

# First record of *Centromerus arcanus* (O. P.-Cambridge, 1873) from Greenland (Araneae, Linyphiidae)

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The linyphiid spider *Centromerus arcanus* (O. P.-Cambridge, 1873) is reported new to Greenland. A single female was pitfall trapped in South-West Greenland at Kobbefjord in the summer of 2016 constituting the first record of this species in the Nearctic ecozone. The habitat in which the Greenland specimen was collected is described. The number of spider species cited from Greenland now counts to 78 species.

Key words: Araneae, Linyphiidae, *Centromerus*, Greenland, habitat, Nearctic.

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## Introduction

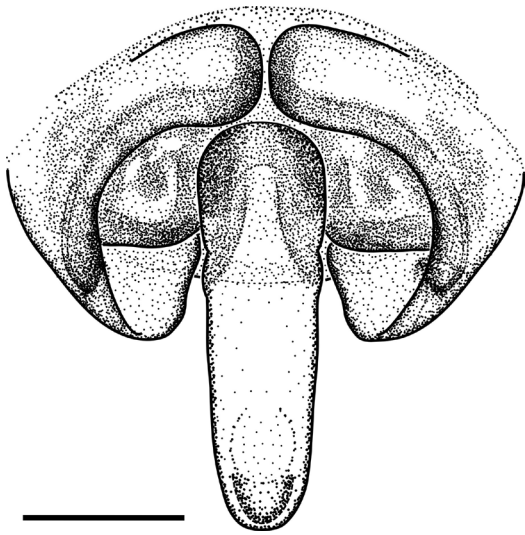
The most recent checklists of the spider fauna of Greenland were provided by Larsen & Scharff (2003) and Marusik *et al.* (2006), the latter study lists 75 species but 76 taxa as *Erigone arctica* (White, 1852) occurs with two subspecies, *Erigone arctica arctica* and *Erigone arctica palaeartica* Braendegaard, 1934. The checklist of Marusik *et al.* (2006) also include *Tegenaria domestica* (Clerck, 1757) and *Salticus scenicus* (Clerck, 1757), both of which have only been found once in Greenland and are considered accidental imports. Thus, including these two species in the Greenland checklist should await verification of breeding populations. In 2016 two additional species were cited from Greenland, *Pelecopsis mengei* (Simon, 1884) and *Wabasso cacuminatus* Millidge, 1984 (Hansen *et al.* 2016 a,b). Here we report the first record of *Centromerus arcanus* (O. P.-Cambridge, 1873) which also is the first member of this genus known to be represented in Greenland.

## The record

*Centromerus arcanus* (O. P.-Cambridge, 1873), 1♀, Kobbefjord, 2½ km W of Qassinguit Peak (transect point “P”), 64.1756°N, 51.3793°W, 230 m, pitfall trapped during 21 July–19 August 2016, leg. E. Gravesen, coll. J. Lissner JL-11722. The epigyne is depicted in Figure 1.

## Comments

The female specimen of *C. arcanus* was pitfall trapped during field-work of a project aimed to study the arthropod food webs in a glacier foreland area using NGS (next-generation sequencing) to sequence prey DNA. The trap was placed close to a small torrent (Figure 2), a tributary to a larger stream in the valley below. The banks of the torrent are flooded during parts of the year with high runoff produced from melting snow. At this locality only a few plant species are able



**FIGURE 1.** Epigyne of *Centromerus arcanus* (O. P.-Cambridge, 1873) in ventral view (specimen from Greenland). Scale bar 0.1 mm. Drawing: J. Lissner.

to tolerate the temporary surface runoff, such as the perennial *Chamerion latifolium* (L.) Holub (Figure 2). Organic content of surface layer is low at the site (measured at 0.29 %) due to periodic wash out with melt water. The soil moisture is relatively high throughout summer (minimum soil water content measured 10.7 %) due to the proximity to the torrent. The area has been ice-free for 60 ( $\pm$  15) years as read from graph in Hansen (2010) relating thalli diameter of *Rhizocarpon* Ramond ex DC. (1805) lichens with age. Potential prey species (also pitfall trapped) include flies (mainly Chironomidae, Sciaridae and Anthomyiidae), aphids (unknown species) and the collembola *Isotoma anglicana* Lubbock, 1862.

*Centromerus arcanus* is the first member of the genus recorded in Greenland. In Britain, this linyphiid is typically found beneath rocks in mountainous areas and can be found together with *C. prudens* (O. P.-Cambridge, 1873) according to Harvey *et al.* (2002). Thus, *Centromerus prudens* may also be expected to occur in Greenland. This species is distributed in the Palearctic (World Spider Catalog 2017) including some of the landmasses closest to Greenland namely Iceland (Agnarsson 1996) and the Faroe Islands (Lissner

*et al.* 2016). Both species are found in different habitats at lower altitudes and latitudes. Here, *C. arcanus* lives amongst moss, grass and pine needles in coniferous woodland and acidic bogs while habitats of *C. prudens* include sand dunes, rocky grassland, and areas with heather (Harvey *et al.* 2002).

## Distribution

*Centromerus arcanus* is widespread in north-western and central Europe, including the Faroe Islands, but has not been recorded from Iceland. The new record from Greenland expands the known distribution of the species into the Kalaallit Nunaat Low Arctic Tundra ecoregion of the Nearctics, thus the distribution of the species should be termed Holarctic. As the specimen was found 16 km from nearest human settlement an introduction by man is considered unlikely.

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**FIGURE 2.** Habitat with *Centromerus arcanus* (O. P.-Cambridge, 1873) in Greenland. Bank of stony riverbed with sparse Arctic Riverbeauty (*Chamerion latifolium* (L.) Holub). Photo: E. Gravesen.

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