

smaller and relatively insignificant species. While the relative numbers of the small mammals are often greatly influenced by external causes, such as epidemic diseases, climatic conditions, or increase of predators, they are less destructively affected by human factors, and there is greater possibility of their persistence in any locality.

Some characters of the main sub-faunal regions along the International Boundary are given here, with the more important differences noted in moving from one district to another.

Vancouver Island.—This region is heavily forested, particularly in the southern and central portions. In the northern part of the island the mountains are lower, with timber of smaller size, and the fauna shows an infusion of northwest coast species. The bird fauna is largely the same as on the mainland, with a few species missing, and only two or three sedentary forms, like the Vancouver Island pygmy owl (*Glaucidium gnoma swarthi*) and the Vancouver Island ruffed grouse (*Bonasa umbellus brunnescens*), which are peculiar to the island. Several of the mammal species of the mainland seem to have never reached the island, and a large proportion of those on the island have been described as insular subspecies of mainland forms, including three shrews, weasel, mink, wolverine, otter, black bear, wolf, cougar, red squirrel, meadow mouse, marmot, raccoon, and two subspecies of white-footed mouse.

Pacific Coast Lowlands.—The mild climate, heavy annual rainfall, and thick undergrowth, with few natural open spaces characterize this area. A list of the birds breeding in this region shows that the species are largely the same as those found on the northwestern Pacific coast of the United States and several typical species are mentioned on p. 45 of this paper. Typical mammals of the Coast Belt are Oregon mole (*Scapanus townsendii*), Scheffer mole (*S. orarius schefferi*), Gibbs shrew mole (*Neurotrichus gibbsi*), Trowbridge shrew (*Sorex trowbridgii*), Bendire water shrew (*Sorex bendirei*), Puget Sound spotted skunk (*Spilogale phenax olympica*), Puget Sound striped skunk (*Mephitis occidentalis spissagrada*), Bachman flying squirrel (*Glaucomys sabrinus oregonensis*), Cooper chipmunk (*Eutamias townsendii cooperi*), Puget Sound white-footed mouse (*Peromyscus maniculatus austerus*), northwestern red-backed mouse (*Clethrionomys gapperi caurinus*), Townsend meadow mouse (*Microtus townsendii*), Agassiz meadow mouse (*M. oregoni serpens*), brown mountain beaver (*Aplodontia rufa rufa*), and Columbian Coast deer (*Odocoileus hemionus columbianus*).

West Slope of Cascade Mountains.—Here heavy timber and dense undergrowth, such as salal, devil's club, salmonberry, etc., merge into the preceding region, and harbour birds like the sooty grouse (*Dendragapus f. fuliginosus*), dipper (*Cinclus mexicanus unicolor*), sooty fox sparrow (*Passerella iliaca fuliginosa*), and Pacific varied thrush (*Ixoreus n. naevius*). Typical mammals of this zone are mountain goat (*Oreamnos americanus americanus*), Cascade hoary marmot (*Marmota caligata cascadenis*), Mount Baker chipmunk (*E. amoenus felix*), Cascade red squirrel (*Sciurus douglassii cascadenis*), dusky flying squirrel (*G. s. fuliginosus*), Washington white-footed mouse (*P. m. oreas*), Cascade water vole (*Microtus richardsoni arvicoloides*), Cascade pika (*Ochotona princeps brunnescens*), Wrangell lemming mouse (*Synaptomys borealis wrangelli*), and Cascade mountain beaver (*Aplodontia rufa columbiana*).

East Slope of Cascade Mountains (Similkameen valley).—The high mountains shut off a large part of the rain-bearing clouds from the coast and the east slope is noticeably drier, with more open timber of Transition type, typically of western yellow pine (*Pinus ponderosa*), with open grassy areas, gradually merging into the