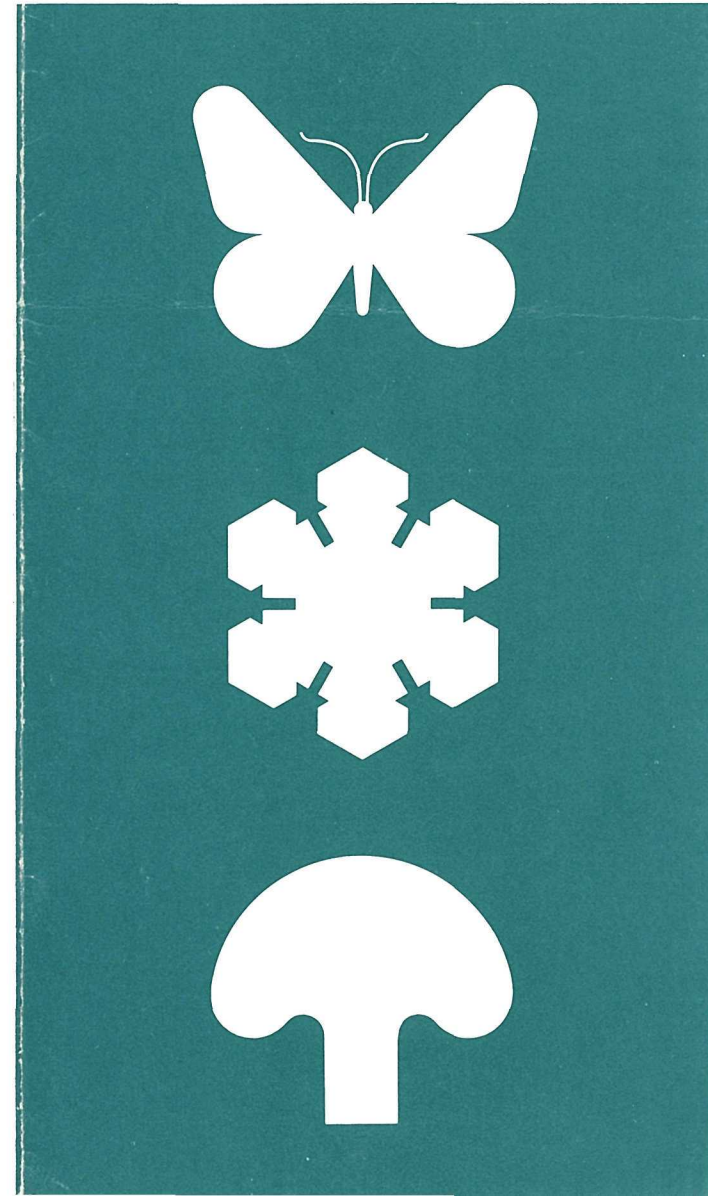
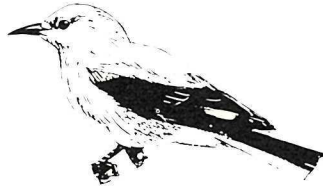


Natural History Notes Peyto Lake Viewpoint

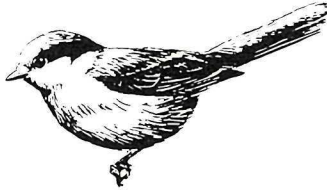
Banff National Park



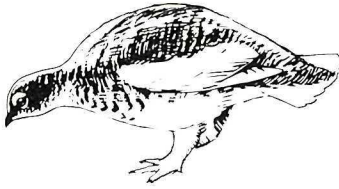
Clark's Nutcracker
Nucifraga columbiana



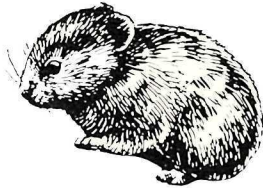
Gray Jay
(Canada Jay)
Perisoreus canadensis



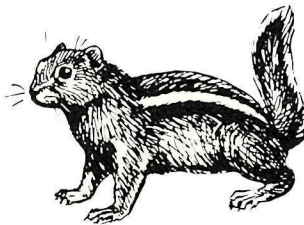
White-tailed Ptarmigan
Lagopus leucurus



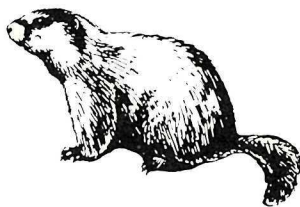
American pika
Ochotona princeps



Golden-mantled ground
squirrel
Spermophilus lateralis



Hoary marmot
Marmota caligata



virtually invisible in its surroundings. The ptarmigan is so confident of its protective colouration that it is often possible to approach within a few feet of it.

The golden-mantled ground squirrel can be seen near the rock slides where it makes its home. It is often mistaken for the chipmunk; however it is larger with stripes extending only along its sides and not onto its head. In autumn the squirrels are often seen with bulging cheek pouches, crammed with seeds for their underground granaries.

In the meadows near rock slides, hoary marmots feed on the flowers and grasses or sun themselves on nearby rocks. This large relative of the woodchuck averages about 15 pounds in weight. Marmots are commonly called whistlers because of the long shrill warning whistle emitted when alarmed.

A small but energetic relative of the rabbit, the pika makes its home in rock slides and adjacent grassy slopes. During the summer months it harvests and cures hay which it stores among the rocks. Unlike the marmot which hibernates, the pika remains active under the snow, feeding on its stored food.

Golden eagles are occasionally seen soaring on air currents, preying upon unwary ground squirrels, marmots and ptarmigans.

Moose and bears are wandering visitors to the area in summer and fall and mountain goats are occasionally seen on the high cliffs above the viewpoint.

Peyto Lake and Viewpoint are named after the famous mountain guide Bill Peyto, who crossed Bow Summit and explored the Mistaya Valley around 1894. He later served for many years as a Park Warden. The area is noted for its spectacular view, interesting geology, and colourful alpine meadows. A $\frac{3}{4}$ mile self-guiding trail, starting at the viewpoint and ending at the parking lot, passes through part of this unique area. Signs along the trail identify the plants, birds, and mammals of the sub-alpine life zone.

The landscape

The mountains in this area were laid down as sediments of sand, silt and clay in shallow seas that covered western Canada hundreds of millions of years ago. As the accumulation of sediments continued, the underlying layers were compressed into rock by the weight of the overlying layers. Fossilized remains of the animals that lived in these seas are found in many of the rocks today.

About seventy million years ago great internal pressures caused the earth's crust to buckle and fold, uplifting the Rocky Mountains. Originally the mountains on both sides of the Mistaya Valley were continuous and formed a huge dome or anticline. Cracks and fractures, resulting from tension in the centre of the arc, permitted water and ice to start channels and, over the eons of time, scour out the great valley below. The sloping mountains on both sides of the valley are the remnant flanks of this great arc.

A period of glaciation, beginning about one million years ago, further sculptured the mountains, leaving them in their present form. During this period Peyto Glacier, an outflow of the Wapta Icefield, moved far down the valley transporting and depositing tons of rock and debris at its terminus. When the glacier retreated, the debris was left behind as a terminal moraine impounding the water and forming Peyto Lake.

Like all glaciers in the Rockies, Peyto Glacier is rapidly melting. The rate of recession varies from year to year but has averaged about seventy feet per year during the past twenty years.

In early spring, glacial fed lakes such as Peyto Lake, are clear and dark in colour. With the coming of warm weather tons of pulverized silt or "rock flour", ground by the movement of the glacier, are carried into the lake by the glacial meltwater. Some of the silt remains suspended in the water causing the lake to become opaque and deep turquoise in color.

Life at the timberline

The timberline marks the upper limit of tree growth. Above this point climatic conditions are too severe to permit the establishment and growth of trees. The altitude at which timberline occurs decreases as one proceeds northward. Similar changes in climatic conditions and associated plant and animal life encountered while travelling north-



ward to the Arctic can be seen by climbing a mountain. Based on this fact, the North American continent has been divided into ten fairly distinct life zones. Three of these zones can be seen from Peyto viewpoint.

Far below in the Mistaya Valley is the forested Canadian life zone. Here live plants and animals similar to those found in the great boreal forest of northern Canada. The trail and viewpoint at timberline are in the sub-alpine life zone. The plants and animals living here correspond to those on the edge of the tundra at the northern limit of the tree line. Above the timberline, in the arctic-alpine life zone, are forms of life similar to those found on the arctic tundra.

Winters on this high ridge are long and severe and the summer growing season very short. As a result, the trees in the open forest of Englemann spruce, white bark pine, and sub-alpine fir grow very slowly. If exposed to the wind, the trees are often damaged and deformed by freezing, desiccation, and wind blown ice particles. Heavy snow may press the lower branches of the fir trees against the ground enabling the branches to take root and grow. This phenomena produces a ring or candelabra of young trees around the old tree.

Deep snow provides protection and moisture for a lush growth of smaller, and mostly perennial alpine plants. Many of these plants reproduce by vegetative spread. If

the seeds of plants do succeed in germinating, it may take more than one season for the plant to mature to the blooming stage. Because of the harsh conditions, all plants are very slow in becoming established and maturing. If this fragile vegetation is damaged, it may take many years for it to recover. For this reason you are requested to stay on the established trails.

Spring comes to this high ridge in June with many of the first blooms appearing through the snow remaining in the sheltered spots. Here the globe flowers and spring beauties sprout leaves and burst into flower as soon as moisture is released from the snow banks. Their quick growth is aided by reflected light from the snow which prolongs the light of each day and intensifies it when the sun shines.

By mid-July the meadows are blanketed with beautiful flowers of all colours.

The bold Canada jay and Clark's nutcracker can be seen in the pine and spruce trees around the parking lot. The Canada jay is identified by his grey body, white head, and short black bill. The nutcracker is a stout grey bird with a long pointed black bill, black wings with a white patch and white outer tail feathers. Both are members of the crow family.

The white-tailed ptarmigan, a member of the grouse family, frequents the meadows and rock slides. A mottled brown in summer and snow-white in winter, the bird is