

Population Diversity of *Primula denticulata* Smith ssp. *sinodenticulata* (Balf.f. et Forr.) W.W. Smith et Forr. as Revealed by AFLP Markers

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Primula denticulata ssp. *sinodenticulata* is a famous alpine flower from southwestern China. Its natural distribution has been fragmented and several recorded populations cannot be located. To better conserve and utilize this plant for our future breeding and introduction, 300 plants from 10 populations were collected and their genetic diversity was analyzed using AFLP fingerprinting. Six AFLP primer combinations produced 223 markers between 200 to 3200 bp; 94.17% of them were polymorphic. Nei's genetic diversity at population level was from 0.19 to 0.30 and Shannon's information index ranged from 0.33 to 0.48, which indicated that the genetic diversity was high for this subspecies. An analysis of molecular variance (AMOVA) revealed 83.04% of genetic variations occurred among individuals within populations. Genetic differentiation among 10 populations was moderate; about 17% of the genetic diversity could be attributed to variations among populations. Genetic variations of 6.12% were detected among two population size groups, exceeded and below 100 m². An UPGMA cluster based on Nei's genetic distances using AFLP data grouped the sampled populations into two clusters and correlated them with the AMOVA test. Pairwise genetic distances (Φ_{ST}) among populations varied between 0.13 and 0.24 and the gene flow (Nem) at population level was 1.27. High genetic diversity and moderate genetic differentiation were ascribed to its outbreeding system. The AFLP technique is an effective tool for evaluating molecular variation and differentiation. These findings are a key reference for carrying out effective conservation and further breeding strategies for this great ornamental plant.