently seen bees visiting flowers of the fragrant, white-flowered *Magnolia* species, I think that Thien is right in attributing to beetles the exclusive natural pollination of *M. acuminata* and some others.

Absence of the right beetles in a tree at the right time may mean the absence of seeds or extremely poor seed production on isolated *M. acuminata* trees in cultivation. I formerly believed that such poor fruiting was due to incompatibility of most *M. acuminata* trees' stigmas to pollen from the same clone. It is not yet disproved that self-incompatible trees exist in *M. acuminata*, but they may be rare. My 1974 hand pollinations of the old 'Busey' tree in Urbana shows it to be as compatible to its own pollen as to pollen from the several other clones and hybrids of *M. acuminata* that I crossed on it. All the different *acuminata* pollens gave fully developed fruits, with seeds in nearly all carpels, on this tree where open pollination results in very rare seeds from its thousands of flowers.

In 1975, I plan "selfing" studies on several other *M. acuminata* trees that have heretofore produced few or no seeds from open pollination. Meanwhile, the selfed seeds from the 'Busey' tree will provide material for studying the inheritance of its yellow autumn leaf color.

Editor's note: I'm sure Joe McDaniel won't mind me adding this. I have a plant of Jim Merrill's 'Miss Honeybee' grafted three years on a year old seedling of *M. acuminata*. It had one flower last year, and at this date, February 15, has a large, pubescent flower bud on each branch tip, about twenty in all. These flower buds are several times as large in "volume", as the trade form of *M. acuminata* var. *subcordata*. The degree of pubescence is much greater on 'Miss Honeybee's' flower buds than on any other form of *M. acuminata* I grow. Flower is light yellow, fragrant and showy, and much larger than that of the trade clone. This is a very exciting new magnolia. ★★★

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