XI Reunião de Paleobotânicos e Palinólogos XI Meeting of Paleobotanists and Palynologists Gramado, RS, Brasil, 7 a 10 de Novembro de 2004 http://www.exatec.unisinos.br/\_rpp2004/ Realização: UFRGS e UNISINOS

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## EARLY ANGIOSPERMS FROM BRAZIL<sup>1</sup>

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An excellent record of early angiosperms is available from fossil plants preserved in laminated limestones of the Crato Formation that is part of the Araripe Group, exposed in northeastern Brazil. It is placed in the uppermost Aptian and perhaps extends into the lowermost Albian, so that it might range in age from about 114 to 110 million years ago. The angiosperm plant fossils include reproductive (petals and fruits) and vegetative (stems with leaves attached, isolated leaves and roots) organs. From one collection in Berlin, Mohr and Eklund recognized 80 species of plants, including 20 taxa of angiosperms. Many of the taxa of angiosperms published thus far from this collection include taxa identified as Laurales-like (2 taxa), Nymphaealean (1 taxon), Magnolialean (1 taxon) and monocot (1 taxon). The material that has been available to us for study has yielded about 10 angiosperm leaf morphotypes. Because the systematic affinities of these ancient angiosperm fossil leaves are so tenuous, we prefer to give them morphotypes and concentrate upon their form and nature of their venation. By this means we can develop a suite of well-defined, distinct entities that may define this time in the evolution of the angiosperms. Nearly all of the leaves demonstrate a low rank of organization of the leaf venation, some are entire margined, some toothed and some crenate. Many of the leaf morphotypes are small and many leaf morphotypes appear to have short petioles or longer, slightly fleshy, petioles. When working with vegetative characters it is important to separate out useful and important systematic characters from those influenced by the local environment in which the leaf developed. The value of presenting leaf morphotypes is that our focus is upon the characters of each leaf and each leaf morphotype rather than being constrained to find a "match" in extant taxa to which to relate the fossil. These fossils provide some measure of the local diversity of the angiosperms living at or near the site of deposition.

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