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Poster

DETECTION OF ALIEN FLORA THROUGH SEEDS: INSIGHTS FROM DNA BARCODING

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ABSTRACT

Some of the alien plant species may become invasive or agricultural weeds in certain geographical regions. Therefore, identifyication of such plant species is of paramount importance, which can be considered as the first step in implementing plant quarantine regulatory process. When such plant species are introduced as seeds, their taxonomic identification is extremely challenging. Thus, this study was undertaken to assses possibility using the DNA barcoding as a tool to identify alien plant seeds. DNA extraction was performed for the seeds of thirty different taxonomically known plant species detected in crop seed consignments imported to Sri Lanka. The study was triplicates. Extracted DNA was multiplied and then sequenced with primers ITS2 and *rbcL*. CodonCode Aligner software was used for sequence editing. A cluster analysis was performed and a dendogram was developed to understand the level of species delimitation explained by DNA barcodes. Then, the DNA sequences were compared with available DNA sequence databases to confirm their taxonomic identity. The dendogram clearly delimited thirty different species. Further, the comparison of DNA with available databases has confirmed the correct species taxonomy.

Key words: DNA barcoding, ITS2, *rbcL*, alien plants, seeds