

The female of *Erigone psychrophila* Thorell in Britain

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Introduction

The occurrence of *Erigone psychrophila* Thorell in Britain was first reported by Cooke (1967) who recorded the capture, in September 1966, of a single male, under a stone at an altitude of 1219 m near Braeriach in the Cairngorms National Nature Reserve in Scotland, and he figured the left palp to show the distinctive, long patellar apophysis. Subsequently, it was realised that a male had been collected in June 1966 by E. Duffey (pers. comm.) also under a stone at 914 m on Cairnwell, Perthshire, Scotland. In the absence of a British female, Cooke figured the inner surface of the epigynal plate of a female from Norway, and at the time of the publication of Vol. III of *British Spiders* (Locket, Millidge & Merrett, 1974), the female still apparently not having been recorded from Britain, the epigynal plate of a specimen from Spitsbergen was shown (fig. 61c).

In August 1978 a number of males and females were collected by the author from the summit of Cheviot in Northumberland (Grid ref. NT 911206), and it was assumed that these females were the first to be found in Britain. However, through the courtesy of P. Merrett (pers. comm.) it was subsequently established that a single female had been collected by R. C. Welch in the Cairngorms in 1969 but not recorded in the literature. During 1979 further captures were reported from a number of other localities in Scotland. During an intensive survey of the spider fauna of the Cairngorms, particularly at high level, N. P. Ashmole (pers. comm.) collected both sexes in some numbers; his first capture of 9 males and 2 females was made on Bynack More (Grid ref. NJ 041056) in June, and others were taken in late August. A single female was collected by A. Kelham (pers. comm.) at 760 m on

Ben More on the island of Mull, and a male and 6 females were taken by the author in August 1979 at 850 m on Sron Dha Murchdi (near Ben Lawers; Grid ref. NN 608399).

Distribution and Habitat

Erigone psychrophila can be described as a circum-polar, arctic-alpine-boreal species. It has been recorded from Alaska, Grant Land, Ellesmere Island, east, west and north Greenland, Iceland, Spitsbergen, Scandinavian mountains, Novaya Zemlya, northern Siberia, Faroes, Scotland and now northern England. Almost certainly the Cheviot locality is the most southerly for this species.

The habitat for the species has been described by Holm (1958) as being under stones, amongst moss and in tussocks of grass. In the Cairngorms most specimens were found in moss (N. P. Ashmole, pers. comm.), whilst those from Cheviot were taken from tiny webs, almost at water level, among vegetation overhanging the surface of small pools in a peat bog at 811 m. The specimens from Sron Dha Murchdi were from a similar habitat.

Comparison of British, European and Arctic specimens

Differences in the shape of the epigynal plate of the specimens from Cheviot and that of the Spitsbergen specimen figured by Locket, Millidge & Merrett (1974), prompted a comparison of many of the British specimens, both males and females, with continental and arctic specimens and with the syntypes. No distinct morphological differences could be found but it was clear that the British specimens were on average smaller than the foreign specimens and those from Cheviot were smaller than those from Scotland. This is illustrated in Fig. 1, where the length of the carapace is plotted against the carapace width for the specimens from the various localities. Variations in size of this species have been noted previously by Holm (1958), who reported, for example, that the average length of the cephalothorax of 11 females from the Isfjord region of Spitsbergen was 1.24 mm, whilst for 5 males from the Swedish mountains the average was 1.12 mm.

Notwithstanding the large variation in size of the specimens examined there was less variation in the width of the epigynal plate, the average being 0.36

mm (min. 0.33; max 0.39, apart from one exceptionally large specimen which measured 0.43 mm). In a recent paper Snazell (1980) compared the ratio epigynal plate width/sternum width for a number of the British *Erigone* species. The average value for the British specimens of *E. psychrophila* examined during this work was 0.56 (min. 0.51; max 0.63).

Description of the female

The following description is based on British specimens. *Total length*: 2.1-3.0 mm. *Carapace*: Length 1.0-1.2 mm. Dark brown with a few darker bands radiating from fovea. A few small hairs in a line from fovea to posterior median eyes, and a few

hairs in ocular region. A few very small warty teeth around margin. *Abdomen*: Dark grey-brown, covered with fine hairs. *Sternum*: Dark brown, faintly reticulated, with some long dark hairs. *Legs*: Yellow-brown. Tm IV absent. Tm I 0.4-0.5. Tibial spines 2221. *Epigyne*: Figs. 2-3. There is some variation in the shape of the arch as seen from behind. In some specimens the inner margins of the arch are parallel and square-ended, whilst in others the sides converge slightly towards the top, with the arch itself being a little more rounded. *Vulva*: Fig. 4. No differences could be found between vulvae from specimens showing the slight variations mentioned above or from Cheviot and Scotland.

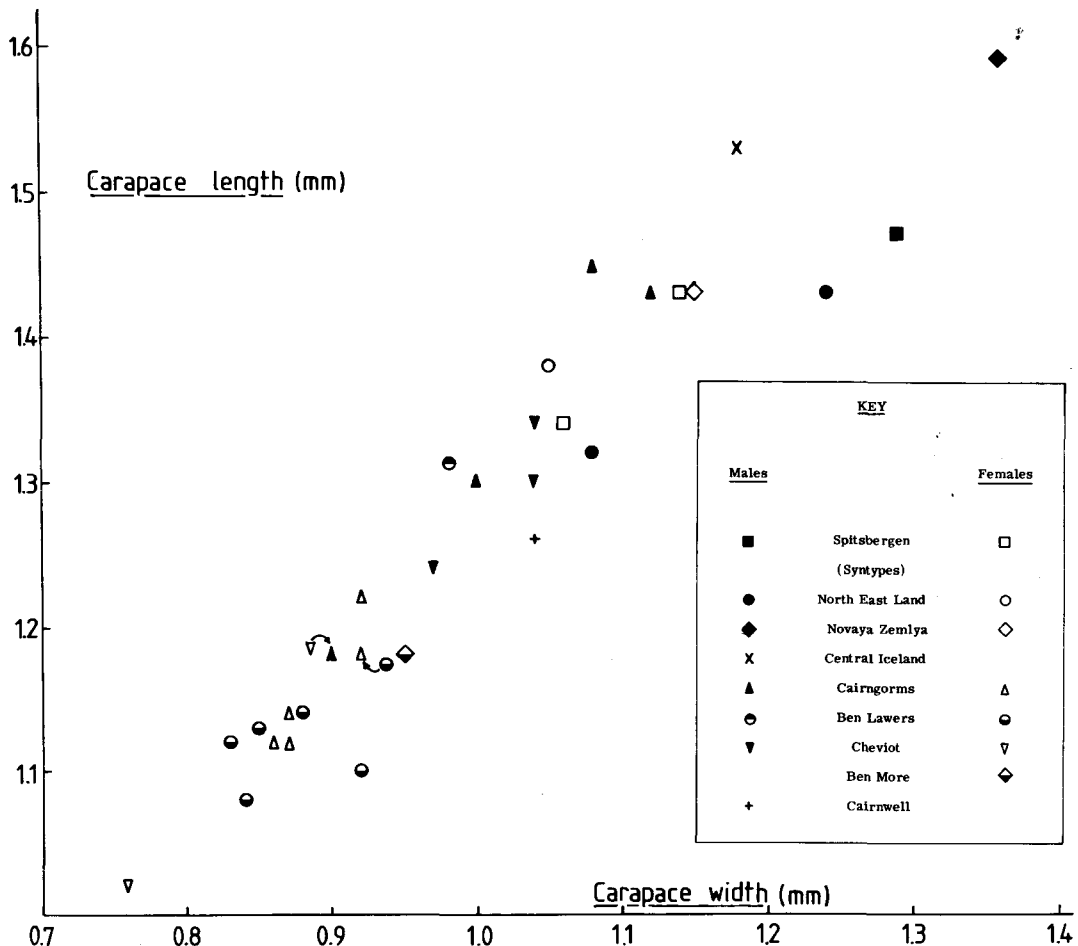
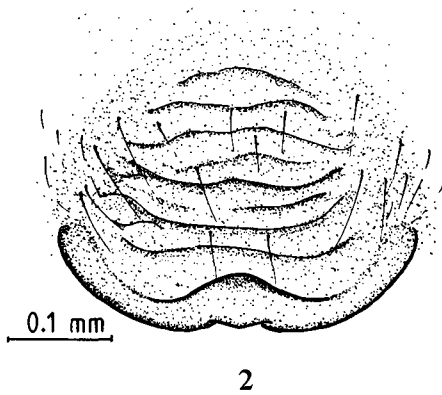
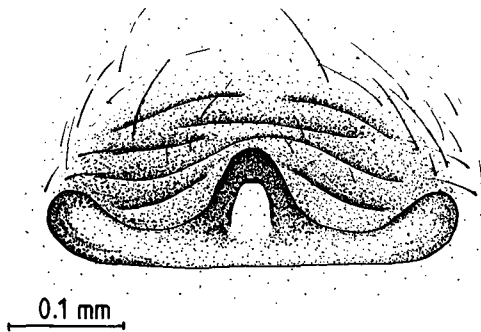


Fig. 1: *Erigone psychrophila*. Carapace length and carapace width of specimens from various localities. The dimensions tend to be greater for specimens from more northerly areas, but the proportions remain the same. (North East Land is north-east of Spitsbergen).



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Figs. 2-3: *Erigone psychrophila*, epigyne of a specimen from Cheviot, Northumberland. 2 Ventral view; 3 Posterior view.



Fig. 4: *Erigone psychrophila*. Vulva of a specimen from Cheviot, Northumberland. Dorsal view. Scale line = 0.1 mm.

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