

Important anniversary of Dr. Milan Daniel, pioneer in the high altitude parasitology

It is beyond belief that RNDr Milan Daniel, C.Sc., one of the outstanding Czechoslovak parasitologists of world renown, has already celebrated his 50th birthday. We have always known him as a young worker eager to apply his knowledge and abilities in comprehensive zoological and parasitological research in the huge mountain massifs of Hindu Kush and the Himalaya. In his efforts to study the parasite fauna of sky-high mountain ranges of Afghanistan, Pakistan, Nepal and India, Dr. M. Daniel has symbolically resumed the work of his countryman F. Stoliczka from Kroměříž, who had been active in the Indian subcontinent nearly a century ago.



The whole story, how it came about that he had started this sort of research, originated from all his previous activities connected with the history of Czechoslovak parasitology and the research on natural focality of diseases in the socialist Czechoslovakia. Although M. Daniel's work is far from being finished, his studies on the ecology, zoogeography of medically important high-altitude parasites take a prominent place. Risking his life he collected an exceptionally valuable material which he treated on the spot and the results later published in more than 30 papers. Between 1965 and 1973 he was a member of three Czechoslovak mountaineering expeditions to the high mountains of Asia, organized with the support of our socialist state by the Central Committee of the Czechoslovak

Union of Physical Training, with the participation of scientists of the Czechoslovak Academy of Sciences for a specific purpose. The first expedition (1965) headed for the Afghan Hindu Kush, the second (1967) to the Pakistani part of this mountain range and the third (1973) was active in the eastern part of the Himalaya in Nepal. In all three expeditions he carried out a comprehensive basic investigation of the regions visited, because the high-altitude mountains of the East Hindu Kush were at that time quite unexplored from the aspect of zoology, all the more from the aspect of parasitology. The same applies to the region of the Makalu mountain (8 475 m), which was the goal of the Third Czechoslovak expedition. Dr. Daniel also visited Afghanistan in 1974.

During these studies in the high mountain ranges Dr. Daniel applied his experience from scientific expeditions abroad, some of which he had headed himself. In 1957 he participated in the first Czechoslovak-Yugoslav expedition which solved the problems of natural focality of tick-borne encephalitis in the Kamniške Alps (northern Slovenia); a year later he was a member of the complex parasitological expedition to Albania (Rosický B., Čs. parasitol. 7: 5-16, 1960). In 1966-1970 he took part in expeditions to the Bulgarian Rhodope Mts. as head of studies on natural focality of tick-borne encephalitis, in 1972-1974 he worked in the region of the Black Sea coast in south Bulgaria (natural focality of the Bhanja virus). From 1968 to 1970 he participated (as one of the leading scientists) in three Czechoslovak-Yugoslav expeditions with the purpose of studying natural focality of diseases in the Socialist Republics of Macedonia and Monte Negro, in the Autonomous Socialist Region of Kosovo and the Socialist Republic of Bosna and Hercegovina.

In 1978 M. Daniel was a member of the expedition Africa '78, organized by the Czechoslovak Union for the protection of nature, working in the south-western part of Uganda (Toro Game Reserve) while solving the problem of a sudden decrease in the game animal population, primarily of the Uganda kob antelope. In the first half of 1980 he studied the problems of natural focality of viral infections transmitted by ticks in Cuba.

The number of original scientific papers which M. Daniel published as sole author or in co-authorship has exceeded 150. They are primarily concerned with problems of medical acarology, entomology, natural focality of diseases and theriology. Moreover, he released a considerable number of professional articles, edited (together with V. Černý) „Key to the

Fauna of ČSSR IV — Chelicerata" (Academia, 1971, pp. 1—603), the Proceedings of the Third International Congress of Acarology (Academia, 1973, pp. 1—837). He is the author (together with S. O. Vysotskaya) of a methodical manual on the research of nest parasitocenoses (Nauka, Leningrad 1975, pp. 1—72). In co-authorship with J. Kalvoda he issued a book on nature in the Himalaya (Academia, 1978, pp. 1—204). For a wide circle of readers he prepared a book propagating the results of natural-scientific investigations carried out in the Asian high mountain ranges (Mladá Fronta, 1977, pp. 1—229), whose translation was also published in the USSR (Mysl, 1980, Moskva).

M. Daniel was born 14 June 1931 in Horažďovice (district of Klatovy). In 1951 he passed his school-leaving examination at the secondary school in Rakovník and in the same year enrolled at the Natural Sciences Faculty of the Charles University in Prague in the field of parasitology. In 1955 he joined the Parasitology department of the then Biological Institute, Czechoslovak Academy of Sciences, headed by Dr. B. Rosický, even before his graduation in 1956.

In the first period of his activities in this Department he worked at the newly-founded field station in Ruská Poruba (district of Medzilaborce) where a team of arachnoentomologists had been carrying out complex parasitological studies on the free-living and domestic animals for two years. These studies served as a basis for the research of the epidemiology of hemorrhagic nephrosonephritis which had manifested itself in this area in previous years. During these studies M. Daniel collected material and data for his thesis "Bionomy and life cycles of some chigger mites (Trombiculidae) in the Slovak Carpathian Mts," which he successfully presented for the award of the Candidate of biological sciences degree (C.Sc.) in 1959. Since then he has become one of the leading world specialists in this medically important family of mites.

In that year an agreement was signed on the cooperation between the Biological Institute of the Czechoslovak Academy of Sciences and the Zoological Institute of the USSR Academy of Sciences in the research of nest parasitocenoses of small terrestrial mammals in the Carpathian mountain system. M. Daniel was one of the scientists engaged in these studies and in this way expanded the scope of his research problems. After completing the field investigations in the region of the Vsetínské Beskydy Mts., he devoted his efforts to the problem of microclimate in the nests of small terrestrial mammals and birds, studying the consistent patterns in its changes and influence on the developmental dynamics of nest arthropods, primarily parasites. In 1961 he carried out the first long-term seasonal continuous measurement of temperature and humidity in the nests of *Delichon urbica* by means

of dotted-line recorders. Dr. Daniel's efforts to find an exact method for these measurements and to achieve a high standard of their evaluation resulted in the formation of a multidisciplinary team of arachnoentomologists and other experts (in electronics, mathematics etc). The latest method accomplished consisted in the automatic data-logging system MÚP-1 (a variant operated by microprocessor), specially designed for long-term ecologic studies in the field and for a series of relevant programmes for the evaluation of data obtained on computer. The developed method was used not only in the nests of rodents (*Clethrionomys glareolus* and *Citellus citellus*), but was also successfully applied in the studies on the development of ticks (*Ixodes ricinus*, *Dermacentor reticulatus* etc) and their environmental requirements. Since 1965 Dr. Daniel has published 54 papers dealing with this research problem and may be therefore justly considered as the founder of this working trend in Czechoslovakia as well as abroad.

In 1965 Dr. Daniel was assigned to head the ecological group in the Department of arachnoentomology and natural focality of diseases at the Institute of Parasitology, Czechoslovak Academy of Sciences and moulded it into one of the best known working teams in Europe. He also participated in organizing a number of international scientific meetings, acting as vice-chairman of the Organizing Committee of the Third International Congress of Acarology (Praha, 1971) and secretary of the Organizing Committee of the Second International Congress of Theriology (Brno, 1978).

In 1960—1971 he served as scientific secretary of the Czechoslovak Parasitological Society, affiliated to the Czechoslovak Academy of Sciences; in this post he initiated the publication of the membership periodical "Reports of the Czechoslovak Parasitological Society", which he edited for the first six years (until 1966). He also contributed to the tradition of organizing working meetings called "Parasitological days". He is active as a committee member of the Prague branch of the Czechoslovak Zoological Society, as a member of the ecological section presidium of the Czechoslovak Biological Society, as a member of the equipment commission of the Czechoslovak Bioclimatological Society, all affiliated to the Czechoslovak Academy of Sciences, etc. Since 1962 he has served as member of the biological section of the Commission for complex research in developing countries subordinated to the Czechoslovak Academy of Sciences presidium. In 1971—1974 he was a member of the Executive Committee of the International Congress of Acarology; from 1970 to 1973 he was active as assistant editor of the journal *Folia parasitologica*; between 1977 and 1980 he was a member of editorial board of the *Journal of Medical Entomology*.

In order to complete the picture of the many-

sided activities of Dr. Daniel, several hundred popular-scientific articles which appeared in the daily press and lectures read by him within the programme of the Socialist Academy and of other organisations should be mentioned. M. Daniel also collaborated many times with the Czechoslovak Film as consultant or author of scripts of several natural-science and educational films, of popular programmes in the Czechoslovak Broadcasting and Czechoslovak Television. In this way he considerably contributed to the

propagation of the parasitological research, particularly that in the high altitude mountains, among the citizens of Czechoslovakia.

On behalf of the editorial council of *Folia parasitologica*. I wish M. Daniel many happy returns of the day and much success in his future mountaineering expeditions so that we can share the joy of his new discoveries on the last frontier of life.

Academician B. Rosický