

= *Gaylussacia brachycera* =

*Gaylussacia brachycera* , commonly known as box huckleberry or box @-@ leaved whortleberry , is a low North American shrub related to the blueberry and the other huckleberries . It is native to the east @-@ central United States ( Pennsylvania , Delaware , Maryland , Virginia , West Virginia , North Carolina , Kentucky , and Tennessee ) .

*Gaylussacia brachycera* is easily distinguished from other members of its genus by its leaves : they resemble those of boxwood ( hence its name ) and lack the resin glands typical of huckleberries . Like its relatives , it bears white urn @-@ shaped flowers in the early summer , which develop to blue , edible berries in late summer . It is mostly found in Appalachia ; many of its stations there were known to natives , who picked and ate the berries , before botanists became aware of them in the 1920s .

A relict species nearly exterminated by the last ice age , box huckleberry is self @-@ sterile , and is found in isolated colonies which reproduce clonally by extending roots . One colony in Pennsylvania was once estimated to be as many as 13 @,@ 000 years old ; more recent estimates have an upper bound of about 8 @,@ 000 years , which would make it the oldest woody plant east of the Rocky Mountains . Another colony in Pennsylvania , about 1 @,@ 300 years old , has been protected by the Hoverter and Sholl Box Huckleberry Natural Area .

= = Description = =

Box huckleberry is a low shrub , 6 to 8 inches ( 150 to 200 mm ) tall . Its leaves resemble those of boxwood ( hence its name ) . About 1 inch ( 2 @.@ 5 cm ) long and oval @-@ shaped , they are glossy and minutely toothed , turning red in winter . The evergreen leaves , lacking resin glands , are in sharp contrast to other species of *Gaylussacia* . Box huckleberry flowers in May and June . The flowers are urn @-@ shaped and white , sometimes tinged with pink . Like other huckleberries , the flowers appear on a raceme springing from the leaf axils . Its fruits , which appear in July and August , are blue berries borne on short pedicels .

= = Taxonomy = =

Box huckleberry was first collected and described in 1796 near Winchester , Virginia ( probably in what is now West Virginia ) by the botanist André Michaux . Michaux named it *Vaccinium brachycerum* in his *Flora Boreali @-@ Americana* , published in 1803 . Matthias Kinn , in about 1800 , and Frederick Pursh , in 1805 , also obtained specimens in West Virginia . R. A. Salisbury referred to it as *V. buxifolium* in 1805 , and this remained the prevailing name for the next forty years ; the common name " box @-@ leaved whortle @-@ berry " was used for the species at the time .

No further specimens were collected until 1845 , when Spencer Baird , a professor at Dickinson College , discovered a colony near New Bloomfield , Pennsylvania . It was redesignated *G. brachycera* in 1846 by Asa Gray on the basis of Baird 's specimens . ( *Gaylussacia* was not recognized as a genus separate from *Vaccinium* until 1819 . ) The discovery brought about a friendship between Gray and Baird that ultimately resulted in the latter 's appointment as secretary of the Smithsonian Institution .

John Kunkel Small assigned the species , as *Buxella brachycera* , to a monospecific genus in 1933 . However , this was not widely accepted , and was rejected by other authors on the grounds of both nomenclatural and " phyletic unsoundness " . More recently , phylogenetic studies in 2002 suggested that the monophyly of *G. brachycera* with the remainder of *Gaylussacia* is " equivocal " , and further analysis of *Vaccinium* might result in *G. brachycera* being returned to that genus .

= = Distribution and habitat = =

About 100 separate stations for box huckleberry have been documented in the scientific literature . By the time of Baird 's collection in 1845 , the West Virginia stations of the plant had been lost to

science , and his Pennsylvania colony was the only one known for some time . Specimens of box huckleberry were subsequently identified in Delaware in 1870 , by William M. Canby .

In 1919 , Frederick V. Coville called attention to the threatened state of the plant in an article in Science . While investigating the species for horticultural purposes , he only found two herbarium specimens , those of Baird and Canby . ( Coville apparently did not locate Kinn 's West Virginia specimen , preserved at the Muhlenberg Herbarium . ) Upon examination of the New Bloomfield site in 1918 , he discovered the entire colony , except for one patch cut off by cultivation , was connected by roots , and that no seedlings were in evidence anywhere around the margins of the colony . Coville concluded that the plant was self @-@ sterile and reproduced by extending rootstocks . After commercial nurserymen removed a truckload of box huckleberry from the New Bloomfield site in 1918 , Coville was particularly anxious to preserve the species , as the New Bloomfield site was the only one then thought extant . ( It was protected by the state from 1929 , becoming the Hoverter and Sholl Box Huckleberry Natural Area . ) However , Edgar T. Wherry was able to locate the Delaware colony , thought lost , in 1919 , and send specimens for cross @-@ pollination with specimens from the Pennsylvania colony .

This report stimulated considerable interest in the species . Additional colonies were located in Pennsylvania and Delaware , one in Maryland , several in Virginia , three in Tennessee ( 1920 ? 1930 ) , two in Kentucky ( 1927 ? 1932 ) , and many in West Virginia ( 1921 ) . In summarizing these discoveries in 1932 , Wherry noted that many of the colonies were already known to local residents , who picked the berries for food , under names such as " juniper @-@ berry " , " ground @-@ huckleberry " , and " bear @-@ huckleberry " . He called for more intensive effort on the part of the scientific community to make use of such local knowledge in determining plant geography . More recently , a colony of box huckleberry was discovered in Durham County , North Carolina , the first report from that state , in 2003 .

Most of the reported stations for box huckleberry fall within the Appalachian Mountains , ranging from central Pennsylvania in the north to eastern Tennessee in the south . However , the specimens located in Maryland and Delaware were found on the Atlantic Coastal Plain , and the single North Carolina station is in the Piedmont . Its scattered distribution suggests that the species once spread more broadly across North America , but was almost eradicated by glacial advances , surviving only where it escaped the ice in protected refugia .

Box huckleberry prefers dry , acidic soils , including duff , and partial shade . Locations on wooded slopes tend to face north ; however , the New Bloomfield site faces west . At one of the Delaware sites , a small portion of the colony extended to the wet margin of a marsh , but most was located on dry , sandy soil upslope .

= = Ecology and human use = =

Box huckleberry is self @-@ sterile , so single plants cannot reproduce sexually . Instead , they form colonies which spread by vegetative reproduction along rootstocks . A colony of *G. brachycera* at Losh Run , Pennsylvania was found to be 6 @, @ 500 feet ( 2 @, @ 000 m ) long when surveyed . If this colony grew clonally from a seed deposited along the Juniata River at the rate of 15 centimetres ( 5 @. @ 9 in ) per year , it would be about 13 @, @ 000 years old , the oldest living organism in the United States and second oldest in the world , eclipsed only by *Lomatia tasmanica* . However , this is believed now to be an overestimate on climatic grounds . At that time , the site was covered by a boreal forest thought to be too cold for the box huckleberry to survive ; the current forest did not begin to appear at the site until about 8 @, @ 000 years ago . This age would still make it the oldest woody plant in North America east of the Rocky Mountains . Recent studies have attempted to determine whether , in fact , the reproduction of the colony ( since heavily damaged by a forest fire in 1963 and road construction in the 1970s ) has been entirely clonal . Two genotypes were found in samples taken from the colony , but they are thought to have arisen through somatic mutation rather than sexual reproduction . Unfortunately , the destruction of about 80 % of the colony by fire and construction makes it impossible to definitively settle the question .

The caterpillar of the moth *Dichomeris juncidella* has been reported to feed on the leaves . The

berries are eaten by wild turkeys and ruffed grouse . They have been harvested for food by humans in West Virginia , Kentucky , and Tennessee . Rev. Frederick W. Gray , who documented many of the box huckleberry colonies in West Virginia in the 1920s , first took an interest in the plant when served a " juniper " pie , " juniper " being the local name for box huckleberry . However , they are reportedly tasteless .

With the cooperation of the United States Department of Agriculture , efforts are under way to promote *G. brachycera* as a groundcover for use in landscaping . Box huckleberry is commercially available from at least one source but it is difficult to propagate , making it unprofitable for many nurseries to carry . In New Bloomfield , PA , the box huckleberry has become part of the local New Year 's celebrations , as a papier @-@ mâché replica of a huckleberry is dropped , instead of a ball , to mark the new year .