

## Four-spined legionnaires *Chorisops* spp. (Diptera: Stratiomyidae) in Glasgow and the west of Scotland

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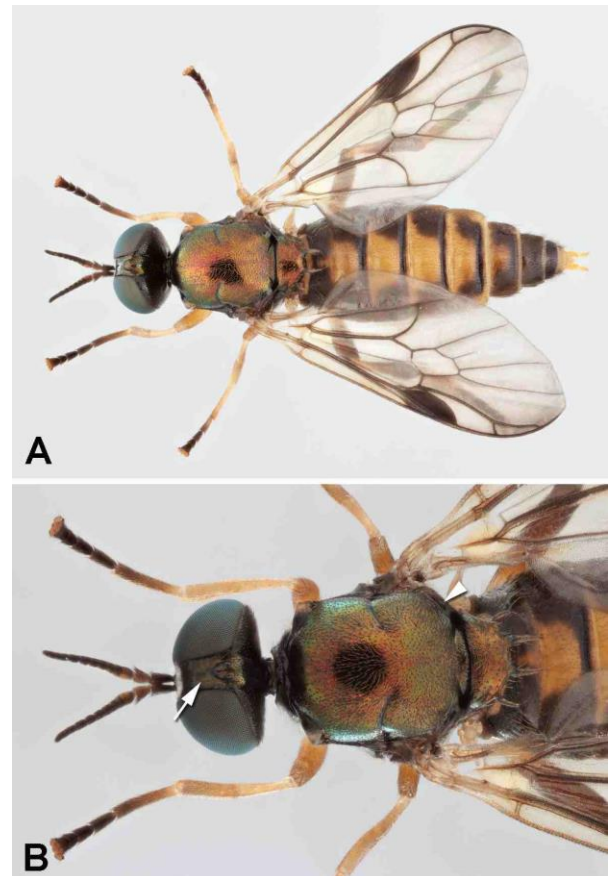
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The bright four-spined legionnaire *Chorisops nagatomii* Rozkošný, 1979 and the dull four-spined legionnaire *C. tibialis* (Meigen, 1820) are European species of soldierfly. *C. nagatomii* is a relatively recently described species, previously “lumped” with *C. tibialis*. Both species are about 6 mm in length and have a shining green thorax and a scutellum with four spines which are almost lacking in hairs. They differ in that *C. nagatomii* is described as having a shining green frons, bright orange posterior calli, and the dorsal surface of the abdomen is predominantly orange, whereas *C. tibialis* has a black frons, drab posterior calli, and the abdomen is much duller in colour, any orange being much less extensive (Stubbs, 2014) (Figs. 1 and 2A). Fig. 2B shows the foreparts of *C. tibialis* illustrating the dull frons and posterior calli, and the corresponding brighter areas of *C. nagatomii* are evident in Fig. 1. It should be noted that Figs. 1 and 2 show females. The males are darker and Speight (1981) mentions that the differences in colour of the frons and calli are variable and hard to distinguish, at least in some cases (M. Harvey, pers. comm.).

The larvae are associated with wood debris, rotten wood, rotting trees and leaf litter.



**Fig. 1.** Bright four-spined legionnaire (*Chorisops nagatomii*), female, Dorset, England 2014; length ca. 6 mm. (Photo: Malcolm Storey)



**Fig. 2.** Dull four-spined legionnaire (*Chorisops tibialis*), female, Dorset, England 2016. (A) Whole individual; length ca. 6 mm. (B) More magnified view of foreparts, showing dull frons (arrow) and posterior calli (arrowhead). (Photos: Malcolm Storey)

The National Biodiversity (NBN) Atlas shows only six Scottish records of *C. nagatomii*, all in the east (NBN, 2023a), four of which are in Edinburgh, and one in Dalgety Bay (Fife) and Kelso (Scottish Borders). This is perhaps not surprising in view of the relatively recent split from *C. tibialis*, the small size of the insect, and the relatively low level of recording of this species group. It would be expected that most *Chorisops* spp. observations would therefore have been recorded as *C. tibialis*, although there are only three Scottish records of that species (NBN, 2023b) from Kippford (Dumfries & Galloway), Motherwell (North Lanarkshire) and Cambuslang (South Lanarkshire).

The first Scottish record of *C. nagatomii* was by Graham Rotheray at Mote of Mark, Rockcliffe, Dumfries and Galloway in 2009. The earliest record in Glasgow Museums Biological Records Centre (GMBRC) database is from a moth trap beside the Forth and Clyde Canal at Old Kilpatrick, West Dunbartonshire in 2018. The other six records in that database are all 2023 sightings in Glasgow. The first Glasgow record was on 13th August 2023: I swept one from amongst shrubbery below trees in Glasgow Botanic Gardens, near the Great Western Road railings. I subsequently found four more

between then and the end of August, in the West End of Glasgow: two locations in Lancaster Terrace, and two locations in Hyndland Old Station Park; all the latter were swept from the lower tree canopy. Also within that period, another observer collected one in Glasgow Necropolis. By contrast, I have only found two records of *C. tibialis*, both from moth traps: at Hamiltonhill Claypits in July 2019, and at the Botanic Gardens in August 2020.

The National Museum of Scotland (NMS) holds no Scottish specimens of either *Chorisops* species, except the 2017 sighting of *C. nagatomii* in Dalgety Bay, thought at the time to be the first Scottish record. The Scottish Insect Records Index (SIRI) lists no records of either (V. Blagoderov, pers. comm.).

Stubbs & Drake (2014) describe the distribution of both as widespread in the south of England and Wales, though extending as far north as Cumbria; *C. nagatomii* is the rarer of the two species, and in some districts prefers the peat soils of fens; *C. tibialis* is reported as preferring shady places, unlike most soldier flies which prefer sunny positions (Stubbs, 2014). By contrast, all my specimens of *C. nagatomii*, were found in more or less shady places, away from fenny habitats; my *C. tibialis* specimens were from light traps, so cannot be compared directly.

In view of the apparent rarity and small size of *Chorisops* spp., it is difficult to draw any conclusions from these sightings, such as the rate and extent of the apparent spread and whether this may be due to climate change; the sightings in the West End of Glasgow are sufficiently close together to constitute one population. However, since there is an apparent rarity of recorders sampling suitable habits, it is reasonable to assume that it is probably under-recorded, though the lack of any older museum specimens or literature records seems to support the idea that they have arrived recently (M. Harvey, pers. comm.).

The Old Kilpatrick specimen and two of the Glasgow specimens of *C. nagatomii* have been deposited with the Hunterian Museum collections in Glasgow. The records described here will be submitted to the NBN Atlas in due course, along with records of other Stratiomyidae.

I am grateful to Geoff Hancock for confirming the identity of two of my Glasgow specimens of *C. nagatomii* and for suggesting that this account should also cover *C. tibialis*, to Vladimir Blagoderov for checking the NMS collections and SIRI, to Robyn Haggard for checking the Glasgow Museums collections, and to Malcolm Storey for permission to use his photographs.

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