

A Guide by Plant Family to Foliage Preservation

by SHEILA MAGULLION

A comprehensive list of hardy woody plants that can be preserved by glycerine treatment has long been needed. Therefore, this guide has been compiled after experimentation with a wide range of plant materials drawn from the Arnold Arboretum's collections in Jamaica Plain; all are hardy in the Boston area.

Results of the testing showed that, with few exceptions, all members of a family react in much the same manner. Some families refuse completely to absorb the glycerine mixture; some absorb it, but with poor results; and some are outstanding in their response. Exceptions to the general rule could be vines, which are usually a failure — especially if they are deciduous — and broad-leaved evergreens, which nearly always give excellent results even though they may belong to a mostly deciduous family that otherwise has a poor response to glycerine. Some families may react in a different manner if treated earlier in the year.

The following information has been compiled from experience gained during the months of July to November, inclusive. Genera tested are listed under each family. It was not considered possible to test all species in some of the large genera, such as *Acer* and *Salix*; therefore, in those and similar cases, conclusions were made after trials with half a dozen species. The total immersion method was not used in any case.

In order to keep the guide as concise as possible, the general remarks for the family apply to all members mentioned, unless otherwise stated. Additional information — often relating to the value of the fruits, when and how to dry them — will be found following many listings, and is indicated by an *.

ANACARDIACEAE

Cashew Family

Glycerine treatment of foliage improves toward the end of the growing season, but results will vary greatly. Fruits require no drying.

- * *Cotinus* (smoke bush) — Red-leaved forms of *C. coggygria* are more effective than the green. Large plummy fruit panicles last very well if collected no later than July.

Rhus (sumac) — Large red fruit heads can be useful in large arrangements.

AQUIFOLIACEAE

Holly Family

Evergreen foliage takes glycerine very well, becoming a dark brown in most cases. Deciduous types are not a success. Fruit is very long lasting.

Ilex (holly), **Nemopanthus*

- * *Ilex* — Fruit of *I. pedunculosa* is outstanding. Matures late and can be collected into November. *I. verticillata* and *I. decidua* have profuse fruits that dry well and can be collected into the winter months. The latter is the more desirable.

ARALIACEAE

Ginseng Family

Handsome foliage takes glycerine but then droops unattractively. Fruit not suitable for drying.

Acanthopanax, *Aralia*, *Hedera* (ivy), *Kalopanax* *

- * *Kalopanax* — Huge leaves on long petioles take treatment surprisingly well. Can be treated and used individually.

BERBERIDACEAE

Barberry Family

Evergreen genera and species have excellent foliage that takes glycerine superbly. The colorful fruits are too fleshy to dry well.

- * *Berberis* (barberry) — Contains deciduous species that are much less successful than the evergreens.

Mahonia — Assumes red winter coloring that is particularly attractive after glycerine treatment.

Mahoberberis — Evergreen hybrids between the two preceding genera.

BETULACEAE

Birch Family

Contains good foliage that refuses treatment early in the year, but by August and September seems to be quite satisfactory. All have interesting fruit clusters that dry easily and last well if collected early.

- * *Alnus* (alder) — Dry strobiles like small cones can be collected at any time.

Betula (birch) — Catkins should be collected by midsummer.

Carpinus (hornbeam) — Pendulous clusters of small nutlets enclosed in leafy bracts should be collected during July and August for best results. Can be dried or treated with glycerine for an olive-green effect.



Smilax sp., *Rhododendron smirnowi*, *Cotinus coggygria*. Photo: P. Chvany.

Corylus (hazelnut) — The attractive nuts are beloved by squirrels and so should be collected green by late July.

BUXACEAE

Box Family

Evergreen foliage takes glycerine very slowly. Fruit of little interest.

Buxus (boxwood), *Sarcococca*

CALYCANTHACEAE

Calycanthus Family

Interesting fruit a dry pod somewhat resembling a fig. Sparingly produced but dries well. Foliage a failure.

Calycanthus (sweetshrub)

CAPRIFOLIACEAE

Honeysuckle Family

Contains many horticulturally popular genera. The foliage takes glycerine but then droops in some cases. Fruits are too soft to dry.

Abelia,* *Diervilla*, *Dipelta*, *Kolkwitzia* (beauty bush),* *Lonicera* (honeysuckle),* *Sambucus* (elderberry),* *Symphoricarpos* (snowberry),* *Viburnum*,* *Weigela*

* *Abelia* — Evergreen species give satisfactory results.

Kolkwitzia — Fuzzy seed heads are moderately attractive but must be collected in July.

Lonicera — Foliage of some of the small-leaved species and forms are very successful.

Sambucus — An exception in that it did not take glycerine.

Symphoricarpos — Foliage responds well.

Viburnum — Evergreen foliage of *V. rhytidophyllum* droops after treatment but is handsome enough to be worth wiring.

CELASTRACEAE

Staff-tree Family

Foliage takes glycerine but, except for the evergreen members, is not worthwhile. Excellent for fruit.

* *Celastrus* (bittersweet) — Well-known yellow and red capsules should be collected before they split.

Euonymus (spindle tree) — Capsules of various colors must be collected before they split, and treated with alcohol and shellac to help preserve color and prevent dropping. Includes some evergreen species.

Pachistima — Small evergreen foliage takes glycerine well.

Tripterygium — A deciduous vine that does not take glycerine. Long panicles of winged seeds are interesting if collected in August.

CERCIDIPHYLLACEAE

Katsura-tree Family

Cercidiphyllum (katsura) — Attractive foliage takes glycerine, but not always well. Results from individual specimens vary greatly. Clusters of small pods arranged along the branches are very useful, and can be collected into the winter months.

CHENOPODIACEAE

Goosefoot Family

Atriplex — Small gray leaves take glycerine.

CLETHRACEAE

White-alder Family

Clethra (white alder) — Foliage does not absorb glycerine, but the racemes of dry, long lasting capsules are attractive and can be collected into the winter months.

CORNACEAE

Dogwood Family

An extremely variable family.

* *Cornus* (dogwood) — Results in this genus vary according to species.

Helwingia — This refuses glycerine altogether.

CRUCIFERAE

Mustard Family

Small evergreen foliage takes glycerine. Fruit is of no interest.

Aethionema, *Alyssum*, *Iberis*

CYRILLACEAE

Cyrilla Family

Cyrilla (leatherwood) — An interesting shrub that responds well to glycerine but the leaf arrangement makes it difficult to use effectively.

ELAEAGNACEAE

Oleaster Family

Foliage is inclined to droop after treatment, but the silver and grey colors provide such a welcome change from olives and browns that extra fussing is worthwhile. Spectacular fruit is too soft to dry well.

Elaeagnus (oleaster),* *Hippophae* (sea buckthorn), *Shepherdia* (buffaloberry)

* *Elaeagnus* — Offers the best results in the family.



Magnolia tripetala, *Liriodendron tulipifera*, *Koelreuteria paniculata*, *Staphylea elegans hessei*, *Carpinus betulus*, *Aruncus sp.*, *Hydrangea*. Photo: P. Chvany.

ERICACEAE**Heath Family**

All genera tried, both evergreen and deciduous, take glycerine beautifully. These have very neat foliage that is ideal for small arrangements. Fruits are most often dry capsules of minor interest; some genera have soft fruits that do not dry.

Andromeda (bog rosemary), *Arctostaphylos* (bearberry), *Bruckenthalia* (spike heath), *Calluna* (heather), *Cassiope*, *Chamaedaphne* (false daphne), *Enkianthus*, *Erica* (heath), *Gaultheria*, *Gaylussacia* (huckleberry), *Kalmia* (laurel), *Ledum* (Labrador tea), *Leiophyllum*, *Leucothoe*,* *Lyonia* (fetterbush), *Oxydendrum* (sorrel tree),* *Pieris*, *Rhododendron*,* *Vaccinium*, *Zenobia* (dusty zenobia)*

* *Leucothoe* — Variegated form of *L. fontanesiana* is particularly good.

Oxydendron — Large leaves are very floppy.

Rhododendron — Large-leaved species and forms are inclined to droop.

Zenobia — Has grey foliage and long racemes of grey capsules that are very handsome.

FAGACEAE**Beech Family**

Superb foliage is excellent after glycerine treatment and is well known to arrangers. Interesting fruits dry naturally but should be collected early before the squirrels take them.

* *Castanea* (chestnut) — Large leaves are inclined to flop and may need wiring. Collect the chestnuts in early September.

Fagus (beech) — The many forms of *F. sylvatica* make an interesting change and could be used more often.

Quercus (oak) — Acorns may need a drop of glue to hold them in their cups. Small-leaved species are generally easier to use.

GRAMINEAE**Grass Family**

Not satisfactory in glycerine but the narrow-leaved genera air-dry quite well and the broader leaves can be pressed.

Arundinaria, *Phyllostachys*, *Sasa*, *Sinarundinaria*.

HAMAMELIDACEAE**Witch-hazel Family**

A very satisfactory family that takes glycerine beautifully. Fruit mostly of little interest.

Corylopsis, *Fothergilla*, *Hamamelis* (witch-hazel), *Liquidambar* (sweet gum),* *Parrotia*, *Parrotiopsis*.

- * *Liquidambar* — Foliage and fruit is very different from the other members of the family. Long petioles permit the leaves to droop somewhat after treatment. Fruit a prickly globe-shaped collection of capsules popular for Christmas decorations.

HIPPOCASTANACEAE

Horse-chestnut Family

Aesculus (horse-chestnut) — Foliage does not respond to glycerine. The well-known nuts will need glue to hold them in their cases and should be collected in August.

LABIATAE

Mint Family

Aromatic foliage and small flowers that are best dried by the hanging method.

Elsholtzia, *Lavandula* (lavender), *Perovskia*, *Salvia* (sage), *Teucrium* (germander), *Thymus* (thyme).

LARDIZABALACEAE

Lardizabala Family

Foliage takes glycerine but then droops. Large fleshy fruits do not dry well.

Akebia,* *Decaisnea*

- * *Akebia* — Deciduous vines that produce usable results late in the season.

LEGUMINOSAE

Pea Family

A large family that includes many popular members that unfortunately are of little use for drying and preserving. Fruits are a pod interesting only for size in a few genera. Mostly compound foliage either closes up or refuses glycerine.

Albizia (silk tree), *Amorpha* (false indigo),* *Caragana*, *Cercis* (red-bud),* *Cladrastis* (yellow-wood),* *Colutea* (bladder senna),* *Cytisus* (broom), *Genista*, *Gleditsia* (honey-locust),* *Gymnocladus* (Kentucky coffee tree),* *Halimodendron* (salt bush), *Indigofera*, *Laburnum* (golden chain tree), *Lespedeza*, *Maackia*, *Pueraria* (kudzu vine), *Robinia* (false acacia), *Sophora* (Japanese pagoda tree), *Wisteria* *

- * *Amorpha* — Fruits are small pods in dense terminal spikes.

Cercis — Simple leaves that sometimes absorb glycerine.

Cladrastis — Does take glycerine but not satisfactorily.

Colutea — Interesting inflated pods.

Gleditsia — Fruit a very large flat, twisted pod.

Gymnocladus — Interesting heavy pods.

Wisteria — Attractive velvety pods that cannot be prevented from splitting.

LEITNERIACEAE

Corkwood Family

Leitneria (corkwood) — Has good foliage that responds well to glycerine. Fruit a drupe not often produced.

LILIACEAE

Lily Family

The two hardy woody members are very useful to the arranger.

- * *Smilax* (green brier) — Wonderful foliage takes glycerine superbly. Prickles should be snipped off before treatment.

Yucca — Sword-shaped leaves absorb glycerine very slowly and are probably better pressed or air dried. Fruit a cluster of capsules that dry very well. Collect by midsummer.

MAGNOLIACEAE

Magnolia Family

Has very handsome foliage that does not always absorb glycerine well but is worth perseverance. Large fruits are spectacular but difficult to dry.

- * *Liriodendron* — Foliage from young trees seems to respond to treatment better than that from older specimens. The long petioles permit the leaves to flop and will need to be wired, or the leaves can be used individually. Fruit is a pointed cone that dries well but needs shellac treatment to prevent shattering. Collect in August.

Magnolia — Some species have very large leaves that are better used individually. *M. virginiana* is the most satisfactory of the smaller-leaved species. Fruits should be collected as they begin to split, and treated with shellac to hold the seeds in place.

MALVACEAE

Mallow Family

Hibiscus (shrubby althea or rose of sharon) — Has unremarkable foliage that takes glycerine quite well. Fruits are attractive capsules popular with arrangers.

MYRICACEAE

Sweet Gale Family

Excellent foliage absorbs glycerine well. Fruit dries readily.

Comptonia (sweet fern), *Myrica* (bayberry)

OLEACEAE**Olive Family**

Foliage takes glycerine well with some variations. Fruit is not exciting.

Abeliophyllum, *Chionanthus* (fringe tree),* *Fontanesia*, *Forsythia*, *Fraxinus*,* *Ligustrum*, *Syringa* *

* *Chionanthus* — Foliage is very good. The blue fruits dry well.

Fraxinus — Foliage is a complete failure.

Syringa — Foliage is not very satisfactory.

PINACEAE**Pine Family**

With the exception of the very resinous genera, most members of the Pine Family absorb glycerine well. However some turn a dark brown that is not particularly attractive. Since many last so well untreated, the family is included here primarily for its deciduous members; all have cones invaluable to the arranger.

* *Abies* (fir) — Heavy resin inhibits the absorption of glycerine.

Cedrus (cedar) — Too resinous for success.

Chamaecyparis (false cypress) — Takes glycerine but some species and forms turn brown. Foliage of *C. squarrosa* is interesting after treatment.

Cryptomeria — Turns a dark brown.

Cupressus (cypress) — Takes treatment well.

Juniperus (juniper) — Takes glycerine but also lasts indefinitely without any treatment.

Larix (larch) — Very successful.

Libocedrus (incense cedar) — Takes treatment fairly well.

Metasequoia — Very successful.

Picea (spruce) — Too resinous for success.

Pinus (pine) — Too resinous for success.

Pseudolarix (golden larch) — Young specimens seem to react best.

Pseudotsuga (Douglas-fir) — Too resinous for success.

Sciadopitys (umbrella pine) — Turns an attractive tan color.

Sequoiadendron (redwood) — Very successful.

Taxodium (bald cypress) — Moderately successful.

Thuja (arborvitae) — Very satisfactory in all forms tried.

Thujopsis — Turns a dark brown.

Tsuga (hemlock) — Takes glycerine but drops many needles.



Leucothoe fontanesiana 'Girard's Rainbow', *Mahonia bealei*, *Liriodendron tulipifera*, *Castanea pumila*. Photo: P. Chvany.

PLATANACEAE

Plane-tree Family

Platanus (plane tree) — Large foliage takes glycerine particularly well. The spherical seed heads on long pendulous stalks are long lasting if collected no later than August.

RANUNCULACEAE**Buttercup Family**

Foliage absorbs glycerine but droops too much to use. Fruits interesting and useful.

- * *Clematis* — Plumy seed heads should be collected as soon as they form.

Paeonia (peony) — Foliage can be pressed or single leaves wired after glycerine treatment. Collect the attractive pods after they open in September.

Xanthorhiza (yellow root) — Fruit too filmy to be effective.

ROSACEAE**Rose Family**

A large, horticulturally important family that gave some of the most outstandingly successful results of any family tested. Foliage of most members quickly turns a very dark reddish-brown. Most of the spectacular fruits are too soft and fleshy to dry well.

Amelanchier (shadbush), *Aronia* (chokeberry),* *Aruncus*,* *Chaenomeles* (Japanese quince), *Cotoneaster*, *Crataegus* (hawthorn),* *Cydonia* (quince), *Exochorda*, *Kerria*, *Malus* (apple), *Neillia*,* *Photinia*,* *Physocarpus* (ninebark),* *Potentilla* (cinquefoil), *Prinsepia*,* *Prunus* (plum, cherry, etc.),* *Pyracantha* (firethorn),* *Pyrus* (pear),* *Rhodotypos*, *Rosa* (rose),* *Sorbaria*,* *Sorbaronia*, *Sorbus*,* *Spiraea*, *Stephanandra* *

- * *Aronia* — Some species have fruits that dry well.

Aruncus — Fruit clusters are useful if collected in July.

Crataegus — Among the larger fruits offers the best hope for successful drying. Contains many different species that ripen from July to October. Collect at the first sign of color and hang to dry.

Neillia — Foliage is inclined to droop.

Photinia — Red berries that ripen late and last well treated with alcohol and shellac.

Physocarpus — Heads of dry follicles are of possible use.

Prinsepia — Uncomfortably thorny to work with.

Prunus — *P. laurocerasus* foliage is particularly good.

Pyracantha — Too thorny for comfort.

Pyrus — *P. calleryana* 'Bradford' foliage is outstanding.

Rosa — *R. multiflora* and *R. virginiana* fruits dry and last extremely well.

Sorbaria — Seed follicles in branching clusters that are very useful.

Sorbus — Contains species such as *S. alnifolia* and *S. hostii* with fabulously successful foliage. Fruits of the former and a few others dry well, but most are too soft.

Stephanandra — Small foliage on arching stems is good for small arrangements.

RUBIACEAE

Madder Family

Cephalanthus (button-bush) — Foliage is successful in glycerine but is not particularly interesting. Seeds arranged in a spherical head.

RUTACEAE

Rue Family

Foliage refuses glycerine. Some members have attractive fruits that dry well.

Evodia,* *Orixa*, *Phellodendron* (cork tree),* *Poncirus* (hardy orange),* *Ptelea*,* *Zanthoxylum*

- * *Evodia* — Outstanding large clusters of numerous seed pods should be collected as soon as they mature around mid-September, and treated with alcohol and shellac to prevent seeds from dropping.

Phellodendron — Blue fruits in large bunches shrivel but do dry fairly well.

Poncirus — Small oranges must be collected in July while still green.

Ptelea — Fruits are clusters of round samaras that are interesting, but difficult to use.

SALICACEAE

Willow Family

Foliage refuses to absorb glycerine. The familiar furry catkins are always popular.

Populus (poplar), *Salix* (willow).

SAPINDACEAE

Soapberry Family

Foliage refuses glycerine. Fruits dry well.

Koelreuteria (golden raintree),* *Xanthoceras* (shiny yellowhorn)

- * *Koelreuteria* — Large panicles of papery pods are good for large arrangements. Collect in August.

SAPOTACEAE**Sapodilla Family**

Bumelia (chittamwood) — Has good foliage that takes glycerine well. Fruit has no interest.

SAXIFRAGACEAE**Saxifrage Family**

Foliage absorbs glycerine but droops too much to use. Fruit is of no interest except in *Hydrangea*.

Deutzia, *Hydrangea*,* *Philadelphus* (mock orange),* *Ribes* (flowering currant), *Schizophragma*.

- * *Hydrangea* — Contains many species with either white, pink or green sterile flowers that dry naturally on the plant, and are extremely showy and useful.

Philadelphus — Small-leaved species produce usable results.

STAPHYLEACEAE**Bladdernut Family**

Staphylea (bladdernut) — Compound foliage responds well to treatment. The green inflated pods are different and interesting. Collect from July to September.

STYRACEAE**Storax Family**

Foliage does not take glycerine successfully. Fruit attractive but too fragile to be of great value.

- * *Halesia* (silverbell) — Fruits are dry, winged drupes that drop from the branches very easily. Treat with alcohol and lacquer.

Pterostyrax — Pendulous panicles of furry drupes shatter quickly. Treatment with alcohol and lacquer helps somewhat.

Styrax (snowbell) — Fruits are small ovoid drupes that dry easily. Collect in July for best results.

SYMPLOCOCEAE**Sweetleaf Family**

Symplocos (sweetleaf) — Foliage takes treatment very well. Fruit dries well and although small is very effective because of the brilliant blue color. Collection time in August is very short.

THEACEAE**Tea Family**

Foliage is not satisfactory after glycerine treatment.

Franklinia, *Stewartia* *

- * *Stewartia* — Fruit a beaked capsule that is attractive in some species.

THYMELAEACEAE

Mezereum Family

Foliage takes glycerine well in the only species tested.

Daphne, *Dirca* (leatherwood)

TILIACEAE

Linden Family

Tilia (linden) — Handsome foliage absorbs glycerine fairly well at some times of the year. Fruits are small nutlets attached to a leafy bract.

TROCHODENDRACEAE

Trochodendron Family

Two uncommon trees that take glycerine well. Fruits are winged nutlets that are not attractive when dried.

Eucommia, *Euptelea*

VERBENACEAE

Vervain Family

Members are inclined to be tender in the Boston area and usually kill to the ground; new growth is too lush and soft to take glycerine. Fruits unusual and useful.

Callicarpa (beautyberry),* *Caryopteris*, *Clerodendron*,* *Vitex*

* *Callicarpa* — Collect the long sprays of small violet berries before frost and lay flat or hang to dry.

Clerodendron — Blue berry-like fruits surrounded by bright red calyx remain attractive when dried. Mature very late in the season.

Following is a list of families and their hardy members that have little or nothing to recommend them for preserving purposes.

ACERACEAE (Maple Family)

Acer (maple)

ACTINIDIACEAE (Actinidia Family)

Actinidia (silver or fleecevine)

ANNONACEAE (Custard-apple Family)

Asimina (pawpaw)

ARISTOLOCHIACEAE (Birthwort Family)

Aristolochia (birthwort)

BIGNONIACEAE (Bignonia Family)

Campsis (trumpet vine), *Catalpa*

BORAGINACEAE (Borage Family)

Ehretia, *Lithospermum*

EBENACEAE (Ebony Family)

Diospyros (persimmon)

EUPHORBIACEAE (Spurge Family)

Andrachne, *Securinega*

- GINKGOACEAE (Ginkgo Family)
- GUTTIFERAE (Garcinia Family)
 - Hypericum* (St. John's-wort)
- JUGLANDACEAE (Walnut Family)
 - Carya*, *Juglans*, *Pterocarya*
- LAURACEAE (Laurel Family)
 - Lindera* (spice bush), *Sassafras*
- LOGANIACEAE (Logania Family)
 - Buddleia* (butterfly bush)
- MENISPERMACEAE (Moonseed Family)
 - Menispermum* (moonseed)
- MORACEAE (Mulberry Family)
 - Broussonetia* (paper mulberry), *Macludrania*, *Cudrania*, *Maclura* (osage orange), *Morus* (mulberry)
- NYSSACEAE (Tupelo Family)
 - Nyssa* (tupelo), *Davidia*
- POLYGONACEAE (Buckwheat Family)
 - Polygonum* (knotweed)
- RHAMNACEAE (Buckthorn Family)
 - Berchemia*, *Ceanothus*, *Hovenia*, *Rhamnus* (buckthorn)
- SCROPHULARIACEAE (Figwort Family)
 - Hebe*, *Paulownia* (empress tree)
- SIMAROUBACEAE (Quassia Family)
 - Ailanthus*, *Picrasma*
- SOLANACEAE (Nightshade Family)
 - Lycium* (matrimony vine)
- TAXACEAE (Yew Family)
 - Taxus* (yew)
- ULMACEAE (Elm Family)
 - Celtis* (hackberry), *Hemiptelea*, *Ulmus* (elm), *Zelkova*
- VITACEAE (Grape Family)
 - Ampelopsis* (porcelain vine), *Parthenocissus* (Virginia creeper), *Vitis* (grape vine)

A member of the Friends of the Arnold Arboretum and an active volunteer, Sheila Magullion has collaborated with Cora Warren on the exhibit of holiday arrangements using preserved plant materials, currently on display through December 30 in the lecture room of the Administration Building.

Betula jackii, *Rubus* sp., *Staphylea elegans hessei*, *Celastrus* sp., *Castanea pumila*, *Corylus* sp., *Aesculus glabra*. Photo: P. Chvany.



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