

Random Amplified Polymorphic DNA(RAPD) for Genetic Analysis of Taiwan Native *Phalaenopsis* Cultivars

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Summary

A Random Amplified Polymorphic DNA (RAPD) analysis was conducted to study the Phylogenetic relationship of taxonomy and evolution among 8 Taiwan native cultivars of *Phalaenopsis* and *P.amabilis*. Results showed stable similarity coefficient and relative order after 24 primers had been analyzed. In addition, the result derived from the comparison either dendrogram generated by RAPD or morphological characteristic traits identified that the evolutionary tendency of *Phalaenopsis*. Its origin seemed to be polyphyletic. The dendrogram resulting from unweight pair group method with arithmetic averages cluster analysis using the NTSYS program separated the native *Phalaenopsis* into three groups by using CT81/CT82/CT85/ CT86 primer. The first group had four species of T1,T2,T3,T5. The second group includes T4,T6,T7, T8, the third group T9. Otherwise using CT81/CT85/CT86 primers, also separated native *Phalaenopsis* into three groups. The first group had five cultivars of T1,T4,T6, T7,T8, and the second group includes T2,T3,T5, while, the T9(*P.amabilis* from Phillipine) named the third group. Basically the collecting 8 Taiwan native *Phalaenopsis* all showed great differentiation from *P. amabilis* of Phillipine.

Key words: Taiwan native *Phalaenopsis*, RAPD, Dendrogram generated.

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