

Hoozue: Indigenous Japanese Technique for Preservation of the Legacy Katsura Tree at Dumbarton Oaks

Ron HENDERSON^{1,2,3,*}, Jonathan KAVALIER⁴

- 1** Landscape Architecture and Urbanism, College of Architecture, Illinois Institute of Technology, Chicago, IL 60616, USA
2 The Alphawood Arboretum at Illinois Institute of Technology, Chicago, IL 60616, USA
3 LIRIO Landscape Architecture, Newport, RI 02840, USA
4 Gardens and Grounds, Dumbarton Oaks Research Library and Collection, Washington, D.C. 20007, USA

*CORRESPONDING AUTHOR

Address: 3360 South State Street, Chicago, IL 60616, USA
Email: rhender1@iit.edu

ABSTRACT

The katsura tree at Dumbarton Oaks is among the oldest of the species in North America and pre-dates the design of the garden. Japanese master gardener Kurato Fujimoto was commissioned to inspect and lead the construction and installation of a series of branch supports, known as “hoozue” in Japan, to rejuvenate this venerable tree that was in decline. The assessment of the tree included the inspection of the branch structure with a projection toward post-installation growth over the next several decades. Materials such as rope, bark fabric, nails (kasugai), and the wooden hoozue themselves were fabricated and installed with indigenous knowledge and experience, which were described in the text and drawings and documented in a series of photographic sequences. This article narrates the process of this preservation work, demonstrating the significance of this indigenous Japanese technique.

The katsura tree (*Cercidiphyllum japonicum*) at Dumbarton Oaks in Washington, D.C. is among the oldest species in North America (Fig. 1). Records indicate that this specimen was mature in 1920, at the time when the landscape architect, Beatrix Farrand, began her work with Mildred Bliss to design and construct the gardens of Dumbarton Oaks that are considered one of the greatest American gardens of the twentieth century.

Farrand noted the “magnificent Katsura tree, and an equally fine Japanese Maple” in her *Plant Book for Dumbarton Oaks*. “These trees and shrubs make a foliage border to the lawn difficult to equal for character and delicacy. The old plants, such as the *Cercidiphyllum* and the Japanese Maples, were growing in these places when the

KEYWORDS

Hoozue; Branch Supports; Katsura Tree; Dumbarton Oaks; Indigenous Horticulture; Preservation; Horticulture

HIGHLIGHTS

- It studies an indigenous Japanese arboriculture technique that has time-tested success yet may be different from accepted practices
- It describes an entire installation process of Hoozue, which preserves and rejuvenates the aging katsura tree at Dumbarton Oaks that is one of the oldest of the species in North America
- The preservation work offers a model for the study of emerging branches of arboricultural research, indigenous cultural practices, plant humanities, etc.

EDITED BY Tina TIAN

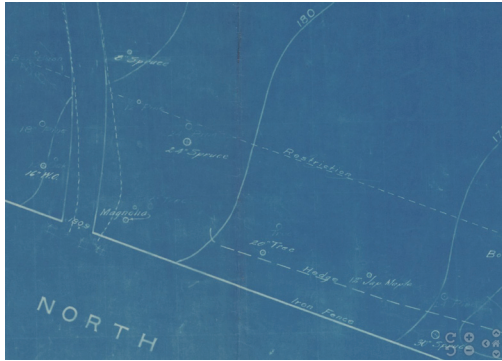
land was acquired by Mr. and Mrs. Bliss. The new planting has been made in an effort to bring out these beautiful old plants.”^[1]

A survey of the property by James Berrall, dated July 5, 1922, shows a 20-inch diameter tree in the present location of the katsura, flanked by a 12-inch diameter Japanese Maple^[2] (Fig. 2). These markings correspond with Farrand’s notes, and back-dating from a 20-inch diameter katsura in 1922, it is believed the tree was 20 or 30 years old at the time of the survey. This would correlate with the availability of katsura trees from John Saul’s nursery in Washington, D.C., who first listed the tree in his inventory in 1895, suggesting that this is one of the earliest katsura trees in North America.

This legacy specimen is characterized by an octopus-like



© Ron Henderson



© Dumbarton Oaks Library and Collection

1. The katsura tree at Dumbarton Oaks, immediately prior to preservation work in 2023.
2. Berrall Survey excerpt showing a 20-inch tree which is assumed to be the katsura tree.
3. The project workbook is a folding orihon sketchbook with the inventory, drawings, specifications, and techniques for constructing and installing the hoozue.

branching habit with long, horizontal branches that are at risk of structural damage. Evidence indicates that they have previously broken or pruned back to sprouts as several branches exhibit a distinct vertical growth just back from the location where the branches were cut. Revitalization of this legacy tree by promoting its new growth—while also supporting at-risk branches and limbs—is the ambition of the preservation work in 2023.

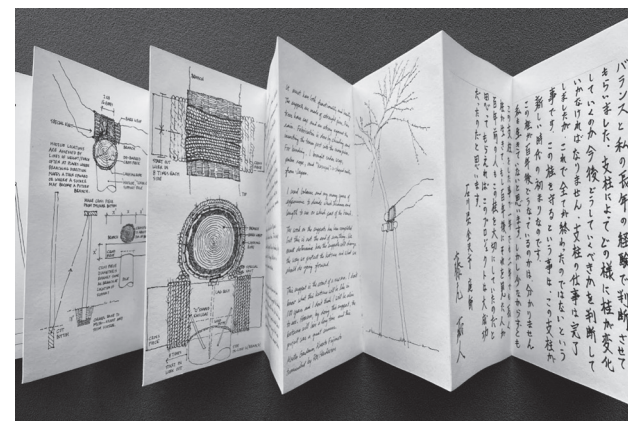
Kurato Fujimoto, Japanese master gardener, was invited to assess and lead this preservation effort using branch supports, known as “hoozue” (ほおづえ), to rejuvenate this venerable tree. The term “hoozue”—“hoo” means chin and “zue” means cane—refers to the bodily posture of resting one’s chin in the palm of one’s hand while resting one’s elbow on a table. Hoozue were fabricated and installed at key structural locations along branches and at branch extremities where the addition of hoozue promotes new leaf, branch, and biomass growth to collect energy to return to the tree’s core. This technique contrasts with current North American practices which recommend retrenchment—pruning outer branches to concentrate energy in the tree’s core.

Hoozue are often used in old plum and pine trees in Japan. They not only support the branches and reduce the stress on the trees, but also have the meaning of respect. So people should look at the tree while feeling how long it has been cherished and protected since ancient times.

The general outline of the preservation work included five aspects: 1) research the history of the katsura tree; 2) identify hoozue locations and techniques, 3) collaborate on sourcing, fabricating, and installing hoozue with Dumbarton Oaks Garden leadership and crew; 4) provide experience to Dumbarton Oaks staff and invited visitors about indigenous Japanese tree

preservation techniques; and 5) monitor and provide scholarly research on the performance of the tree preservation technique. The work is being documented as part of global research on indigenous horticultural practices as well as to compare these techniques with prevailing models of arboriculture in North America.

The assessment of the tree included inspection of the branch structure with a projection toward post-installation growth over the next several decades. Materials such as rope, bark fabric, and the wooden hoozue themselves are fabricated and installed with indigenous knowledge and experience which are described in an orihon (an accordion-fold sketchbook) with drawings from Ron Henderson (one of the authors of this article) and text by Fujimoto (Fig. 3). The hoozue were sourced as treated pine poles from Cardinal Home Center in Madison, Virginia and installed over a four-day period in March 2023 with a collaborative crew from Dumbarton Oaks, Illinois Institute of Technology, and Hillwood Garden working with Fujimoto (Fig. 4).



© Ron Henderson, Kurato Fujimoto, Katsura Orihon, Collection of Dumbarton Oaks



© Ron Henderson
10

10. The katsura tree at Dumbarton Oaks, immediately after the preservation work.
11. Hoozue used in the preservation of Usuzumi-zakura in Motosu, Japan, shown in March 2012.

has a presence and beauty suitable as a symbol of the garden—other katsuras do not have this grandeur—and will continue to amaze everyone as a worthy tree that should be passed on to future generations (Fig. 10).

However, a katsura of 100 years old is affected by branches and trunks. The hoozue must have both functionality and beauty. The supports are made of straight pine because pine trees have sap and are strong against the rain. Fabrication is done by chiseling and inserting the tenon post into the crosspiece. Beside bringing the cedar wrap, palm rope, and “kasugai,” u-shaped nails from Japan, Fujimoto decided which thickness and length to use on which part of the branch upon his years of experience.

The work on the supports has been completed but this is not the end of everything; instead, the support is the start of a new era. We must determine how the supports will change the way we protect the katsura and what we should do going forward. Although we do not know what this katsura will be like in 100 years, by doing this support, the katsura will live a longer time.^[4]

In addition to the collaboration at Dumbarton Oaks, the core team of Fujimoto (master gardener), Ron Henderson (landscape architect), and Johann Friedl (graduate student and garden apprentice) have completed the work for the 240-year-old Betsey Williams Sycamore at Roger Williams Park in Providence, Rhode Island; for a pair of cherry trees at the United States National Arboretum in Washington, D.C.; for the redbud trees at Wrightwood Gallery in Chicago, Illinois; and for an oak tree at the historic Caldwell Farm in Bristol, Wisconsin. Fujimoto and Henderson also collaborated on the preservation work for a 100-year-old Japanese

maple on the campus of Pennsylvania State University with the Japanese architect, Kibo Hagino, and the university’s Grounds Maintenance Division.

Such preservation work offers a model for the study of emerging branches of arboricultural research, indigenous cultural practices, plant humanities, and other scholarly areas. The Dumbarton Oaks katsura preservation project, and the other allied preservation projects, are successive efforts for both scholarly research and public enjoyment. Given the Japanese examples of 1,500-year-old trees—such as Usuzumi-zakura (Fig. 11), Miharu Takizakura, and Yamataka Jindai-zakura—the garden team expects to inspire a centuries-long preservation of irreplaceable living monuments with indigenous horticultural practices as well as cultivate global exchange in the preservation of legacy trees.

Competing interests | The authors declare that they have no competing interests.

REFERENCES

- [1] Farrand, B., & Kavalier, J. (Ed.). (2022). *Beatrix Farrand’s Plant Book for Dumbarton Oaks* (p. 63). Dumbarton Oaks Research Library and Collection.
- [2] Berrall, J. (1922). *Topographical map of property belonging to Robert Woods Bliss, Esq., Washington, D.C.* Dumbarton Oaks Garden Archives.
- [3] Friedl, J. (2024, February 20). *Conversation with Ron Henderson.*
- [4] Fujimoto, K., & Henderson, R. (Trans.). (2023). *Katsura Orihon (Personal Inscription)*. Dumbarton Oaks Research Library and Collection.



© Ron Henderson
11

胡祖： 应用于敦巴顿橡树园连香古树保护的日本本土技术

罗恩·亨德森^{1,2,3,*}, 乔纳森·卡瓦列尔⁴

*通讯作者邮箱: rhender1@iit.edu

1 美国伊利诺伊理工学院建筑学院景观设计与城市规划系, 芝加哥 60616

2 美国伊利诺伊理工学院阿尔法伍德植物园, 芝加哥 60616

3 美国LIRIO景观设计事务所, 纽波特 02840

4 美国敦巴顿橡树园研究中心园地部, 华盛顿 20007

摘要

敦巴顿橡树园中的连香树是北美最古老的连香树之一, 在该花园建成之前就已存在。日本园艺大师藤元藏人受园方委托, 检查并主导对这株古树的保护工作——“胡祖”(hoozue)是一种日本本土技术, 通过对树木枝干进行一系列支撑, 以使这株每况愈下的古老树木重新焕发青春。胡祖的建造和实施过程基于对树木的评估, 包括对枝干结构的检查, 以及对实施后未来几十年生长情况的预测。绳索、树皮保护裹布、钉子等材料的使用, 以及木制胡祖本身的制作和安装都是依照日本本土知识和经验进行的, 这些知识和经验也以图文的形式记录了下来。本文记述了这一保护项目的过程, 展示了这一日本本土技术的重要意义。

关键词

胡祖; 枝干支架; 连香树; 敦巴顿橡树园; 本土园艺; 保护; 园艺

文章亮点

- 本文聚焦于一种虽尚未得到广泛认可、但已经过时间考验的日本本土树艺技术
- 本文描述了应用于敦巴顿橡树园连香古树保护的胡祖建造过程, 该树是北美最古老的树种之一, 胡祖使其得到了保护并焕发青春
- 这项保护工作为树艺研究、本土文化实践、植物人文等新兴领域的研究提供了范例

编辑 田乐