Climate change effect on grasshopper (*Agrididae*) and Brandt's vole (*Microtus brandtii Radde*) in Mongolia

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I Abstract

In Mongolia, 92 kind of pest insect and rodents are distributed and have serious effect on animal husbandry and agriculture. As the temperature is known to be a key factor controlling the life cycle of insect and rodent, climate change impact on Brandt's vole (*Microtus brandtii Radde*) and grasshopper (*Agrididae*) were assessed using HADCM3 climate model's scenarios for years 2010-2030, 2040-2060 and 2070-2090 periods. Present date for the grasshoppers' hatch is 23 March, decease is 18 September and developing continues for 118 days, and 4 development cycles exist during one summer. According to the prediction, development cycle might increase to 5 in 2010-2029, 6 in 2040-2069, 9 in 2070-2099 periods, and increase of total effective temperature will occur for grasshoppers. Hatching of the grasshoppers will occur earlier, and deceasing later in years 2010-2029, 2040-2069, 2070-2099 periods, resulting in the longer living period.