The Trillium

VOLUME 16, ISSUE 5
NOVEMBER—DECEMBER
2006

Piedmont Chapter
North American Rock Garden Society
Chapel Hill, Durham, Raleigh, NC

A Trillium Feature: Our November Speaker

Cliff Parks is a native of upstate New York and obtained a BS degree in plant science from Cornell University. He came south to North Carolina State University and obtained masters and doctorate degrees studying floral pigmentation in species of *Gossypium* (cotton). He took his first job at the Los Angeles State and County Arboretum (LASCA), and while there worked on camellia systematics and breeding from 1962 to 1967. At LASCA Cliff made crosses of camellias using stock from the large collection in Descanso Gardens, located in La Cañada, a suburb of Los Angeles.

In 1967, Cliff moved to Chapel Hill and a teaching-research job in botany at the University of North Carolina. Cliff brought hundreds of camellias with him from Los Angeles. His botanical interest at the university was in vicariance, the study of the separation of organisms by geographical boundaries such as mountain chains and bodies of water, which can result in develop-

(Continued on page 10)

Camellia Red Jade
A favorite of the editor, selected from the Camellia Forest online catalog

Selected Plants – in the Wild and in Cultivation

Even as a child I was fascinated with seeds, and made all sorts of small collections from assorted herbs and trees. The true compulsive collector of seeds feels the urge to collect even when passing a noxious weed in fruit. The removal of seeds from juicy fruits or foul smelling capsules only adds to the excitement. My seed collecting efforts became more serious over time, finally leading to major excursions.

My Early Explorations

One of my first serious trips was a journey to southern Mexico in October 1967 to locate a species of *Gossypium* (cotton) known only from ancient herbarium specimens. We went to the general locality of the sites described on the herbarium sheets and found the elusive cotton growing in weedy roadside vegetation. Seeds were abundant, so our task was an easy one. Some local farmers called the plant "algodoncillo" (tiny cotton). That was interesting because the shrub *Gossypium trilobum* has naked seeds and bears no superficial resemblance to the cultivated cottons. Our find was added to cotton germplasm collections, and is available for investigators doing research with that important cultivated group.

On that trip other plants in the roadside vegetation caught my interest as much as the cotton. In late October the roadsides in central Mexico were a blaze of color from familiar annuals. Most common was the robust wild form of *Cosmos sulphureus* growing to about 10 feet. Growing with it was a *Tagetes* species that is also pale orange in color and was growing to five or more feet in height. Zinnia and tithonia were occasional in this mass of roadside annuals. I took seed samples from the marigolds and Cosmos. Both species, like many plants in that vegetation, are short day plants, and in NC grew to great size and barely produced a few flowers before frost. The marigold was so rigid in its short day requirement that I did not pursue it further. The orange cosmos matured a few seeds before frost, and I planted those the next season. Over the years I haphazardly selected early seeds to mature, and natural selection worked similarly on volunteers. After 25 or 30 generations (they were not grown each year) of selection for earliness, the population makes its first blooms by late August and is blooming heavily by mid September, peaking in October and blooming until frost. The population is polymorphic for the short day genes. This year the "wild" *Cosmos sulphureus* is in full bloom in North Carolina in late September 2006. I think this tall,

(Continued on page 2)

(Continued from page 1)
weedy annual will be useful for highway displays, but I haven't informed the highway people yet.

Insights: An infusion of vigor and disease resistance from wild or feral populations would help our common garden annuals. Most available cultivars were bred in, or for, climates cooler and dryer than NC and the rest of the southeast. By late summer zinnias and marigolds are in severe decline or dead. Wild zinnias I collected in a cornfield near Monterrey, Mexico were much more resistant to decline than American cultivars when grown here; however, the small flowers with their single row of ray florets need upgrading. *Tagetes patula* has escaped in dry places in southwestern China. The flowers resemble common cultivars grown here, but the plants are taller and variably short day in requirement. In NC the plants grow huge and the bloom season is mid to late autumn. The plants remain healthy until they are finally killed by frost. These wild and feral forms offer germplasm that could be used to breed cultivars more suited to the warm, humid summers in the southeast. I will be happy to share seed with anyone willing to take on the job.

Interest in Woody Plants Begins in Japan

Despite this early interest in common annuals, most of my collecting has concentrated on woody plants, in particular, the genus *Camellia*. My first trip was to Japan in 1980, and I returned several times over the next few years. My primary objective was to collect the native camellias from over their range. Of course, *Camellia japonica* has two subspecies and a range from northern Honshu to Taiwan! *C. sasanqua* has an extensive range also if you include *C. miyagii* as a variety of *C. sasanqua*. *C. lutchuensis* is distributed in the mild Riu Kiu Islands south of Kyushu. Cultivars of the two major species have been developed for centuries, and a very rich assortment is known. Several ancient varieties, or groups of similar varieties, have been named as species, but these are recognized as hybrids today. It was my intention to bring back samples of as many of these wild and cultivated forms as possible. Indeed, I brought back more material than I could grow or maintain.

Camellia X *vernalis* 'Yobuko-Dori

As examples of unfamiliar cultivars, I will mention two groups. In Japan many cultivars of *C.* x *vernalis* are widely grown, but only a few are known in the United States. *C.* x *vernalis* are actually a heterogeneous mixture of hybrids and backcrosses involving *C. sasanqua* and *C. japonica*. These cultivars bloom after *C. sasanqua* and before *C. japonica*. They have performed well for me in Chapel Hill, and weather permitting, they reach their peak between Thanksgiving and Christmas. Figure 1 illustrates one of these, 'Yobuko-dori', in full bloom last December. The Higo cultivars varieties are mostly ancient clones that open flat

Figure 1. *Camellia* X *vernalis* 'Yobuko-Dori

and display a very large mass of stamens. Some of these varieties, such as 'Okan', are well suited to our climate. 'Okan' is pictured in figure 2.

Figure 2. Higo *Camellia japonica* 'Okan'

While I was searching for camellias, I came upon many other interesting woody species that I sampled whenever possible. I will mention a few of them and the degree of success we had in their cultivation. Of course, botanists and horticulturists have been collecting Japanese plants for many years, so in most cases I am merely introducing new accessions. I will show, whenever possible, photos in the wild, and photos in

cultivation years later. Some selected examples of my Japanese collections are discussed as follows:

Acer Species: I collected many *Acer* species on several trips, but most species have not competed well in my pine forest. Recently a large specimen of *Acer mono* died for no apparent reason. Several wild forms of *A. palmatum* have done very well. We have specimens from the northernmost locality (according to Japanese hosts), and a selection with excellent fall color from a large seedling population. *Acer micranthum* is a species closely related to *A. palmatum*, but smaller and not susceptible to a leaf spot disease that bothers *A. palmatum.* The fall color of *A. micranthum* is as good, or better than *A. palmatum*. Some maples, for example *A. palmatum*, volunteer freely in rich sites, but they rarely escape into native vegetation.

Callidarpa Species: On several trips I collected three species and a varierty, *C. dichotoma, C. japonica, C. japonica* var. *luxurians* and *C. mollis*. Of these, *C. japonica* var. *luxurians* was the most spectacular in fruit. It is larger in all regards, and the larger berries and fruit clusters make a grand display in purple. This is also the least hardy in Chapel Hill, but it regenerates so fast, the winter injury is not a problem. *C. mollis* is the least ornamental because the calyx covers the lower portion of the fruit. All of these grow well in Chapel Hill and make themselves at home. The native pollinators are strongly attracted to blooming plants, and every flower sets a fruit. Indeed, all the *Callicarpa* species make themselves too much at home, and they rapidly spread into the natural vegetation. Although I love the fruit display, I now remove them from my garden.

Celtis sinensis (Pendulous selection, a Japanese National Treasure at Suwa Jinja, Kamiyamaguchi Mura, Nagano Prefecture): I was allowed to collect seeds, but no branches, from the beautiful specimen at the shrine. I found about 10 seeds on the tree that I later germinated in Chapel Hill. The seedlings ranged from normal *Celtis sinensis* to plants with varying degrees of pendulousness. A vigorous pendulous seedling was selected and propagated. It is similar to the parent tree, but slightly more pendulous. David Parks later named it as cultivar 'Green Cascade', and it is available in the nursery trade.

Cinnamomum japonicum: This *Cinnamomum* species becomes a tall, handsome tree in the Japanese forests. Planted in Chapel Hill it grows rapidly into a tall specimen with glossy foliage; however, it is killed to the ground by temperatures below 5 to 10 degrees F. It regenerates quickly from the base, but it cannot become a fine tree here.

Corolopsis Species: We found both *C. glabrescens* and *C. gotoana* in the wild state. *C. glabrescens, gotoana* and *spicata* are very similar, and many botanists are of the opinion that they are merely insular variants of one species. *C. glabrescens* has a very restricted distribution in Kyushu, and I was able to visit a large population at about 1000m on the slopes of an extinct (?) volcano, the Ebino Highland, near Kagoshima City. Seeds were abundant, and I shared my sample with the National Arboretum. I could not keep *C. glabrescens* alive in Chapel Hill, but Longwood Gardens named a cultivar from my seed collection. I planted the specimen they gave in an excellent site. It died after a few years! *C. gotoana* was collected from an extensive woodland in the hills near Hiroshima. It has proven to be a sturdy and reliable garden shrub in central North Carolina. It differs from *C. spicata* in only trivial taxonomic details, but *C. gotoana* seems to be the easiest to cultivate.

Distylium racemosus: Opposite Kyushu Tookai University, west of Kumamoto is a forest preserve with extensive old forest. The forest is species rich, and the largest trees are massive specimens of *Distylium* – some of them at least six feet in diameter. (Keep in mind this plant is sometimes used for foundation plantings.) This species is on its hardiness margin in Chapel Hill, but my oldest specimens are very vigorous and beginning to mature into trees.

Elaeocarpus sylvestris: The city tree of Fukuoka Japan, where I spent several months, is *Elaeocarpus sylvestris* or perhaps its variety *ellipticus*. It is a small, well formed, evergreen tree, and was widely used there as a street tree. It had the added feature of older leaves turning red in the winter and persisting on the branches. I was anxious to try it in North Carolina. It germinated readily, grew vigorously, and… sadly, was not close to hardy.

Euscaphis japonica: I associate this small, erect tree with J. C. Raulston because he advocated strongly for it. Euscaphis japonica is common in Japanese woodlands, and the fruit displays can be quite striking. The Japanese use a wide variety of their own species in their planting, but I only saw Euscaphis used once. It grows and performs well in North Carolina.

Ilex rotounda: This arboreal holly is widely used in Japanese dooryard plantings where it is trained in the niwaki style (outdoor bonsai) of garden trees. Valuable older specimens are dug and recycled when a garden is abandoned. It can make spectacular displays of persistent berries both in Japan and North Carolina. It grows well here, but is on the margin of hardiness; however, it was only killed to the ground by the -9 degree night in January of 1985. The tree I had in 1985 rhas ecovered from the base and is large again.

Illicium anisatum = I. *religiosum*: Mt. Tara (Taradake) in northwestern Kyushu is a 960 m mountain with extensive natural forest. Scattered on this mountain, and elsewhere in Japan, the native *Illicium* matures into a multistemmed, spreading tree of 15 to 20 feet in height. It must take a long time to become this large because I never have seen such grand specimens in cultivation. *Illicium anisatum* grows and flowers well in North Carolina, but its bloom is earlier than other *Illicium* species and can be "touched" by a late spring frost.

Keteleeria fortunei(?): I have been fascinated by this tree since I was shown large specimens of it at the Huntington Botanical Gardens in San Marino, California. It is not native to Japan, but it was cultivated in Fukuoka. There is a debate about the number of species, but in any case they are all very similar. The seedlings grew readily in North Carolina and tolerate both winter and summer temperatures. However, my trees have not tolerated the weight of frozen precipitation. They tipped over in winter storms in 2000 and 2002. My specimens may best be described as semi-procumbant. I must add that the high shade from the big pines in my garden makes understory trees more vulnerable to the weight or snow or ice.

Lindera erythrocarpa: I collected and observed many *Lindera* species, but this one is particularly interesting to me. On mild hilltops near Kumamoto, *Lindera erythrocarpa* trees occurred in nearly solid stands. The hilltop glowed red with the masses of fruit on the *Lindera* trees. This species grows very rapidly in North Carolina and is well adjusted to our climate. My largest specimen is over 30 feet tall. I planted a small grove to duplicate the scene on the Kyushu hilltop. I have encountered just one problem. *Lindera* is dioecious, and all my large specimens have (so far) been male trees. Dr. Raulston gave me seeds from trees of the same name he collected in Korea. Some of the Korean trees are females with the showy fruit, but they have larger leaves and are not fast growing. (I have noticed that trees and shrubs native to Japan and adjacent mainland Asia often have smaller leaves on the Japanese race.)

Maesa japonica: Near the base of the mountain forest preserve, Kitamukiyama, where Distylium was common, an attractive spreading shrub with white fruits was growing under the trees. I was told that we were at the northern end of its range, and it would not likely be hardy in North Carolina. Here it grows vigorously and fruits well … in the greenhouse!

EVERGREEN SPECIES of *Quercus and Castanopsis*: We collected germplasm of these genera on several occasions. I was first introduced to *Quercus glauca* on the UNC campus where fine, mature specimens survive from the days of Dr. Coker. Seedlings of this species recently imported from Japan were not as hardy as the UNC trees, but unfortunately, the UNC specimens were trashed by the cold night in 1985. The only survivors of Dr. Coker's trees may be three battered specimens in my garden. With protection from the pines, my trees survived the 1985 night. This species normally does well in this area, and the hardiest selections will survive our normal low temperatures. *Q. acuta* occurs naturally at higher elevations than *Q. glauca*. For instance, on Taradake *Q. glauca* is common over the mountain while *Q. acuta* is only on the summit area where it occurs in a solid stand. My specimen was growing well, but it was smashed by the weight of frozen precipitation.

Q. salicina grows well in our area, and has not been damaged by ice. It is a smaller, slower-growing tree that is the best adapted of the evergreen Quercus to our area. I did not collect *Q. myrisinefolia*, but I have it in my collection. It has survived cold and ice well so far. *Castanopsis cuspidata* is a very common acorn-bearing forest tree of southern Japan. It has finer texture than most oaks, but it grows to be very large. Here, it grows faster than any oak I have planted. It reached more than 20 feet in a few years, but the trunks of both of my specimens were snapped by the weight of frozen precipitation. Again, site selection might help. Perhaps trees grown in sunny, somewhat dryer sites might be more resistant to the weight of ice. The susceptibility of evergreen oaks to the weight of frozen precipitation is true in Asia as well. On one occasion I visited Kunming, China just after a freak heavy snowstorm. There was extensive breakage on wild oaks and *Castanopsis*.

These species offer great potential for many landscape situations, but their susceptibility to the weight of ice and snow is a severe limitation to their use.

Sciadopitys verticillata:: Although *Sciadopitys* has been cultivated for decades in the west, I was impressed by a natural stand of it mixed with *Chaeaecyparis pisifera*. Both species had matured into massive trees. The trunks of the *Sciadopitys* were remarkably straight even if they leaned. The ground was carpeted with tiny seedlings of *Sciadopitys*, two of which are in my garden.

Trichosantes Spp: As I traveled about Japan in the autumn, I noticed small, orange gourds that hung from the roadside vegetation. The striped gourds were very ornamental, but I found the plant that produces them is a monster. It is a tuberous perennial that can grow 30 feet in a season. It produces thin lateral branches from the main vine with very long internodes that grow to the ground and form a new

set of tubers on impact. I am thankful it is very susceptible to a standard herbicide.

Viburnum furcatum and other viburnums: I was fascinated with a *Viburnum* growing at high elevation in the mountains in central Honshu. *Viburnum furcatum* is remarkable similar to *V. alnifolium* that grows in similar habitats in the high Appalachians. Although *V. furcatum* survives here with care, I have not been able to grow it successfully in the garden. I have collected many other, highly ornamental, Japanese viburnums, such as *V. dilatatum*; however, they tend to be weedy. Recently, a horticulturist friend gave me a plant of a beautiful red-fruited *Viburnum* from woods near Winston-Salem. I was excited to have a red-fruited *Viburnum* from North Carolina. It turned out to be *V. dilitatum*, a species I now remove from my garden.

A Small Jewel from Turkey

I made two trips to Turkey, but my collections were mostly tissue from trees for laboratory analysis. But I came upon a little *Primula* in deciduous woods in the Pontic Mountains south of the Black Sea. *P. vulgaris* var. *sibthorpii* is equally at home in its native habitat, at Wisley or in a garden in central North Carolina. I have introgressed its genes for North Carolina resistance into showier, larger-flowered cultivars. However, it is a fine garden plant without any breeding.

Explorations in China

I first visited China in 1985 and have returned many times. I had two major collection objectives. The first was our effort to collect specimens for the study of the relationships between the temperate forests in eastern North America and those in eastern Asia. The second objective was collections of *Camellia* species for research. Over a period of years we obtained a large number of *Camellia* species. I will mention and briefly discuss some Chinese *Camellia* species that are of particular interest or have potential for cultivation in our area.

C. anlungensis: A vigorous, white-flowered, fall-blooming species from southwestern Guizhou and adjacent Yunnan. Flowers are showy. Hardiness is unknown. It is shown in figure 3.

C. azalea (= *C. changii*): A red-flowered species that is somewhat ever blooming from Guangzhou Province. The flowers are brilliantly colored, and the floral display is excellent. Many people are very excited about this species, but I have found it difficult to manage.

Figure 3. *Camellia anlungensis*

C. brevistyla: A vigorous white-flowered, fall-blooming species widely distributed in southeastern China and Taiwan. Flowers are small but produced in abundance. It is a very sturdy and disease resistant species that has proven hardy in central North Carolina.

C. brevistyla forma *rubida*: A form of *C. brevistyla* with tiny red flowers from Zhejiang Province. It blooms very freely making an interesting display, and is hardy in North Carolina. It was introduced as *C. puniceiflora*, but I have not seen a plant in cultivation that matches the description of *C. puniceiflora*; however, in his monograph Professor Tien-lu Ming combines *C. puniceiflora* with *C. brevistyla*. Perhaps forma *rubida* and *C. puniceiflora* are merely different red and pink variants of *C. brevistyla*.

C. chekiangoleosa: A fast-growing species with a wide distribution in southeastern China that has particularly bril liant red flower color. It is very hardy and tolerates the

Figure 4. *Camellia cheliangoleosa*

North Carolina climate very well. It is closely related to *C. japonica* but has larger flowers. In my opinion it is one of the most important *Camellia* species recently introduced. It is shown in Figure 4.

C. chrysanthoides: A vigorously growing species with yellow flowers from central Guangxi. I found this near the city of Nanning, and it does not actually match any species description; however, it seems close to *C. chrysanthoides*. It flowers freely in late winter in a "temperate" greenhouse. It can only stand a few degrees of frost.

C. crapnelliana (= *C. gigantocarpa*): A very arboreal, fall-blooming, white-flowered species from Hong Kong and adjacent Guangzhou Province. The Hong Kong form has bright rust to orange bark (see Figure 5) while the trees on the mainland have greenish tan bark. The form with orange bark is limited to Hong Kong. Both forms produce huge capsules, often more than 3 inches in diameter. A specimen is being grown successfully at Woodlander's Nursery in South Carolina, but it has not proven hardy in central North Carolina. It is a fine specimen for a temperate house (with a high ceiling).

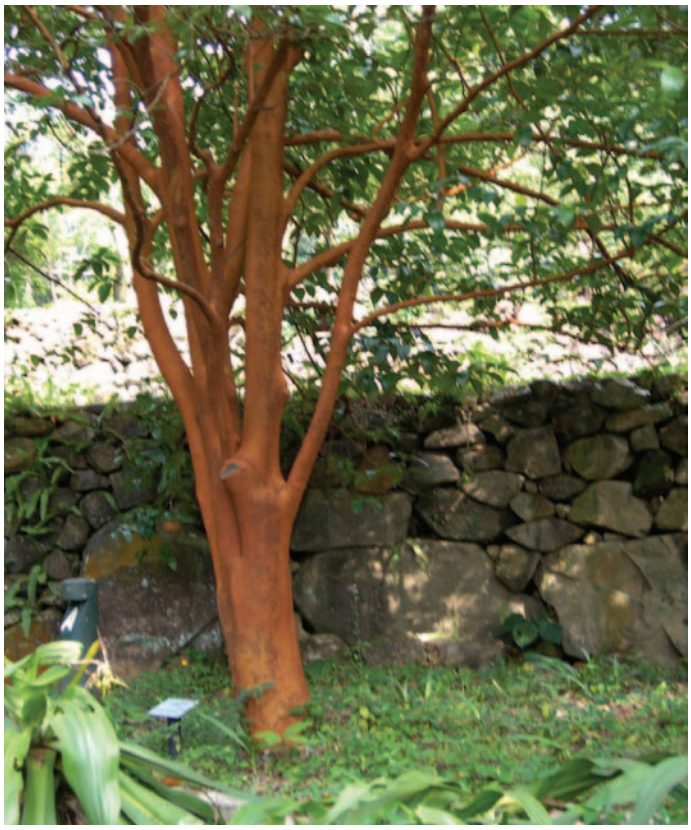

Figure 5. *Camellia crapnelliana* in a Hong Kong forest park

C. cuspidata: A species with fine texture and abundant white flowers in the spring. I found this species in the Huangshan Mountains near the northern end of the Camellia distribution in China. Overall, it is widely distributed in the wild state with several geographical varieties. Although the leaves are small, it grows considerably faster than the common cultivars of *C. japonica*. It is fully hardy in central North Carolina where it will eventually mature into a well-formed small tree.

C. edithae: A rose-red species with glossy, retriculate foliage from 3 provinces in southeastern China. We obtained two double-flowered cultivars of this species. The formal-double pink is an excellent garden plant. It is very cold hardy, and the flowers, produced in the warm days of middle spring are very heat resistant.

C. flava: A yellow-flowered species from southern Guangxi and Vietnam. It is very cold tender and must be cultured in a greenhouse. It main value is its usefulness in hybridization since it hybridizes readily with standard garden camellias.

C. fluviatilis: A white, autumn-blooming species distributed from south China to India. Long narrow leaves characterize this plant that is related to *C. brevistyla* and *C. kissi*. It flowers very heavily and makes an excellent autumn display. Despite its natural habitat in very mild areas, it has survived and prospered in Chapel Hill.

C. forrestii, *C. fraterna* and *C. handelii*: Collectively these three white, spring-flowering species are distributed over a large portion of the Camellia range in the southern China. They are distinct species, but I have grouped them together because they all have fine texture and produce an abundance of small, white blooms. They are excellent shrubs and flower profusely in the greenhouse, but I have not attempted to grow them outside.

C. granthamiana (= *C. albogigas*): A small tree with very large white flowers (see figure 6) that appear in the autumn. It is very rare in Hong Kong, in fact, for many years it was thought to exist as only a single tree in the wild state. A few small groups have been recently found in Hong Kong, and *C. albogigas* from adjacent Guangdong is obviously the same species. In bloom *C. granthamiana* makes a spectacular floral display, and in recent years it has become a popular ornamental in southern Europe. It can stand a few degrees of frost, but belongs in the "temperate" house here.

Figure 6. *Camellia granthamiana*

C. grijsii: A sometimes fragrant, winter-blooming species with a moderately wide distribution in southeastern China. The plant has excellent texture and form and can produce so many flowers the leaves are hidden. It is an excellent garden plant that grows to be a small tree in time, but unfortunately, it does not survive our coldest winters. *C. yuhsienensis* has been combined with it, but *C. yuhsienensis* should be recognized as a variety because its leaves and flowers are always larger than those of *C. grijsii*. *C. yuhsienensis* can be stunning in full bloom because of its capacity to set so many flower buds.

C. impressinervis: A species from the far south of Guangxi with large yellow flowers. It is not frost tolerant but is a fine specimen for a greenhouse collection.

C. nitidissima: A species from southern Guangxi with showy yellow flowers. It was the first of the yellow species to be exported from China, and has been a source of excitement for collectors. It can tolerate only a few degrees of frost, but, fortunately, it is easy to pot cultivate in the temperate or warmer greenhouse.

C. octopetala: A hardy, fall-flowering, arboreal species from Zhejiang province with cream to pale yellow flowers. Its huge fruits and large leaves are similar to those of *C. crapnelliana*, and some taxonomists have merged it with *C. crapnelliana*. However, there are several important differences between these two, including hardiness, morphology and DNA patterns. I feel *C. octopetala* should be maintained as a separate species or at least a geographical variety of *C. crapnelliana*.

C. obtusifolia: A hardy, fall-flowering species from southeastern China with small white flowers. It is fully hardy in central North Carolina and is attractive in the garden since it flowers heavily and has distinct rust-colored bark. It is similar to *C. brevistyla*, and some taxonomists have combined the two. I have no problem with treating it as a form of the widespread and variable species, *C. brevistyla*.

C. oleifera: A very hardy, fall-blooming species widely distributed and common in southern China. It has long been cultivated for its oil rich seeds, and its exact native locality is unknown. Accessions from the Lushan (mountains), just south of the Yangtze River, have proven to be particularly hardy, and hybrids between them and cultivars of *C. sasanqua* are among the hardiness camellias available. *C. oleifera* is a very useful ornamental because it grows well with little care, and its rust-orange bark and heavy flower display make it very useful in low maintenance landscapes.

C. pitardii: A complex mixture of rose-red to white flowering camellias from southwestern China. Every *Camellia* taxonomist has treated them differently, and I am uncertain of the boundaries of this species. In northern Yunnan a pink hexaploid variety occurs to

Figure 7. *Camellia pitardii* trees near a stream in Tiantai National Park near Chengdu, Sichuan

more than 9000 feet, and that one is hardy in central North Carolina. Some large flowered varieties from Hunan are very showy, but their hardiness has yet to be tested. This species, in fact, as with most *Camellia* species is very long-lived and can become a substantial tree. Figure 7 shows large trees of *C. pitardii* near Chengdu, China.

C. polyodonta: A species from northwestern Guangxi with showy red flowers that is essentially hardy and strongly arboreal. This is a big species with glossy, reticulate foliage that fits in a big garden.

C. rhytidocarpa: A white-flowered, early fall blooming, hardy species native to south central China. This is another Camellia with warty fruits similar to *C. anlungensis*, but *C. rhytidocarpa* with its glossy, reticulate leaves is hardy and shows promise of garden usefulness. *C. rubituberculata* is a similar red-flowered species native to mild areas in southwestern Guizhou, and its hardiness has not been tested. *C. tuberculata* is yet another similar species with large white flowers native to mild areas. Its hardiness also has to be determined. Figures 8 and 9 show *C. rubrituberculata* and *C. tuberculata* in their native setting.

Figure 8. The unusual tuberculate (with warts) fruit of *Camellia rubituberculata* in a natural stand in Xingren County in Guizhou Province

C. semiserrata: A red-flowered species from the southern parts of Guangdong and Guangxi Provinces of China that is not fully hardy in our area; however, a few individuals have survived outside for several years without significant damage. It develops into a big plant with large, glossy reticulate leaves and abundant, rose-red flowers.

C. sinensis and related species: A group of fall-blooming, similar species widely distributed in southern China. They are the source of tea, and they range from very hardy to cold tender. Many are excellent, sturdy ornamental shrubs. Some individuals of the southern species in the wild have survived for centuries and have become great trees.

Figure 9. *Camellia* tuberculata growing on rich slopes above a river near Chishui, Guizhou

C. subintegra: A species from Jiangxi and Hunan Province with large rose-red flowers (see figure 10). This species make a grand floral display in the greenhouse, but it has not been grown outside. Its native locality would lead one to believe it might be hardy here.

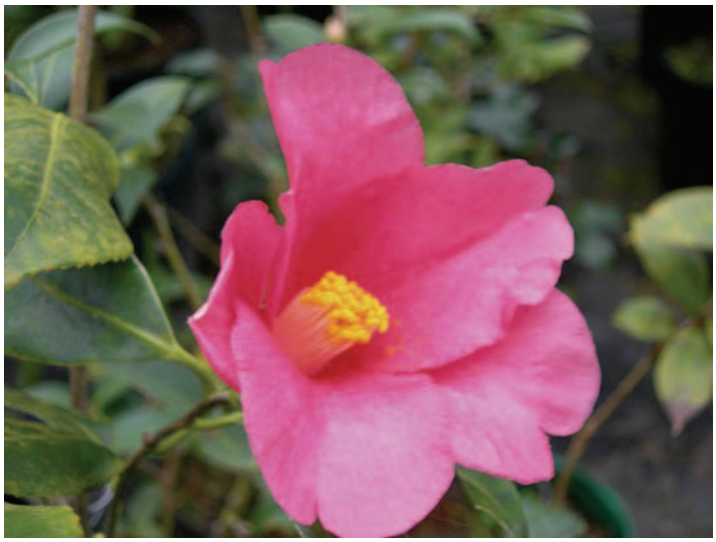

Figure 10. *Camellia subintegra*

C. tunganica: A species from Hunan Province with showy pink or white flowers. Like *C. subintegra*, its greenhouse display is excellent, but it has not been tried

out-of-doors yet. This is a species that has been separated from *C. pitardii*, but may be just a variety of form of the latter species…. More work needs to be done!

C. yunnanensis: This species with its large, white flowers and spray of golden anthers is common in northern Yunnan and southern Sichuan. It becomes a large plant that produces very large fruits with thick walls surrounding the seeds. It has not been tested in the garden here, but it is unlikely it will be hardy in our area.

Other Chinese Woodies Worth Knowing:

While traveling in China, we also obtained propagation material of various plants not in the genus *Camellia*. These have been observed and tested to varying degrees. Of course, numerous collectors have collected these same species in recent years. A few of the best are briefly mentioned below.

Cinnamomum chekiangense: Chinese associates considered this the hardiest species of *Cinnamomum*. It has proven hardy for me, and grown to a grand tree of perhaps 50 feet in height since I planted it out in 1988 to compete with a thicket of camellias. It has never been damaged by snow or ice. It has an excellent foliage display in all seasons, but the flush of new bronze-red foliage in the late spring is as showy as a floral display.

Daphniphyllum macropodum (?): This tree of medium size has the appearance of an arboreal *Rhododendron* (that never flowers). It grows rapidly and is fully hardy in our area.

Emmenopterys henryi: This is perhaps one of the largest and most spectacular flowering trees in the world. The ones I saw at Lushan were forest trees of great size. The trees on a hillside with their pink bracts surrounding the flower clusters were visible for miles. This is a fully hardy species in our area that is easily grown, however, it usually takes at least 15 years before flowering (in a favorable site).

Hydrangea umbellata: This is a rather small species with white flowers. It is only moderately showy, but in my garden it seems rather resistant to spring frost damage and dry weather – both problems for most species of *Hydrangea*. The value of this species is its potential as a breeding parent.

Litsea cubeba: This is a hardy, small tree that is easy to culture in our area. It is similar to *Lindera* species, but it has slightly larger cream-colored flowers that are produced in vast quantities. On hillsides in Hunan, it put on floral displays that match our best flowering trees.

Manglietia fordiana: This is a fully hardy, evergreen *Manglietia* species that will become a large tree in time. It has large, white flowers. In time it will become a common ornamental in our area.

Michelia yunnanensis: This shrubby species was common on hillsides in northern Yunnan and turns out to be remarkably hardy in our area. The early bloom makes a show. It has great potential as a source of hardiness in breeding programs with *Michelia*.

Polyspora yunnanensis: This is another large tree with a spectacular floral display. The white flowers are often more than 6 inches in diameter, and appear in the winter season. This evergreen is closely related to Camellia, but is probably not hardy in our area. It is being marketed on the Gulf Coast and in Australia.

Sinojackia xylocarpa: This species is in general similar to *Styrax*. It is a small, hardy tree that produces sprays of bell-like flowers in the spring and woody fruits in the autumn.

Stewartia rostrata: This is a small, hardy tree that blooms in the late spring with white flowers that are often marked with pink. The floral display is excellent, and the species is less temperamental than many *Stewartia* species.

Torreya grandis: The American *Torreya* is difficult to grow, but this Chinese species is very easy. It has a moderate growth rate, and excellent form as it matures. It is an excellent conifer for central North Carolina.

I look forward to talking to the Piedmont Chapter in November about the wild camellias of Southwest China and their cultivated derivatives when I return from my October-November trip there.

Cliff Parks

ment of new species or varieties. Cliff studied vicariance at the cellular level between hardwoods, such as *Liriodendron* (tulip poplar) and *Liquidambar* (sweet gum) in Southeast Asia and the Southeast U.S.

In the 1980s, Cliff began making trips to China and Japan studying vicariance and extending his early interest in camellias by collecting seeds and cuttings of wild forms. By the mid-1980s he had amassed a large collection of camellias at his Chapel Hill woodland garden covering two acres. Japanese visitors told him that it looked like a camellia forest, so dense was his collection. In 1985 the temperature plummeted to -9 F at the RDU airport, a record low for the area, and Cliff lost 98 percent of his camellia collection. Among the survivors were the tea-oil camellia (*Camellia oleifera)* and several selections of *C. japonica.* Taking advantage of the disastrous loss of camellias, he worked on the surviving individuals and after testing, selection, and production, Cliff introduced the 'April' series of spring-blooming *C. japonica.* These hardier camellias were introduced through Camellia Forest Nursery, founded in 1977 by Cliff's spouse, Kai Mei Parks, who initially ran the nursery, but currently run with their son, David Parks.

Now in retirement from the university, Cliff maintains an interest in camellia and primula breeding. He is the co-author of *Collected Species of the Genus Camellia, an Illustrated Outline,* a 200-page book in English and Chinese with color photos of the flowers of the species (it is available from Camellia Forest Nursery for $85 plus $10 shipping and handling).

The feature article by Cliff Parks is an overview of some of the trips he had taken over the past forty years describing some of the plants he has seen, and the seeds and cuttings he has collected on his trips. Many of the plants he describes in this article, including the hardier camellias, are available through Camellia Forest Nursery, 9701 Carrie Road, Chapel Hill, N.C. or on the Web at www.camforest.com.

Bobby Ward

Indigorfera pseudotinctoria ' Rose Carpet'

Sometime back in the early 1990's Larry Hankowitz and I visited the lovely rock garden of Anita Kistler. I recall being especially impressed with a small tight shrub blooming in her gardens Indigofera pseudotinctoroa. The flowers were a rose-pink color and have been described as looking like upside down Wisteria flowers. It was an immediate must-have and Anita was kind enough to give me some seeds that I planted the following winter. The seeds germinated and from that time I have enjoyed this plant in my rock garden, even though none of my rock garden books even acknowledged it as a rock garden plant. I did find it in the Harkness Seedlist handbook, but of course it lists a lot of non-rock garden plants, including even some small trees.

Originating in China and Japan, I. Pseudotinctoria is really an under appreciated gem that will become a permanent resident. The plant starts to bloom in mid to late summer in a sunny or partly sunny location, and continues until frost. I found this plant to be available from two nurseries on the web. Each described the plant to be hardy to zones 4 - 6.

When you move seedlings out to the garden, find a place for them in full to partial sun in soil that is free draining and be patient. Most members of this genus have their top growth cut back by winter cold. The roots are hardier; however, the late arriving plants resprout freely from the base in late sprung, growing rapidly.

I don't allow my plants to grow much over r8 inches tall. A little judicious prun-

(Continued bn page 11)

For Your Pleasure and Delight!

Those of us who attended the Piedmont Chapter program on October 21, *Legends in the Garden: Who in the World is Nellie Stevens*? enjoyed hearing this read by speaker Linda Copeland. Linda was kind enough to make a copy for us to share. Enjoy!

The poem on the next page by Mrs. David Ives Mackie, Garden Club of Somerset Hills was published in TheGarden Club of America Bulletin, January, 1965.

She was a member of The Rare Plant Group of the GCA and served as Director and as First Vice President during the 1960's. After her husband's death, she moved to California, met and married Roger Wilson Brett. She was a Member at Large since 1968 and is better known to many plant enthusiasts as the discoverer of Daphne 'Carol Mackie'.

Daphne x Burkwoodii
'Carol Mackie'

LATIN NOMENCLATURE

Oh, how the syllables flow along--rhyming softly like a song,
Berberis verruculosa--Potentilla fruiticosa,
Davidia involucrata--do you know a name that's greater?
Amelanchier arboreous--can you think of one more glorious?

I love the sound of Latin names--although they're *complicata,*
But if you know just what they mean, it makes you feel *elata.*
Oh *Acer rubrum, Cornus mas* and *Taxus cuspidata*!

The Latin words describe the plant--if tall and straight, *erecta*,
And if its leaves are finely cut, then use the term *dissecta.*
Oh *Acer rubrum, Cornus mas* and *Tilia neglecta*!

They tell you where the plant was born--it might be *canadensis*,
Or if from far off China, then it's probably *chinensis.*
Oh *Acer rubrum, Cornus mas* and *Malus ioensis*!

Some plants grow only in the South--for they are not *durabilis*,
If you could make them grow up North, 't would surely be *mirabilis.*
Oh *Acer rubrum, Cornus mas, Forsythia spectabilis*!

For those that thrive in colder climes--the word is *borealis*,
But if their home is by the sea, we call them *littoralis.*
Oh *Acer rubrum, Cornus mas* and *Prunus autumnalis*!

Some plants may grow like lowly weeds--but others are *elegantissima*,
If they should give you sweet perfume, they're known as *fragrantissima.*
Oh *Acer rubrum, Cornus mas, Castanea mollissima*!

If they give out a slicky glue--they bear the name *viscosus*,
But if they're full of prickly thorns, they then are called *spinosus.*
Oh *Acer rubrum, Cornus mas, Juniperus torulosus*!

Perchance the plant has fernlike leaves--if so, say *filicoides*,
But if it's bearing cones, the word's coniferous or *conoides.*
Oh *Acer rubrum, Cornus mas*, and *Buxus koreana*!

But there are just too many names to know them all *exactum*,
If I mention any more I'll drive each reader to *distractum.*
Oh *Acer rubrum, Cornus mas, Viburnum o. compactum*!

So here I'll stop and hope each reader's not too much *perplexa*,
For if her Latin she knows not--this poem is sure to vex her.
Oh *Acer rubrum, Cornus mas, Syringa 'Swegiflexa'*!

Upcoming Programs

January 20, 2007
Richard "Dick Weaver
(former co-owner of We-Du Nursery)
Ocala, Fla.
"Orchids in the Garden"

February 17, 2007
Ellen Hornig
Seneca Hill Perennials Oswego, N.Y.
"Before Zebra—and Beyond: the Plants I Grow in My Garden."

March 17, 2007
John Elsley
Song Sparrow Nursery and Beaver Creek Nursery
Greenwood, S.C.
"Exciting New and Underutilized Plants for Local Landscapes"

April 21, 2007
Allen Bush
Jelitto Perennial Seeds
(former owner of Holbrook Farm & Nursery) Louisville, Ky.
"What the Seed(y) Guy Grows in His Garden"

May 5, 2007
Picnic at Paul J. Ciener Botanical Garden
Kernersville, N.C.
Hosted by Todd Lasseigne

(Continued from page 10)
ing keeps them nicely in bounds. An added bonus is that Indigofera pseudotinctoria is a member of the Leguminosae family and this sets nitrogen in the soil that benefits it and adjacent plants.

If you can't wait for your seedlings to mature the plants are available on the web from Digging Dog Nursery and Plant Delights Nursery.

Al Duerbrouck

Reprinted with permission from an earlier issue of the Allegheny Chapter (western PA) newsletter.

Piedmont Chapter Meeting
November 18, 2006 10am

Cliff Parks
Botanist and Plant Explorer

"The Wild Camellias of Southwest China and Their Cultivated Derivatives"

REMINDER

We encourage you to bring goodies to share during the meetings this year. If your last name begins with the letters below, we hope you'll bring something to the appropriate monthly meeting. Thanks.

Sept. A—E	Feb. R—U
Oct. F—J	March V—Z
Nov. K—M	April—any one willing
Jan. N—Q	May—Picnic

The Trillium, Newsletter of the Piedmont Chapter
The North American Rock Garden Society
1422 Lake Pine Drive, Cary, NC 27511

Place Stamp Here

First Class Mail

Mail label

BOARD OF DIRECTORS

Good News to Share!

Our own treasurer, Bobby Wilder, has made a very generous gift to the J.C. Raulston Arboretum to provide for two new J.C. Raulston Internship Endowments. One internship will be named the Jack R. Lamm Memorial Internship, the other will bear Bobby G. Wilder's name.

There will be a brief reception and ceremony at 7 p.m. November 2 at the J.C. Raulston Education Center to acknowledge receipt of Bobby's gift. You are welcome and invited to attend. The reception immediately precedes the 7:30pm program by Dennis Werner.

You will want to congratulate Bobby on his philanthropy for this deserving cause.