If dessication is such a hazard to ants, then a moist environment should be favorable. Again this is not necessarily true. Said W. M. Wheeler (1917:460): "Even moderately low temperatures, when coupled with considerable humidity, a condition which prevails in California during the winter months, is very unfavorable to ants, and when such conditions are most accentuated, the ant-fauna is reduced to a mere remnant, although the vegetation, if the temperature is not too low, may be luxuriant. This is the case in New Zealand where I sometimes searched in vain for an ant-colony in forests whose luxuriance rivalled those of the tropics. But we have a striking example of the depressing effects of cold and moisture on ant-life much nearer home. The cool Selkirk Mts. of British Columbia have an abundant supply of moisture and an unusually rich flora, but their ant-fauna is reduced to a few boreal species. The adjacent Canadian Rockies, however, though in the same latitude, are less humid and have a poorer flora, but their ant-fauna is decidedly richer in species and colonies."

The most favorable environment for mountain ants is an opening in the forest. Here the ants can find insolation or shade, whichever and whenever needed; the correct humidity may be selected; the workers can forage in the opening and/or the forest. They may nest under stones, but additional nesting sites are afforded by fallen dead trees (or branches): under bark, in solid dead wood, in rotten wood, or in the soil under the fallen trunk or branch. In the Alpine Biome they of necessity usually nest under stones, but occasionally thatching ants construct nests with plant debris.

MOUNTAINS OF NEVADA

When we were studying geography in the grades, we visualized the Great Basin as a sort of huge washpan, the bottom a flat plain bordered by mountains. Later in physiography we learned that the Great Basin was a part of the Basin and Range Province, which had mountain ranges rising up from the floor. Still later, when we drove across Nevada and saw a few low ranges, we were not properly impressed. It was only after we had begun our study of the ants of the state that we were forced to the realization that Nevada is a mountainous state. We proved it to our satisfaction by exploring all parts of the state. We were especially impressed when we stood on the summit of Grant Peak (12,200 ft) and viewed in all directions numerous mountain ranges separated by basins. Perhaps the best confirmation is to view the United States Geological Survey's large (1:500,000) relief map of the state (see fig. 1).

Nevada's topographical uniqueness lies in the fact that most of its surface consists of numerous (more than 300) short, isolated mountain ranges separated by basins—usually called valleys both by local inhabitants and on maps. The floors of some of these basins are 7000 ft above sea level. It seemed strange to us at first to call anything a "valley" if its "floor" is higher than any peak east of the Rocky Mountains (including the Black Hills as part of the Rockies).

Nevada's ranges are subparallel, and their axes generally approach a north-south direction. They are short—50–75 miles (=80–120 km) long and nearly straight. Not all of them are high, but 43 ranges have peaks between 7000 and 9000 ft; another 54 are above 9000 ft and attain a maximum of 13,140 ft on Boundary Peak.

The higher ranges show biotic zonation, because, with increasing altitude, temperature decreases and precipitation increases from 3 to 30 inches annually. The Alpine Biome (Fig. 2) may be found on the summits of a few of the higher ranges above 10,000 ft. Below the Alpine is the Coniferous Forest Biome (Fig. 3) extending from about 5000 to 11,500 ft. We are inclined to suspect that the mixed bristlecone pine (*Pinus longaeva*) and limber pine (*P. flexilis*) constitute an ecotone (Fig. 4) between the Alpine and Coniferous Forest Biomes. This is especially true of the older forests, which are widely open.

The Alpine Biome is treeless and the plants consist typically of grasses, sedges and forbs. Some of the summits are devoid of plants, having just bare rocks. They are without ants.

Billings (1954) recognized three subdivisions of the coniferous forests of Ne-