

## **DNA Fingerprinting of Some Major Genera of Subterranean Termites (Isoptera) (Anacanthotermes, Psammotermes and Microtermes) from Western Saudi Arabia**

**Authors :** AbdelRahman A. Faragalla, Mohamed H. Alqhtani, Mohamed M. M.Ahmed

**Abstract :** Saudi Arabia has currently been beset by a barrage of bizarre assemblages of subterranean termite fauna, inflicting heavy catastrophic havocs on human valued properties in various homes, storage facilities, warehouses, agricultural and horticultural crops including okra, sweet pepper, tomatoes, sorghum, date palm trees, citrus and many forest domains and green lush desert oases. The most pressing urgent priority is to use modern technologies to alleviate the painstaking obstacle of taxonomic identification of these injurious noxious pests that might lead to effective pest control in both infested agricultural commodities and field crops. Our study has indicated the use of DNA fingerprinting technologies, in order to generate basic information of the genetic similarity between 3 predominant families containing the most destructive termite species. The methodologies included extraction and DNA isolation from members of the major families and the use of randomly selected primers and PCR amplifications with the nucleotide sequences. GC content and annealing temperatures for all primers, PCR amplifications and agarose gel electrophoresis were also conducted in addition to the scoring and analysis of Random Amplification Polymorphic DNA-PCR (RAPDs). A phylogenetic analysis for different species using statistical computer program on the basis of RAPD-DNA results, represented as a dendrogram based on the average of band sharing ratio between different species. Our study aims to shed more light on this intriguing subject, which may lead to an expedited display of the kinship and relatedness of species in an ambitious undertaking to arrive at correct taxonomic classification of termite species, discover sibling species, so that a logistic rational pest management strategy could be delineated.

**Keywords :** DNA fingerprinting, Western Saudi Arabia, DNA primers, RAPD

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