

# Desert varnish grows much faster than geologists admit

Michael J. Oard

Dozens of geological processes are commonly claimed to proceed too slowly for the short timescale of the Bible. Many of these claimed slow processes have attached dates of tens of thousands to millions of years. However, we usually only hear one side of the origins issue. It is too easy to make a wrong decision based on only one opinion. We should investigate the other sides of an issue, especially when one side is heavily censored in the public arena. We also need to be aware that there are numerous unknowns in the earth sciences, and that the addition of another variable can result in vastly different conclusions. Sometimes it is discovered that slow processes today can occur rapidly under different circumstances. Another aspect is that with more research, dating methods considered solid are found to be suspect. With this in mind, we now consider whether the ‘slow formation’ of desert varnish is correct.

## Desert varnish

Desert varnish is a type of rock varnish that forms in dry, warm environments (figure 1). Rock varnish is defined as:

“A thin dark shiny film or coating composed of iron oxide accompanied by traces of organic matter, manganese oxide, and silica. It is formed on the surfaces of pebbles, boulders, and other rock fragments.”<sup>1</sup>

Most rock varnish appears black because of the manganese. It can occur in wet environments, but geologists

usually think they form slowly in dry environments.<sup>2</sup>

## Not an absolute dating method

Traditionally, desert varnish was said to accumulate very slowly, taking thousands to hundreds of thousands of years to form in deserts.<sup>3</sup> So, it was once assumed to be an absolute dating method. The thickness of varnish has been used to ‘date’ geomorphological features, such as glacial moraines, debris flows, and overturned boulders. Moreover, the dating method ‘agreed’ with other dating methods, such as cosmogenic isotopes.<sup>4</sup> However, it was discovered that the method was unreliable and the supposed agreement with other dating methods was a contrived result caused by data selectivity among variable dates.<sup>5</sup>

Liu and Broecker concluded that desert varnish can be a relative age indicator. They calculated the time to form desert varnish in a wide variety of arid and semi-arid locations in the south-west United States.<sup>6</sup> On desert varnishes of various thicknesses, they arrived at dates of 1.5 to 250 thousand years with formation rates varying from 0.6 to 40 microns per thousand years. But these rates were based on radioactive dates for geomorphic features. In other words, they were calibrated to old ages—a very common practice in geochronology. The researchers also ‘discovered’ that rock varnish accumulation rates vary greatly from sample to sample even at one site, which would reinforce the fact that desert varnish is an unreliable dating method.

## Desert varnish can form rapidly

Recently, desert varnish has been discovered to form much more rapidly than the slow rates given by Liu and Broecker, as well as many others. Based on lead from nearby smelters being deposited within the rock

varnish, actual physical measurements could be made. Based on smelters operating at three locations from 1870 to 1931, it was discovered that desert varnish accumulated at rates of 28 to 639 microns per thousand years!<sup>7</sup> Given that the thickest varnishes are up to around 200 microns thick, it becomes evident that thick desert varnish can grow in hundreds to a few thousand years:

“Based on the limited samples analyzed here, actively forming varnish appears to be able to grow at rates sufficient to create the entire thickness of a typical coating (<200 microns) in mere centuries.”<sup>8</sup>

If a much wetter ice age climate were taken into account, growth rates would have been even faster, since varnish in these environments can grow one to two orders of magnitude more rapidly than the slow rate assumed for deserts.<sup>2</sup> In other words, any rock varnish seen on the surface of the earth can form in the time since the Flood! Rock varnish is no longer a ‘contradiction’ to the short timescale of the Bible.

## How old ages were reclaimed

The new results did not cause the researchers to review their old-age assumptions. Simply assuming that varnish processes are still very slow and that radiometric dating gives accurate ages, the discoverers of the much faster desert varnish growth rate have come up with a rescuing device. The researchers conclude that the ‘long-term rate’ of varnish formation is as slow as Liu and Broecker believe, and that the lead measurements are caused by a short-term acceleration. This is the opposite of many natural processes in that they begin rapidly and slow up with time, like a logarithmic decrease as opposed to linear. So, with highly variable dates, the oldest samples are the slowest to grow while the youngest samples have the fastest

rates! However, there have been no recorded climatic or environmental changes in the south-west United States for the past 3,000 years to justify such an *ad hoc* interpretation.

### Dating lessons

This example of rapid desert varnish formation shows the power of the Enlightenment paradigm that started in the 1700s and is followed blindly by scholars today, who assume there are dozens of ‘slow processes’. Out of Enlightenment naturalism came uniformitarianism, well before it was systematized by Lyell; old ages; and eventually evolution.<sup>9</sup> Moreover, these concepts are absolute in the culture; scholars must adhere to these beliefs or dire consequences can occur.<sup>10</sup>

When new information or actual measurements of processes become available with more research, sometimes the rate of change of these ‘slow processes’ can become much faster in a post-Flood environment, as shown in our example of desert varnish. But if we bring back the Flood into earth history many slow processes

in today’s environment occur even more rapidly.<sup>11–13</sup> Since old ages are an absolute assumption, rescuing devices will always be employed.

Dating methods and slow processes are touted as being so accurate. Western culture is saturated in old ages to the point that most people believe in the millions of years and not the Bible. Dating methods and slow processes are calibrated with other old-age dates in a vast circular reasoning web.<sup>14</sup> In this example of desert varnish, Liu and Broecker calibrated their measurements with dates from other dating methods of supposed ‘known age’. In this way, old age is always built into ‘slow processes’, as well as new dating methods. For example fission tracks are calibrated against ‘known ages’, such as the Durango, Mexico, crystal date supposedly of about 31 Ma.<sup>15,16</sup>

We are discovering that radiometric dates cannot be trusted and that many assumed slow processes observed today can occur more rapidly than thought in both the post-Flood period and during the Flood.



**Figure 1.** Desert varnish from the White Mountains of California, US, which stands out on either side of the road. Bristlecone pine trees in the foreground.

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