

A Guide to Sundials in the Missouri Botanical Garden

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The Missouri Botanical Garden is one of the gems of the city of St. Louis that both residents and visitors from near and far enjoy. Located within the Garden are several sundials, presently five in all. Posted near one of them is a plaque asserting that “Gardens Need Sundials.” That’s true, and that’s why they are there. Sundials convey history, honor notable individuals, and draw attention to their surroundings. And for the curious seeking more, they educate about how the world where we live interacts with the sun that warms us and grows our flowers. This is a guide to sundials located in the Missouri Botanical Garden.² The sundials can be visited by walking along the “sundial path” through the Garden or by taking the Garden tram, disembarking at a sundial on the path and viewing it, and then reboarding the tram to go on the next sundial along the path.

The *sundial path* is shown as the red, dashed line in the schematic map of the Garden in Figure 1. The path starts at the Ridgway Visitors Center, which is the main entrance to the Garden, where there are three sundials in the vicinity of the nearby Linnean House. The path goes from there to a sundial in the Herb Garden and from there to the Ridgway Home Garden Center, where the fifth sundial is to be seen.

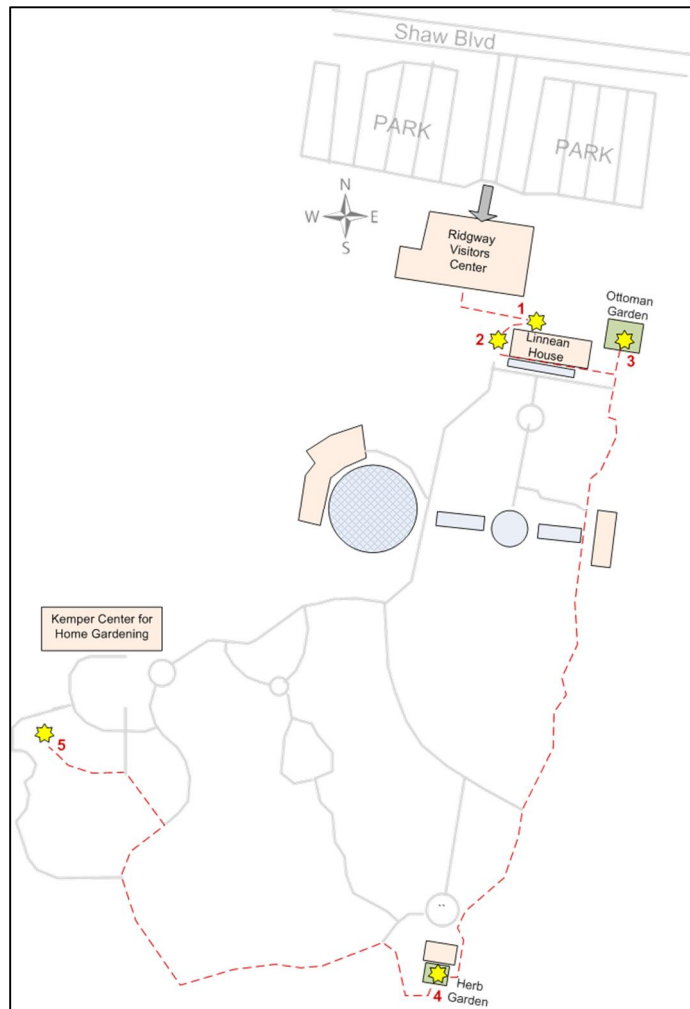


Figure 1. Sundial Path in the Missouri Botanical Garden

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² The Missouri Botanical Garden is Site 5 on the [St. Louis Sundial Trail](http://dls-website.com/hobbies/Sundials/StLouisSundialTrail.htm) (<http://dls-website.com/hobbies/Sundials/StLouisSundialTrail.htm>) locating many sundials of interest in the St. Louis region.

Sundial 1, located on the north side of Linnean House, is pictured in Figure 2. Markings for the sundial are inscribed on the inner surface of an inclined cylinder. The sundial is unusual because it indicates civil time (i.e., time displayed by a watch or clock) and, as well, the date. Time is indicated with two scales, one for Central Standard Time and the other for Central Daylight Time. The intersection of two wires serves as a nodus, the shadow of which indicates where to read the dial for time and date information; a plaque near the sundial gives instructions for doing this. The sundial was designed by Dr. Richard Rinehart and donated by him to the Garden in 2008 to commemorate the 150th-year anniversary of the Garden and the 2008 annual meeting of the North American Sundial Society.³ An annotated version of the sundial's plate is in Figure 3.



Figure 2. *Sundial 1*

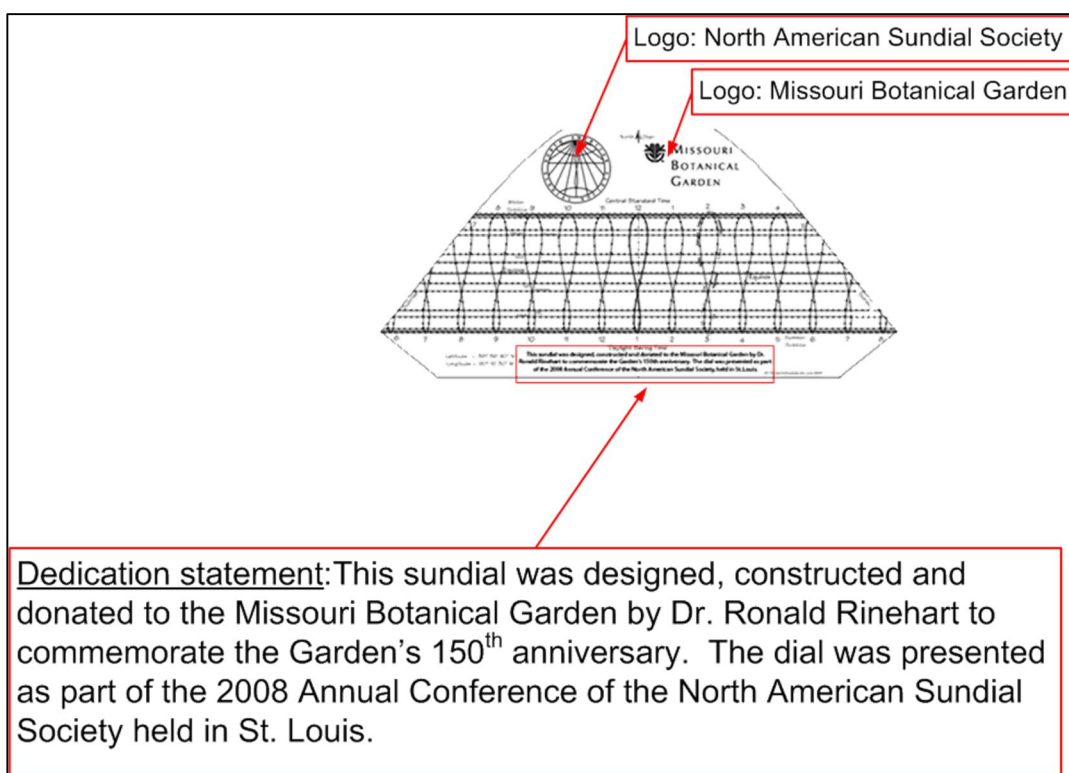


Figure 3 annotated sundial inscription for *Sundial 1*

³ The North American Sundial Society (website <http://sundials.org>) held its annual conference in St. Louis in 2008 and 2017. On both occasions, participants toured sundials in the St. Louis region (see the [St. Louis Sundial Trail http://dls-website.com/hobbies/Sundials/StLouisSundialTrail.htm](http://dls-website.com/hobbies/Sundials/StLouisSundialTrail.htm)) and in the Missouri Botanical Garden. Members are associated with three of the five sundials in the Garden.

Sundial 2 is located at the west end of Linnean House. It is a Shmoyer Sunquest, named after Richard Shmoyer who designed this type of equatorial sundial c. 1959 in Landisville, Pennsylvania. It is ingenious because it displays civil time (watch or clock time) by using a rotatable gnomon having a slit shaped as the equation-of-time.⁴ Richard Shmoyer made and sold rough aluminum castings of his dial. Several have been finished and installed in gardens; for locations and much additional information about these dials, visit the website <http://sunquestsundial.org/>. The Sunquest beside Linnean House was finished from one of the castings by William Gottesman of Precision Sundials in Burlington, Vermont (see <http://www.precision-sundials.com/>.) It was donated to the Garden by D. Snyder near the time of the annual meeting of the North American Sundial Society held in St. Louis in 2008.



Figure 4. Sundial 2, a Shmoyer Sunquest

Sundial 3 is located at the entrance to the Ottoman Garden, which is a short distance from the east end of Linnean House. This is a horizontal sundial that is patterned after an historic, 15th-century sundial located in the Topkapi Palace in Istanbul, Turkey. It is a sophisticated sundial having two gnomons, one indicating western time (a day begins and ends at midnight) and the other indicating eastern time (a day begins and ends at sunset.) Western solar-time, as marked by common horizontal sundials, is indicated on an outer time scale by the shadow of a gnomon having the form of a narrow rod that slopes upward from the dial surface at an angle equaling the latitude of St. Louis, 38.6°. A second gnomon has the form of a short cone. Its tip serves as a nodus, with the shadow of the nodus indicating eastern time by where it falls on overlying time scales. Islamic prayer times are indicated. The markings on the dial surface were designed by Roger Bailey, who resides in Canada and is a member of the North American Sundial Society. See Roger Bailey's website <http://www.walkingshadow.info/> for more information about the sundial and his design. The pedestal and dial plate were made by St. Louis sculptor Abraham Mohler (<http://www.abrahammohler.com/>). The construction and



Figure 5. Sundial 3

⁴ The equation-of-time (EOT) is a date-dependent correction factor that relates solar time and civil time. See https://en.wikipedia.org/wiki/Equation_of_time.

installation of the sundial were completed shortly before the annual meeting of the North American Sundial Society in St. Louis in 2008.

Sundial 4 is located in the Herb Garden at the back of Tower Grove House, which is about $\frac{1}{4}$ mile from Sundial 3 in the Ottoman Garden. This is a small, horizontal sundial made beautiful by a sculpture of a child holding the gnomon and peering at the dial as if reading the time. The sculpture and dial are near ground level in a bed of thyme, a setting quite suitable for a sundial indicating the passing of time amongst thyme in an herb garden.



Figure 6. *Sundial 4, a child playing with a sundial in thyme*

Sundial 5 is in the Kemper Home Gardening Center, about $\frac{1}{4}$ th mile from the Herb Garden. This is a traditional horizontal sundial. The diameter of the plate is about 10.5 inches. It is sculpted as a sunflower and inscribed with the motto: *How could such sweet and wholesome hours be reckoned but with herbs and flowers.*



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Figure 7. *Sundial 5 in the Home Gardening Center*

Closing. Some time spent on a sunny day strolling in the Missouri Botanical Garden will be enhanced by taking a few sweet and wholesome moments to experience the sundials on display among its floral offerings. Enjoy the time in the thyme, enjoy a 15th century moment, and think about how the earth and sun dance together to make time pass and bring all of us, wherever and whomever we may be, flowers and peaceful thoughts.