

Among the fauna the opossum (*Didelphys virginiana*), prairie mole (*Scalops aquaticus*), little short-tailed shrew (*Cryptotis parva*), and pine mouse (*Pitymys pinetorum*) reach their northern limit in Canada, as well as mockingbird (*Mimus polyglottos*), Carolina wren (*Thryothorus ludovicianus*), orchard oriole (*Icterus spurius*), cardinal (*Richmondia cardinalis*), and several other species.

Upper Sonoran Zone.—The Upper Sonoran Zone, the western counterpart of the Carolinian Zone, as mentioned above, shows some traces along the southern borders of Alberta, Saskatchewan, and southwestern Manitoba, and reaches its northern limit west of the Rocky mountains in a narrow tongue of semi-arid country following the lower Okanagan valley to the southern end of Okanagan lake in the interior of British Columbia. It is characterized in British Columbia by greasewood, rabbit-bush, cactus, several species of sagebrush, and other plants of desert habitat. It possesses several characteristic mammals—California badger (*Taxidea taxus neglecta*), which is also found in a few parts of the Transition Zone in British Columbia; pocket mouse (*Perognathus lordi*); western white-tailed jackrabbit (*Lepus townsendii townsendii*); and a few birds typical of the zone which are mentioned further on.

Life Zones in the West.

In the boreal parts of North America and in fact the whole of Eastern Canada where the land is comparatively level, the life zones are nearly parallel. Yukon and northern British Columbia are mostly in the Hudsonian Zone and have a fairly uniform fauna. A large part of central and western British Columbia are in the Canadian Zone, with considerable Transition-Campestrian in the southern interior, and a small finger of Upper Sonoran thrusting up into the lower Okanagan valley. In southern British Columbia and western Alberta as in the northwestern States the life zones are greatly cut up and their relations complicated by the interruption of north-and-south mountain ranges; thus northern species are carried to the south along the moderately humid ridges and southern forms to the north along the hot, semi-arid valleys.

To understand intelligently the faunas of Western Canada, it is important to study the physiography, and particularly the orography, that branch of physical geography treating of mountains and mountain systems (see pp. 8 to 10). Vegetation is everywhere extensively affected by the physical and chemical composition of the soil—whether sand, clay, alluvial, glacial, and whether acid or alkaline in its reaction. In the mountains it is instructive to note how the geological features affect the flora and how this reacts on the animal life. We soon find that a map of the geological subdivisions may be quite different from a map of the life zones. The opposite sides of a mountain range may be of similar rock structure, due to being part of the same uplift or folding of the earth's crust. At the same time the vegetation growing on one slope may have quite different elements from that on the other, and the animal life may show equally striking variations. These differences are due largely to high mountain ridges cutting off moisture-laden winds from the ocean, resulting in a dense rain-forest with heavy undergrowth on the seaward side, and more open country with plants and animals of semi-arid habitat on the interior slopes. This is well illustrated by the west and east slopes of the Cascade and Coast ranges. Other differences in fauna and flora may be due to high ranges preventing certain species from crossing and populating transmontane districts.

Inter-Mountain Sub-Faunas.—From the Pacific coast of British Columbia to the Great Plains in western Alberta the writer has been able to recognize no less