

The effects of cypermethrin on *Tenuiphantes tenuis* (BLACKWALL, 1852): development of a technique for assessing the impact of pesticides on web building in spiders (Araneae: Linyphiidae)

Emma M. Shaw¹, C. Philip Wheeler¹, A. Mark Langan¹

Abstract: The construction and design of webs are fundamental units of behaviour in spiders and can be used as an indicator of the impact of environmental stressors (for example pesticides) on their health. Very few studies have quantified web building by spiders that produce three dimensional webs, with the majority of published works concentrating on web building in orb weavers. An arena was developed to allow the filming of Linyphiidae to take place during the construction of sheet webs. The methods described are considered sensitive enough to detect the effects of exposure to different levels of the pesticide cypermethrin on *Tenuiphantes tenuis*. Exposure to high levels of cypermethrin resulted in increased mortality and reduced levels of activity detected through filming.

Key words: spiders, *Tenuiphantes tenuis*, cypermethrin, locomotion, mortality