

A High-Resolution Palynological Record of 3.5 Million Years of Northern Andean Climatic History: The Correlation of 26 "glacial cycles" with Terrestrial, Marine, and Astronomical Data

- Abstract* -

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Pollen analysis of ca. 1230 samples from a 357 m long section of lake sediments from the high plain of Bogota, Colombia, (alt. 2547 m above sea level) has provided a high-resolution vegetational and climatic record.

The reconstruction of the vegetational history, from which the climatic history has been derived, is mainly based on fluctuations of the forest line. Studies of the relation between the arboreal pollen (A.P.) percentages and the altitudinal position of the forest line revealed that ca.40% A.P. is found at the forest line, while an adequate transfer-function could be established for the altitudinal positions of the forest line when A.P. percentages were higher or lower. It is assumed with reason that this transfer-function, which has been deduced from the recent situation, has also validity for the lower parts (i.e. the Lower Pleistocene and Upper Pliocene) of this record. It has to be noticed that any transfer-function established is always controlled by the altitudinal positions of the boundaries between the three páramo vegetation belts situated above the forest line, viz. the subpáramo, grass páramo, and superpáramo belt. As there is no clear evidence that in the past the altitudinal range of

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