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AMAZONIAN RAINFOREST PALEOFIRES DURING THE LAST 7000 YEARS RECORDED IN LACUSTRINE SEDIMENTS (CARAJAS-BRAZIL). ORIGIN AND PALEOCLIMATIC IMPLICATION.

Abdelfettah SIFEDDINE, ORSTOM, 72 Route d'Aulnay, 93143 Bondy (France),
Maria- Lucia ABSY, INPA, CP. 478, 69 000 Manaus (Brazil),
Louis MARTIN, ORSTOM, 72 Route d'Aulnay, 93143 Bondy (France),
François SOUBIES, ORSTOM, 72 Route d'Aulnay, 93143 Bondy (France),
Kenitiro SUGUIO, IG/USP, CP. 20899, 01498-970 São Paulo (Brazil),
Bruno TURCQ, ORSTOM/UFF, Univ. Fed. Fluminense, 24020-007, Niterói (Brazil),
Cecilia VOLKMER-RIBEIRO, Rua Dr S. Franca 1427, 90610 Porto Alegre (Brazil).

In Amazonia, the presence of charcoals buried in rainforest soils have been reported in the Sao Carlos region (Alto Rio Negro) and in the Southeastern part of Amazonian forest along 500 km on the road between Santarem and Cuiaba. Radiacarbon ages indicated that these charcoals date from 6,300 to 250 yrs B.P. in San Carlos region and from 8,200 to 3,000 yrs B.P. in Southeastern Amazonia. The presence of charcoals buried over considerably large regions and the uneven occurences, indicate that they cannot be considered as indian "cooking remains". This indicates that charcoals should be the record of fires affecting the rainforest . However, the rainforest does not normally burn and, with either an anthropic or natural origin, the fires only could have prograted over so large an area under drier climate conditions.

Palynological and sedimentological studies, as well as thin section observations of 3 cores collected in three lakes of Carajas region (Southeastern Amazonia) bring a better knowledge of the frequency of fires occurences and of the paleoclimate conditions during the fire occurence periods. Data of Carajas lakes indicate that, if forest element pollen are alway present during the last 7 000 years, they are badly represented between 7000 and 4000 years. Moreover, at that time, the arboreal pollen is dominated by *Piper* (pioneer). Its dominance during 3000 years appears abnormal and needs special environmental conditions. It seems that the regeneration cycle of the forest has been continuously interrupted by repeated incidents. The higher sediment content in micro-charcoal during the same period points to fires as the most obvious event explaining the repetitive interruption of rainforest regeneration. After 4000 years, the charcoal content in the sediment, and therefore the frequency of fire occurences, is lower. Notwithstanding the presence of rainforest elements and the absence of savana pollen indicates that the average climatc conditions were favourable to rainforest development which was only limited by the repeated occurences o fires in connection with dry climate events. Similar climate perturbations have been evidenced in South America during the last 7 000 yrs. They have provoked littoral drift reversals on the central Brazilian coast, falls of Titicaca lake level in Bolivia, discontinuous sand supply of Sechura desert rivers in northern Peru. Such regional pattern is similar to present-day El Nino events but the paleo-data indicate that the past climate anomalies should have longer duration (tens to hundreds of years) than the present-day El Nino events, for those reasons they have been denominated "El Nino-like conditions".