

## FAUNAS OF CANADA.

or highways of migration and leading certain forms in certain directions while barring them from others—and the comparative rainfall and humidity of climate. This has a primary direct influence upon the forms of life we are considering, as well as a secondary and indirect one through the plants and insects which give them food or shelter.

The principal divisions east and west are divided by the Rocky mountains, which successfully cut the Pacific coast off from close contact with eastern forms. This great backbone of the continent extends in a northwesterly direction and forms the political boundary between Alberta and British Columbia. An extension of this line until it strikes the centre of the main Alaska-Yukon boundary roughly approximates the dividing line of the east and west faunas, leaving a triangular patch to the west including British Columbia, southern Yukon and southern Alaska as the western or mountain fauna, and cutting through three of the trans-continental zones, the Transition, Canadian and Hudsonian with fragments of the arctic on the higher elevations to the north.

The mountain district is characterized by an abundant rainfall, a high average humidity and a greatly diversified and rugged topography, forming a succession of mountain ranges with deep valleys between, paralleling the coast, facilitating intercommunication in this direction but obstructing it from east to west. These topographical conditions continue to the south well into Mexico and enforce migration routes and conditions and associations more or less isolated. The marked humidity of the climate, especially near the coast, also causes or encourages special physiological changes in numerous organisms tending as a rule to produce larger size and browner or richer colouration. These differences in physical conditions and the isolation formed by the barrier mountains have produced a great number of forms peculiar to the trans-mountain district. In fact, comparatively few species, either of birds or animals, extend across the mountains from the east unmodified, and the native population can be divided into three heads: subspecific variations of eastern forms, species confined to the area and forms of evident mountain origin but spreading from them a certain distance eastward. Typical amongst the first may be mentioned the Moose and Woodland Caribou, the Oregon subspecies of the Ruffed Grouse, Harris', Rocky-Mountain and Gairdner's Woodpeckers, Northwest Flicker, Dusky and Streaked Horned Larks, many forms of the warblers and sparrows and others.

Of full species confined to this fauna are: Douglas Squirrel, Black-tailed Deer, Pica, Yellow-bellied Marmot, Bushy-tailed Wood Rat, Little Stripped Skunk or Spilogale, Blue and Franklin's Grouse, Band-tailed Pigeon, Red-breasted and Williamson's Sapsucker, Stellar's Jay, Black and Vaux Swift, Black-chinned and Rufus Hummingbirds, Clark's Nutcracker, Northwestern Crow, Dipper, Chestnut-backed Chickadee, Varied Thrush and others. Of forms typical of the mountains but spreading a little way east are: Hoary Marmot, Mule Deer, Grizzly Bear, Red-naped Sapsucker, Lewis's Woodpecker, Red-shafted Flicker, Hammond's and Wright's Flycatcher, Black headed Grosbeak and many more.