

Effect of regeneration method on RAPD-based genetic variation of *Cyclobalanopsis glauca* (Fagaceae)

Xin Zhang • Xiao-Yong Chen • Dung Zhang

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Abstract *Cyclobalanopsis glauca* is a dominant species of evergreen broad-leaved forests in mainland China. This study compares the genetic variation of an artificially regenerated population with its donor population and two other wild populations, by using RAPD markers. A total of 74 clear, reproducible bands were scored for 12 RAPD primers; 72 were polymorphic ($P = 97.3\%$). AMOVA revealed that most genetic variation was within populations and only 10.35% was among populations. Various measures indicated that there is no difference in genetic diversity between the planted and the original populations. Φ_{ST} between the planted offspring population and the donor population was larger than those between the planted and other two natural populations, indicating that artificial regeneration might lead to biased genetic composition, given that temporal differentiation is usually lower than spatial differentiation. This divergence may be due to unequal seed production among the maternal individuals and viability differences among seeds.

Keywords Regeneration • Genetic diversity • RAPDs • *Cyclobalanopsis glauca*

Introduction

Genetic diversity is the raw material for adaptation, evolution and survival of populations. Since dominant tree species usually play important roles in forest ecosystems, their genetic

X. Zhang • X. -Y. Chen • D. Zhang

Department of Environmental Sciences, East China Normal University, Zhongshan R (N.) 3663, Shanghai 200062, P.R. China

e-mail: xychen@dcs.ecnu.edu.cn

X. Zhang • X. -Y. Chen • D. Zhang

Shanghai Key Laboratory for Ecological Processes and Restoration in Urban Areas, Shanghai 200062, P.R. China

X. -Y. Chen

Heshan Hilly Interdisciplinary Experimental Station, The Chinese Academy of Sciences, Guangzhou China

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