

STUDY ON IDENTIFICATION OF DNA BARCODE SEQUENCE FOR *Callitropsis vietnamensis* TO IDENTIFY PLANT SPECIES

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Summary

Callitropsis vietnamensis is a species of high economic value with good wood and fragrant wood. These species are being exploited quite a lot, nowadays having about 100 trees are live. Therefore, these species are still facing extinction. So, it is necessary to identify DNA barcode fragments of the *Callitropsis vietnamensis* for species identification. The genomic DNA was extracted from leaf tissue of *Callitropsis vietnamensis*. The DNA barcodes (*ITS*, *rbcL*, *TrnH-psbA* and *ITS2*) were amplified from total DNA of *Callitropsis vietnamensis* by PCR technique. The PCR results indicated that all DNA bands have the size similar to the theoretical size of *ITS*, *rbcL*, *TrnH-psbA* and *ITS2*. Results nucleotide sequencing of PCR product samples showed that the size of the isolated *ITS* gene fragment is 1158 bp, *rbcL* fragment is 599 bp, *TrnH-psbA* fragment is 761 bp and *ITS2* fragment is 379 bp. And then, these sequences were compared with *Callitropsis nootkatensis* in NCBI we found that: *ITS* gene fragment is similar to 99%, *rbcL* gene fragment is similar to 100%, *ITS2* gene fragment is similar to 98%, *TrnH-psbA* gene fragment is similar to 99%. The nucleotide sequences of *rbcL*, *TrnH-psbA*, *ITS2* and *ITS* have been registered on the DNABank.vn with Barcode ID CCV0001; CCV0002; CCV0003 and CCV0004. It is the best for using *ITS* molecular marker as DNA barcode to identify *Callitropsis vietnamensis* in Vietnam.

Keywords: DNA barcoding, Identify species, *Callitropsis vietnamensis*.