

## EXPEDITIONING IN MEXICO

HARRY HOOGSTRAAL

*University of Illinois, Urbana, Illinois*

During the summer of 1938 I took a group of five students of the University of Illinois on a three months biological expedition to the state of Nuevo Leon, Mexico. Our objective was to study the flora and fauna of Cerro Potosi, a 12,500 foot mountain in the Sierra Madre Oriental range, 81 miles south of Monterrey. This mountain is of particular interest because it is the highest between the peaks about Mexico City on the south and the Rockies on the north, and because so little biological exploration has been done in northeastern Mexico. It is of great interest to learn the range of the flora and fauna which extends southward and northward here from the more intensely investigated southwestern United States and from the more intensely investigated southern Mexico and eastward from western Mexico, which is also better known.

The truck in which we travelled is a two ton International which was well equipped to meet the requirements of such a trip and which has been improved for this coming summer's trip. It is painted a silver colour to throw off the hot Mexican sun, carries a radio and an extra large battery and generator, has five forward speeds to carry us up and down difficult arroyos and down riverbeds where there are no roads, and has a ten foot extension tent on one side. It is equipped to carry two tons of equipment, to provide a little laboratory space, and to carry five or six men and their personal belongings comfortably.

We left Urbana early in June and after experiencing little difficulty in getting our numerous guns and collecting equipment across the border we collected for a few weeks in the lowlands of Nuevo Leon. By the first of July we had made a camp of two tents and a plank wall for wind protection in a colorful little mountain meadow, the floor of which was covered with thousands of low flowers, and which was surrounded on three sides by the rising mountain bearing a magnificent stand of tall, dark pine trees. We celebrated the fourth of July by making ice-cream from our canned milk and freezing it in the drifts of hail that surrounded

camp and had ripped much of our canvas.

From this high camp the party's zoologist attempted to study the ecology of the mammals and birds of the peak, but soon gave it up because of the difficulties involved. Feeding on the vegetation at the peak we found many groups of deer which returned to the shelter of the low juniper as the sun rose in the morning. These deer proved to be larger deer than were supposed to be present in this part of Mexico. The holes of the ubiquitous Mexican mouse, *Microtus mexicanus*, were everywhere in the low growth near the peak, while at the meeting of the alpine summit and the low juniper zones, and only there, we found the tiny rare shrew, *Sorex emarginatus*. Nesting on the ground near the peak and laying its three or four eggs in a nest of woven grass, we often found the Mexican junco, *Junco phaenotus phaenotus*, which has never been recorded from Nuevo Leon previously. Lower in the pine forest we found Clarks' nutcracker, *Nucifraga columbiana*, never before recorded in Mexico, and nesting in the high pine forest at about ten thousand feet we also found the hawk, *Falco sparverius sparverius*, never known to breed before in eastern Mexico.

Although less than 200 species of plants were collected from Cerro Potosi they well illustrate the scientific interest of the place. A great number of new species were among those taken, a high degree of endemism was demonstrated, and considerable extension of range for a large number of species was shown.

Because there is little water in evidence the isolated natives of one little hamlet, who told us that they had never seen a foreigner before, did not recognize any word for "fish" or for "turtle" which was in our dictionary, and did not recognize any description of them since none are present for many miles around. I was surprised one day to find a rattlesnake under a log as high as 9,000 feet and later this proved to be a new species as well as most of the other rattlesnakes from this locality. Another surprise was to find two of the four species of termites which are found in Illinois under a log



Fig. 1. When a "bridge" gives way. Note deerskin apron on man second to right; characteristic of workers in rural regions.

at 9,000 feet elevation on Cerro Potosi, an unusually high altitude for these species. A single tarantula was also found at this height. All of the cranflies, Family Tipulidae, proved to be new species, as did a great number of other insects, especially the Orthoptera. One of the most interesting of these is a highly specialized fly of the Family Streblidae, the bat-parasites, which I found on the bat *Leptonycteris nivalis*. This weak-winged fly lives in the fur of the bat until the female loses its wings and sometimes its legs and burrows into the external muscle

layer of the bat. Then with her abdomen protruding she drops live larvae to the ground where they change to pupae. The bats on which this fly lives nest by the thousands in a large cave high on the mountain-side and shared, when we were there, one of the lower reaches of the cave with a big, old mountain lion from which we kept our distance. From all of the animals we took the external parasites: lice, fleas, and ticks. From a vulture came a single large chewing louse, quite as large as the largest louse known.