According to ecological niche theory (Hutchinson 1957), long term survival of the species depends on the specific sets of not only biotic but also abiotic environmental conditions. In general, no species can occupy all ecological-geographic space of its fundamental niche and different kind of biological and physical factors will shifted it to its realized niche (Austin 2002). Geographical barriers and ecological interactions are some the most influencing factors that shape the species distribution patterns (Franklin 2010). In some extreme cases, such kind of confining factors can cause major evolutionary divergence of the species. Survival of the fat dormouse (Glis glis) the Hyrcanian refugium of the northern Iran, located in the eastern most parts of its global distribution, is one of the interesting examples of such evolutionary divergence (Naderi et al. 2014). Geographical barriers and habitat fragmentation had been resulted in considerable molecular and morphological differences between Hyrcanian populations and other parts of its distributional range (Naderi et al. 2013, 2014). Fat dormouse is a squirrel-like nocturnal inhabitant of deciduous and mixed forest zone in Europe and southwestern Asia (Kryštufek 2010). As a very habitat-specialist species, it is completely dependent to the continuous...