

DNA Barcoding of Philippine plants

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Abstract — DNA barcoding is a technique that uses DNA sequence data for species-level identification, for analyzing phylogenies and interspecific variation and in population genetic studies. The DNA barcodes determined by the Consortium of the Barcode of Life (CBOL) to be the most effective in achieving these goals in plants are the plastid genes namely *trnH-psbA*, *rbcl*, *matK*, *accD*, *rpoB*, *rpoc1*, and *trnL(UAA)-trnF(GAA)*. The goal of this barcoding project is to test the genes, *trnH-psbA*, *rbcl*, and *matK*, in identification and describing variation in some Philippine noteworthy indigenous plant groups such as orchids, gingers, aroids, cinnamons, and cycads. DNA are extracted and processed using standard protocol set by the CBOL. The DNA are then kept in a cold storage facility in the DLSU-CENSER laboratory. Voucher specimens are also collected and are now deposited in the DLSU-Manila Herbarium. Results of this study show that these candidate barcodes can successfully discriminate species including probable novelties of cycads, aroids, and cinnamons. Quantitative analysis also suggest that *rbcl* and *trnH-psbA* are very variable genes and can reflect greater interspecific variation thus are the more useful barcodes in these plant groups.

Index Terms — barcoding, Philippines, DNA, identification, flora.