

Report from Scandinavia

Wills and Won'ts in Sweden

by Lennarth Jonsson

It is difficult to justify an article on Magnolias growing in Sweden.

So began a 1973 article by Karl Flink in the AMS Newsletter (now MAGNOLIA) Vol. IX No. 2. But he added that members in the colder parts of the United States might be interested to learn that magnolias can be grown in subarctic Sweden. I hope to persuade members of the Society to help us in Sweden look for hardier magnolia material.

One Swedish member of the Society, Tore Widenfalk, lives 55 miles west of Stockholm outside the town of Vasteras on a small, hilly island, Tido-Lindo (16° 30' F 59° 30' N) in Lake Malaren (Lindo means Linden). The "peak" of the island is 33 meters (110 feet) above water level. Tore's garden is situated on the south slope at 22-32 meters (73-107 feet) altitude, which provides "mobile" subsoil water and reduces danger of frost during calm nights.

Tore has a fine knowledge of nature and is well known as a self-taught entomologist. Since insects are affected by the climate, Tore has learned a lot from the domestic flora and fauna about the conditions of the province. The lake, he says, is a typical warm lake 2-3 meters (6-10 feet) deep and relatively large. It's a storehouse of energy, normally keeping his garden frost-free from the second week in May to the end of October. Proof of this is in the provincial flora, which includes *Tilia cordata* Mill. and *Viscum album*

L. This is the northernmost native habitat of the mistletoe, a relic of a warmer postglacial period.

The Swedish climate is borderline between the Atlantic sea and the Russian continent, which makes for rapid and extensive variations in the weather. The very day I visited Tore (June 3) the thermometer stood at 32° C (90° F.). In May and June one may expect a heat wave that runs a couple of days to a fortnight, at favorable times.

But a week later, the winds were directly from the North Pole with some frosty nights (30° - 32° F), even in the milder parts of Sweden where one would not expect frost after April. Tore told me he had one night with only 3° C (37° F) but no frost (daytime 40° - 50° F). He has recorded the temperatures in his garden for 20 years. Maximum temperatures of 36° C (97° F) were measured for two days in 1976, but it has also been very cold in July, for example, 2° C in July 1908.

Normally July has the highest average temperature of the year: 18° C (65° F) but it varies from 14.0° to 21.7° C (57-71° F). The coldest months are January and February, with deep frost for several days, normally -20° C (-4° F). Minimum winter temperatures: for 1978-79, -27° C (-17° F); for 1979-80, -25° C (-13° F); and for 1981-82, -21° C (-6° F). The absolute minimum for the area, -31° C (-24° F), has been recorded both in January and February. Note: Temperatures have

been recorded in Stockholm since 1756 and the maximum has been 36° C and the minimum -32° C (-26° F). The average in July is 13.0° - 21.7° C (55-71° F) and in January is -14° to 2.8° C (-7° - 37° F), and is almost the same in February and December.

The most critical conditions are not minimum and maximum temperatures, but the duration of the deep frost that may stay for weeks, the drought in May-June, and the relatively low temperatures in autumn, August average being 11.1° - 19.1° C (52 - 66° F). With these problems, we have to give magnolias maximum shelter, cover the root area, irrigate, and carefully select only the hardiest forms.

Tore's garden is a good sample of the woodland type that enables magnolias to withstand our harsh climate. The base vegetation consists of big trees of domestic oak (*Quercus robur* L.), pine and spruce (*Pinus silvestris* L. and *Picea abies* L.) and, of course, the lime tree (*Tilia cordata* Mill.). Under this canopy are several specimens of magnolia, rhododendron, hydrangea, etc. One has the impression of being in a jungle. In the big trees at least 20 *Hydrangea anomala* D. Don subsp. *petiolaris* (one 12 meters, or 40 feet high), *Aristolochia durior* Hill, and *Clematis alpina* (L.) Mill. are climbing, and throughout there is a deep green from shrubs such as *Hydrangea aspera* D. Don sbsp. *sargentiana*, *Rhus typhina* L., and *Phodgesia podophyllum*, plus a dark red from *Acer palmatum* Thunb. ('Atropurpureum' and 'Oshio-Beni').

Two *Paeonia suffruticosa* Andr. ('Rosea' and 'Vittata') were in full bloom and grew together with the flowering *Malus × purpurea* (Barbier) Rehder ('Eleyi') to accentuate the exotic character. Even some *Lysichitum americanum* and *L. camtschatcense* are growing beside a small "waterlily" pond established by Tore on the slope.

To provide good wind protection in winter and shade in the early spring, *Taxus × media* Rehder 'Hicksi' is planted in strategic positions.

During our walk in Tore's garden I noticed the following magnolias planted or sown in the year noted: one *M. × kewensis* grex (1963), two *M. × loebneri* grex (1963), one *M. hypoleuca* (1964), one *M. sieboldii* (1966), one *M. hypoleuca × M. tripetala* (sown in 1966), one *M. × soulangiana* grex (1973), one *M. 'Charles Coates'* (1974), two *M. × loebneri* 'Merrill' (1978), one *M. × soulangiana* 'Rustica Rubra' (1978), three *M. tripetala* 'Bloomfield' (sown in 1979), one *M. macrophylla* (sown in 1979), one *M. fraseri* (sown in 1979), and one *M. × loebneri* 'Ballerina' (1982).

Most of the species come from German nurseries such as Herman Hesse, GD Bolje and Br. Brunn. This year we tried to import from Gossler's nursery. Tore was really unfortunate. Out of five magnolias only the 'Ballerina' was alive. Probably the plants died from the shock of being shipped with bare roots—and this is the real tragedy: the Swedish import regulations are very liberal and do not require bare roots shipment (simply sterilized soil or humid moss, peat, etc. will do) nor quarantine or pesticide treatment. American phytosanitary authorities should know this as they have received the information from the Swedish government, but they obviously do not read it. The next time we will have to check to see that the inspector in Springfield (Oregon) is aware of our regulations.

The sown plants originated from the A.M.S. seed counter, which proves what an important service the seed exchange is to us who are trying to develop magnolia cultivation almost from scratch (there are no domestic

magnolias, hence no traditional cultivation).

The 'Charles Coates' came from Mr. Flinck when already 1 meter (3 feet) high and has flowered since 1979. Vitality is good and the dimensions today are 3.9 × 3 meters (13 feet high, 10 feet wide). *M. sieboldii* also has acclimatized superbly in Tore's garden and is now 2.5 by 3 meters (8 by 7 feet). This species shows good hardiness in Scandinavia. One specimen has been in cultivation 15 years at As (14° 34' E 63° 15'), where it's not unusual to have temperatures of -30° F to -40° F in winter. The form 'Bloomfield' (*M. tripetala*) has not yet flowered but there is no doubt of its vitality and hardiness. The seedlings such as *M. macrophylla* have not yet been thoroughly tested because they have been protected by the snow cover, normally 1 to 2 feet. Tore once lost a *M. kobus* in winter after a summer with a severe drought. What are the chances for *M. macrophylla*? We cannot yet judge.

Tore is also a member of the Swedish Rhododendron Society and has many interesting specimens, including *Rh. calophyllum* Franch., *Rh. yacusimanum* Naki, *Rh. fortunei* Lindl., *Rh. insigne* Hemsl. & Wils., *Rh. degronianum* Carr., and many others.

As you can see there is a good chance for cultivation of magnolias in Scandinavia if only hardy forms can be found. *M. sieboldii*, though from Japan, seems very hardy, but the Korean form from high altitudes and the Chinese one from Heilongjiang should be even harder and suitable for the parts of Scandinavia that have a deep snow cover, as in northern Sweden and Finland.

Tor Nitzelius managed to obtain a late opening form of *M. hypoleuca* during one of his collecting excursions in Japan. Since the danger of frost in

spring is obvious, the late opening and flowering forms are of the greatest use to us. *M. tripetala* 'Bloomfield' is an important improvement in this species and will certainly be widely grown in Scandinavia. But there is still more to be done in selecting hardy forms; for example, how would the form of *M. macrophylla* from Jackson County, Ohio, thrive in Scandinavia? Would it be possible to cultivate it in mild locations in Sweden? We need to find out by testing. *M. acuminata* in all forms is of great interest to us, in addition to the northern Asian species.

Besides *M. sieboldii*, we believe that other American and Japanese species can be successfully cultivated from the hardiest forms, clones, and cultivars. The south Chinese species are more uncertain. Mr. Flinck thinks the difference between south China and Scandinavia is too great to provide a real chance for survival here. But we know there are species from this area, collected at high altitudes, that are hardy enough for Scandinavia. We cannot be certain before we have been able to test that one "living on the north slope of a mountain at high altitudes in Sechuan, Yunnan or elsewhere in China." But how to acquire material from a habitat that has a harsh climate similar to ours? Perhaps the only chance for these tender species in Scandinavia is by crossing them with *M. acuminata* or *M. kobus*.

If Society members think they own, or can obtain, or can find a specimen—pure species or cross—that seems harder than normal, we would be grateful to acquire propagating material from it. It might be suitable for us. Please contact us if you have such a plant or can recommend one. We urgently need your help. Write: Lennarth Jonsson, Almgatan 8, S-361 00, Emmaboda, Sweden.