What is Plant Blindness?

Referred to as the “default human condition”, plant blindness is an innate cognitive and cultural bias leading us to disregard the presence and importance of plants.

Cognitive

Visual characteristics of plants

Plants in the environment are difficult to visually discern and appear as one great green mass. They lack movement observable to humans.

+

Our brain’s cognitive processing

Evolutionary influences lead our brain to prioritize novel and animate stimuli. Visual data is organized into “chunks”, and chunks containing visual data of plants are discarded, never entering our conscious awareness.

↓

Cognitive inattentional blindness towards plants

Cultural

Innate zoo-centrism

As animals ourselves, humans tend to believe that animals are more interesting, complex, and worthy of study than plants.

↓

Zoo-centric education and media

Starting in the mid-1900s, schools combined separate botany and zoology course into a general biology class. As a result of zoo-centrism, biological education and media is biased toward animals.

↓

Lack of plant knowledge and interest in education and media

The Cycle of Plant Blindness

Positive feedback loop

Impacts

A botanical knowledge gap spans across business, government, education, and industry, impacting the management of land and resources. This may ultimately lead to a loss of plant biodiversity and plant-facilitated ecosystem services, as well as a limited awareness of the environmental and technological climate solutions offered by plants.

What can we do?

Addressing the cultural component of plant blindness by promoting plant interest allows us to hijack the positive feedback loop. Thanks to the plasticity of our brains, building plant interest can overwrite the cognitive inattentional plant blindness.

Promoting plant interest

Early childhood exposure to plants is the most powerful tool to promote plant interest. A “plant mentor” can model behaviors of noticing, observing, and caring for plants. At any age, hands-on experience with plants, whether wild or cultivated, strengthens connections to the botanical world.

Adams, C. T. (2016). On the nature of teaching and the next generation of Plant Scientists. American Journal of Botany, 103(9), 1544–1545. https://doi.org/10.3732/ajb.1600228
Greenfield, S. S. (1955). The Challenge to Botanists. Plant Science Bulletin, 1(1), 1–4. https://doi.org/https://www.botany.org/psbarchive/issue/1955-v1-no-1.html
Hemingway, C., Dahl, W., Haufler, C., and Stuessy, C. (2011). Building Botanical Literacy. Science, 331(6024), 1535–1536. https://doi.org/10.1126/science.1196979
Hershey, D. R. (1996). A historical perspective on problems in botany teaching. The American Biology Teacher, 58(6), 340–347. https://doi.org/10.2307/4450174
Jose, S. B., Wu, C. H., and Kamoun, S. (2019). Overcoming plant blindness in science, education, and society. Plants, People, Planet, 1(3), 169–172. https://doi.org/10.1002/ppp3.51
Knowles, G. B. (1845). Observations on the importance of the study of botany, 1845. The Lancet, 46(1145), 144–145. https://doi.org/10.1016/s0140-6736(02)34387-3
Knapp, S. (2019). Are humans really blind to plants? Plants, People, Planet, 1(3), 164–168. https://doi.org/10.1002/ppp3.36
Parsley, K. M. (2020). Plant awareness disparity: A case for renaming plant blindness. Plants, People, Planet. 2: 598– 601. https://doi.org/10.1002/ppp3.10153
Wandersee, J. H., and Schussler, E. E. (1999). Preventing plant blindness. The American Biology Teacher, 61(2), 82–86. https://doi.org/10.2307/4450624
Ward, L. F. (1893). The new botany. Science, 21(521), 43–44. https://doi.org/10.1126/science.ns-21.521.43