

HOUSE DUST MITES (ACARI: PYROGLYPHIDAE) IN THE CITIES OF GDANSK AND GDYNIA (NORTHERN POLAND)

MARIA RACEWICZ

Institute of Maritime and Tropical Medicine, 9B Powstania Styczniowego , 81-519 Gdynia, Poland

Tiny, free-living mites have long been recognised as one of the most important sources of allergen of house dust causing atopic and bronchial asthma, rhinitis and dermatitis in susceptible persons. Among several species of these mites *Dermatophagoides pteronyssinus* and *D. farinae* (Acari: Pyroglyphidae) possess particularly potent allergens. Research on house dust mites, especially pyroglyphid, was initiated in Poland about 20 years ago starting with faunistic studies and studies on their distribution in human dwellings in Bydgoszcz, northern Poland. It was followed by the investigations carried out in the Upper Silesia (southern Poland), in Warsaw and in Poznan (western Poland). Five valid species of pyroglyphid mites are actually known in Polish fauna: *D. pteronyssinus*, *D. farinae*, *Euroglyphus maynei*, *Gymnoglephus longior* and *Hirstia passericola*. The first two seem to be common in house dust all over the country.

Our studies were directed at the frequency of the occurrence of allergenic mites in house dust in private flats and social institution. They were carried out in the cities of Gdansk and Gdynia in 1996-1998. A total of 17 homes, 2 hotels, 3 hospitals and one students' hostel were examined. Both flats and social buildings were modern, dry, well-built and centrally heated objects. The samples of dust were taken by sweeping up superficial dust or with vacuum cleaner from floors, carpets, mattresses and padding from upholstered furniture. The amount of dust collected varied from 0.1 to 5 gram. Each sample was sieved and then mites were recovered by the flotation method using dichloromethane (CH₂CL₂). The number of mites found in a single sample was estimated in ratio to 1 g of dust.

Altogether 277 samples were examined. Allergenic mites were found in 50 (37.3%) of 134 samples from the flats and in 24 (16.8%) of 143 from the social institutions. Majority of them (477/538 i.e. 88.7%) consisted of two species of the family Pyroglyphidae: *D. pteronyssinus* and *D. farinae*. The latter species was significantly predominant (Table 1). Among pyroglyphids 40.5% were premature stages.

Table 1. Pyroglyphid mites found in house dust samples.

Mite species	Flats		Social institutions		Total	
	A	B	A	B	A	B
<i>D. farinae</i>	84.0	78.9	8.3	13.3	59.4	73.4
<i>D. pteronyssinus</i>	16.0	16.0	12.5	6.7	14.9	15.2
Total	88.0	94.9	20.8	20.0	66.2	88.7

A - % in relation to positive samples B - % in relation to collected mites

Other mites belonged to suborder Parasitiformes (n=17) and families of Acaridae (n=32) and Cheyletidae (n=12).

Mean number of mites was rather low: 10 specimens per sample or 35 specimens/1g of dust. The highest amount of these arthropods found in a single sample was 101/1.5g. They were most numerous in May and September. In 6 samples the density of mites exceeded 100 (max. 280) per gram - the critical value above which the risk of allergy occurrence considerable increases .