Polymorphic microsatellite loci for the genetic analysis of *Lycoris radiata* (Amaryllidaceae) and cross-amplification in other congeneric species

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**ABSTRACT.** *Lycoris radiata* is a perennial herb that has been used in traditional Chinese medicine for a long time and has two main medicinal components in its bulb, lycorine and galanthamine. However, the original microsatellite loci have not been developed for any species of *Lycoris*. Total genomic DNA was extracted from fresh bulbs using a modified CTAB protocol. We isolated 10 microsatellite loci from 21 *L. radiata* individuals of a natural population from Yellow Mountain in Anhui Province, China. The number of alleles ranged from two to nine. The observed and expected heterozygosities ranged from 0.238 to 0.952 and from 0.455 to 0.784, respectively. One locus significantly deviated from Hardy-Weinberg equilibrium and no significant linkage disequilibrium was found between pairs of loci. Cross-species amplification of these microsatellite loci was characterized in additional five species (*L. sprengeri, L. anhuiensis, L. albiflora, L. longituba*, and...
*L. chinensis* of *Lycoris*. The results suggest that these microsatellite markers would contribute to the population genetic studies of *L. radiata* and other related species.

**Key words:** *Lycoris radiata*; Microsatellite; Molecular marker; Cross-amplification