Chapter 1

Paper:

Cúneo, N. Rubén, Edith L. Taylor, Thomas N. Taylor, and Michael Krings. "In situ fossil forest from the upper Fremouw Formation (Triassic) of Antarctica: palaeoenvironmental setting and palaeoclimate analysis." *Palaeogeography, Palaeoclimatology, Palaeoecology* 197, no. 3 (2003): 239-261.

Questions:

1. **The Transantarctic Mountains of Antarctica have yielded many important fossil plant discoveries and have yielded fossil plants displaying different types of fossilization. Name three different types of fossilization that have been recognized in the Transantarctic Mountains and briefly outline the biological information that can be gleaned from each.**

2. **The paper aims to reconstruct a Middle Triassic aged fossil forest from the Transantarctic Mountains. What type of data have the authors collected to achieve this aim?**

3. **Cellulose acetate peels were performed on sections of fossilized trunks. Explain briefly how this method is carried out and what type of biological information it can yield from fossils.**

4. **What methodology did the authors follow to obtain ecological information about the forest floor vegetation?**

5. **What is the depositional setting of the fossil forest? What information does this provide about the landscape setting of the living forest?**

6. **What age is the fossil forest being studied in this paper and what type of dating method is this age assignment based on?**

7. **How were the tree stumps of the Gordon Valley fossil forest preserved?**

8. **Do the fossilized tree stumps and fossilized leaf litter associated with the Gordon Valley fossil forest represent autochthonous or parautochthonous preservation?**

9. **What is the average canopy height of the Gordon Valley fossil forest? What method was used to estimate individual tree height?**

10. **What is the age profile and general ecology of the fossil forest? What methods were these inferences/estimates based on?**