

THE PLANT FAMILY TREE

New insight into plant relationships is being gained by modern scientific methods. The newest involves DNA sequencing, which examines the structure of individual genes. Scientists look at so-called “clock” genes, i.e., neutral genes that tend to accumulate change over time. In comparing species, the greater the difference in clock genes, the more distant the relationship. Thus all plants can be placed on a “plant family tree” like the one you see here, showing how they have descended from the earliest green algal ancestors.

This approach is the basis of a new effort to develop “DNA barcodes” that would allow the identity of a species to be read by inserting a small tissue sample into a portable scanner. But do not fear—high-tech gadgetry will never replace the gardener or naturalist who really “knows plants.”

Sequencing methods are being used across the broad spectrum of living organisms to generate an evolutionary “tree of life” that charts all life forms—from bacteria to baboons.

