

ABSTRACT

The Nariva Swamp is an underexplored coastal wetland which lies in an axial depression on the Atlantic coast. Floristic studies of the area employ both qualitative and quantitative aspects and reveal the presence of a plant succession sequence hithertofore undescribed for Trinidad and having a close approximation only in Suriname. The following six plant formation-types are described : Mangrove Woodland/Mixed Forest, Swamp Forest, Herbaceous Swamp, Herbaceous Marsh, Marsh Forest and Terrestrial Forest. These occupy clearly defined areas and appear to be determined mostly by water relations and salinity.

Palynological studies on sediments from the swamp have shown evidence of climatic and vegetation change during the period 5260 ± 70 B.P. to the Present. This vegetation change appears to have been caused mainly by an alteration of edaphic conditions owing to the influence of rising sea level. Three major pollen zones have been recognized and are correlated with the European 'Atlantic', 'Subboreal', and 'Subatlantic' pollen zones and the Colombian Cordilleran pollen zones VI, VII and VIII.

The vegetation prior to 5260 ± 70 B.P. (= European 'Atlantic' and Colombian zone VI) comprised dry Terrestrial Forest elements (Leguminosae), graminoids and, later, some elements (Symphonia, Viola, Hura, etc) which are tolerant of moist areas. Between 5260 ± 70 B.P. and 2720 ± 50 P.P. (= European 'Subboreal' and Colombian zone VII) the area supported a Mangrove flora (with Rhizophora and Avicennia) which was later succeeded by a Swamp Forest dominated by Pterocarpus, while during the period 2720 ± 50 B.P. to the Present (= European 'Subatlantic' and Colombian zone VII)

the swamp developed in its present form.

A sediment sample from the Mangrove Woodland yields a date of 1360 ± 50 B.P. This indicates a rate of mangrove peat formation of 15 cm per 100 years which exceeds that given for the Florida Everglades (6 cm per 100 years) and is equivalent to the overall rate of sedimentation in the Nariva Swamp, which is evidenced in the Sand Hill West core.

The Palynological evidence does not support the idea of a Holocene transgression as indicated for Guyana (van der Hammen, 1963), but rather indicates a gradual rise similar to that found in Panama (Bartlett and Barghoorn, 1974).