

Dendrology

"Tree Growth Rings unlock the past..."

From an article by James S. Trefil, Physicist at the University of Virginia

To our interested readers...

We have always admired the annual growth rings of trees. We've learned that scientists study annual growth rings to learn about the past. The study of tree rings is called Dendrology, from the Greek *Dendron*, or *Tree*. Leonardo Da Vinci was said to be the first to suggest that as trees grow they add a new ring every year. When spring arrives and vegetation comes alive, the cells inside the bark of a tree start to divide. They produce large cells that we see as the light colored material that scientists call EARLYWOOD. Later in the season, the growth slows and cells get smaller and thicker, called LATEWOOD, which is darker. The result is that many species, not all, but many trees carry in their trunks a series of alternating dark and light bands, each pair corresponding to a years growth.

Contrasting bands are most evident in conifers... like our Pine, Fir, Hemlock, Cedar, and Larch blocks. Not as pronounced in most deciduous species like our Oak, Birch, Maple, Hornbeam, Hickory, Cherry, and Black Locust Blocks. And, contrasting bands are almost absent in many tropical trees like our Cerisewood, Sandlewood, and Wenge.

"Trees are living archives of their age and the precipitation and temperature of each year in which a ring was formed."

A tree can tell us a great deal about what was happening in its neighborhood, from the time it was born... many times before written records. And, they tell us about our future. "The records of past climate that they contain can help us to understand the natural forces that produce our weather."

For your information, Bristlecone Pines (*Pinus Longaeva*) are the oldest living tree, found in six states in the Southwest USA. We are very fortunate to have a piece of Bristlecone Pine from White Mountains, CA, authenticated by Lone Pine Research. The piece is dated 2658 BC to 2066 BC. This is a history book for Dendrologists. Using cross-dating between live and dead wood, it is possible to construct a continuous record of tree rings going back to almost 9,000 years. Trees remember, and if we are clever enough, we can tap that memory to give us all sorts of useful knowledge about our past and our future.