

GEKKO HOKOUENSIS, HEMIDACTYLUS STEJNEGERI. PREDATION. The Kwangsi Gecko (*Gekko hokouensis* Pope, 1928) has a natural distribution that extends through eastern China, Taiwan (including adjacent Lanyu and Guishan islets), and Japan (southern Kyushu Island and Ryukyu Archipelago) (Zhao & Adler, 1993; Lue et al., 2002). In Taiwan, this species can be found all over the island at altitudes below 1,000 m (Shang & Lin, 2001). According to Lin & Cheng (1990), the diet of *G. hokouensis* consists of insects, other arthropods and possibly fruits from inside human houses. The Stejneger's Leaf-toed Gecko (*Hemidactylus stejnegeri* Ota & Hikida, 1989) naturally occurs in China, Taiwan, Philippine (Luzon Islands), Thailand, and Vietnam (Zhao & Adler, 1993; Lue et al., 2002). In Taiwan, this species is not common, but can be found in the central to southern and eastern parts of the island, at altitudes below 1,200 m (Shang & Lin, 2001). Lin & Cheng (1990) stated that the diet of *H. stejnegeri* primarily consists of insects.

The Black Belly Wolf Spider (*Lycosa coelestis*) has a natural distribution that extends over China, Japan, Korea, and Taiwan, where they occur in a variety of low altitude habitats (Chen, 2001). Like all other members of the family Lycosidae, *L. coelestis* is a ground runner (Uetz et al., 1999), and their activities are mostly restricted to the ground, seldom being found on vegetation and other objects above the ground. We found no dietary descriptions for *L. coelestis* in the literature, although wolf spiders (Lycosidae) are generalist predators feeding mostly on Diptera, Hemiptera, Collembola, and Araneae (Nyffeler & Benz, 1988).



Figure 1. Example of *H. stejnegeri* predation on *L. coelestis*.

At 19:50 h, on the 20th March, 2008, a male *G. hokouensis*, with a snout-vent length (SVL), tail length (Tail-L) and the body mass (BM) of 62 mm, 42 mm and 4.7 g respectively, and which had suffered tail autonomy, was noticed as it moved ca. 1.7 m above the ground on a red brick wall, of an abandoned house in a private citrus orchard in the Dahu area, Yuanshan District, Yilan County, northeastern Taiwan (24°44'31.01"N, 121°40'41.95"E; elevation 65 m; WGS84). The gecko, which had a black spider in its mouth, was captured and placed in a small plastic cage. Soon afterwards the gecko ejected the spider, which was identified as a male *L. coelestis*, with a body length (BL) and BM of 14.5 mm and 0.2 g respectively. The *G. hokouensis* was released a week later back into the wild in the locality where it had been collected.

At 00:00 h, on the 20th of May 2009, an *H. stejnegeri*, with a black spider in its mouth, was seen moving along the gutter of a nursery greenhouse, located in the Da-jiou-shi Experimental Forest of National Ilan University, Yilan County, northeastern Taiwan (24°47'11"N, 121°40'39"E; elevation 250 m; WGS84). The gecko was photographed (Fig. 1), but when attempts were made to capture the gecko, it dropped the spider and fled. The prey item was collected and identified as a female *L. coelestis*, with a BL and BM of 12.8 mm and 0.1 g respectively.

According to Lue et al. (1987) *H. stejnegeri* is a nocturnal feeder and our observation supports this statement. The microhabitat utilization of *G. hokouensis* and *H. stejnegeri* is distinct to a certain degree. *G. hokouensis* may be found near human habitations but tends to prefer more natural settings like secondary forests and rocky cliffs (Goris & Maeda, 2004), where as *H. stejnegeri* is more human commensal and often occurs on the exterior walls of buildings in anthropogenic settlements. Predation on spiders by geckoes has the potential benefit of reducing competition (Holt & Polis, 1997) although intraguild predation events may be far more complex. For example, geckoes may risk mortality during predation on some spiders (e.g. Ramires & Fraguas, 2004).

During observations of lizard and spider predation events, we would encourage identification of the species involved to the

lowest taxonomical category possible. Such information would enhance interdisciplinary cooperation among specialists, and can possibly contribute to the understanding of intraguild predation by these organisms. Based on our available reference review, this appears to be the first reported instances of *H. stejnegeri* and *G. hokouensis* preying on *L. coelestis*.

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