

THE AMERICAN BIOLOGY TEACHER



About Our Cover

This image of the remarkable plant *Welwitschia mirabilis* was taken near Cape Cross in the extremely arid Namib Desert, a protected area that extends hundreds of miles along the Atlantic coast of Namibia in southwestern Africa, where this botanical oddity is endemic.

The plant was named by Joseph Hooker for Austrian botanist Frederick Welwitsch, who discovered it in 1859 in what is now Angola. Welwitsch exclaimed that this new species seemed “a figment of the imagination.” This view is echoed by the photographer who unexpectedly came upon hundreds of individuals scattered widely within a broad, dry valley near the Messum volcanic crater.

Welwitschia is unique for several reasons. It is a monotypic genus in a monotypic family (or order) of gymnosperms, thought by some to be intermediate between gymnosperms and angiosperms. The seedlings produce a woody, unbranched main stem supporting just two large, flat leaves, which grow continuously while their ends are trimmed by the abrasive action of the wind. Some individuals may be more than a thousand years old and may grow to a circumference of 8 m and a height of more than 1.5 m. The plant’s root system is very shallow, but its leaves – with stomata on both sides – extract water from the morning fog.

The species has separate male and female plants, and its fertilization is aided by insects, several of which can be seen in this photo of a female specimen with its prominent cones, or strobili. These cones begin in groups of two or three green protuberances and mature to red and finally brown, each containing one seed, which is spread by the wind.

For trivia fans, it is interesting to note that images of *Welwitschia* appear both on the national coat of arms of Namibia and engraved on the tombstone of its discoverer.

This digital image was recorded with a Nikon D850 camera using a 28–300 mm zoom lens with image stabilization. The photographer is William F. McComas, editor of the *American Biology Teacher* and Parks Family Professor of Science Education and Director of the Project to Advance Science Education at the University of Arkansas (mccomas@uark.edu).

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