Predation by the spider *Steatoda* sp. (Araneae, Theridiidae) on the centipede *Akymnopellis platei* (Attems, 1903) (Scolopendromorpha: Scolopendridae)

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Abstract: Studies regarding the Chilopoda in Chile are scarce, especially those of an ethological or ecological nature. The present study presents the first records of predation on *Akymnopellis platei* in Chile by synanthropic spiders of the genus *Steatoda,* as well as discussing knowledge gaps in the subject.
Key words: Chilopoda, Scolopendridae, Araneae, Theridiide, predation, Chile.

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Resumen: En Chile son escasos los estudios sobre quilópodos y más aún en ámbitos etológicos y ecológicos. En el presente estudio se entregan los primeros registros de depredación sobre *Akymnopellis platei* en Chile por arañas sinantrópicas del género *Steatoda*. Así también se discuten vacíos de conocimiento en torno al tema.
Palabras clave: Chilopoda, Scolopendridae, Araneae, Theridiide, predation, Chile.

According to Shelley (2008) and Vega-Román & Ruiz (2018), genus *Akymnopellis* in Chile contains the species *Akymnopellis chilensis* (Gervais, 1847), *Akymnopellis laevigata* (Porat, 1876), and *Akymnopellis platei* (Attems, 1903). The latter presents a wide distribution with records ranging from Antofagasta to Concepción (Vega-Román & Ruiz, 2018).

Similar to other Scolopendromorpha species, *Akymnopellis platei* is a chilopod with edaphic habits associated with highly vegetated and humid areas and is considered an active and voracious predator within the humic fauna (Edgecombe & Giribet, 2007).

On May 29, 2017, a juvenile *A. platei* was found wrapped in a *Steatoda* sp. web in a corner of a restroom in the town of Lirquén (47 km north of the regional capital, Concepción) (Fig. 1. A, B). The scolopendrid was suspended approximately 140 cm above the ground, facing upwards. Approximately a month later, the arachnid changed the position of the centipede, leaving it facing the opposite direction. Disturbing the web caused the arachnid to leave its nest and rearrange the chilopod, which was completely dry. After inspecting the specimens, both were deposited in the Museum of Zoology of the University of Concepción (MZUC-UCCC).

Although arachnids (mainly scorpions) have previously been observed preying on scolopendrids (Mccormick & Polis, 1990; Rodríguez-Cabrera *et al*., 2015), there are no records in our country of predation on *Akymnopellis platei*, despite the niche superposition with a great number of other predatory taxa such as scorpions, other scolopendrids, and arachnids (Mccormick & Polis, 1990).

Another relevant factor within this predator-prey relationship is the relative body size. This may be a determining factor in the results of antagonistic encounters between these two species. In this case, adult *A. platei* are nearly ten times larger than *Steatoda* sp. However, we believe the use of a web gives the spider advantage during predation, especially when considering a juvenile centipede, as in the studied case. We hypothesize that predation on an adult specimen would not always be successful.

The absence of previous records of Steatoda preying chilopods in Chile is most likely due to the lack of studies regarding ecology and ethology. In our country, the only ecological study of Chilopoda corresponds to Silva & Avalos (1974) who analyzed the distribution patterns of the Chilopoda in the Vicente Pérez Rosales National Park. Therefore, additional investigations are necessary for understanding prey handling behavior by *Steatoda* sp. and for discovering the strategies used by this species to subdue other potentially dangerous ones, such as large centipedes.

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Fig. 1. A) *Steatoda* sp. **1. B**) *A. platei* caught in spider web.