XX CONGRESSO BRASILEIRO DE PALEONTOLOGIA

Búzios, RJ, Brasil

21 a 26 de outubro de 2007

ANAIS DE RESUMOS

Búzios
2007

WET AND WILD: A HYPOTHESIS

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Water has had a fundamental influence upon the evolution of flowering plants. The earliest extinct lineages of flowering plants were water adapted. The reproductive biology, including the flower and the habit illustrate close ties to water of several early flowering plants. When the earliest flowering plants were living in an aquatic environment and their ovules were borne on loosely folded leaves that were susceptible to water washing away the micropylar exudate, mechanical closure of the carpel became important. The mechanical closure of the carpel was the most secure way for early flowering plants to ensure that incompatible biochemical barriers could be maintained. By means of a closed carpel, flowering plants gained an additional advantage over seed plants because of the further genetic control they could maintain over their genotypes. The early flowering plants from Brazil also suggest that water influenced their evolution.