**Chapter 7**

**Paper:**

Jaramillo, Carlos, Milton J. Rueda, and German Mora. "Cenozoic plant diversity in the Neotropics." *Science* 311, no. 5769 (2006): 1893-1896.

Questions:

1. **The mechanisms leading to high tropical plant diversity are hotly debated. What are some of the leading hypothesized mechanisms?**

2. **This paper aims to reconstruct the history of Neotropical plant diversity. What aspect of the fossil plant record has been investigated to fulfil this aim?**

3. **How was plant diversity estimated for each successive time interval studied?**

4. **The fossil pollen and spore diversity data was compared with diversity data obtained for the Holocene (last 10,000 years). Why and how was this comparison undertaken?**

5. **Holocene and pre-Holocene diversity estimates were also compared using a rarefaction analysis. What is rarefaction and what are the advantages of using this method to estimate palaeoplant diversity?**

6. **Describe the pattern of neotropical plant diversity obtained from the fossil pollen and spore record.**

7. Why **does the paper suggest a causal relationship between long-term trends in global temperature and in Neotropical Plant diversity?**

8. **What hypothesized mechanisms do the authors put forward as an explanation for this causal link between temperature and diversity?**

9. **Are you surprised by the fact that Holocene diversity levels were found to be lower than those in the Eocene?**