

Re: The First Self-Replicator and early Lunar tides

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- *From:* Tim Tyler <seemysig@xxxxxxxxxxxxxxxx>
 - *Date:* Tue, 17 Apr 2007 13:58:01 -0400 (EDT)
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markr1000 wrote:

Tim Tyler <seemy...@xxxxxxxxxxxxxxxx> wrote:

IMO, the most likely locations are highly stable ones – deep in the ocean, or perhaps in underground caves:

From what I've been reading, stability is exactly what you don't want. Inert substances are the pinnacle of stability, they're also the opposite of life.

Gigantic tides sloshing around for many millions of years would keep the oceans a constant soup of amino acids and other inorganic building blocks as well as creating billions of tidal pools test tubes in which trillions of experiments would be going on.

I ran across this in my search on early tides and whoever it is paints a thorough picture. I have no idea what holes might be poked in it beyond the talk of "original non-replicating atoms" which is silly consider the immense amount of amino acids that would have been available in the absence of free oxygen.

I consider rock pools a relatively unlikely environment for early life – due to general instability and inhospitability.

They are relatively often invoked by other OOL researchers, though. They like the concentration via evaporation, the sunlight, an influx of silt and the action of waves.

IMO, sunlight would probably fry the earliest organisms, and waves would smash them to bits.

Whatever else, I think stability is highly overrated in the

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origin of life.

Stability is a matter of degree. Too much and you have no activity at all. Too much and you have a chaotic system. Living systems lie in the middle of this spectrum.

However, in the context of the origin of life, we have a high temperature environment, bombarded by meteorites, and with widespread vulcanism.

Simultaneously, we have the least technologically advanced creatures that ever existed, probably with one of the lowest ever abilities to resist environmental perturbations.

In this context, I feel the stability of life's cradle is what needs emphasising.

IMO, it would be quite plausible if the bottom of the ocean – and possibly underground environments like caves – were the only habitable environments for a considerable period of time – simply because anything on the surface of the young earth would get alternately irradiated, melted, boiled, and smashed to bits.

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