

The Case of the Dunbar Dogwood: A Neglected Hybrid

by C. LEWIS KEHNE

Arboreta and botanical gardens commonly grow related species in proximity to each other for ready comparison of species characteristics. The Arnold Arboretum, for example, has thirty-three species of the genus *Cornus*, the dogwood, and forty-nine named varieties, forms and cultivars. Hybrids between closely planted species might be expected when bees and other pollinators can readily visit several plants bearing flowers at the same time, carrying pollen from one species to the pistil of the flower of another species. Different flowering times would prevent such hybridization as would genetic barriers between species not closely related. When fruits are collected and the seed germinated, many plants will produce seedlings that are all alike and comparable to the parent plant, indicating that the pollen involved in fertilization presumably came from the same flower or perhaps another flower on the same plant. Often, however, the seedlings will show a great deal of variation in stem color, leaf pubescence, or habit, suggesting to the propagator that more than one species is involved and that the seedlings represent hybrids. When the seedlings reach flowering age, other characteristics — including a high percentage of abnormal pollen or a light fruit production or the failure to produce embryos — may confirm a hybrid origin. The hybrids may be of horticultural interest in presenting minor variations from either parent or the combination of characteristics of the parent species. Five such hybrids of *Cornus* have been recognized and described as species by Alfred Rehder, the outstanding horticultural taxonomist of the past century. Two of these species came from the collections of the Arnold Arboretum and three from the materials grown by the Parks Department in Rochester, New York.

The first recognized hybrid was named *Cornus* × *arnoldiana* Rehder in 1903, when a variant was noted among shrubs recently planted in a row on the Arboretum grounds. Rehder considered this shrub to be a hybrid of *Cornus obliqua* and *C. racemosa*, both native species.

Dunbar Dogwood (Cornus dunbarii) in flower. (Photos: P. Chvany)

As number 4628, it is among the earliest numbered collections in the Arnold Arboretum. Although first described from cultivation, this hybrid subsequently has been found in the wild from New England to Missouri where the species are in proximity. The seed parent was not specified in the original description nor in the nursery record and it is not known if the cross can be reciprocal.

In 1923 a variant grown from the seed of *Cornus paucinervis* was recognized in nurseries at the Arnold Arboretum and described a year later by Rehder as *Cornus dubia*. Rehder suggested the pollen parent was *C. amomum*.

In between these two publications, Rehder received a plant from Rochester that was recognized in 1906 but not described until 1914 as *Cornus* × *slavinii* Rehder. This hybrid of *Cornus rugosa* and *Cornus* "stolonifera" was named for B. H. Slavin, Superintendent of the Rochester Department of Parks (1925-1940), who sent material to Rehder. *Cornus* × *slavinii* also has been found infrequently from New York to Wisconsin within the range of the native parents.

In 1919 John Dunbar, Assistant Superintendent of Parks (1891-1915) and later Superintendent (1915-1925) in Rochester, sent to



Rehder two specimens obtained from a seed lot collected from *Cornus macrophylla*, a species introduced to cultivation from Asia in 1827. Dunbar indicated in subsequent correspondence that nine years earlier an employee of the park, William Edson, had collected the seeds of *Cornus macrophylla* and as a routine experiment in seed culture had germinated three hundred seedlings, two hundred of which had been planted out in a nursery and were now 9 feet tall. Dunbar wrote to Rehder "Is it not strange that amongst all of these seedlings there does not appear to be one true to the characters of *C. macrophylla*?"

Dunbar noted that "*C. asperifolia* stands about 75 feet east of *C. macrophylla* and *C. amomum* about 150 feet distant on the east side. I might say that *C. arnoldiana* and *C. bretschneideri* stand close to *C. macrophylla* on the east side. I do not suppose that either of these species could have any influence on *C. macrophylla*, although they flower somewhat late."

Rehder had his clues from the identity of the neighboring plants and described *Cornus* × *horseyi*, a hybrid of *C. macrophylla* and *C. amomum*, and *Cornus* × *dunbarii*, a hybrid of *C. macrophylla* and *C. asperifolia*. The two hybrid species therefore came from the one lot of seed. Both *Cornus asperifolia* and *C. amomum* are native to eastern North America while *C. macrophylla* was introduced from its range in Asia of Japan, China and the Himalayas. Only in a botanical garden could such hybrids occur naturally or be produced artificially. *Cornus* × *horseyi*, named for the first curator and taxonomist of the Rochester Parks System, is a shrubby plant with a dull purplish-red tinge to the twigs and a golden pubescence on the leaves. *Cornus* × *dunbarii* has an arborescent habit, an ash-gray bark and whitish hairs which give the leaves a silvery appearance when fresh and dry.

Of the five hybrids, *Cornus* × *dunbarii* has been most neglected by horticulturists, but is worthy of further consideration. The single tree in the collection of the Arnold Arboretum is now 20 feet tall with a checkered bark on a trunk 10 inches in diameter. It is densely branched with a spreading habit. Some branches nearly reach the ground and many are contorted and rope-like in appearance. Although it bears most of its delicate white flowers in tightly packed corymbs in late June and early July, the plant continues to produce flower clusters into October. Fall color is not outstanding and the fruits are blue-black in contrast to the reddish pedicels and inflorescence branches.

Cornus × *dunbarii* is not listed in Hortus III, suggesting that there are no commercial sources for this hybrid. The only location mentioned in the microfiche records of the Plant Sciences Data Center is the Arnold Arboretum. Herbarium specimens, however, indicate that the plant was grown in Rochester and in the Cedar Brook Park *Cornus* collection, Plainfield, New Jersey recently. Neither Bean



Dunbar Dogwood (Cornus dunbarii) in fruit.

(*Trees and Shrubs Hardy in the British Isles*, 1970), Hillier (*Manual of Trees and Shrubs*, 1972) nor Krussman (*Handbuch der Laubgehölze*, 1972) mention the Dunbar dogwood and it is not represented in herbarium specimens from European gardens.

Derman in 1932 (*J. Arnold Arb.* 13: 410.) reported an abnormal pollen percentage of 75 for *Cornus* × *dunbarii* and a low rate of fruit production of one or two drupes per corymb. The rate of fruit production, however, does seem to vary from year to year. The current crop of fruit seems to have well formed embryos and experiments concerning the fertility, viability of seeds and vegetative propagation have been initiated at the Arnold Arboretum. Whether a difficulty in propagation or simply oversight has resulted in the obscurity of the Dunbar dogwood is of little consequence. The subtle white flowers of *C. dunbarii* lack the commercial appeal of the more prevalent,

bracted, ornamental species; yet the extended period of flowering, the attractive habit, the unusual branch form, and the greater hardiness compared with *C. macrophylla* suggest that it has a place in cultivation.

The Dunbar dogwood stands as a silent reminder of the way in which nature, aided by man, seeks and achieves diversity.

I am grateful to Mr. James W. Kelley, plant taxonomist at the Department of Parks in Rochester, for his aid in identifying those former staff members honored by the hybrids of *Cornus* described by Rehder.

C. Lewis Kehne (Arnoldia 37: 249. 1977), as a horticultural trainee in the summer of 1977 admired this plant and chose to investigate Cornus × dunbarii, as a summer thesis. Current address. Albright House, Smith College, Northampton, Mass.

