FIRST IRISH RECORDS OF *CRUSTULINA GUTTATA* (WIDER) WITH NOTES ON IRISH OCCURRENCES OF *CRUSTULINA STICTA* (O.P.-CAMBRIDGE) (ARANEAE: THERIDIIDAE)

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Abstract

Specimens of *Crustulina guttata* (Wider, 1834) were collected from cliff vegetation near Bray town in Co. Wicklow, the first records of the species from Ireland. Where it occurs, the spider is generally rather local but not uncommon. It is widespread across Europe and tends to occur in drier habitats. Its rarer congener *Crustulina sticta* (O.P.-Cambridge, 1861) was collected with *C. guttata* and is known only from Ireland's east coast. It usually occurs in rather humid and damp habitats. The two species are profiled and their Irish status discussed.
Key words: Araneae, Theridiidae, *Crustulina guttata*, *Crustulina sticta,* Ireland, first records, cliff, Dublin, Wicklow

Records and identification

***Crustulina guttata* (Wider, 1834)** **New Irish Record**

WICKLOW: All records were from the coastal cliff walk between the southern end of Bray town and Greystones, Co. Wicklow. Specimens were shaken from vegetation growing on the lower cliff-face into a net, the catch was examined immediately and selected specimens retained: 1♀ 28 May 2014 (O284171); 1♀, 1♀ subadult, 1♂ subadult, 2 June 2014 (O284165) from a prostrate mat of *Thymus polytrichus* on rocks; 1♂2♀♀, 2♀♀ subadults (O286161) from a prostrate mat of *Thymus polytrichus* on rocks.

Identified using Roberts (1993); the spider has a very distinctive appearance, with clear pale abdominal markings on a dark background, strongly annulated legs and the carapace carrying numerous warty granulations. *C. guttata* is not noted in Helsdingen (1996), Cawley (2009) or any subsequent publication on Irish spiders and the present records are considered the first for Ireland.

***Crustulina sticta* (O.P.-Cambridge, 1861)**

DUBLIN: 24 May 2004, Howth Head, 1♀ (O269370), 1♀, 1 immature (O271369), south-facing cliffs, shaken from *Calluna* plants; 12 June 2004, Howth Head, 1♀ (O269370) from base of tall *Calluna* plant; 30 August 2004, Howth Head, 1♀, 1 immature (0271368), a fire had burnt

vegetation extensively in this area and the female was taken here, the immature from an unburnt *Calluna* shrub. **WICKLOW:** (new county record) Bray cliff-walk (O284165), 1♀ 2 June 2014 from a prostrate mat of *Thymus polytrichus* on rocks.

Identified using Roberts (1993). This spider is less distinctive, with a pale band on the anterior and margins of the abdomen and extending down the midline, on a brownish background. The legs are unmarked but the carapace carries the characteristic warty granulations.

Species profiles

Crustulina guttata

Distribution: Palaearctic (Platnick, 2014), occurring from Europe to North-western China and Japan (Song *et al.*, 1999) but not known from southern China or south-east Asia (Murphy and Murphy, 2000). Found in most European countries occurring from Fenno-Scandia to the Mediterranean, into Russia and the Northern Caucasus (Helsdingen, 2013a, 2013b; Otto, 2014). Absent from most Mediterranean islands. Locally common but generally scarce in Britain (Harvey *et al.*, 2002), it is most abundant in south-eastern England with scattered records from central England and a few from Wales or further north. In France, more frequent in the north-west however the species probably occurs throughout (Le Peru, 2006). **Preferred environment:** most records are from mesothermic to xeric habitats. It occurs in a wide range of habitats, even in Britain where it is not frequent (SHRS, 2014). There it prefers sandy soils (Harvey *et al.*, 2002) and most records are from moor, heath, coastal dune and shingle habitats. Most other records are split between woodland and open grassland habitats. The summary of Hänggi *et al.* (1995) has the species occurring in central Europe most frequently in xerothermic wood steppe, vineyards, rubble-piles and coastal dunes. Less frequent in *Molinia* meadows, semi-dry grasslands, deciduous, coniferous and peatland woodlands. Regular in *Pinus* woodland in a number of countries, *inter alia* Britain, Sweden and the Czech Republic (Buchar and Ruziska, 2002; Harvey *et al.*, 2002; Almquist, 2005). Occurs in other habitats including scree margins (Buchar and Ruziska, 2002), and heather and juniper stands (Le Peru, 2006). **Semi-natural habitats:** a small number of records from parklands and gardens in Belgium (Keer *et al.*, 2010) and post-industrial landscapes in Britain (SHRS, 2014). **Micro-habitat:** spins a small web in vegetation close to ground level; also amongst leaf-litter, mosses, under stones and bark (Harvey *et al.*, 2002; Le Peru, 2006; Braud, 2007) and found amongst moss in winter (Braud, 2007). The majority of specimens are taken in the litter and herb layer (Hänggi *et al.*, 1995; SHRS, 2014). Builds a small frame-web with strands reaching to the substrate, the lower ends of these are gluey to trap passing ants (Almquist, 2005). **Season:** adults occur throughout the year (Harvey *et al.*, 2002; Le Peru, 2006; Braud, 2007). In Britain, numbers of both sexes peak

in June (SHRS, 2014) and are lowest from December to January. Braud (2007) suggests fewer specimens are seen in late summer and early spring.

Crustulina sticta

Distribution: Holarctic (Platnick, 2014); North-America, Europe, Russia, China, Japan, but not South-East Asia (Murphy and Murphy, 2000). Widespread through Europe, rather rarely found and not known from many countries including Norway, many of the major Mediterranean islands, Switzerland, and a wide swathe of land from the Dalmatian coast east to the Black sea (Helsdingen, 2013a; Nentwig *et al*., 2014; SHRS, 2014). **Preferred environment:** the only previous Irish record was from an area of wet dune meadow/slack on Ireland's east coast (Snazell, 1983) very close to the more recent records. Generally found in humid and damp habitats, often coastal, and many non-coastal records are from wetlands. Favoured central European habitats are bogs and swampland (Nentwig *et al.*, 2014). In Britain, over one quarter of records are from heath/moor and above another quarter from coastal habitats: dunes, shingle and saltmarsh. It has been recorded from a variety of wetland and grassland habitats in smaller numbers (SHRS, 2014). In France, records are mostly both coastal and wetland including *Phragmites* (Le Peru, 2006) and Braud (2007) notes it from humid moorland. Coastal dunes and *Sphagnum* bogs in Sweden (Almquist, 2005), *Sphagnum* bog in the Netherlands (Gajdoš and Toft, 2000) and marshy *Carex* habitat in Poland (Kupryjanowicz, 1997). **Semi-natural habitats:** Le Peru (2006) notes it from cereal fields. **Micro-habitat:** builds a small scaffold web from vegetation to substrate. Primarily recorded from ground-layer and low-vegetation (<20cm) (SHRS, 2014), under stones, amongst *Ammophila* (Almquist, 1973), *Juncus* litter (Le Peru, 2006), mosses (Braud, 2007), *Cladonia* lichens (Almquist, 1973) and herbs (Le Peru, 2006). **Season:** British data has males recorded only from May to July with a maximum in May. Females are probably found all year round, being most abundant from May to September, and reaching a minimum in October/November and from February to April (SHRS, 2014). February to May in north-western France (Braud, 2007) but also recorded there from September to November (Le Peru, 2006). **Conservation status:** it is considered scarce rather than threatened in Britain and the damp nature of its preferred habitats should be maintained to encourage the spider (SHRS, 2014).

Comments

The combination of a coastal situation and fast draining, rocky, semi-vertical location seems to serve both species by offering an environment that is sufficiently dry for the one and sufficiently humid for the other. The species have been noted to occur together previously: the

type locality of *C. sticta* was from "under heathy ledges" on Bloxworth Heath and *C. guttata* had been collected there the same year "at the roots of heath" (Cambridge, 1861).

The amount of sampling carried out when I collected the spiders was very small and would suggest that *C. guttata* at least could be very abundant along the Bray cliffs. The undisturbed nature of the cliff vegetation in Bray and Howth is probably significant since neither spider occurs frequently in managed habitat. Considering those habitats in which the two species most regularly occur elsewhere and thus in which they might be expected to occur in Ireland, it can be noted that surveys of midlands raised bogs, calcareous grasslands (including eskers and other glacial deposits), and of east and west coast dune systems have produced neither *C. guttata* nor *C. sticta*. Obvious likely locations where either or both species might be expected to occur are areas of cliff and coastal rocky vegetation on Ireland's east and south coasts.

Present evidence suggests that the two species are confined to Ireland's east coast and this might in turn suggest that they are relatively recent advents. The absence of records from other likely habitat in Ireland might support this line of thought. There is not much in the way of evidence to suggest that either species has spread significantly within Europe in recent times. There is little to suggest also they are species susceptible to transportation by human agency. I am not aware if either species disperses by ballooning and this possibility cannot be excluded. There are no particularly strong grounds, to my mind, for suggesting that *C. guttata* is a recent advent to Ireland and more likely, the species has been missed up to now.

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References

Almquist, S. (2005) Swedish Araneae, Part 1: Families Atypidae to Hahniidae (Linyphiidae excluded). *Insect Systematics and Evolution Supplement* **62**: 1-284.

Braud, S. (2007) *Les Araignées de Maine-et-Loire; Inventaire et Cartographie*. Bulletin de synthèse no 7 de l'association Mauges Nature, Cholet.

Buchar, J. and Ruziska, V. (2002) *Catalogue of spiders of the Czech Republic.* Edited by Peter Merrett. Peres, Prague. 351pp.

Cambridge, O. P.- (1861) Descriptions of ten new species of spiders lately discovered in England. *Annals and Magazine of natural History* **7**: 428-441.

Cawley, M. (2009) A summary of new Irish county records for spiders (Araneae). *Bulletin of the Irish Biogeographical Society* **33**: 184-220.

Gajdoš, P. and Toft, S. (2000) Distinctiveness of the epigeic spider communities from dune

habitats on the Danish North Sea coast. Pp 223-228. *In* Toft, S. and Scharff, N. (eds) *European Arachnology 2000: Proceedings of the 19th European Colloquium of Arachnology, Århus 17-22 July 2000.* Aarhus University Press, Aarhus.

Hänggi, A., Stöckli, E. and Nentwig, W. (1995) *Lebensräume Mitteleuropäischer Spinnen. Habitats of central European spiders.* Miscellanea Faunistica Helvetiae 4. Centre Suisse de cartographie de la faune.

Harvey, P. R., Nellist, D. R. and Telfer, M. G. (eds) (2002) *Provisional atlas of British spiders (Arachnida, Araneae).* Volumes 1 and 2. Biological Records Centre, Huntingdon.

Helsdingen, P. J. van (1996) The county distribution of Irish spiders, incorporating a revised catalogue of the species. *Irish Naturalists' Journal Special Zoological Supplement* 1-92.

Helsdingen, P. J. van (2013a) Araneae. *In* Fauna Europaea Database (Version 2013.1). <http://www.european-arachnology.org> (accessed: 31 May 2014).

Helsdingen P. J. van (2013b) A quick scan of the spider fauna of the European part of Turkey. *Nieuwsbrief Spined* **33**: 29-38.

Keer, K. van, Vanuytven, H., de Koninck, H. and Keer, J. van. (2010) More than one third of the Belgian spider fauna (Araneae) found within the city of Antwerp: faunistics and some reflections on urban ecology. *Nieuwsbrief van de Belgiche Arachnologische Vereniging* **25**: 160-180.

Kupryjanowicz, J. (1997) Spiders of the Biebrza National Park - species new and rare to Poland. *Proceedings of the 16th European Colloquium of Arachnology*: 183-194.

Le Peru, B. (2006) Catalogues et répartition des araignées de France. *Revue Arachnologique* **16**: 1-468.

Murphy, F. and Murphy, J. (2000) *An introduction to the spiders of South-East Asia*. Malaysian Nature Society, Kuala Lumpur. 688pp.

Nentwig, W., Blick, T., Gloor, D., Hänggi, A. and Kropf, C. (2014) Araneae: spiders of Europe. <www.araneae.unibe.ch.> Version 06.2014 (site accessed 4 June 2014).

Otto, S. (2014) Caucasian Spiders: A faunistic database on the spiders of the Caucasus. <caucasus spiders.info.> Version 1.4. (Accessed 1 June 2014).

Platnick, N. I. (2014) The world spider catalog, version 14.5. American Museum of Natural History <http://research.amnh.org/entomology/spiders/catalog/index.html DOI: 10.5531/db.iz.0001> (accessed: 31 May 2014).

Roberts, M. J. (1993) *The Spiders of Great Britain and Ireland*. Compact edition. **I-III**. Harley Books, Colchester.

SHRS (2014) *Spider and Harvestman Recording Scheme*: the national recording schemes for spiders and harvestmen in Britain. <http://www.arachnida.org.uk> (site accessed 1 June 2014).

Snazell, R. (1983) Some new records of spiders (Araneae) from Ireland. *Bulletin of the Irish Biogeographical Society* **7**: 14-18.

Song, D. X., Zhu, M. S. and Chen, J. (1999) *The Spiders of China*. Hebei Science and Technology Publishing House, Shijiazhuang. 640pp.

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