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IMPORTANCE OF SENSITIZATION TO *TYROPHAGUS PUTRESCENTIAE* IN THE UNITED STATES

To the Editor:

The storage mite *Tyrophagus putrescentiae* is ubiquitous and commonly found in both agricultural and nonagricultural environments (including baking mixes). The prevalence of sensitization to this storage mite in the general population in the United States is unknown. *T. putrescentiae* is not very cross-reactive with other storage mite species or house dust mites.¹⁻³ Therefore, the presence of serum IgE to this mite can be used to conservatively estimate the prevalence of sensitization to this cosmopolitan species of storage mite. Hence, the purpose of this study was to determine the prevalence of human serum IgE to *T. putrescentiae* and compare it to the prevalence of serum IgE to the house dust mites *Dermatophagoides farinae* and *Dermatophagoides pteronyssinus* in a population in southwest Ohio.

Serum samples from 600 people randomly selected from a 1-day submission of approximately 3,000 serum samples to a clinical diagnostic laboratory were screened for IgE to allergens of the storage mite *T. putrescentiae* and the dust mites *D. farinae* and *D. pteronyssinus*. Proteins in the extracts of each mite were electrophoretically separated and transferred to membranes and incubated in the human serum samples using a slot-blot format. The blots were then probed for IgE binding using radiolabeled anti-human IgE and autoradiography.^{4,5}

A total of 70 (11.7%) of the 600 serum samples screened had IgE to the allergens from at least 1 of the 3 mite species. Thirty-nine (6.5%) and 55 (9.2%) had serum IgE to proteins of *T. putrescentiae* and *Dermatophagoides* sp, respectively. Fifteen (21.4%) of the 70 mite-positive people were sensitized to only *T. putrescentiae*, and 24 (34.3%) were cosensitized to both storage and house dust mites.

To our knowledge, the only data available from the United States for storage mite sensitivity is from a study of 120 Wisconsin farmers with respiratory disease.⁶ Nine (7.5%) of the 120 farmers surveyed had a positive skin test or radioallergosorbent test result to storage mites, and 40 (33.3%) were positive to the house dust mite *D. pteronyssinus*. In contrast, 2 of 14 nonfarmers (14.3%, control group) had positive skin test or radioallergosorbent test results to house dust mites, and none were sensitive to storage mites. Clearly, we have found that there may be much

more sensitization to storage mites in a US population than was reported by this earlier study.

Our results clearly establish that sensitization to the mite *T. putrescentiae* is significant in this region of southwest Ohio. Further studies are needed to determine the importance of this mite in both occupationally exposed and urban populations of the United States. Although commercial extracts of *T. putrescentiae* are available for diagnosis and immunotherapy in Europe, none are currently available in the United States and may be needed to effectively treat allergic disease in this country.

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