



Short Communication

Development of novel microsatellite markers for conservation genetic studies of *Vulpes vulpes* (Canidae) by using next-generation sequencing method

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ABSTRACT. The red fox, *Vulpes vulpes* (Canidae), is the most widely distributed terrestrial carnivore worldwide, but this species is classified as endangered in Korea. In this study, we developed 25 polymorphic microsatellite markers that included 3-13 (mean = 6.32) alleles per locus using 22 red fox individuals. The most polymorphic locus was *FR(59)TG* (13 alleles) and the least polymorphic loci were *FR(70)TG* and *FR(182)AG* (3 alleles each). No significant deviation from Hardy-Weinberg equilibrium ($P < 0.05$) was observed for the 25 markers. Observed (H_o) and expected (H_e) heterozygosity varied from 0.182 to 1.000 and from 0.175 to 0.929, respectively. These newly developed microsatellite markers will be useful for investigating the genetic diversity and population genetic structure of *V. vulpes* and will aid in

developing conservation strategies for this species.

Key words: Next-generation sequencing; Endangered species; Microsatellites; Red fox; *Vulpes vulpes*