

STRUCTURE AND LOCATION OF BURROWS OF YELLOW-BELLIED MARMOT

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ABSTRACT. The yellow-bellied marmot spends approximately 80% of its life in a burrow. Burrows provide protection from the rigors of the environment, predators and other marmots. They provide a hibernaculum in winter and may function as a nursery in summer. Selection of a burrow site is therefore an important aspect in the biology of marmots. Measurements were made on direction of exposure, angle of slope, drainage, soil type, topographic features, and vegetation. Home burrows occur on open grassy or herb-covered slopes of an angle of 15°–40°, facing in a northeasterly or southwesterly direction, and containing rocks and boulders. The latter support the burrow and serve as sunning and observation sites. Five dissected home-burrows showed no marked differences in general configuration.

The yellow-bellied marmot (*Marmota flaviventris*) is a semi-fossorial rodent which spends up to 80% of its life in a burrow. Marmots are seasonally active above ground from early spring to fall (Armitage 1965). During this time they exhibit a bimodal pattern of daily activity which peaks during the morning and again in late afternoon. Marmots retire to the confines of the burrows during mid-day and at night. Subalpine populations of yellow-bellied marmots are characterized by seasonal activity limited to about five months out of the year. The remainder of the year is spent in hibernation. Hibernation accounts for about 60% of the total underground existence of a marmot. In summer, if conditions of the present burrow are not suitable, a marmot can move or construct a new burrow. During winter, the marmot is hibernating and there is no way for it to control the environment in which it must survive. Hibernation burrows must be elected prior to onset of adverse environmental conditions and must provide the necessary requirements for survival. In summer the burrow also serves as a nursery, a haven from predators, and seclusion from interactions with other marmots. The quality of the burrow site is therefore a critical aspect to be considered in the biology of the marmot. Marmot burrow sites are usually located in open, herb-covered, talus slopes or grassy meadows in which rock outcrops and boulders are common