What Diptera diversity does thinning debris and clearfell debris support in Irish plantations?

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Introduction

Deadwood at various stages of decay is host to and valuable for a vast array of organisms because it:

- **Provides a diverse range of "biological niches" (Krajick, 2000).**
- **Acts as a direct food source for xylophagous and primary saproxylic organisms such as Cerambycid beetles (Speight, 1989).**
- **Acts as an indirect food source for secondary saproxylics like foraging avian species (Nappi *et al*., 2003, Dickson *et al*., 1983) and Fungus gnats (Speight, 1989, Ševčík, 2006).**
- **Acts as an oviposition site for arthropod species (Hanks, 1999, Ševčík, 2006).**

"Little systematic effort has been made to determine the full range of saproxylic microhabitats used by Diptera." (Rotheray *et al*., 2001).

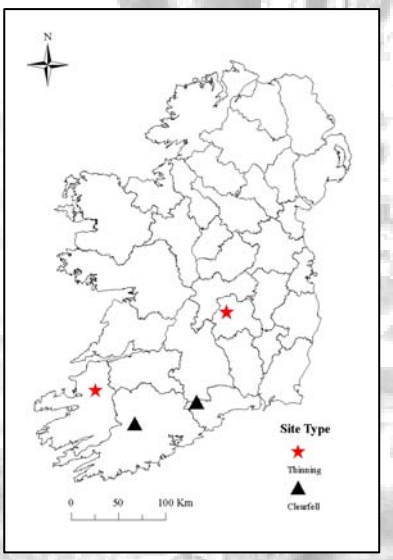

Figure. 1. Ireland map with the spread of sites

Aims

- **Examine the dipterous fauna utilizing felling and thinning debris microhabitats in commercial Sitka spruce (*P. sitchensis*) plantations in Ireland.**
- **Determine what fraction of selected groups were reliant on the thinning and clearfell debris i.e. saproxylic.**

Methods

- **4 Sitka Spruce (*Picea sitchensis*) sites were selected. 2 mature closed canopy sites and 2 second rotation sites (Fig. 1.)**
- **4 standard emergence traps (Fig. 2.) were erected on randomly selected thinning debris in the 2 Mature *P. Sitchensis* sites. Traps were collected every 3 weeks.**
- **4 standard emergence traps were erected on randomly selected clearfell debris in the 2 pre-thicket *P. Sitchensis* stands. Traps were collected every 3 weeks.**
- **Fungus gnats: Mycetophilidae, Keroplatidae, Bolitophilidae and Diadocidiidae (*Diptera: Sciaroidea*) were extracted and identified to species from traps.**

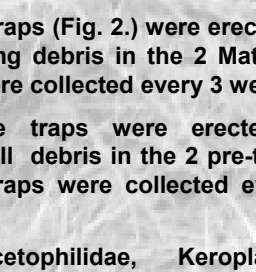

Figure. 2. Standard Emergence Trap

Preliminary Results

- **80 species of some 1638 specimens of fungus gnat were recorded from the collective sampling effort of the 16 emergence traps.**
- **2 species of fungus gnat (Mycetophilidae) (Fig. 3.) were recorded for the first time in Ireland and two other species requiring confirmation as Irish were also found in managed plantation forests.**

Figure. 3. *Exechiopsis (Exechiopsis) fimbriata* (Lundström, 1909) & T*richonta vulcani* (Dziedzicki, 1889)

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