Tree ring studies in Indonesian forests
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- The existence of annual rings in tropical trees has been proven since the beginning of the 20th century.
- Annual tree ring formation in Indonesia has also been reported, such as for: many tree species in Java (Coster 1927); Sumatra e.g. *Eusideroxylon Zwageri* (Irawan 2004); and Sulawesi e.g. *Celtis philippensis*.
- Hypothesis: The rings of trees from tropical forests are developed annually.
- We collected tree stem discs from 26 species from a tropical peat swamp forest, in Kotawaringin Timur, Central Kalimantan in August 2014. The growth zone structure was analyzed and classified according to Coster 1927 system. In order to study the nature of ring formations, we used radiocarbon analysis at several growth zones of 2 discs of *Horsfieldia crassifolia* and *Diospyros evena*.
- We also took stem discs of four rubber trees (*Hevea brasiliensis*) from plantations on mineral soil in West Kalimantan.
- We found all four growth zone types as described by Coster 1927: (1) Marginal Parenchyma bands; (2) Density variations; (3) Pattern of changing fiber and parenchyma tissue; and (4) Varying vessel distributions.
- The *Horsfieldia* and *Diospyros* that were analyzed by radiocarbon method show distinct growth zone structures. *Horsfieldia* forms one ring every year but this is not the case for *Diospyros*. Rubber trees form one distinct ring every year.