

# Food insects for reptile pets shuttle allergens into homes

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Grasshopper enzymes were identified as allergens. Credit: Sarah Hochgeschurz/Vetmeduni Vienna

Reptiles are often chosen as pets when an allergy risk exists within a family and the choice is made to avoid potentially allergenic pets such as dogs, cats or guinea pigs. Researchers at the Messerli Research Institute, however, recently described a noteworthy clinical case in which an eight-year-old boy developed nightly attacks of severe shortness of breath four months after the purchase of a bearded dragon.

The cause for the allergic reaction turned out not to be the lizard itself but the animal's food. The grasshoppers used to regularly feed the lizard were revealed to be the source of the allergy.

First author Erika Jensen-Jarolim speaks of the tip of an iceberg: "Even colleagues with allergologic expertise could overlook insects as reptile food as a possible cause of such allergic reactions. Far too little is known about grasshoppers as a potential allergenic source in homes. We do know of cases, however, in which fish food has caused allergies. And insects are often processed in fish food."

## **Grasshopper enzymes identified as allergens**

For a long time, the cause of the allergic reaction in the eight-year-old Viennese boy remained unknown. The initial diagnosis was pseudo croup, an infection of the respiratory tract, and severe asthma. Allergy expert Jensen-Jarolim and her team considered the possibility of a pet allergy and chose to also test the reptile food: grasshoppers. An allergy skin test and evidence of specific IgE antibodies finally brought

certainty: grasshopper allergens were the cause of the [allergic reactions](#) in the child.

"We were in the middle of a study investigating sources of allergies at pet stores. So coming upon the reptile food was pure coincidence," says Jensen-Jarolim.

## **Allergy persists long after exposure**

On Jensen-Jarolim's advice, the reptile was immediately removed from the boy's home. The symptoms abated as a result. Four years later, however, the boy exposed himself to the allergen again, which triggered an allergic asthmatic reaction even after all that time.

## **New rules for handling reptiles**

"We are seeing a shift in the attitude towards reptiles from a pure hobby or biological interest toward a human-animal relationship with an emotional component. It is difficult to estimate the number of reptiles and food animals living in people's homes and the undisclosed figure is sure to be high," Jensen-Jarolim believes. She recommends keeping reptile food outside of homes. The reptiles themselves should not be kept in living rooms, as undigested insects end up in the terraria via the faeces. This could result in pet owners inhaling the aggressive allergens, leading to allergies such as asthma or skin inflammations.

"Grasshopper allergies have been nearly unknown to date. With our publication, it is our intention to sensitise the public to this matter. We are especially concerned about people who keep such animals, pet store employees as well as physicians, who should include questions regarding reptile pets and their food as a routine in their allergy diagnostic consultation," stresses Jensen-Jarolim.

**More information:** Erika Jensen-Jarolim et al. Caution: Reptile pets shuttle grasshopper allergy and asthma into homes, *World Allergy Organization Journal* (2015). [DOI: 10.1186/s40413-015-0072-1](https://doi.org/10.1186/s40413-015-0072-1)

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