

First record of predation of *Hemidactylus turcicus* by *Argiope bruennichi* (Arachnida: Araneidae)

Enrique Pantoja, Samuel Pinya*

Interdisciplinary Ecology Group. Department of Biology. University of the Balearic Islands. Ctra. Valldemossa, km. 7'500. 07122 Palma. Spain. C.e.: s.pinya@uib.es

Fecha de aceptación: 30 de enero de 2020.

Key words: Mediterranean gecko, Wasp spider, predatory behaviour, distribution, Balearic Islands.

RESUMEN: Se reporta un primer caso de depredación de un juvenil de *Hemidactylus turcicus* por parte de la araña tigre *Argiope bruennichi*, así como se incrementa el conocimiento de la distribución conocida de *H. turcicus* en la isla de Mallorca con una nueva cuadrícula UTM 10x10 km.

The Mediterranean gecko *Hemidactylus turcicus* is a widely distributed species along the Mediterranean Basin and the Middle East with some introductions to Canary Islands and the American continent (Behler & King, 1988; Barbadillo *et al.*, 1999). This species is considered introduced at the Balearic Islands (Pinya & Carretero, 2011), where it inhabits in warm coastal areas (Esteban *et al.*, 1994; Palerm, 1997) with a preference for anthropogenic habitats (Carranza & Arribas, 2015). It is confined to such areas with vertical walls (Vogrin & Miklic, 2005) as well as stonewalls and edges.

Many vertebrate predators of *H. turcicus* has been reported (Rato, 2015), such as the horseshoe whip snake *Hemorrhois hippocrepis*, the barn owl *Tyto alba*, the African hedgehog *Athelerix algirus*, the lesser white-toothed shrew *Crociodura suaveolens*, the black rat *Rattus rattus*, the least weasel *Mustela nivalis*, the common genet *Genetta genetta*, and domestic cats *Felis catus* (Salvador, 1998) and even some lacertids such as *Podarcis siculus* (Capula & Aloise, 2011).

During a nocturnal field trip in 21 October 2017, at 11:51 pm, a large female of Wasp spider *Argiope bruennichi* was observed feeding on a juvenile *H. turcicus* (Figure 1).

This observation was recorded at Jornets (Sencelles, Balearic Islands, Spain) (ETRS 89: 31N 494610; 4392027; 69 masl). The individual of *A. bruennichi* was onto a web located between vegetation and a traditional stonewall next to a road feeding on a fresh captured juvenile body of *H. turcicus* enveloped in silk.



Figure 1: Predation of a juvenile Mediterranean gecko (*Hemidactylus turcicus*) by a Wasp spider (*Argiope bruennichi*) in Jornets (Mallorca, Spain), on October 21, 2017. **Figura 1:** Depredación de un juvenil de salamanguera rosada (*Hemidactylus turcicus*) por una araña tigre (*Argiope bruennichi*) en Jornets (Mallorca, España) el 21 de octubre de 2017.

Concerning to the predation of *H. turcicus*, as far as we are concerned, this note constitutes the first predation record involving *A. bruennichi*. Some invertebrates have been reported preying on genus *Hemidactylus* such as *Argiope picta* over *H. frenatus* (Turner, 2018). Furthermore, several Araneae species were reported on preying over *Hemidactylus* such as *Heteropoda venatoria* (Neogi & Islam 2017), *Nephilengys cruentata* (Diniz, 2011), an unidentified Ctenidae species (Lanschi & Ferreira 2012) and *Tidarren sisyphoides* (Roberts *et al.*, 1999).

On the other hand, the locality where the predation event took place (UTM 10 x 10: DD99) was not recorded previously as part of the distribution area of *H. turcicus* in Mallorca. All the records of this species at the island are located very close to the coastline since it

is thought the species inhabits basically warm coastal areas (Esteban *et al.*, 1994; Palerm, 1997). Neither the consulted biodiversity databases (BIOATLES, 2020: Biodiversity database of the Government of the Balearic Islands and BIODIBAL, 2020: Biodiversity database of the University of the Balearic Islands linked to GBIF) nor the previous published distribution atlas (Geniez, 2002; see also SIARE, 2020) included any observation of *H. turcicus* at inland territories. From now on, it is recommended to revise the Mallorcan distribution of *H. turcicus*, especially at those inland areas where a population could have gone unnoticed for years.

ACKNOWLEDGEMENTS: This work has been partially funded by Biodibal project under the frame of the Agreement between the University of the Balearic Islands and Red Eléctrica de España.

REFERENCES

- Barbadillo, L.J., Lacomba, J.I., Pérez-Mellado, V., Sancho, V. & López-Jurado, L.F. 1999. *Anfibios y Reptiles de la Península Ibérica, Baleares y Canarias*. Geoplaneta, Barcelona.
- Behler, J.L. & King, F.W. 1988. *The Audubon Society Field Guide to North American Reptiles and Amphibians*, 7th reprint. Alfred A. Knopf, New York.
- BIOATLES. 2020. Biodiversity database of the Ministry of Environment and Territory of the Government of the Balearic Islands. <<http://bioatles.caib.es>> [Consulted: January, 29th of 2020].
- BIODIBAL. 2020. Biodiversity database of the University of the Balearic Islands. <<http://biodibal.uib.cat>> [Consulted: January, 29th of 2020].
- Capula, M. & Aloise, G. 2011. Extreme feeding behaviours in the Italian wall lizard, *Podarcis siculus*. *Acta Herpetologica*, 6(1): 11-14.
- Carranza, S. & Arribas, Ó. 2015. La salamandrea rosada (*Hemidactylus turcicus*) en la península ibérica, islas Baleares e islas Canarias. *Boletín de la Asociación Herpetológica Española*, 26(2): 51-54.
- Diniz, S. 2011. Predation and feeding on the tropical house gecko *Hemidactylus mabouia* (Squamata: Gekkonidae) by the giant orb-weaver spider *Nephilengys cruentata* (Araneae: Nephilidae). *Herpetology Notes*, 4: 357-358.
- Esteban, I., Filella, E., García-París, M., G.O.B. Menorca, Martín, C., Pérez-Mellado, V. & Zapirain, E.P. 1994. Atlas provisional de la distribución geográfica de la herpetofauna de Menorca (Islas Baleares, España). *Revista Española de Herpetología*, 8: 19-28.
- Geniez, P. 2002. *Hemidactylus turcicus* (Linnaeus, 1758). Salamandrea rosada. 177-179. In: Pleguezuelos, J.M., Márquez, R., Lizana, M. (eds.). *Atlas y Libro Rojo de los Anfibios y Reptiles de España*. Dirección General de Conservación de la Naturaleza-Asociación Herpetológica Española (2^a impresión). Madrid.
- Lanschi, F.A. & Ferreira, R.B. 2012. *Hemidactylus mabouia* (Tropical House Gecko). Predation. *Herpetological Review*, 43(1): 133-134.
- Neogi, A.K. & Islam, M.N. 2017. Giant Crab Spider: Predation of common house gecko *Hemidactylus frenatus* Schlegel, 1836 by giant crab spider *Heteropoda venatoria* Linnaeus, 1767. *Zoo's Print*, 32(8): 22-24.
- Palerm, J.C. 1997. Atlas dels amfibis i reptils de l'illa d'Eivissa (Illes Pitiüses). *Bolletí de la Societat d'Història Natural de les Balears*, 40: 17-45.
- Pinya, S. & Carretero, M.A. 2011. The Balearic herpetofauna: a species update and a review on the evidence. *Acta Herpetologica*, 6(1): 59.
- Rato, C. 2015. Salamandrea rosada – *Hemidactylus turcicus*. In: Salvador, A., Marco, A. (eds.). *Enciclopedia Virtual de los Vertebrados Españoles*. Museo Nacional de Ciencias Naturales, Madrid. <<http://www.vertebradosibericos.org/>>.
- Roberts, D.T., Hartdegen, R.W. & Formanowicz, D. 1999. *Hemidactylus turcicus* (Mediterranean Gecko). Predation. *Herpetological Review*, 30(1): 41-42.
- Salvador, A. 1998. *Hemidactylus turcicus* (Linnaeus, 1758). 137-142. In: Salvador, A. (coord.). *Reptiles*. Ramos, M.A.

- et al.* (eds.). *Fauna Ibérica*. Museo Nacional de Ciencias Naturales-CSIC. Madrid.
- SIARE. 2020. Base de datos nacional de la Asociación Herpetológica Española. <<http://siare.herpetologica.es>> [Consulted: January, 29th of 2020].
- Turner, G. 2018. Predation of an Asian House Gecko *Hemidactylus frenatus* by a St Andrew's Spider *Argiope picta* (Araneidae). *Queensland Naturalist*, 56(1-3): 18-23.
- Vogrin, M. & Miklic, A. 2005. The Turkish gecko *Hemidactylus turcicus* prefers vertical walls. *Turkish Journal of Zoology*, 29: 385-386.