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Notes on the causative agent of copra itch

Arthropodes living in close vicinity to human beings only seldom lack some hygienic significance. Especially important are those species living in foodstuffs or in raw materials for food production. It is in this group that mites are very numerous. The significance of the particular mite species for stored food and for the human health is various. From a hygienic point of view mites are undesirable, because even if predacious and therefore useful ones are present, they always represent an appreciable contamination of the food. Most important are those mites which could actively endanger the health of man, either by causing gastric troubles or itches- dermatitides.

Itches provoked by the presence of mites have been described in the literature many times. Some of such cases have been quoted in textbooks on parasitology because of their attractivity, but little attention has been given to their critical evaluation. It must be stated that the number of acarologists presently falls short of the importance of acarology. No wonder therefore that few cases reach a specialist able of determining exactly, or proving experimentally, which of several very similar species could be designated as the causative agent of a dermatitis. Let us recall, e.g., many contradictory data on the species *Acarus siro* L., causing dermatitides in some places, whereas in others nothing similar is known. A solution of this problem was not possible until GRIFFITHS, in 1964, took the right path. The greatest obstacle for the revision of the separate cases is the loss of the documentation. Therefore we do not know anything about the morphology of *Pyemotes tritici* (Lagreze-Fossot), and even in 1939 the materials of the last known case of so-called phthiriasis were lost and thus the identification of its causative agent was made impossible.

Lately, the problem of the itch called Copra itch became also questionable. This is a very well known and in textbooks frequently quoted skin disease of copra workers. It has been generally accepted that it is caused by *Tyrophagus castellani* (Hirst) which was made a synonym of *Tyrophagus putrescentiae* (Schränk) by ROBERTSON in 1959. If this synonymity is really justified, this cannot be the originator of the disease, since *Tyrophagus putrescentiae* is generally present in close vicinity of man, whereas it has not been related to cause any disease. I was myself able to observe its massive multiplication in the flats of whole house blocks in different places in Czechoslovakia. Only one case of dermatitis was found, it was, however, caused by *Cheyletus aversor* Rohd., which was proved by experiment.

A contribution to the determination of the causative agent of Copra itch could be presented by a case of this disease, found by Dr. LAARMANN in Holland. A mite closely related to a species called now *Acoyledon krameri* (Berlese) was declared to be its originator. A more detailed investigation on the basis of an ampler material indicated, however, that this species scattered about almost the whole globe can be divided into six species, two of which have been described previously, but these descriptions were lost. Some of the marks occurring in all of those species, as, e.g., the long pectinated pseudostigmatic hair, or the characteristic shape of the hypopus, are as constant that it is possible to renew on their behalf the validity of the genus *Cosmoglyphus* of Oudemans, based namely on the species *Tyroglyphus krameri* Berlese, invalidated later by ZACHVATKIN. The species found on copra was unknown as yet and was called *Cosmoglyphus laarmanni* n.sp. The question whether this species really causes Copra itch remains open, however, and it will be very difficult for an inland investigator to come to a conclusion.

SUMMARY

Food store mites causing itches have been known very little for the time being, though they are often described in handbooks and textbooks. Thus, e.g., *Tyrophagus castellani* (Hirst), made a synonym with *Tyrophagus putrescentiae* (Schränk) by Robertson in 1959, was believed to be the causative agent of Copra itch. In spite of the massive occurrence of this species in human habitations no itch ever occurred. Laarmann found in a case of Copra itch in Holland another mite designated as the causative agent of the itch. This species belongs to the restored genus *Cosmoglyphus* Oudemans and it is described under the name of *Cosmoglyphus laarmanni*. It was shown that the genus *Cosmoglyphus*, almost monotypic to this day, can be divided into several closely related species, each of which has its specific distribution.

RIASSUNTO

Per quanto spesso ricordati nei manuali e nei testi, gli acari delle sostanze conservate che causano eritemi sono per il momento poco conosciuti.

Il *Tyrophagus castellani* (Hirst) ad esempio, sinonimizzato con *Tyrophagus putrescentiae* (Schrank) da ROBERTSON nel 1959, era ritenuto l'agente dell'eritema di Copra, ma, nonostante la sua frequente presenza nelle abitazioni, non venivano mai segnalati casi di eritemi.

Un caso segnalato in Olanda è stato invece attribuito da LAARMANN ad un altro acaro, appartenente al restaurato genere *Cosmoglyphus* Oudemans e descritto come *Cosmoglyphus laarmanni*. LAARMANN ha inoltre dimostrato che il genere *Cosmoglyphus*, fino ad oggi pressoché monotipico, può essere suddiviso in alcune specie assai affini, ciascuna delle quali ha una sua specifica distribuzione.

REFERENCES

- HUGHES A. M., 1961 - The Mites of Stored Food. London, 287 pp., 385 figg.
LAARMAN J. J., 1952 - Copra Itch in the Netherlands. *Documenta Med. geogr. trop.* 4, 268-272.
PRÍVORA M., SAMŠIŇÁK K., 1958 - Milben als Menschenplage. *Z. ParasitKde* 18, 257-269.
SAMŠIŇÁK K., 1966 - Die Neuerrichtung der Gattung *Cosmoglyphus* Oudemans, 1932, gleichzeitig ein Beitrag zum Problem der « Copra Itch ». *In litt.*

DISCUSSION

VAN EYNDHOVEN: It may be that more than one species causes Copra Itch, especially so in e. g. India, where so much copra is transported by carrying bags on the neck or the back which may damage the skin.

SAMSINAK: That is possible but I had opportunity to study the species *Cosmoglyphus laarmanni* only originating from the material collected by Dr Laarmann.