

## PARASITOLOGICAL STUDIES CONDUCTED WITHIN THE FRAMEWORK OF THE SECOND CZECHOSLOVAK EXPEDITION TO HINDU-KUSH

Between May and September 1967 the second Czechoslovak expedition was organized to Hindu-Kush, region of the highest peak Tirich Mir (altitude 7706 m), situated in the territory of Pakistan. The transportation of the expedition from Czechoslovakia to Peshawar (Pakistan) was achieved by camion provided for that special purpose. From Peshawar the expedition proceeded by means of the combined use of jeeps, beasts of burden and carriers through the little town Dir, the Lowarai Saddle, the little town Chitral, the Zani An Saddle (altitude 3900 m) and the village Shagrom into the valley of the Tirich Glacier, where a base camp was set up at the confluence of the Upper and Lower Tirich Glacier (altitude 4080 m).

Because of good results obtained in zoology and parasitology during the first Czechoslovak expedition to Hindu-Kush in 1965 (Vakhan region, Afghanistan), the research problems of these scientific fields were also included in the second expedition. Two workers of the Institute of Parasitology, Czechoslovak Academy of Sciences (Dr. Milan Daniel, C.Sc. and graduate biologist Pavel Rödl) were assigned to tackle these tasks. They were to investigate mainly the region of the Tirich Valley with special regard to the fauna of small mammals and their parasites. In the upper part of the valley (upwards from the front of glacier) hosts belonging to the genera *Alticola*, *Apodemus*, *Microtus*, *Crocidura*, *Cricetulus* and *Ochotona* were captured. Each host was examined by theriological and complex parasitological method (i.e. in search of external and internal parasites); also blood samples for serological tests were collected in search of leptospira.

Great attention was paid to the tick occurrence at the altitudes up to 4000 m, not only to larval stages on small rodents (especially *Alticola*), but also to unengorged adults collected by flagging over grass patches amidst the fields of stony debris. The settlement of lower parts of the valley and regular trips of natives with beasts of burden up to the front of glacier created favourable conditions for the study of synantrropic flies penetrating to high altitudes. Concurrently, all insects occurring in these places, i.e. even insects of non-parasitic groups, were collected by various methods: the flagging of vegetation, the sieving of plant detritus, flotation, the trapping etc. Fifty soil samples were analysed in thermoelectors. In order to characterize in detail the environmental conditions of rodents and their parasites, also botanical material was harvested, in all 110 species of blossoming plants found upwards from the front of glacier (3650 m and higher). The studies conducted were based on the results obtained during the first expedition and made it possible to compare the fauna in the north and south from the main ridge of the East Hindu-Kush, which is an important zoogeographical divide.

To the collections obtained by the expedition may be also added entomological materials collected during the transit of the expedition through Turkey, Iran, Afghanistan, Pakistan in both directions, by means of a silon net affixed above the booth of the camion. These collections include several thousands of specimens of flying insects.

Dr. Milan Daniel, CSc.