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Phylogenetic Analyses of Amaranthaceae Based on matK DNA Sequence Data with Emphasis on West African Species

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**Abstract:** Comparative sequencing of the chloroplast matK coding and non-coding regions was used to examine relationship among the species of Amaranthaceae with emphasis on the West African species and other closely related family such as Chenopodiaceae, Portulacaceae, and Caryophyllaceae. Phylogenetic analysis of the matK sequences alone and in combination using maximum parsimony methods produced monophyletic lineage of Amaranthaceae-Chenopodiaceae. Our results indicated that a polyphyletic Celosieae as sister to an Amaranthus-Chemissoa lineage. Subfamily Amaranthoideae is paraphyletic to the core Gomphrenoids. This study also shows that the polyphyly of Amarantheae is apparent and so is the polyphyly of Amaranthinae.

**Key Words:** Amaranthaceae, matK, Phylogenetic analyses

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