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ALLOZYME DIVERSITY AND GENETIC DIVERGENCE OF THREE OXYTROPIS SPECIES FROM THE KAMCHATKA PENINSULA

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The Kamchatka Peninsula is a unique part of the Northwest Pacific area, a region -with intense volcanism. The colonization of the volcanic substrates is undertaken primarily by pioneer plant species. Among them the representatives of the Oxytropis genus have a great importance. Due to their root system they are active anchors of the moving substrates; oxytropes occupy the areas without soil cover, and a result of their activity is the formation of favorable soil conditions for the establishment of other plants. Studies on the genetic variability of pioneer plants are interesting and actual with respect to biodiversity conservation. We evaluated allozyme polymorphism of three Oxytropis species (section Arctobia, O. kamtschatica Hult., O. exserta Jurtz., O. revoluta Ledeb.) from the Kamchatka Peninsula. O. exserta and O. kamtschatica are both an endemic species, the range of O. revoluta includes the coast of Alaska and the Aleutian Islands. Twenty genetic loci controlling 13 enzyme systems were analyzed in 6 populations. The maximum values of genetic variation parameters were found in O. exserta (P = 42.9%, He = 0.156) indicating a moderate level of polymorphism; the minimum values are in O. revoluta populations, almost 2 times lower than that of O. exserta. Cluster analysis based on genetic distances did not reveal clear groups among the studied populations appropriated traditional subsections. The divergence time of the studied Oxytropis species is about 280 thousand years, i.e. belongs to the middle Pleistocene. The level of genetic diversity and differentiation pattern of three Oxytropis species is probably explained by the ecological features, the impact of genetic drift and the species history in Pleistocene.