IDENTIFICATION OF ENDEMIC Paphiopedilum SPECIES IN VIETNAM

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Summary

Paphiopedilum is a rare and endangered orchid group. Vietnam possesses diverse species of this genus and some of them are valuable endemic taxa. Therefore, conservation measures are needed. Most illegal trading are applied on immature, flowerless plants. Hence a fast and accurate identification method is needed for effective conservation. DNA barcoding is a new method, which is increasingly popular today. In this study, to identify Paphiopedilum species, we investigated 6 sequence regions ITS, matK, trnL, rpoB, rpoC1, trnH- on 23 samples of 8 Paphiopedilum species. The amplification of 5 regions ITS, matK, trnL, rpoB, rpoC1 were 100% successful. The sequences in this study were submitted and contributed to GenBank. The results of this study proposed the combination of ITS and matK sequences as the highest potential for identifying 6 Paphiopedilum species, including Paphiopedilum delenatii, P. hangianum, P. helenae, P. x dalatense, P. gratrixianum, P. vietnamense. This barcode sequence can be applied to identify Vietnam Paphiopedilum population serving for management and conservation of this valuable orchid group.

Keywords: Paphiopedilum, endemic species, molecular identification, ITS, matK, trnL.