

Intraguild predation by a salticid (*Hyllus brevitarsus*) on a large orb weaver (*Nephila senegalensis*)

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Some salticids successfully attack large or well-defended prey (Robinson & Valerio 1977; Penney & Gabriel 2009; Morse 2007; Li 2000), including web-building spiders (Jackson & Pollard 1996; Guseinov *et al.* 2004). Members of the salticid genera *Brettus*, *Cocalus*, *Cyrbia*, and *Portia* have behavioural adaptations that allow them to invade webs to capture and consume orb weavers (Cerveira *et al.* 2003). *Habronattus tranquillus* and *Metaphidippus manni* are brood parasites; adult females lay their eggs in the webs of *Diguetia mojavea*, where their spiderlings feed on the host's offspring (Boulton & Polis 2002). For some species of *Portia*, araneophagy appears to be obligate. Li and Jackson (1997) found that *Portia fimbriata* juveniles reached adulthood when raised on diets of spiders or mixed diets of spiders and insects, but not when raised on diets of insects alone. In other salticids, araneophagy may be opportunistic. Members of the genera *Phiale* (Robinson & Valerio 1977), *Phidippus* (Tolbert 1975), *Plexippus* (Jackson & Macnab 1989; Ahmed *et al.* 2015), and *Thyene* (Jäger 2012) have been observed to make successful jumping attacks on other spiders, including orb weavers in their webs, but araneophagy provides a minority of the diet for these salticids. However, well-documented examples of araneophagy by salticids in nature remain scarce, and thus the scope of this behaviour is still poorly understood.

I took the photograph in Figure 1 at 6:31 AM (10 minutes after sunrise) on 7 April 2015 near Thabazimbi (24.360194°S, 27.361343°E), South Africa. As shown in the photograph, an adult female *Hyllus brevitarsus* Simon 1902 was feeding on a (subadult?) female *Nephila senegalensis* (Walckenaer 1841). I did not observe the capture. This *Hyllus* fed for at least 2 hours, but by 12:00 had dropped the *Nephila* and left the feeding site. The feeding site was approximately 2 meters above the ground on a wire fence. The *Hyllus* suspended herself from this wire in the photograph. A sandy unpaved road runs along each side of the fence, separating it from the vegetation on either side by approximately 3 meters. The fence is heavily used by *Nephila* as a web-building site. Spiders build support strands between the fence and the surrounding vegetation, or build webs between two strands of disused electric fencing that run along one side of the fence. The webs are typically built parallel to and 30 to 50 cm from the fence. I monitored more than 100 *Nephila* webs along this fence for 5 days, but I did not see a *Hyllus* other than on this occasion.

Did the predation event in the photograph result from a jumping attack on the *Nephila* in her web, or did the *Hyllus* discover and attack the *Nephila* outside of her web? There was not an intact unoccupied *Nephila* web near the feeding site, but there were remnants of a broken web touching the fence around the feeding site. These can be seen in the photograph. To my knowledge, there is no evidence of attacks by salticids on orb weavers that also destroy the orb webs (Robinson & Valerio 1977; Jäger 2012). Moreover, the area between the fence and each *Nephila* orb web is filled with a tangle of silk strands that may serve as a defensive barrier against jumping attacks (Tolbert 1975). Therefore, I suspect that the *Hyllus* attacked the *Nephila* outside of her web, perhaps when she approached the fence to attach a structural strand for a web she was building. Given the distance of the fence from the surrounding vegetation and the lack of other suitable prey on the fence, it seems plausible that the *Hyllus* visited the fence for the purpose of hunting *Nephila*, which may suggest a previously unrecorded behavioural specialisation in at least some members of *Hyllus brevitarsus*.



Figure 1. An adult female *Hyllus brevitorsus* feeding on a female *Nephila senegalensis*.

Acknowledgments

I thank Dmitri Logunov and Charles Haddad for identifying the species in this photograph.

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