

**N. I. Kudryashova: Sovremennoe sostoyaniye izuchenosti kleshchey krasnotyelok (Acariformes Trombiculinae) fauny SSSR. (The present state of studies on chigger mites (Acariformes, Trombiculinae) of the fauna of the USSR.) Seriya „Itogi nauki i tekhniki“, t. 5, Zooparazitologiya, Vsesoyuzny institut nauchnoy i tekhnicheskoy informatsii, Moskva 1979, pp. 1-112. Price 1.30 R.**

Three decades after the publication of the first papers about this important group of parasitic mites in the USSR (Shluger 1947, 1948) the specialists in this field — medical acarologists, have the opportunity of getting hold of N. I. Kudryashova's book, thin in volume, but important in content, which summarizes the results obtained by the Soviet authors in the studies on these parasites. In the past thirty years not only the basic bulk of taxonomic and faunistic data (156 species are mentioned in the book) accumulated, but also the collective of authors expanded, many of them having published their results in various volumes of collected papers and local periodicals, accessible with difficulty and limitation, and descriptions of new taxa were often restricted to brief statements of particular morphological differentiating criteria. This had been the disadvantage of the first key to chigger larvae (Shluger 1955) including 30 species (mostly new for science) insufficiently characterized in the text of the key only and preventing any comparative study of published data. Compiling the Soviet literature about this group and critically classifying in it all data, N. I. Kudryashova succeeded in writing a work whose importance exceeds the boundaries of the Soviet Union and becomes a valuable source of informa-

tion for the studies on chiggers throughout the Palearctic region, i.e. the entire Europe as well.

Following a brief introduction characterizing the family Trombiculidae there is a detailed survey of taxonomic characters, diagnostic descriptive formulae and fundamentals of biometry of this mite group (the mentioned chapters are very useful, because some Soviet authors, under the influence of Shluger's papers have not used internationally accepted criteria in their descriptions of new taxa, and this makes a comparison of published data difficult and sometimes impossible). Thereafter follows the key to subfamilies, tribes and 19 genera of chiggers found in the USSR.

The "special section", which is the core of the book, contains generic diagnoses of the subfamily Trombiculinae and a survey of species forming a part of the Soviet fauna. Each species is provided with synonymy, data on the distribution and spectrum of hosts. If necessary, taxonomic notes are added.

The book closes with an extensive bibliography (a total of 425 references), of which the bigger half (280) lists papers of Soviet authors and is practically a complete survey of all ever published information about chigger mites in the USSR territory.

Although the author modestly calls her publication "A survey of the present state of knowledge", in fact she has created a basic work which will surely be a powerful spur

to further research of this group of mites, using uniform criteria. It is only to be regretted that a low number of copies printed (400) makes it an almost bibliographical rarity.

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## DISAPPEARANCE OF A GIANT CAVE TICK POPULATION

The members of soft tick genera *Antricola* and *Parantricola* are typical inhabitants of the so called hot caves ("cuevas calientes" or "cuevas de calor" according to the Cuban authors). These are relatively small caves or parts of larger cave systems with only one access and with minimal renovation of air. They are generally inhabited by tens of thousands of bats with *Phyllonycteris poeyi* as a predominant species (Silva Taboada G., Poeyana 168: 1—10, 1977). The reduced access functions as a certain thermal barrier which creates possibilities for a special microclimate characterized by high temperatures and extremely high relative humidity. The effect of this barrier can be in some cases a temperature difference of more than 7 °C in a distance of 3 m (Nuñez Jimenez A., Fundora Martínez C., Ser. Espeol. Carsol. 23: 1—34, 1970). The source of raised temperature is the irradiation of body temperature of the multitude of bats present inside, as well as their urine and body water evaporation accounts for high humidity. Characteristic of the hot caves is a special guanobiont fauna represented in some cases by millions of specimens of individual species including soft ticks. E.g. in April 1965 Černý (Folia parasit. (Praha) 14: 141—148, 1967) found in some parts of Cueva de Colón, Cayo Caguanares, Yaguajay, province of Santi Spiritus (formerly Las Villas) more than 2,000 specimens of *Parantricola marginatus* per 1 m<sup>2</sup> in the upper 2 cm-layer of guano. Big colonies of bats (especially of genera *Phyllonycteris*, *Pteronotus* and *Erophylla*) were present inside the cave at this time. In April 1969, the following microclimate parameters were measured (Nuñez Jimenez A., Decou V., Negrea S., Fundora Martínez C., Résultats des expéditions biospéologiques Cubano-roumaines à Cuba, Bucureşti 1: 21—44, 1973): 24.5 °C air and 24.0 °C soil at the entrance, 23.8 °C air and 23.4 °C guano in the first chamber, 27.0 °C air,

and 27.7 °C guano in the terminal chamber; 93—96 % of relative humidity. The authors mention even higher temperatures in previous years.

During our investigations of cave ticks in April 1980 we visited again — after 15 years — Cueva de Colón. Its character changed considerably. It was a typical cold cave with only some specimens of *Phyllonycteris poeyi* and *Pteronotus* sp. The guanobiont fauna disappeared completely and not a single tick was found. In a relatively short time, the absence of hosts led to disappearance of the whole extremely abundant tick population. As early as 1969 a decrease in bat number was observed (Nuñez Jimenez A. et al., 1973). During another visit to the cave in 1974 a further decrease in bat and also in tick population was noted (J. Salas pers. commun.). And after six years no ticks existed here. The fluctuation in bat numbers in various caves is reported in the literature (Silva 1977) but the actual reason of the nearly complete disappearance of these mammals from the cave under consideration is not known. It is all the more surprising that Cueva de Colón is situated in a nature reserve without human disturbing activities, where no visible changes in the outer biocenosis occurred during this time. For some reasons the bats probably moved to other cave systems (G. Silva, pers. commun.). These observations revealed a noteworthy fact. A special cave biocenosis, formed for a long period, can vanish during several years. We may even suppose that some endemic species, in our case *Antricola silvai*, can become extinct in this way.

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