

# Re: Musings about the Cambrian Explosion

---

*Source:* <http://sci.tech-archive.net/Archive/sci.bio.evolution/2005-10/msg00176.html>

---

- *From:* "Jim McGinn" <[jimmcginn@xxxxxxxxxx](mailto:jimmcginn@xxxxxxxxxx)>
  - *Date:* Fri, 7 Oct 2005 13:59:41 -0400 (EDT)
- 

Tim Tyler wrote:

> Jim McGinn <[jimmcginn@xxxxxxxxxx](mailto:jimmcginn@xxxxxxxxxx)> wrote or quoted:

>

>> You are dead right. The Cambrian explosion has to do with the fact  
>> that the atmosphere, as a result of sea life, was beginning to be more  
>> amenable to life which allowed lifeforms to survive on land and,  
>> consequently, there was a relatively rapid (in geologic terms) increase  
>> in viable space for lifeforms to survive.

>

> That sounds pretty unlikely to me. Most of the Cambrian explosion that  
> we can see is an underwater phenomenon:

>

> ``Cambrian land-life is almost unknown in the fossil record."`

>

> - [http://www.fossilmall.com/Cambrian\\_Shadows/Protichnites.htm](http://www.fossilmall.com/Cambrian_Shadows/Protichnites.htm)

>

> Until now, most life has been underwater anyway. What happens on the land  
> is just the tip of the iceberg.

Interesting. Well, maybe I'm wrong on this. I was just trying to make sense of why there was such large jump in the rate of novelty. The only thing that makes sense is that there was a relatively sudden increase in the spatially defined level of opportunity. How about this. Maybe Oxygen breathing lifeforms did not make it up to land during the Cambrian (they would have to wait until there was enough Ozone in the upper atmosphere to reduce ultra-violet rays, possibly). But some ultra-violet resistant plants did begin to colonize the land surface. This produced a relatively sudden increase in the amount of amount of oxygen from the CO2 breathing plants and this sudden increase in oxygen is what afforded the cambrian explosion to aquatic animals. (One way to test this hypothesis is that we'd expect a relatively large increase in species that breath directly from the atmosphere rather than from gills, possibly? I don't know.)

Jim

- 
- **Follow-Ups:**
    - ◆ ***Amusing bouts with the Cambrian Explosion***
      - ◇ *From:* Perplexed in Peoria
    - ◆ ***Re: Musings about the Cambrian Explosion***
      - ◇ *From:* g
  - Prev by Date: ***Re: origin of thoughts***
  - Next by Date: ***Re: Musings about the Cambrian Explosion***
  - Previous by thread: ***Re: Musings about the Cambrian Explosion***
  - Next by thread: ***Re: Musings about the Cambrian Explosion***
  - Index(es):
    - ◆ ***Date***
    - ◆ ***Thread***