



Rooted Resilience: Transforming Stones into Living Art with Root-over-Rock Bonsai

R. Arunkumar and H. Abdul Kaffoor*

Dept. of Botany, Kongunadu Arts and Science College, Coimbatore, Tamil Nadu (641 029), India



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Corresponding Author

Abdul Kaffoor

✉: abdulkaffoorh_bo@kongunaducollege.ac.in

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Abstract

The art of bonsai extends beyond merely cultivating a tree in a pot, evolving into a sophisticated discipline that mirrors nature's beauty in miniature form. Root-over-rock bonsai, a particularly captivating style, exemplifies resilience and adaptability by mimicking natural processes where tree roots grow over rocks to access soil. This technique involves carefully guiding roots over a selected rock, embedding and training them for several years before revealing their matured forms. The process demands patience, precision and artistry, resulting in a visually striking and stable bonsai.

Keywords: Bonsai cultivation, Miniature landscaping, Root-over-rock, Sustainable artistry

Introduction

The term bonsai originates from the practice of cultivating a tree within a pot or tray. However, the art of bonsai transcends this basic concept by aiming to evoke a sense of grandeur and ancient presence (Shukla *et al.*, 2016). A well-crafted bonsai showcases expansive, resilient roots, a dominant trunk that tapers gracefully, a distinct apex and meticulously shaped branches (Halder *et al.*, 2023). These elements combine to create a harmonious blend of symmetry, balance and tranquility (Sasi, 2017). The verdant foliage of bonsai contributes to well-being by aligning prefrontal brain activity and regulating the autonomic nervous system (Park *et al.*, 2017). In nature, trees adapt to rocky terrain by extending their roots into crevices to access nutrient-rich soil, often forming a protective bark layer to withstand environmental stress. This natural phenomenon is emulated in bonsai artistry, where roots are guided to grow over a rock and into the soil, resulting in a visually striking and resilient form (Parson, 2004).

Significance of Cultivating a Root-over-Rock-Bonsai

The root-over-rock bonsai style holds both aesthetic appeal and practical significance. It vividly illustrates the fusion of nature and artistry by demonstrating how trees can flourish

despite adversity. The striking image of roots enveloping a rock conveys a sense of ancient endurance and adaptability, underscoring the bonsai's resilience. This process is elegantly shown in figures 1 and 2, highlighting roots encasing a rock in a root-over-rock bonsai. Additionally, this technique highlights the virtues of patience and precision in bonsai care, as it demands years of meticulous training and upkeep. It deepens the artist's grasp of plant growth and natural dynamics, enhancing their expertise. Practically, it improves the bonsai's stability and serves as a captivating centerpiece in any landscape or indoor setting. In essence, growing a root-over-rock bonsai enriches a collection with its unique beauty and embodies nature's intricate balance in a compact form. When a seed settles into a crevice in a rock and discovers enough soil to thrive, its roots may gradually extend through the slender layers of soil and moss clinging to the rock, or the roots might gradually envelop and encircle the rock, reaching down to the soil below, partially encasing the stone. In bonsai artistry, this natural process is mimicked by guiding the roots to grow over a rock and gradually develop, creating a similar effect. One technique involves embedding the rock within the roots during potting, allowing the roots to grow for several years before progressively revealing the rock and letting the roots mature and harden,

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as seen in the exposed root style.

Selection of Plant

Selecting the right plant is crucial for cultivating a root-over-rock bonsai. The plant must be hardy, capable of thriving in limited soil and adaptable to rigorous root pruning and training. Species with robust root systems that naturally seek out crevices and establish themselves in rocky terrain are ideal. Plants with seasonal growth variations and aesthetic appeal, such as *Premna*, *Ficus*, *Pinus* and *Juniperus* work particularly well. Additionally, shrubs and woody climbers with resilient root structures can also be excellent choices for creating this captivating bonsai style. The plant can be sourced from seeds, cuttings, layering, or wild specimens, ensuring flexibility in cultivation methods.

Selection of Rock/ Stone

Choose a rock with interesting contours and a compatible tree species. Ensure the rock is sturdy and free from harmful contaminants. Natural crevices and grooves in the rock can help anchor roots and replicate natural growth patterns. The rock size should harmonize with the selected tree species to create a visually pleasing arrangement.

Soil Preparation

Bonsai soil must provide adequate water retention, superior drainage and optimal aeration. A high-quality soil mix is crucial for supporting the tree's health within a limited volume. A well-balanced soil mixture enhances root integration and overall tree vitality.

Pot Selection

The dimensions of the pot should align with the tree's characteristics. The depth of the pot should ideally match the trunk's diameter at the base. The pot's shape may be oval, rectangular, or round, complementing the tree's form and style.

Cultivation Process

- 1. Preparation:** Position the tree so its roots spread over the rock. Secure the tree with wire or supports and cover the rock and roots with soil to encourage growth.
- 2. Root Development:** Water consistently to maintain the soil moisture. Over time, adjust the tree and rock positioning as needed, using wiring and pruning to refine shapes.
- 3. Unveiling the Rock:** After several months, gradually uncover the rock by removing the soil around it. Allow the roots to harden and mature naturally.

Pruning and Wiring Techniques

Pruning includes shoot, branch, leaf and twig pruning to define the tree's shape and increase light and air circulation. Wiring is a technique used to shape trunks and branches by wrapping them with wire to achieve various artistic forms. There are two primary types of wire used: copper and aluminum. Copper wire, though stronger, can damage the bonsai if not carefully monitored. In contrast, aluminum wire, which is about a quarter as strong as copper, is easier to apply and remove, making it particularly suitable for beginners.

Fertilization and Repotting

Apply a balanced fertilizer with an NPK ratio of 19:19:19 every 15 days. The numbers 19:19:19 represent the % by weight of Nitrogen, Phosphorus and Potassium in the fertilizer. These primary nutrients, along with trace elements like Zinc, Iron, Manganese, Boron and Copper, help prevent chlorosis and are crucial for cellular functions and enzyme activities that drive photosynthesis and growth. During the repotting process, trim overextended roots and ensure remain intact. Reinforce stability and provide abundant watering post-repotting.



Figure 1: Root-over-rock bonsai



Figure 2: Root-over-rock bonsai

Conclusion

Innovations will continue to flourish, remaining timeless alongside the wonders of nature. While we can anticipate even more exquisite inventions on the horizon, bonsai is a remarkable gift for our current and future generations. The craft of cultivating root-over-rock bonsai has evolved into a specialized discipline, enriching practitioners with deep insights into miniature artistry. This art form transforms small pots into captivating microcosms of nature, effectively bringing a forest into one's home. It influences landscape and indoor designers by mirroring natural beauty in compact forms. With its artistic charm and potential for longevity with proper care, bonsai has become more than a hobby; it is now a viable home-based business opportunity, offering the possibility of selling these miniature masterpieces.

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