

To whom it concerns

Review of the Dissertation for the degree of Doctor of Science by Alexandr Anatolievich Stekolnikov “Variability and species structure in chigger mites (Acariformes, Trombiculidae)”

The doctoral dissertation by A. A. Stekolnikov is focused on the family Trombiculidae (or chigger mites) which contains more than 3000 species. Thus, it is one of the most numerous group of mites. Chigger mites have a very characteristic developmental cycle. The larvae are parasites of terrestrial (and partly amphibian) vertebrates including humans. The other developmental stages and adults are free-living in different microhabitats. These free-living stages are mostly unknown. Only in case of several species the deutonymphs and adults were discovered by laboratory breeding of engorged larvae collected from hosts. Therefore the family Trombiculidae classification is based on a morphology of larvae. Big problem arose from selection of relevant morphological features, their characterization and arrangement into the standard formula for the species description. Morphological features succumb to intraspecific variability in different life conditions and in different degree. This phenomenon is generally known but as yet has not been adequately studied. Therefore it was not possible to determine the structure of species and to define precisely individual species. The submitted dissertation completes this gap.

The author studied basic forms of intraspecific variability of particular species from different localities and habitats. Further on, he compared and assessed their mutual relationships and generalized his results. It is very important contribution both to taxonomy of family Trombiculidae and to further studies of its zoogeography, ecology, phylogenesis and also of the epidemiology of infections transmitted by chigger mites.

Seventeen years ago, Prof. N. A. Filippova introduced and recommended me A. A. Stekolnikov as a very experienced acarologist. Already at that time he was interested in Trombiculid taxonomy. Since that time started our co-operation, at first during the evaluation of a large collection of chigger mites – parasites of Cuban bats and reptiles. They were collected in the framework of the Czechoslovak-Cuban research co-operation in the preceding years. As a result, a series of five articles were published in 2002 – 2006. Our collaboration continued by evaluation of my collection of Trombiculid parasites of small mammals in high mountain region of northern Pakistan (region of Mt. Tirich Mir) – published in 2005. Further on, we evaluated my chigger collection from eastern Nepal Himalaya (region of Barun Valley and Mt. Makalu –

nowadays National Park Barun-Makalu), (published in 2009). Finally, we published (2010) the results dealing with chigger mites from Afghanistan, mostly from high mountain region of East Hindukush.

Our close correspondence continued during whole period of our co-operation, and I can follow Stekolnikov's rich scientific activities, in particular the application of methods of mathematical statistics in taxonomy of chigger mites. He published his results both in the respected journals and during the international conferences. I would like to emphasize the high value of two Stekolnikov's monographs (published 2012 and 2013), above all his work „*Leptotrombidium* (Acari: Trombiculidae) of the World“. There is a world revision of this large genus (containing 340 species) having high medical importance.

A.A. Stekolnikov demonstrated always his high scientific qualities: high invention and creativity in the problems solution, perfect knowledge of world literature and balanced criticalness. He is really an outstanding researcher. Submitted doctoral dissertation „Variability and species structure in chigger mites (Acariformes, Trombiculidae)“ generalizes author's results. There is a base for future all-round research of this group of medical important mites. Therefore, I can – based on my own sixty years experience in acarological research – highly evaluate this dissertation and thus simultaneously support A. A. Stekolnikov in the achievement of scientific degree „Doctor of Science“.



RNDr. Milan Daniel, DSc.,
National Institute of Public Health,
Prague, Czech Republic

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