POSSIBLE PREDATION EVENT ON A BROWN ANOLE *ANOLIS SAGREI* (SQUAMATA: ANOLIDAE) BY A MEXICAN RED RUMP TARANTULA *TLILTOCATL VAGANS* (ARANEAE: THERAPHOSIDAE) IN QUINTANA ROO, MEXICO

POSIBLE DEPREDACIÓN DE UN ABANIQUILLO COSTERO MAYA *ANOLIS SAGREI* (SQUAMATA: ANOLIDAE) POR UNA TARÁNTULA MEXICANA DE CADERA ROJA *TLILTOCATL VAGANS* (ARANEAE: THERAPHOSIDAE) EN QUINTANA ROO, MÉXICO

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Resumen.– La dieta de las arañas de la familia Theraphosidae consiste principalmente de insectos grandes y otros artrópodos terrestres como ciempiés, milpiés y otros arácnidos; no obstante, las especies más grandes ocasionalmente se alimentan de vertebrados pequeños como lagartijas, ratones, aves y serpientes. Reportamos una observación de un posible evento de depredación de la tarántula mexicana de cadera roja (*Tliltocatl vagans*) sobre un abaniquillo costero maya (*Anolis sagrei*) durante la noche del 29 de mayo de 2014, en el jardín de una residencia ubicada en Chetumal, Quintana Roo, México.

Palabras clave.– Ambiente antropizado, arácnidos, Chetumal, dieta, ecología trófica, lagartijas.

Abstract.– The diet of spiders belonging to the Theraphosidae family consists mainly of large insects and other terrestrial arthropods such as centipedes, millipedes, and other arachnids; nevertheless, the biggest species occasionally feed on small vertebrates such as lizards, mice, bats, birds, and snakes. We report an observation of a possible predation event of the Mexican Red Rump Tarantula (*Tliltocatl vagans*) on a Brown Anole (*Anolis sagrei*) during the night on 29 May 2014, in the garden area of a residence located in Chetumal, Quintana Roo, Mexico.

Keywords.– Anthropized environment, arachnids, Chetumal, diet, lizards, trophic ecology.

The family Theraphosidae comprises the largest and heaviest spiders in the world, inhabiting almost every terrestrial ecosystem, except for polar regions, but primarily found in tropical, subtropical, semi-arid and arid regions around the world (Mendoza & Francke, 2020; Pérez-Miles, 2020). Theraphosid spiders usually hunt at night, waiting at the entrance of their refuge in the darkness to feed primarily on ground-dwelling animals including large insects and other terrestrial arthropods such as centipedes, millipedes, and other arachnids, using a "sit-and-wait" strategy as their primary method of prey capture (Marshall, 1996; Schults & Schults, 2009; Hénaut & Machkour-M'Rabet, 2020). The largest species occasionally feed on small

vertebrates such as lizards, mice, bats, birds, and snakes (Schults & Schults, 2009; Hénaut & Machkour-M'Rabet, 2020). Most are burrowers, inhabiting underground burrows but they may also live under stones, logs and inside crevices, as seen in representatives of the *Tliltocatl* genus (Yañez & Floater, 2000; Machkour–M'Rabet et al., 2005, 2007).

The Mexican Red Rump Tarantula (*Tliltocatl vagans*), occurs on the base of the Yucatán Peninsula: southeastern Campeche, northeastern Chiapas, and southern Quintana Roo in Mexico, northern Guatemala, and Belize (Fukushima et al., 2019; Mendoza & Francke, 2020). This species is commonly associated with microhabitats having moderate levels of human disturbance, including human settlements (Machkour–M'Rabet et al., 2005; Dor et al., 2011). It is important to mention that *Tliltocatl vagans* is listed under the IUCN's "Least Concern" category and on CITES Appendix II, along with all other species of the genus *Tliltocatl* (ex. *Brachypelma*) (Fukushima et al., 2019; CITES, 2024).

The Brown Anole (*Anolis sagrei*) is a moderately robust lizard native to the Caribbean islands on the Bahamas, Cuba, Little Cayman Island, and Cayman Brac island but its geographic distribution has been expanding by human means outside of its natural range (Heimes, 2022; Global Invasive Species Database, 2025), including the Yucatán Peninsula (Díaz-Gamboa et al., 2020), where it mostly occupies coastal areas and offshore islands (Heimes, 2022 and references therein). *Anolis sagrei* is considered a habitat generalist, primarily inhabiting open and disturbed environments (Global Invasive Species Database, 2025). In Mexico, it is commonly found around human settlements, where it perches on rock walls, building walls, fence posts, coconut palms, and mangrove trees (Díaz-Gamboa et al., 2020; Heimes, 2022).

Predation on vertebrates by spiders is not well studied, and documenting predatory events is important for understanding their ecology, behavior, and evolution. There are reports of theraphosid spiders preying on vertebrates, including amphibians (caecilians and anurans), birds (e.g., hummingbirds), mammals (e.g., bats and mice), and small reptiles (e.g., snakes and lizards) (see Hénaut & Machkour-M'Rabet, 2020; Nyffeler & Gibbons, 2021, 2022 and references therein). Here, we report a possible predation event on *A. sagrei* by *T. vagans* in southern Quintana Roo, Mexico.

On May 29th 2014 at 21:36 h a dead adult male *A. sagrei* was found next to an adult female *T. vagans* in the garden area (Fig. 1) of a residence located in the city of Chetumal, Quintana Roo, Mexico (18.50011° N, 88.32591° W; 10 m a.s.l.). Although this finding appears to be a predation event, we cannot confirm that this was the case since we do not know if the spider caught and killed the lizard, nor do we have evidence that the spider eventually consumed the anole. The lizard had partially digested the top of its head and neck (Fig. 1). Thus, we assume that the

Figura 1. Hembra adulta de *Tliltocatl vagans* junto a un macho adulto de *Anolis sagrei*, encontrados el 29 de mayo de 2014 en el jardín de una vivienda ubicada en la ciudad de Chetumal, Quintana Roo, México. Foto: José Rogelio Cedeño-Vázquez.

Figure 1. Adult female *Tliltocatl vagans* next to an adult male *Anolis sagrei*, found on May 29th 2014 at a garden of a residence of Chetumal, Quintana Roo, Mexico. Photo: José Rogelio Cedeño-Vázquez.

observed damage was produced by digestive enzymes injected by the tarantula and the continuous mashing of the chelicerae when it hunted its prey.

There are three previous reports on predation events on *A. sagrei* by spiders: *Argiope trifasciata* (de Armas, 2001), *Cupiennius cf. cubae* (Fonseca-Hernández & Rodríguez-Cabrera, 2014), and *Latrodectus geometricus* (Cedeño-Vázquez et al., 2023). To the best of our knowledge, this is the first report of predation by Mexican Red Rump Tarantula on *A. sagrei*, a lizard species considered as invasive in Mexico (Vásquez-Cruz et al., 2020). Invasive alien species often demonstrate an ability to establish novel interspecific relationships, a key factor in explaining their invasive potential (Tingley et al., 2016). Considering that both species involved in this report live in close association with humans and benefit from their activities, predation events by T. *vagans* on the invasive *A. sagrei*, may contribute to regulating the urban populations of this anole in the Yucatán Peninsula.

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