FIRST IRISH RECORD OF *TALAVERA AEQUIPES* (O. P.-CAMBRIDGE, 1871) (ARACHNIDA, ARANEAE, SALTICIDAE), FROM A RAISED BOG IN CO. OFFALY

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Introduction

During a survey of the spider fauna of six raised bogs in Co. Offaly, a single specimen of a spider not previously noted from Ireland was caught in a pitfall trap on Ferbane Bog. *Talavera aequipes* (O. P.-Cambridge, 1871) belongs to the Salticidae (jumping spiders), a family represented in Ireland by fifteen other species. The survey was sponsored by a research grant from the Heritage Council of Ireland (Reference: R00662) and by the heritage section of Offaly County Council.

Raised bog and active raised bog are priority habitats under Annex 1 of the EU Habitats Directive (European Commission, 1996). The first Irish records of four other spider species, some distinctly rare, were recently obtained also from raised bogs (Nolan, 2007a, b, 2008, 2009) suggesting that this habitat, despite its management history, harbours a spider assemblage of significant interest.

Methods

Pitfall traps were set at two sites on Ferbane Bog, one characterised as central ecotope i.e. *Sphagnum* rich and actively peat-forming (Irish grid reference N107262) (or slightly declined from this quality) and the other marginal (N115258) i.e. set on high bog but close to vertical face-bank from which turf had been extracted by hand resulting in a quite heavily drained marginal area. Two lines of ten traps were set at both locations on 6 May 2010 and emptied twice, on 3 June and 1 July 2010. On the second occasion, the traps were completely dismantled and removed. On 6 May and 3 June, sweep-net samples were also taken from both locations.

The catch from the traps was filtered on-site from the antifreeze trap-fluid and preserved in 70% IMS. It was subsequently sorted and the spiders were separated from other trapped invertebrate specimens. Specimens were identified using Roberts (1985). The initial identification of *T. aequipes* was confirmed using Logunov and Kronestedt (2003).

The record of *Talavera aequipes* (O. P.-Cambridge, 1871)

A single male specimen of *Talavera aequipes* was identified from the second pitfall sample taken from one of the lines of traps set in the central ecotope. The species was only transferred to *Talavera* from *Euophrys* by Logunov (1992), and it appears under *Euophrys* in a number of the publications mentioned throughout this paper.

Preferred environment

The species is a predominantly thermophilous, ground-dwelling spider that occurs in a fairly limited range of habitats. It is an active (probably diurnal) cursorial species and this behaviour is reflected in the fact that many recorded specimens are from pitfall traps (Hänggi *et al.,* 1995). While the Irish record is from a wet *Sphagnum*/sedge dominated area of a raised bog, British records more obviously reflect the species' thermophilous nature: open sunny habitats with bare surfaces, short sward downs, sandy and stony banks, quarries and old rail embankments (Harvey *et al*., 2002). *Talavera aequipes* may remain to be discovered in such areas in Ireland. Its preferred habitat across Europe however is grassland of mesobromion and xerobromion type (Hänggi *et al.,* 1995). Other natural habitats in Europe where it frequently occurs are raised bog and coastal dune systems (Hänggi *et al.,* 1995; Logunov and Kronestedt, 2003; Peru, 2006). Braud (2007) records it from *Molinia* tussocks on moorland in Atlantic France where it is generally associated with well-draining habitats such as calcareous Garrigue or insolated slopes but also littoral and saline habitats (Peru, 2006). Almquist (2006) reports it from dune heath, meadows and bogs in Sweden. It is classed as a thermophilous species in the Czech Republic (Buchar and Růžička, 2002) where it can be abundant on rock steppe, xerothermic slopes and insolated forest glades. In Hungary, it occurs on dry, open sandy areas (Lajos and Vadkerti

(2004) citing Szita and Samu (1999)). Hänggi *et al.* (1995) shows the species to occur in a variety of other habitats in lesser numbers, especially on moist and dry heaths and other grassland types. In man-made habitats, its preferences again reflect its thermophilous nature, most records being from very dry-soiled situations such as vineyards and mining spoil-heap. It occurs primarily below 800m and not above 1500m in Europe (Hänggi *et al.,* 1995).

There appears to be relatively little information on the species' preferred microsites. In Sweden, *T. aequipes* was found amongst lichens on raised bogs (Lohmander (1956) cited by Logunov and Kronestedt (2003)) and amongst litter in meadows (Almquist, 2006). Since the spider is broadly thermophilous, drier microsites in the bogs that it frequents are probably preferred i.e. the upper areas of vegetation or patches of *Cladonia* lichen. While *Cladonia* lichens can be very abundant on drying areas of Irish raised bogs, and were abundant on Ferbane, they were not especially abundant in the immediate area of the central ecotope where the pitfall traps were set. The spider occurs only rarely on medium to tall vegetation.

Phenology and life-cycle

Talavera aequipes is most abundant from May to July in Britain, with a smaller number of specimens seen prior to this and up to November. However Almquist (2006) states that males are found in Sweden from May to September with females being found all year round. Little seems to be known about the spider's life-cycle and habits but it has been observed to make use of mollusc shells for the purpose of egg-laying (Almquist, 2006), although this is of little relevance in Irish bog habitats where shelled gastropods occur very infrequently.

Distribution

Talavera aequipes has a Palaearctic distribution but due to the somewhat restricted range of habitats that it occupies, the species tends to be rather local. In Britain, it is considered local and relatively uncommon with records strongly concentrated in England and especially in southern areas of that region (Harvey *et al.*, 2002). Lajos and Vadkerti (2004) remark that the species is found sporadically throughout Europe. It is less common in southern and northern parts. For

example in the Mediterranean area, *T. aequipes* is not recorded from Portugal, Turkey or from many of the Mediterranean islands including the Balearics, Malta and Sardinia (Helsdingen, 2009). It is confined to southern parts of Norway and Sweden (Almquist, 2006) and is not recorded from some Baltic countries. Further east, the species occurs through Eurasia to Yakutia (Logunov and Kronestedt, 2003) and also has populations in Hokkaido, Japan.

Determination

The spider is quite variable in colouration (Logunov and Kronestedt, 2003) and the palpal organs which allow its determination are pale and somewhat innocuous. The diagnostic corkscrew-like embolus is both pale and rather indistinct at 40x magnification in the Irish individual (the specimen may have recently moulted and this would have accentuated these qualities). In addition, the Irish specimen has the characteristic dark-brown eye field, a pale yellow abdominal ventrum and the sternum mostly pale but with dark lateral and posterior margins. The legs are yellow with brown mottled patches and annulations and only the prolateral/mesal areas of the femora, patellae and tibiae of leg I are predominantly dark-brown – these areas are usually somewhat darker.

Threat status

After the completion of a review of the status of spiders in Britain, *Talavera aequipes* was deemed to be of "Least Concern" (Dawson *et al*., 2008). In other areas of Europe, it is considered as "Vulnerable" *viz.* Flanders in Belgium (Maelfait *et al.*, 1998), the Czech Republic (Buchar and Růžička, 2002) and Norway (Kålås *et al.,* 2006). These assessments were made on the basis of the species' local or infrequent occurrence in threatened or vulnerable habitats.

It is obviously difficult to assess the species' threat status in Ireland since there is only the single record. Given that the species is a thermophile and that it occurs on raised bog, *T. aequipes* might be more reasonably expected to occur on drained areas of bog where bare soils may have developed, rather than in the wet area where it was recorded. However no other specimens were recorded throughout 2010 despite the thorough sampling of the partially

drained areas of six raised bogs. More important perhaps is the fact that the species' preferred habitat in Europe is xeric and mesic *Bromus* grasslands: the former of these arguably does not occur in Ireland but the latter or its closest Irish equivalent i.e. semi-natural dry (realistically probably moist) grasslands on calcareous substrate, is considered a threatened habitat. Under the EU Habitats Directive (European Commission, 1996), orchid rich calcareous grasslands have priority status (Fossitt, 2000). As a result, two of the habitats clearly preferred by *T. aequipes'* are of significantly threatened status in Ireland. This could be sufficient grounds for suggesting that it is at the very least vulnerable here.

While it might be the case that the species will be found to occur more widely in Ireland, as in Britain, in anthropogenically manipulated or managed habitats, this would not change the case for arguing that it may have undergone decline through loss of preferred habitat.

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