

## ARE THE MITES OF THE GENUS TARSONEMUS REALLY PARASITES OF MAN?

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**Abstract.** Mites of the genus *Tarsonemus* were found in several preparations of human skin samples. It was revealed that the mites got into the preparations from insufficiently cleaned coverslips. Similar previous reports are discussed on this occasion.

There is a number of data in the literature concerning the mites of the genus *Tarsonemus* found in various organs and liquids of the human body. Almost all reports are based on the data of Dahl (1910) and the figure of *Tarsonemus hominis* Dahl, 1910 has been adopted from Dahl's paper by the majority of parasitological textbooks. However, if we scrutinize the mentioned text, we see that the data presented in it are not so explicit as they seem to be. Dahl gathered his information from photographs and reports handed over to him by dr Saul in 1909. The latter discovered in preparations from human and animal tissues various mites, half a number of which were different representatives of the family Acaridae which, after Dahl, currently appear in the proximity of man or domestic animals. Dahl did not state their names, but he was aware of the fact that the preparations had been secondarily polluted by mites. After finding the genus *Tarsonemus*, whose representatives he described as *Tarsonemus hominis*, Dahl pointed out that these mites had not been detected in man's proximity until then. His assumption, however, cannot stand the proof of the knowledge accumulated since that time. Thus, for example in recent literature Hughes (1961) recorded these mites from grain dust. After introduction of flotation methods in the house-dust investigations, mites of the genus *Tarsonemus* were frequently demonstrated in households.

Thus, Voorhorst et al. (1969) found the *Tarsonemus* mites in the house-dust obtained from more than a quarter of beds examined. During our own investigations carried out in Czechoslovakia the *Tarsonemus* mites were discovered in 6 % of beds examined (in litt.). Relatively recently remarkable findings of mites of the genus *Tarsonemus* have been recorded by reliable authors, but their reports are vague as to the mite occurrence in the body liquids, mucous membrane and eczemas, particularly when the mites were repeatedly found (Harada and Sadaji 1925, Carter and d'Abrera 1946, Daniel et al. 1955, Humiczevska 1967) or in cases of accidental contaminations. These authors were apparently misguided by Dahl's paper and numerous uncritical citations of this work in parasitological literature and did not pay enough attention to the environment and sources, from which the mites might have secondarily get into the preparations. It is interesting to note that in none of the above

papers a mention was made about the control examination of beds used by patients, healthy persons from the same environment etc.

While diagnosing scabies by method of lye preparation after Ševcová (1971) currently conducted at the dermatological department of the District Health System at Karviná for many years, one preparation of skin sample taken from a patient with scabies diagnosis in February 1973 contained a remarkable mite of the genus *Tarsonemus*. It was a solitary finding after several hundred of patients had been

examined and consequently it could not be assumed that the mite would be repeatedly found before long. Against all expectation, however, three specimens were found in three patients with scabies diagnosis. The preparations seemed to point to the fact that the *Tarsonemus* representative was part of the skin sample. The last preparation was a surprise when it was revealed that the mentioned *Tarsonemus*, morphologically similar to the previous ones, was not present in the medium of the preparation, but that it was a dry mite skin attached to the upper side of the coverslip which had been taken from the box, just as it had been the case with the previous preparations, and immediately placed on the slide with the skin sample. In view of the fact that during the period when the mites were found coverslips were used from one box of original packing and the four mites found were identified as doubtless representatives of one species, it is almost certain, that all preceding mites were brought to the preparation together with coverslips. The remaining few coverslips in the box were carefully examined, but nothing was found on them.



**Fig. 1.** *Tarsonemus* sp., seemingly found in the lye preparation of human skin sample. The first specimen found. Tiny air bubbles closed inside the mite demonstrate that the specimen was dead and dry.

material was sent, the discovered species might have been identical with the *Tarsonemus hominis* Dahl, but it cannot be asserted as true. The case shows that mites found on various occasions in human organs and liquids should be determined carefully. The bodies of dead mites easily stick to the glass where they may remain intact for a long time. Immersed in some liquids (lye, lactic acid, water etc.) they rapidly regenerate and are hardly discernable from mites found, particularly when a solution with macerating effects is used as a medium, such as lactic acid or potash lye used in our case.

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# ЯВЛЯЮТСЯ КЛЕЩИ РОДА *TARSONEMUS* ДЕЙСТВИТЕЛЬНО НАРАЗИТАМИ ЧЕЛОВЕКА?

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**Резюме.** Клещи рода *Tarsonemus* были найдены в некоторых препаратах кожи человека. Было обнаружено, что клещи попали в препараты с псевдовлетворительно очищенных покровных стекол. Но этому случаю в работе рассматриваются подобные прежние обнаружения.

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**J. Zlotorzycka, Wd. Eichler, H. W. Ludwig: Taxonomie und Biologie der Mallophagen und Läuse mitteleuropäischer Haus- und Nutztiere**

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Increasing development of large scale breeding of various species of domestic animals also requires a deeper knowledge of separate groups of their parasites, because in such an intensive breeding very favourable conditions for parasite reproduction may occur. Such groups are, undoubtedly, the biting and sucking lice, to which this monograph, being a result of the co-operation of three noted specialists, is devoted.

The book is divided into eight chapters. A brief introduction is followed by a survey of parasites with their specific hosts making use of the nomenclature suggested by Dennler de la Tour (1968). The chapter devoted to the microsystematics underlines the importance of hostosubspecies in Phthiraptera and presents criteria for differentiation of species and subspecies. Lice of domestic animals are characterized by some features which do not occur in similar form on free living vertebrates. It is, e.g. a relatively frequent transfer to a completely different host. The biting lice *Heterodoxus spinifer*

constitutes an extreme example — being a dog parasite in warm regions — while all its related species are parasites of kangaroos. A remarkable peculiarity of parasites of domestic animals is also their considerable morphological variability. The fourth chapter deals with morphological terminology. It is followed by a key to genera, species and subspecies. The sixth chapter includes a systematic survey. Sucking and biting lice are considered here as one order Phthiraptera divided into three suborders: Mallophaga Amblycera (two superfamilies with eight families), Mallophaga Ischnocera (three superfamilies with six families) and Anoplura (three families), occurring in the parasite fauna of domestic animals. Each taxon from suborder up to subfamily is accompanied by a short morphological or biological characterization. In systematic division the authors adhere to Eichler in Mallophaga, and to Ferris in Anoplura. The first six chapters cover the pages 7—29.

A special section (pp. 30—136) constitutes