

Gardenia

By Gary Cromwell



GARDENIAS RANK AMONG the most popular of ornamental flowering shrubs in history, along with the rose, the camellia, and the hibiscus. Their gleaming white flowers and spicelike fragrance have charmed men and women of many world cultures. King Edward VII of England was said to seldom have been without a gardenia in his coat lapel.

Gardenia species, once commonly called cape-jasmine, are members of the madder family (Rubiaceae) and are taxonomically grouped with such notable plants as coffee (*Coffea*), quinine (*Cinchona*), and false baby's breath (*Galium*). The genus was named by John Ellis in 1761 in honor of Alexander Garden, a physician and botanist from South Carolina. Dr. Garden was an associate of Carolus Linnaeus, a Swedish botanist and father of our modern binomial system for classifying plants and animals.

Many of the approximately 250 species of gardenias are widespread naturally throughout tropical areas of the Old World and to a lesser extent in the New World. Such locations include portions of southern and western tropical Africa, India, Cambodia, China, Japan, the Philippines, the Malay Peninsula, Sumatra, Borneo, the Hawaiian Islands, and the Fijian area of the South Pacific. In the western hemisphere, gardenias are native to such tropical areas as Guyana and Brazil. A few species have been successfully intro-

duced into temperate regions of the world where they are grown outdoors in milder areas such as California and Florida and under glass in colder climates.

Gardenias range from evergreen shrubs less than one foot tall to small trees about 20 feet in height.

The glossy, dark to bright green leaves may be opposite or in whorls of three. They vary from one to more than 10 inches long, are obovate to oblanceolate in shape, and have sheathing, truncated, resinous stipules. Flowers are single to double (having about twice the number of



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The glossy dark green leaves and waxy white flowers of Gardenia jasminoides make it a popular garden shrub.

petals usually associated with the species), white to creamy-white (some are violet or yellow), large (one inch to more than four inches across), waxy, and highly fragrant. The berrylike fruits may be cream-colored to orange or yellow and of variable surface texture. Fruits of many species are hard and are comparable to a large hen's egg in shape and weight.

Although gardenias commonly are known only as ornamental accents in gardens and for their use in floral arrangements, corsages, and boutonnieres, the plants have served mankind for other purposes. These include food, medicine, clothing dyes, pesticides, fish poisons, cosmetics, glue, soap, and for utensils and other carved wooden articles.

The yellowish fruits of *Gardenia brasiliensis* (native to Guyana and Brazil), *G. erubescens* (tropical Africa), and *G. lutea* (Abyssinia and the Blue Nile region of Egypt) are used in soups, sauces, and in other foods by local populations within those geographical areas. The Chinese for centuries have used the flowers of *G. jasminoides* in scenting tea, while the Tahitians perfume coconut oil with flowers of *G. taitensis*.

Parts of the Marala plant (*G. spathulifolia*) have been used for many years in disease-curing ceremonies by occult practitioners among Transvaal tribes of South Africa. Peoples of India, Burma, Assam, and other countries on the southern boundary of the Himalayan Mountains of Asia have employed fruit extracts and resins of *G. campanulata*, *G. gummi-fera*, and *G. lucida* for laxatives, to expel intestinal parasites, to cure skin diseases, and to deter flies from infecting open sores on human beings and animals.

The ancient Hawaiians dyed tapa cloth, an unwoven inner bark product of the paper mulberry tree (*Broussonetia papyrifera*), by using the yellow fruit pulp of both *G. brighamii* and *G. remyi*. The fruits of *G. kalbreyeri* and *G. thunbergia*, and the seeds of *G. erubescens*, *G. jovis-tonantis*, and *G. vogelii* have been processed by certain tropical African

cultures as a black cosmetic skin dye.

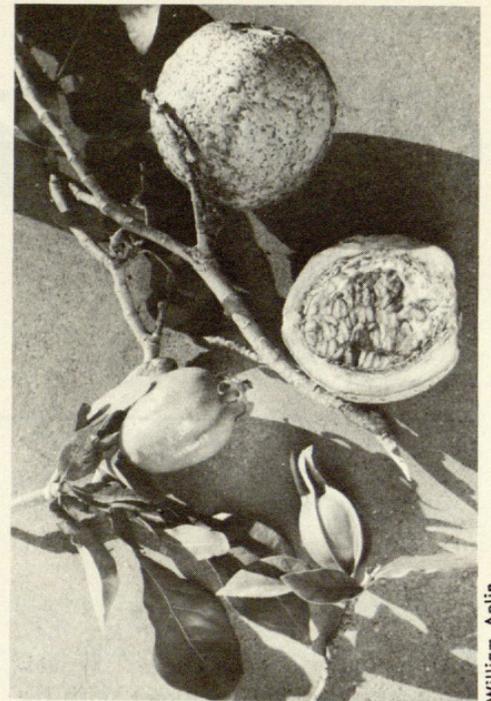
In eastern tropical Africa, women of the Sudan obtain ash from the wood of *G. thunbergia* for soap manufacture and for lye used in processing of dyes. At one time, Hawaiian people collected the gelatinous leaf buds of *G. remyi* and made glue from them. Fish in Asia and Africa were stunned by poisons obtained from *G. campanulata* and from *G. jovis-tonantis*, respectively.

The wood of many arborescent *Gardenia* species is light, dense, even-grained, and pale yellow. From the South Pacific islands to the coasts of Africa, stems of these plants have been harvested for making spoons, knife handles, tools, felloes (rims of spoked wheels), for engraving work, and for numerous other purposes.

The practices of using naturally-scented gardenia flowers and of creating distinctive perfumes from gardenia extracts have continued until modern times. Leis of gardenia flowers are still worn by island peoples in the Pacific, and expensive essences derived from the plants are made available to milady by an international perfume industry.

Of the hundreds of *Gardenia* species, relatively few are utilized by mankind for horticultural purposes. Growing some taxa outside the tropics has not been attempted; a few species have been rejected because they are less attractive than others. Perhaps many have not been introduced into cultivation because of their specialized growth requirements and sensitivity to a harsher temperate climate.

Botanic gardens may include only about a dozen species and varieties in their collections, and these usually are grown for their fragrant flowers and attractive foliage. Four contemporary international favorites, all cultivars of *Gardenia jasminoides*, are 'Mystery,' 'August Beauty,' 'Veitchii,' and 'Radicans.' In addition to having all four of these, the Los Angeles State and County Arboretum also grows 'King Midas,' a fifth cultivated variety of this species. Four of the five cultivars are represented by a group of plantings west of the



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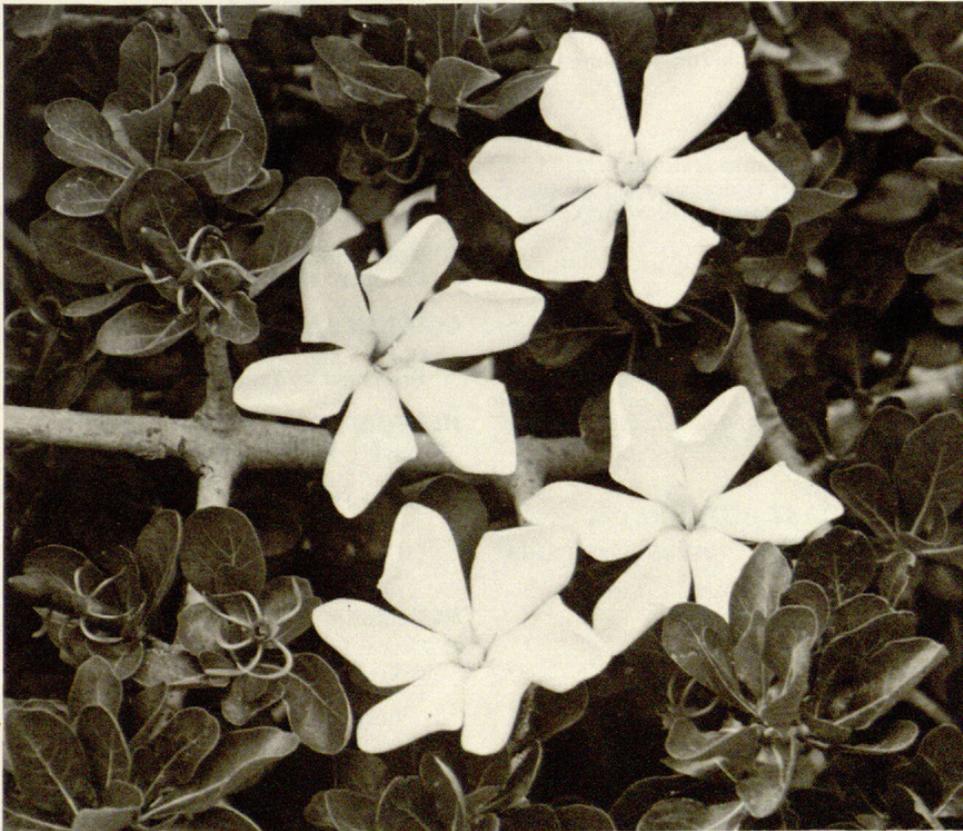
The hard spherical fruit of Gardenia thunbergia develops from the flower's ovary and is of economic importance.

Tropical Greenhouse, near an old pepper tree. These range from less than one foot to about three feet in height. Specimens of 'Veitchii' are located just west of the fountain in the Home Demonstration area, and adjacent to the road west of the Meadowbrook section. Many of these shrubs flower in summer or in mid-winter.

The Arboretum also grows representatives of other *Gardenia* species, including *G. jasminoides* (synonym, *G. florida*; common gardenia), *G. cornuta*, *G. globosa*, *G. spathulifolia*, and *G. thunbergia*. Visitors may view three to five-foot specimens of *G. jasminoides* in two locations, northwest of the South African section storage building and near the Meadowbrook area, west of the road leading to the waterfall. *G. jasminoides* has glossy bright green leaves, medium-gray bark, and numerous fine branches. Eight to ten-foot examples of *G. cornuta* may be seen in two areas of the South African section, west of the Peacock Pavilion. These plants have medium green leaves, stout branches, and slightly rough whitish-gray bark. Three spe-



Flowers of *Gardenia spathulifolia* have a characteristic elongate corolla tube and a slight fragrance.



William Apfin

A native of South Africa, *Gardenia cornuta* has stout branches and obovate leaves.

cimens of *G. globosa*, from seven to nine feet tall, are growing on the eastern slope of Tallac Knoll south of the Coach Barn. These have numerous stout branches and solitary terminal flowers.

Six-foot and 12-foot specimens of *G. spathulifolia* are situated close to other species in the South African section near the storage building and in a spot about 50 yards northwest of the Queen Anne Cottage, respectively. This species has stout smooth branches and spoon-shaped leaves. Shrubs of *G. thunbergia* may be seen north of the groundcover demonstration plots west of the Tropical Greenhouse.

One must use care in growing gardenias. They do best in acidic soils (pH 5.0 to 5.5) which contain high percentages of organic material, or humus. They prefer cool (but not cold), sunny to lightly-shaded moist locations in either house or garden. The plants must not be subjected to overwatering or to excessively hot dry conditions for an extended period. If not properly attended, gardenias may suffer from a variety of diseases or attacks by pests. These include stem canker (caused by a fungus, *Phomopsis gardeniae*), leaf spot, sooty mold, root knot (caused by nematodes), and multiple problems due to white flies, mealy bugs, scale insects, red spider mites, and leaf-rolling moth larvae. Neglected plants may also exhibit iron chlorosis and bud drop.

Gardenias may be grown as foundation plants or as potted specimens. The plants may be propagated by grafting, stem tip or leaf cuttings, or by seeds. However, cuttings are generally preferred for propagation in California. Grafting studies indicate that *G. thunbergia* is a good pathogen-resistant rootstock for propagation work by the home gardener.

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Cromwell, Gary. 1979. "Gardenia." *Garden* 3(5), 5–7.

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