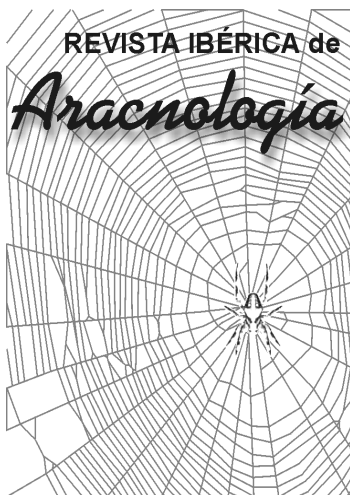




NOTA:

Frogs and lizards as prey of some Greater Antillean arachnids

Luis F. de Armas

Apartado Postal 27,
San Antonio de los Baños,
La Habana 32500, Cuba.

Revista Ibérica de Aracnología

ISSN: 1576 - 9518.
Dep. Legal: Z-2656-2000.
Vol. 3, XII-2001
Sección: Artículos y Notas.
Pp: 87-88.

Edita:

Grupo Ibérico de Aracnología (GIA)

Grupo de trabajo en Aracnología de la Sociedad Entomológica Aragonesa (SEA)
Avda. Radio Juventud, 37
50012 Zaragoza (ESPAÑA)
Tef. 976 324415
Fax. 976 535697
C-elect.: amelic@retemail.es
Director: A. Melic

Información sobre suscripción, índices, resúmenes de artículos *on line*, normas de publicación, etc. en:

Página web GIA:
<http://entomologia.rediris.es/gia>

Página web SEA:
<http://entomologia.rediris.es/sea>

NOTA:

FROGS AND LIZARDS AS PREY OF SOME GREATER ANTILLEAN ARACHNIDS

Luis F. de Armas

Abstract

At least 10 species of frogs (genus *Eleutherodactylus*) and lizards were recorded as prey of some Greater Antillean arachnids, mainly scorpions, whip spiders, and true spiders. Most of the available data corresponded to casual observations, but field herpetological researches carried out on Puerto Rico also largely contributed to the data set.

Key words: Arachnida, Amblypygi, Araneae, Scorpiones, Thelyphonida, predation, frogs, lizards, West Indies, Greater Antilles.

Ranas y lagartos como presas de algunos arácnidos en las Antillas Mayores

Resumen

Al menos 10 especies de ranas (género *Eleutherodactylus*) y lagartos han sido registradas en las Antillas Mayores como presas de algunos arácnidos, principalmente escorpiones, ambliopígid y arañas. La mayor parte de esta información corresponde a observaciones fortuitas, aunque investigaciones de campo realizadas en Puerto Rico también han contribuido en gran medida.

Palabras claves: Arachnida, Amblypygi, Araneae, Scorpiones, Thelyphonida, depredación, ranas, lagartos, Antillas, Antillas Mayores.

The arachnids, mainly spiders and scorpions, are frequently eaten by toads, frogs, and lizards, but in some cases they act as predators of amphibians and reptiles (Formanowicz *et al.*, 1981; McCormick & Polis, 1982; Reagan, 1996; Roberts *et al.*, 1999). Such trophic relationship (intraguild predation) involves a non-simple food web (Steward & Woolbright, 1996). Nevertheless, the available information regarding this phenomenon, at least for the Antillean taxa, is very poor. Among the Cuban iguanid lizards, for example, the only known cases of predation by arachnids are those recorded by Armas & Alayón (1987), but as they stated “*eran lagartijas juveniles de no más de 30 mm hocico-cloaca, las cuales, al parecer, cayeron accidentalmente en las telas.*” [they were young lizards no more than 30 mm snout-cloaca length, which apparently fell accidentally in the spider webs].

This short contribution attempts to document available data on predation of both frogs and lizards by Greater Antillean arachnids, an interesting phenomenon that requires a particular attention by students because of its ecological implications.

Most of the data included in this paper were obtained as result of casual observations in Cuba and Hispaniola. Nevertheless, field herpetological researches carried out at Puerto Rico have also largely contributed (Formanowicz *et al.*, 1981; Reagan, 1996; Stewart & Woolbright, 1996).

The Greater Antillean arachnids recorded as predators of frogs were: scorpions, vinegaroons (Thelyphonida), whip spiders (Amblypygi), and spiders (Araneae), whereas scorpions, spiders and whip spiders were the only ones recorded as natural enemies of lizards (Table I).

Large arachnids (tarantulas, giant crab spiders, scorpions, and whip spiders) and widow spiders (Theridiidae: *Latrodectus* spp.) are well represented in the Greater Antillean islands. Because of its very toxic venom, strong web, and behaviour, widow spiders are potential predators of some small vertebrates. For all these reasons, definite ecological researches on arachnids are needed in that area for determining its role in the complex food web involving herpetofauna.

I thank to Lourdes Rodríguez Schettino, Ariel Rodríguez, and Roberto Alonso (IES) for the bibliography that kindly put at my hands. To Rubén Regalado, and Néstor Morales, for the communication of their observations. To anonymous referees for utile comments to the manuscript.

Table I
Frogs and lizards predated by Greater Antillean arachnids

Prey	Predator	Island	References
AMPHIBIA (ANURA)			
Leptodactylidae			
<i>Eleutherodactylus coqui</i> Thomas, 1966	<i>Tityus obtusus</i> (Karsch, 1879) (Scorpiones: Buthidae)	Puerto Rico	Steward & Woolbright (1996), Villanueva-Rivera <i>et al.</i> (1999)
	<i>Phrynus longipes</i> (Pocock, 1893) (Amblypygi: Phrynidae)	Puerto Rico	Formanowicz <i>et al.</i> (1981), Reagan <i>et al.</i> in Reagan (1996: 223)
	<i>Stasina portoricensis</i> Petrunkevitch, 1930 (Araneae: Sparassidae)	Puerto Rico	Formanowicz <i>et al.</i> (1981), Reagan <i>et al.</i> in Reagan (1996: 223)
	<i>Olios</i> sp. (Araneae: Sparassidae)	Puerto Rico	Formanowicz <i>et al.</i> (1981)
	<i>Oligoctenus ottleyi</i> Petrunkevitch, 1930 (Araneae: Ctenidae)	Puerto Rico	Formanowicz <i>et al.</i> (1981)
	Ctenizidae (Araneae)	Puerto Rico	Stewart & Woolbright (1996)
<i>Eleutherodactylus patriciae</i> Schwartz, 1965	<i>Tityus quisqueyanus</i> Armas, 1981 (Scorpiones: Buthidae)	Hispaniola	Armas & Abud (1992: 5)
<i>Eleutherodactylus zugi</i> Schwartz, 1958	<i>Ctenus vernalis</i> Bryant, 1940 (Araneae: Ctenidae)	Cuba	Novo <i>et al.</i> (1985)
<i>Eleutherodactylus</i> sp.	<i>Phrynus</i> sp. (Amblypygi: Phrynidae) [perhaps <i>P. pinarensis</i> Franganillo, 1930]	Cuba	Schwartz (1958:42)
<i>Eleutherodactylus</i> sp.	<i>Mastigoproctus pelegriini</i> Armas, 2000 (Thelyphonida: Thelyphonidae)	Cuba	A. R. Estrada in Armas (2000:4)
REPTILIA (SAURIA)			
Polychrotidae			
<i>Anolis porcutus</i> Gray, 1840	<i>Argiope trifasciata</i> (Förskal, 1775) (Araneae: Araneidae)	Cuba	Armas & Alayón (1987)
	<i>Centruroides gracilis</i> (Latreille, 1804) (Scorpiones: Buthidae)	Cuba	N. Morales (pers. com., 1984)
<i>Anolis sagrei</i> Duméril & Bibron, 1837	<i>Argiope trifasciata</i> (Förskal) (Araneae: Araneidae)	Cuba	Armas & Alayón (1987)
<i>Anolis</i> sp.	<i>Phrynus longipes</i> (Pocock) (Amblypygi: Phrynidae)	Hispaniola	Armas & Abreu (1999)
Teiidae			
<i>Ameiva lineolata lineolata</i> Duméril & Bibron, 1839	<i>Rhopalurus princeps</i> (Karsch, 1879) (Scorpiones: Buthidae)	Hispaniola	Armas & Abud (1992:5)
Gekkonidae			
<i>Sphaerodactylus elegans</i> MacCleay, 1834	<i>Rhopalurus junceus</i> (Herbst, 1800) (Scorpiones: Buthidae)	Cuba	R. Regalado (pers. com., 1984)

Bibliography

- ARMAS, L. F. DE 2000. Los vinagrillos de Cuba (Arachnida: Uropygi: Thelyphonidae). *Poeyana*, **469**:1-10 [dated as December 30, 1998, but issued on September 2000].
- ARMAS, L. F. DE & ABREU COLLADO, D. 1999. "Mitos y realidades sobre el guabá". *Hoy*, Santo Domingo, 18 March, p. 22B.
- ARMAS, L.F. DE & ABUD, A. 1992. Depredación de vertebrados por escorpiones (Scorpiones: Buthidae) de República Dominicana. Pp 5-7 in *Comunicaciones breves de Zoología*, Editorial Academia, La Habana.
- ARMAS, L. F. DE & ALAYÓN GARCÍA, G. 1987. Observaciones sobre la ecología trófica de una población de *Argiope trifasciata* (Araneae: Araneidae) en el Sur de La Habana. *Poeyana*, **344**: 1-18.
- FORMANOWICZ, D. R., JR., STEWART, M. M., POUGH, F. H. & BRUS-SARD, P. F. 1981. Predation by giant crab spiders on the Puerto Rican frog *Eleutherodactylus coqui*. *Herpetologica*, **37**(3): 125-129.
- MCCORMICK, S. J. & POLIS, G. A. 1982. Arthropods that prey on vertebrates. *Biol. Rev.*, **57**: 29-58.
- NOVO, J., ESTRADA, A. R. & ALAYÓN, G. 1985. *Eleutherodactylus* (Anura: Leptodactylidae) depredado por un araneido. *Misc. Zool.*, Acad. Cien. Cuba, **28**:1-2.
- REAGAN, D. P. 1996. The role of amphibians and reptiles in a West Indian rain forest food web. Pp. 217-227 in R. Powell and R. W. Henderson (eds.), *Contribution to West Indian Herpetology: A tribute to Albert Schwartz*. Society for the Studies of Amphibians and Reptiles, Ithaca, New York. Contribution to Herpetology, vol. **12**.
- ROBERTS, D. T., HARTDEGEN, R. W. & FORMANOWICZ, D. 1999. *Hemidactylus turcius* (Mediterranean Gecko). Predation. *Herpetol. Rev.*, **30**(1): 41-42.
- SCHWARTZ, A. 1958. Another new large *Eleutherodactylus* (Amphibia: Leptodactylidae) from western Cuba. *Proc. Biol. Soc. Washington*, **71**: 37-42.
- STEWART, M. M. & WOOLBRIGHT, L. L. 1996. Amphibians. Pp. 273-320 in D. P. Reagan and R. B. Waide (eds.), *The food web of a tropical rain forest*. The University of Chicago Press, Illinois.
- VILLANUEVA-RIVERA, L. J., JOGLAR, R. L. & LI, F. C. 1999. *Eleutherodactylus coqui* (coquí). Predation. *Herpetol. Rev.*, **31**(2): 100.