

IDENTIFICATION OF HALLUCINOGENIC AND TOXIC FUNGI BY RANDOM AMPLIFIED MICROSATELLITES (RAMS). Beatrice Kallifatidis² and Dr. DeEtta K. Mills^{1,2}
Dept. of Biological Sciences¹, Dept. of Chemistry and Biochemistry, International Forensic Research Institute², Florida International University, 11200 SW 8th Street, Miami, FL 33199.

Besides the availability of hallucinogenic mushrooms through the illegal market, many users choose to pick their own mushrooms - a dangerous hobby that often results in poisoning due to misidentification. Fast identification of mushroom species is fundamental for tracking illegal trafficking or for determining the source and severity of the exposure. In 1996, Hantula et al. described the use of Random Amplified Microsatellites as a universal method to study genetic variation in fungal species. We describe a modified fluorescent version of RAMS for the fast and reliable identification of hallucinogenic and toxic fungi to species level. DNA was extracted from mushrooms and amplified, using a fluorescently labelled, degenerate "universal" primer (5'-6FAM-degenerate CCA repeat or 5'-6FAM-degenerate CGA repeat). The amplicons were separated and analysed with the ABI 310 Genetic Analyzer and GeneMapper version 4.0 (Applied Biosystems). Species-specific RAMS profiles were generated for each primer used and could individualize closely related species.