河北大学 2011 年博士研究生入学考试试题

(套别：B)

学科、专业	研究方向	考试科目	备注
生物学、动物学专业	各方向	专业外语 (英语)	

所有答案均答在答题纸上，答在本试题纸上无效。

一、英译汉（每题 10 分，共 2 题，总分 20 分）

1. On mountains, climates change from low to high elevation, but the specific changes are different at different latitudes. On mountains at the middle latitudes, the climate is generally cooler and wetter at higher altitude. In contrast, there is less precipitation at the higher elevations of polar mountains and on some tropical mountains. In other tropical regions, precipitation increases up to some middle elevation and then decreases higher up the mountain. On high tropical mountains, warm days are followed by freezing nights. The organisms on these mountains experience summer temperatures every day and winter temperatures every night. The changes in climate that occur up the sides of mountains have profound influences on the distribution of mountains organisms.

2. The extent to which phenotypic variation is due to genetic variation determines the potential for evolution by natural selection. The most general postulate of the theory of natural selection is that the environment potential determines the evolution of the anatomy, physiology, and behavior of organisms. This is what Darwin surmised as he studied variation among populations and species in different environment. Coincidentally, one of the clearest demonstrations of natural selection has resulted from studies of populations of Galapagos finches. Those studies showed that the quantity and quality of available food exerts strong selection on beak size in finch populations. Here we review additional studies that also provide evidence for Darwin's bold hypothesis that natural selection by the environment can result in evolutionary change in populations.