

# Mating System and Outcrossing Rates of Four *Bruguiera gymnorrhiza* Populations of Mangrove, China

Jingping Ge\*, Baiyan Cai\*\*, Peng Lin\*\*\*

\* College of Life Science, Heilongjiang University, Harbin, Heilongjiang 150080, China; \*\* College of Dongfang, Harbin, Heilongjiang 150080, China; \*\*\* Xiamen University, Xiamen, Fujian 361005, China. gejingping@0451.com, gejingping9178@hotmail.com

### Abstract :

Using polymorphic loci of allozyme as genetic marker and horizontal sliceable gel electrophoresis as method to examine the genotypes of 4 *Bruguiera gymnorrhiza* populations in Fugong of Fujian (24°24′), Futian of Guangdong (22°32′), Shankou of Guangxi (21°28′) and Dongzhai Harbor of Hainan (19°51′), China. The mating system was also decided by Multi Locus Testing. The polymorphic loci selected for analyzing were different in these four areas: *Mdh-1*, *Mdh-2*, and *Me-1* in Fugong, Guangxi and Hainan as well as *Mdh-1*, *Mdh-2*, *Aat-1*, *Aat-2* in Shenzhen. The results showed that the difference between outcrossing rates of polymorphic loci were quite obvious, that of Fugong was the biggest, which was 0.845 and that of Hainan was the smallest, which was 0.267. The different value between outcrossing rates of polymorphic loci and the mean of outcrossing rates of monomorphic loci in these four areas were vary, which showed that the mating system of Fugong, Guangxi and Hainan were slightly biaparental inbreeding and that of Guangxi was at random. *Bruguiera gymnorrhiza* was mixed-mating species and its mating system was mainly outcrossing. This was influenced by factors such as plant population density and structure, the adaptability of pollinator and whether it's self-incompatibility or not. [Nature and Science 2003;1(1):42-48].

### Key Word :

mangrove; mating system; *Bruguiera gymnorrhiza*

Volume 1, Number 1, November 2003, ISSN 1545-0740