World's Oldest Lifeforms

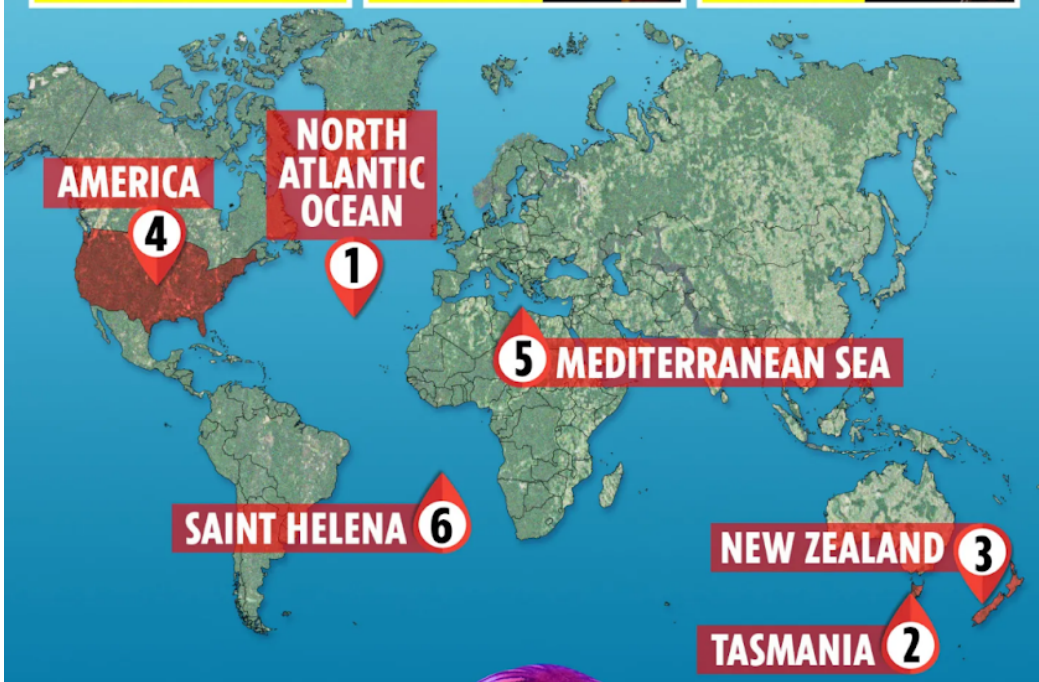
Source: PR

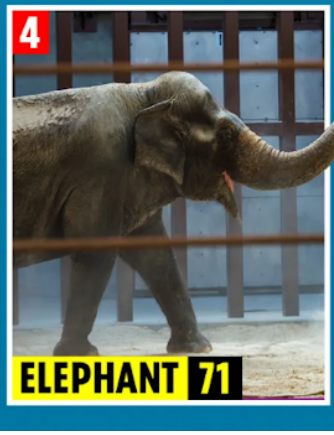
Ancient life forms like **cyanobacteria, stromatolites and archaea** offer insights into **Earth's evolutionary resilience** and **ecological significance**.

- **Cyanobacteria (blue-green algae)**, emerging around **3.5 billion years ago,** were the **first organisms to perform oxygenic photosynthesis,** triggering the **Great Oxidation Event (~2.4 billion years ago)**, which enriched Earth's atmosphere with **oxygen,** enabling complex life.
- **Stromatolites** are **layered rock-like structures** formed by cyanobacteria colonies that **trap and bind minerals,** gradually **hardening into rock.**
  - The oldest stromatolites, found in Western Australia, are about **3.5 billion years old**, offering insights into ancient microbial ecosystems.
- **Archaea** are **single-celled microorganisms** distinct from bacteria, with genetic features closer to **eukaryotes**.
  - Many are extremophiles, surviving in harsh environments and contributing to **biogeochemical cycling.** The **endosymbiotic theory** suggests eukaryotes evolved from archaea through the incorporation of a bacterium, leading to mitochondria.
- **Armillaria ostoyae**, the **"humongous fungus,"** is the **largest living organism, found in Oregon's Malheur National Forest (US),** is **over 8,000 years old,** demonstrating remarkable ecological dominance and longevity.
- The **Ginkgo biloba tree,** dating back over **290 million years, is a "living fossil"** with **unchanged leaves since the Jurassic period.**
  - It survived the **1945 Hiroshima blast** and shows no signs of aging, thriving even at 600 years old.

WHERE ARE THE OLDEST LIVING ANIMALS?

From deep sea beasts born before Shakespeare to ageing Asian elephants, the oldest living examples of different animals can be found in every corner of the globe.





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