



BOTANIST'S CORNER

by Larry Mellichamp

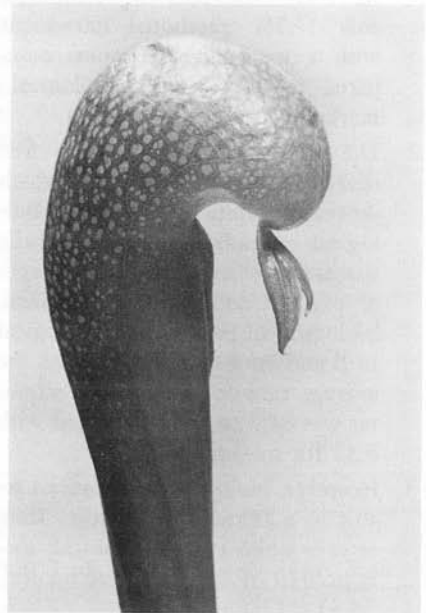
Botanical History of CP II: *Darlingtonia*

Darlingtonia californica, the Cobra Plant, is one of the most striking plants in western North America. It occurs in northwestern California and southwestern Oregon (see CPN Vol. 3 p. 24); and while it is not really rare, it would appear to be because it grows only in a specialized habitat within the region. In 1974 my wife and I were able to travel 3000 miles clear across the country to Del Norte Co., Calif., and with general directions as to locality, drive right up to a large population and see this remarkable plant for the first time in nature. With some searching we were able to discover several other populations in the vicinity just by looking for its characteristic habitat. *Darlingtonia* likes to grow in and around cold mountain streams flowing through hilly country at low elevations where serpentine soil is common, a greenish substrate noted for its low availability of certain important nutrients (see CPN Vol. 3, p. 22) (See photos below)

Generally we take the botanical history of a species for granted, most CP growers being unaware of the colorful events surrounding the early recognition of our favorite plants. As you know however, all plants must have Latin scientific names, and they must be *discovered* before they can be so designated. As we shall see, four important men have been associated with *Darlingtonia*: William D. Brackenridge, John Torrey, William Darlington, and E. L. Greene.

The eastern pitcher plants, *Sarracenia*, were more "casually" discovered as early as the late 1600's because the East had been more widely explored. On the other

hand, northern California and southern Oregon were not at all well known until the 19th Century when the first significant government-sponsored expedition set sail from Virginia in 1838 under the command of Captain Charles Wilkes. Of course, they had to travel down around Cape Horn (after visiting Spain first!), then on to Chile, Peru, Tahiti, Samoa, Fiji, Australia, New Zealand, and Hawaii. Yes, I did say they were headed for the Pacific Northwest; but everything being new to them, these early explorers wanted to make the journey worthwhile and they were in no hurry — the trip lasted 4 years! On board the six ships in the Expedition were 12 civilian scientists, three of whom were botanists whose job it was to collect



Darlingtonia californica.

Photo by Steven A. Frowine

dried specimens, living plants, and seeds of everything they could on the trip. The most important person for us was William D. Brackenridge, assistant botanist and horticulturist. It was he who first discovered the plant we know as *Darlingtonia*.

Brackenridge was born in Ayr, Scotland in 1810 and was therefore fairly young when he joined the Wilkes Expedition. He worked in Edinburgh, Scotland at the famous Royal Botanic Gardens (where he acquired his horticultural expertise) until he moved to the USA in 1837. On the Wilkes Expedition he collected some 40,000 specimens of 10,000 different species and was in charge of the living plants collected on the tour. Back home, these plants were kept in a large greenhouse in Washington, D.C., which was to become the beginnings of the U.S. National Botanic Gardens (next to the Capitol) with Brackenridge as its first Superintendent.

The following is an account of a sequence of events from the Wilkes Expedition in northern California:

The expedition arrived off the mouth of the Columbia River [Oregon] late in April 1841 . . . Brackenridge, with Pickering, accompanied a party into the interior . . . The trip into the interior and that to Gray's Harbor [Wash.], each of about six weeks duration, occupied the entire summer; and early in September Brackenridge, with other members of the scientific corps, joined Lieut. Emmons' overland party to San Francisco, while the squadron sailed down the coast to the same place. The overland party went up the Willamette River, and through the Umpqua and Shasta regions to the headwaters of the Sacramento River [Calif.], which was followed to its mouth. It was on this trip, near Mt. Shasta, that Brackenridge, who had dropped behind the rest of the party and was hurrying to rejoin them, hastily gathered an odd-looking plant that had attracted his attention. It was the fifth of October 1841 and the season for flowers was long past, but the specimen was sufficient to show evident relationship to the group of pitcher-plants known, then and now, only from east of the Rocky Mountains. (Barnhart, 1919)

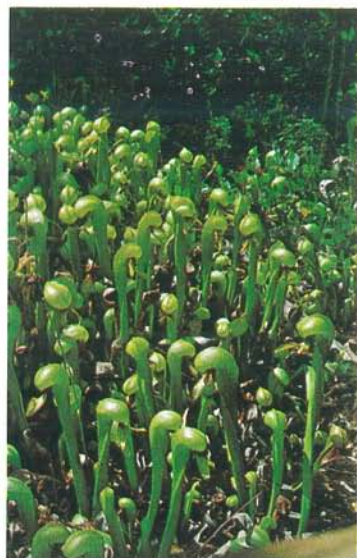
[Another account indicates that at this point the party was hastily retreating before attacking Indians, a frequent predicament on such early expeditions.]

The scientific community had to wait until ten years later, in May 1851, when the plant could be recollected in flower so it would be possible to give a correct scientific description. This was accomplished by John Torrey in 1853. Torrey was the most eminent botanist in the U.S. in the 19th Century, working very hard on describing many of the new plants being collected in North America in an effort to write a book containing all the known plants at that time. Torrey gathered together many of the dried herbarium specimens from the expeditions of the era into what became the nucleus for the U.S. National Herbarium at the Smithsonian Institution. Torrey writes on the new pitcher-plant:

On *Darlingtonia californica*, a new Pitcher-plant from northern California. The foliage and scape of this plant, without flowers or fruit, was discovered by Mr. Wm. D. Brackenridge, assistant botanist of the U. S. Exploring Expedition . . . on the route from Oregon to San Francisco. The curious fish-tailed appendage to the hood of the pitchers, and the bracteate scape suggested the idea that the plant might be a new Sarraceniaceous genus, rather than a true *Sarracenia*. This proved to be the case, when flowering specimens were obtained from the same locality (near Shasta Peak) by Dr. G. W. Hulse; as these have several-flowered scapes, no calyculus, a very reduced proper lamina to the petals, almost definite stamens in a single row, a turbinate ovary with a depressed and dilated top, and, above all, a naked (five cleft) style, without the umbrella so characteristic of *Sarracenia*. From *Heliamphora* (of Guiana) [discovered in 1839] it differs quite as widely; in fact it is a perfectly distinct third genus of this remarkable type, intermediate between the two before known [*Sarracenia* and *Heliamphora*]. The only character it affords likely to throw additional light upon the affinities of the group, hitherto so obscure, is that of the almost definite stamens, which so far as it goes, favors Dr. Planchon's view that it is related to Pyrolaceae [Ericaceae, the Heath family]. We are well pleased that this most interesting and striking



In this photograph by L. Mellichamp, the serpentine area is clearly visible as the bluish-green area. Found in many parts of California, it often has its own unique vegetational type.



Dense colony of *Darlingtonia* in stream bed. Photographed by L. Mellichamp near Florence, Oregon, on 21 August 1975.



Individual rosette of *Darlingtonia*, with mouths of pitchers pointing outward from central axis. Photo by L. Mellichamp near Gasquet, Calif., on 10 August 1974.



Close-up of flower. Photographed by Kim Lynch.

accession to the flora of our country is to commemorate one of the oldest and best of our botanists, Dr. Darlington. During the autumn and winter, living roots of this plant,

packed in dry peat moss, might be transported to the Atlantic coast, with good hope of success. Let our California readers take notice, that a small box of such roots, delivered alive at

Boston, New York, or London, would be pecuniarily as valuable as a considerable lump of gold, and would furnish a handsome and highly curious acquisition to our gardens. (Torrey, 1853)

The recognition of *Darlingtonia* as a distinct genus in the Sarraceniaceae was a significant event; and moreso when considered in light of the controversy over the use of Darlington's name. It seems that John Torrey had been trying for some time to honor Dr. William Darlington, a very famous botanist from near Philadelphia. Darlington's name had previously been used for a legume genus, which later turned out to be a *Desmanthus*. Also, Torrey had earlier named a new Californian tree after Darlington, but this turned out to be just another species of *Styrax* when the flowers had been studied. Finally, Torrey thought, he could suitably honor Dr. Darlington by naming the new pitcher-plant after him, and so he did. Thus, Darlington's name had been used three different times (two of them unsuccessfully), a practice which was not considered legal later in the 1800's. *Darlingtonia* was thus an invalid genus name from 1853 until 1891, when the respected California botanist E. L. Greene (the first Professor of Botany at University of California, Berkeley) recognized the problem and renamed the plant *Chrysamphora*, a new name which had not been used before. While the name *Darlingtonia* was perhaps better known and more often used, *Chrysamphora* was the correct name from 1891 until 1954, when a committee of the International Botanical Congress voted (narrowly) to reinstate and conserve the generic name *Darlingtonia* for the California pitcher-plant. This bit of legislation made *Darlingtonia* the official correct name no matter what else might turn up. (See CPN Vol. 3, p. 22; Vol. 6, pp. 41-42.). So we see that while it is true that a plant can have only one generic name, and a name can only be used once (whether it remains perman-

ently or not), it may take some time before this attempted stability becomes fixed.

It might be noted that William Darlington is best known for his writings on John Bartram, the father of American botany. Darlington never saw a living specimen of *Darlingtonia*, although he wanted to very much. He did have the satisfaction of knowing, however, a few days prior to his death, that Dr. Asa Gray, famous Harvard botanist and co-worker with Torrey, had succeeded in growing a plant from seed at the botanic garden at Cambridge, Mass.

And thus the history of *Darlingtonia californica*, one of our truly distinctive American plants. May we think about the personalities involved with this story whenever we see this beautiful species, and be thankful for the roles they played in making North American botany great.

Bibliography

- Bailey, L. H. 1914. The Standard Cyclopedia of Horticulture. Vol. I. pp. 964-965.
- Barnhart, J. H. 1919. Brackenridge and his book on Ferns. Journ. New York Botanical Garden, Vol. 23. pp. 117-124.
- Ewan, Joseph, 1955. "San Francisco as a Mecca for Nineteenth Century Naturalists." Pages 1-63. In A Century of Progress in the Natural Sciences. Calif. Academy of Sciences, San Francisco.
- Ewan, Joseph. 1969. A Short History of Botany in the United States. Hafner, N.Y.
- Rodgers, Andrew D. III. 1965. John Torrey: A Story of North American Botany. Hafner, N.Y.
- Torrey, John. 1853. On *Darlingtonia californica*, a new pitcher-plant from northern California. Smithsonian Contrib. to Knowledge Vol. 5. Page 1.

I wish to thank the Hunt Library for Botanical Documentation in Pittsburgh for providing valuable reference material.