

An instance of predation on a Stejneger's grass lizard (*Takydromus stejnegeri*) by a house cat (*Felis catus*) in an urban setting in Yunlin County, Taiwan

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Abstract. On the 1st of November, 2008, a domestic cat (*Felis catus*) was observed pouncing on, and consuming a Stejneger's grass lizard (*Takydromus stejnegeri*). *Takydromus stejnegeri* is one of the few grass lizard species in Taiwan that seems to be fairly tolerant to human disturbances, and can be human-commensal. So, our observations are not only what seems to be the first report of *F. catus* predation on *T. stejnegeri*, but it also adds *T. stejnegeri* to the already extensive list of species that may only be able to live in human-commensal situations in the absence of *F. catus*.

Keywords. domestic cat, endemic, human-commensal, introduced species.

The Stejneger's grass lizard (*Takydromus stejnegeri* Van Denburgh, 1912) (Fig.1) is endemic to Taiwan, and this diurnal species lives on herbaceous vegetation at altitudes below 1000m on the western part of the main island of Taiwan (Lue et al. 2002; Shang and Lin, 2001). At ca. 13:00 on November 1st, 2008, a domestic cat (*Felis catus*) was observed pouncing on a prey item in a plot (28.5×4.5m), located in an urban environment in Hu-Wei Township, Yunlin County, western Taiwan (N23°42.560' E120°26.823', alt. 42m). The plot is enclosed on the northern, southern, and western sides by the concrete walls of buildings, and the eastern side is bordered by a tarred road (highway no.158). On the other side of the road is an agricultural field that is laying fallow. The owner of the plot uses the eastern half of the plot as a parking area, and in the western part 3 camphor trees, and a variety of herbs, vegetables, and fruit are grown. Closer examination revealed that the prey item was a Stejneger's grass lizard. For more than five years prior to the arrival of a pair of *F. catus* in this area in September 2008, Swinhoe's tree lizards

(*Japalura swinhonis*) and Stejneger's grass lizards (*T. stejnegeri*) were numerous and were frequently observed on or among the vegetation (Wu, personal observation). But since the *F. catus* started frequenting the plot, *J. swinhonis* has become rare, and *T. stejnegeri* has disappeared so to speak. Interestingly, *J. swinhonis* has been reported to fall prey to *F. catus* (Lee, 2007) before, but in this case, it seems that *T. stejnegeri* is more vulnerable to *F. catus* predation. It is our opinion that this is because *J. swinhonis* is an ambush-hunter, and would not be very conspicuous when they do not move, whereas *T. stejnegeri* is an active-forager, which would make it much more noticeable to predators such as *F. catus*.

Domestic cats tend to be concentrated around human populated areas, although some may also occasionally be widely distributed in remote locations (Ogan and Jurek, 1997). Since many *F. catus* are free-roaming domestic pets, they are of special concern because they exist as subsidized exotic predators of native fauna (Kays and DeWal, 2004), because it has been shown that even when fed, *F. catus* continues to have a significant impact on some native fauna (Hawkins et al. 2004), and when *F. catus* densities become very high, they may function as a keystone modifier and lead to substantial long-term changes in the biotic community as a whole (Williamson, 1996). In addition to the contamination of wild cat (e.g. *F. sylvestrus grampia*, and *F. s. lybica*) gene pools (Macdonald et al. 1989), and the spread of some diseases, *F. catus* can be a major factor in the killing of native wildlife by direct predation, and/or competition with native predators for prey (Arnaud et al. 1994; Garcia et al. 2001; Kuo, 2006; Ogan and Jurek,

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Figure 1. A Stejneger's grass lizard (*Takydromus stejnegeri*) from the plot, described here in, prior to the arrival of the domestic cats (*Felis catus*).

1997), which makes *F. catus* one of the most dangerous predators to native fauna (Garcia *et al.* 2001).

Six lizard species (*Eutropis longicaudata*, *E. multifasciata* – also an exotic invasive species in Taiwan, *Hemidactylus frenatus*, *J. swinhonis*, *Plestiodon elegans*, and *Sphenomorphus indicus*), and four snake species (*Amphiesma stolata*, *Lycodon ruhstrati ruhstrati*, *Oligodon formosanus* and *Xenochrophis piscator*) have previously been reported as reptilian prey of *F. catus* in Taiwan (Lee, 2007).

Takydromus stejnegeri is one of the few grass lizard species in Taiwan that seems to be fairly tolerant to human disturbances, and can be human-commensal. So, our observations are not only what seems to be the first report of *F. catus* predation on *T. stejnegeri*, but it also adds *T. stejnegeri* to the already extensive list of species that may only be able to live in human-commensal situations in the absence of *F. catus*.

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