

Lizards in the Library: A case study of an established resident population of Mediterranean house geckos in collection storage areas

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INTRODUCTION

Integrated pest management programs in cultural institutions are typically concerned with common pests, such as insects or rodents, living within buildings. The Harry Ransom Center has an established population of *Hemidactylus turcicus* (Mediterranean house geckos) living within its building, including in collection storage areas. These small lizards are common in Austin, Texas, located in the south-central United States, and are generally considered beneficial as they are insectivores. While using insectivores to control insects in a cultural institution setting is an intriguing idea, the presence of geckos presents its own concerns.



Mediterranean house gecko by ZooFari, licensed under CC BY 2.0.

BIOLOGY

H. turcicus is a small subtropical species of lizard living around the Mediterranean and Red Seas and has been introduced into areas along the coast of the Gulf of Mexico. *H. turcicus* has adapted well to human environs and can be found in urban areas, even inside residences. Adults usually reach about 11 cm in length. Though nocturnal, they will often gather around light sources looking for easy prey, which can include small moths, cockroaches, and spiders. *H. turcicus* use sticky toe pads to climb walls. During the day they will seek shelter in small cracks and crevices of buildings as well as of rocks. *H. turcicus* will lay several clutches of eggs during the summer. House geckos are considered beneficials in Austin because they eat common household pests, and some people welcome them in their homes. The geckos are harmless and sometimes are even kept as pets.

RANSOM CENTER POPULATION

H. turcicus started appearing in sticky blunder traps when the Ransom Center initiated an IPM program in 1990. They can be found throughout the building, including in collection storage areas and especially in facilities equipment areas. Though the typical adult sized *H. turcicus* is around 11 cm in length, the Ransom Center's population rarely exceeds 5 cm. Because typical gecko prey do not consistently appear in the Ransom Center, it is assumed that the resident population subsists on smaller species of insects within the building, including odd beetles (*Thylodarias contractus*). The population seems to be in decline as recent efforts to address insect issues within the building are proving successful. The Ransom Center's geckos are rarely seen outside of sticky blunder traps, but occasionally one can hear them chirping in dark storage areas.



Desiccated gecko in sticky blunder trap.
Photograph by author.

CONCERNS FOR CULTURAL INSTITUTIONS

Although *H. turcicus* can be beneficial in controlling insect populations within a building, there are concerns about keeping geckos in areas with collection materials. Dead geckos provide a food source for pests that eat proteins, including cockroaches and carpet beetles. Gecko droppings can stain collection materials as well as pose a potential source of salmonella, a health concern. Staff who are unaccustomed to being around small lizards often are reluctant to be near them or are frightened by them.

CONTROL

H. turcicus is resistant to most common pesticides. The Ransom Center has been successful in controlling its population by eliminating the geckos's food supply. After successfully renewing a concerted effort to control and eliminate insects within the building, there has been a noticeable drop in the number of trapped geckos.

DISTRIBUTION OF *H. TURCICUS* AND GLOBAL WARMING

The current distribution of *H. turcicus* is along the coasts of the Mediterranean Sea, the Red Sea, the Persian Gulf, and the Gulf of Mexico, with small remote populations in other areas. These are primarily subtropical areas, with warm to hot summers and warm to cool winters. Limits to the distribution range seem to be guided by climate (Meshaka, et al 2006). As such, models predict that as the climate changes, this distribution area could move significantly northward (Wetterings, Vetter, 2018). As a result, institutions that are unaccustomed to small lizards may find themselves having to deal with a new category of pest.



Citations:

Meshaka, Walter E. Jr., Samuel D. Marshall, Jeff Boundy, and Avery A. Williams, 2006. "Status and Geographic Expansion of the Mediterranean House Gecko, *Hemidactylus turcicus*, in Louisiana: Implications for the Southeastern United States." *Herpetological Conservation and Biology* 1(1): 45-50.

Wetterings, Robbie and Kai C Vetter, 2018. "Invasive house geckos (*hemidactylus* spp.): their current, potential and future distribution." *Current Zoology* 64(5):559-57.

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Special thanks to Ellen Cunningham-Kruppa, Diana Diaz Cañas, Rob Hay, Genevieve Pierce, Tom Sebulsky and Shelly Van Dyke



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