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MOLECULAR IDENTIFICATION AND GENETIC STUDIES IN PERUVIAN PHRAGMIPEDIUMS

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Peru has inherited one of the greatest biodiversities of the planet. The orchid genus *Phragmipedium* has several representatives in the country. They are listed in Appendix 1 of CITES, restricted from international trade.

Molecular analyses can be used as database for legal and forensic determinations. Phylogenetic analyses distinguish species in the genus *Phragmipedium* with low sequence divergence within sections. DNA markers of *Phragmipedium besseae*, *P. besseae* var *flavum*, *P. boissertianum*, *P. caricinum*, *P. caudatum*, *P. kovachii*, *P. longifolium*, *P. pearcei*, *P. schlimii* and *P. wallisii* were studied.

As expected, the individual and combined analyses

demonstrate the distinctiveness of the molecular sequence data of *Phragmipedium kovachii*. An elucidation of the systematic in sections *Micropetalum* and *Schluckebieria* is presented. Our results also propose a close phylogenetic relationship of *Phragmipedium boissertianum* to section *Himantopetalum*.

Dendograms with AFLP (nuclear ADN) technique and ITS (internal transcribed spacer of nuclear ribosome) techniques can contribute to establish the taxonomy of *Phragmipedium kovachii* related to other species.

A well vouchered database of species and hybrids of *Phragmipediums* is under construction to determine the illegal origin of plant material by using DNA sequence data.