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Erigone aletris Crosby & Bishop, a spider new to Britain (Araneae: Linyphiidae)

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Summary

Both sexes of *Erigone aletris* Crosby & Bishop, a species new to Britain, are described. Its taxonomic affinities are discussed, and *Erigone olympias* Crosby & Bishop is stated to be a synonym of *E. aletris* (syn. nov.).

Introduction

During a survey of invertebrates on several sand dune and machair sites round the coast of Scotland, a male of a species of *Erigone*, hitherto unrecorded in Britain, was taken in a pitfall trap on dune meadow near Gullane, East Lothian (Grid ref. NT 492849) between 18 and 26 June 1976. Further trapping in June of the following year did not yield any more specimens. However, in 1978, a further 7 males and 2 females were trapped between 4 July and 15 Septem-

ber. The species has been identified as *E. aletris* Crosby & Bishop, previously recorded from coastal habitats in North America.

Erigone aletris Crosby & Bishop (Figs. 1-7)

Erigone aletris C. R. Crosby & S. C. Bishop, 1928, p. 9.

Description

The description of both sexes is based on the British material. *Total length*: ♀ 2.1-2.2 mm, ♂ 1.7-2.1 mm. *Carapace*: *Length*: ♀ 0.9 mm, ♂ 0.9-1.0 mm. Red-brown with dark fovea and striae. Cephalic region with a longitudinal row of strong hairs. ♂ with strong teeth round the margin. ♀ with small warty teeth. *Eyes*: Posterior medians about 1.25 diams apart. *Chelicerae* (Fig. 1): ♂: The number and size of teeth in the outer longitudinal rows seem to be rather variable, but the distal teeth alongside the fang groove are constant. ♀: The pattern of teeth is the same but they are much reduced in size, also the inner longitudinal row is missing. *Abdomen*: Dark grey. *Sternum*: Dark brown. *Legs*: Brown to yellow-brown. TmI 0.35-0.45. TmIV absent. Tibial spines 2221. *Male palp* (Figs. 2-5): With a large pit on the dorsal margin of the tibia bounded by a notched ridge characteristic of the "psychrophila"-group. A

small tooth or protuberance ventrally on the tibia. The ventral spur of the patella rather small. Several large teeth ventrally on the femur, but both the pattern and size of these is variable. *Epigyne* (Fig. 6): Similar in shape to *E. dentipalpis* (Wider) but comparatively smaller than any other British species. The epigyne of *E. longipalpis* (Sundevall) is also comparatively small but this species is considerably larger (♀♂: 2.5-3.5 mm). *E. aletris* female can probably be distinguished from all other British species of *Erigone* except *E. longipalpis* by the ratio epigynal plate width/sternum width.

	Epigynal plate width/ Sternum width
<i>E. aletris</i> (Crosby & Bishop)	0.38-0.48
<i>E. dentipalpis</i> (Wider)	0.54-0.62
<i>E. atra</i> (Blackwall)	0.71-0.81
<i>E. promiscua</i> (O. P.-Cambridge)	0.55-0.64
<i>E. arctica</i> (White)	0.58-0.61
<i>E. longipalpis</i> (Sundevall)	0.45-0.50
<i>E. tirolensis</i> L. Koch	0.53-0.63
<i>E. capra</i> Simon	0.55-0.62
<i>E. welchi</i> Jackson	0.51 only one specimen

No specimens of *E. vagans* Audouin or *E. psychrophila* Thorell were to hand at the time of writing but these species are quite distinct. *Vulva*: Fig. 7.

Diagnosis

E. aletris is a member of the *psychrophila*-group and is most closely related in Europe to *E. tenuimana* Simon, from which it may be distinguished by the presence of a ventral tooth on the male palpal tibia. It differs from *E. cristatopalpus* Simon* in the general shape of the male palpal tibia and in having a small posterior tooth on the embolic division (Fig. 5: *pt*).

*Bonnet (1956: 1759) changed Simon's spelling of *cristatopalpus* to *cristatipalpus*, and this spelling has been followed by Holm (1975) and by Thaler (1978). According to Appendix D VII of the ICZN Rules, it is recommended that the connecting vowel in a Latin compound word should be *i*, as used by Bonnet, but Article 32 (a) (ii) states that the original spelling of a name is to be retained as the "correct original spelling" unless there is in the original publication clear evidence of an inadvertent error . . . (. . . use of an inappropriate connecting vowel not to be considered an inadvertent error); *cristatipalpus*: (Bonnet, 1956) is thus an "unjustified emendation".

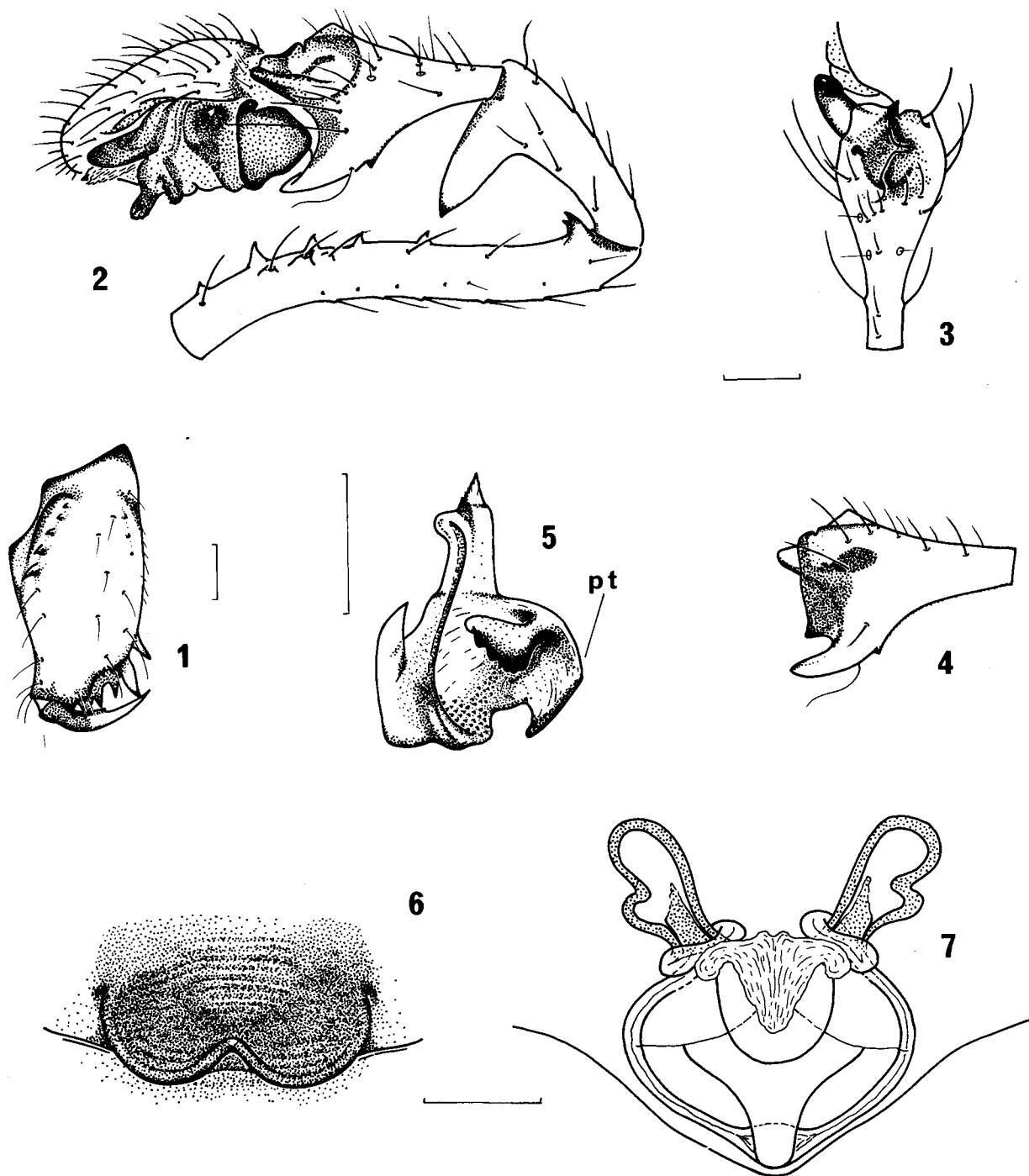
In both *E. psychrophila* and *E. tirolensis* the spur on the male palpal patella is long whereas in *E. aletris* it is short. The female may be distinguished with difficulty from most other species by its small size and the relatively small size of the epigynal plate. *E. aletris* is generally smaller than all other members of the *psychrophila*-group found in Europe.

Taxonomic affinities

In their revision of the genus *Erigone*, Crosby & Bishop (1928) described 10 new species within the *psychrophila*-group, separating them on minor differences in the shape of the embolic division of the male palp and on relative size and shape of the palpal femur, patella and tibia. Of these species *E. olympias* is common on the northern part of the west coast of North America and *E. aletris* is recorded from the north-east coast, although there is one record for Vancouver (Bragg & Leech, 1972). After careful study of the type specimens and several others, no consistent differences could be found between *E. aletris* and *E. olympias*. The edge of the posterior tooth of the embolic division is rather variable in shape and the differences between the type specimens fall within the range of variability seen in other specimens. All other characters used are also within the normal variability, thus *E. olympias* Crosby & Bishop, 1928 (p. 33) becomes a junior synonym of *E. aletris* Crosby & Bishop, 1928 (p. 9) by page priority (*syn.nov.*).

It seems possible that several more synonymies may exist within the *psychrophila*-group, described by Crosby & Bishop and later added to by other authors such as Chamberlin & Ivie (1935). It may be that *E. labra* (Crosby & Bishop) and *E. metlakatla* (Crosby & Bishop) and others added since may be no more than clinal variants of one very successful species with a holarctic distribution, since several intergrades have been taken (R. L. Crawford pers. comm.). Work on this subject is hampered by a paucity of material from widely separated areas.

The *psychrophila*-group is represented in Europe by 5 species in addition to *E. aletris*. *E. psychrophila* Thor. and *E. tirolensis* L. Koch are restricted in Britain to high ground in the Cairngorms and the Cheviots etc., but they occur at low altitude further north in their range. The former species is holarctic in



Figs. 1-7: *Erigone aletris* (Crosby & Bishop). 1 Male right chelicera (frontal view); 2 Male left palp (lateral view); 3 Male left palpal tibia (dorsal view); 4 Male right palpal tibia (mesal view); 5 Embolic division of male palp (ventral view, from slightly in front: pt = posterior tooth); 6 Epigyne; 7 Vulva (dorsal view). Scale lines 0.1 mm.

distribution whereas the latter is palearctic. *E. cristatopalpus* Simon and *E. tenuimana* Simon are restricted to high altitudes in the Alps and *E. svenssoni* Holm (Holm, 1975) has been recorded only from a mire in arctic Lapland. Of these, only *E. tenuimana* might be confused with *E. aletris*, but in the former the small ventral tooth on the male palpal tibia is absent, whereas in *E. aletris* the tooth, even if reduced, is always present.

Occurrence

The first specimen was taken in 1976, between 18 and 26 June in an area of old grazed dune meadow to the north of Muirfield golf course. The seaward side of this site is on old sand dunes supporting clumps of marram (*Ammophila arenaria* (L.) Link), with areas of short rabbit- and cattle-grazed turf between. This consists mainly of the grasses *Festuca rubra* L., *Poa annua* L. and *Aira caryophylla* L., with much Thyme (*Thymus drucei* Ronn.), Germander Speedwell (*Veronica chamaedrys* L.), Daisy (*Bellis perennis* L.), Lady's Bedstraw (*Galium verum* L.) and Birds-foot Trefoil (*Lotus corniculatus* L.).

Further inland the marram clumps become more widely separated and are gradually replaced by *Holcus lanatus* L. until progression is made to meadow conditions with a little short turf among taller grasses. Here, *Anthoxanthum odoratum* L. is predominant with Birds-foot Trefoil and Chickweed (*Cerastium fontanum* Baumg.) abundant and some clumps of Ragwort (*Senecio jacobaea* L.), nettles (*Urtica dioica* L.) and thistles (*Cirsium* sp.).

Between 4 July and 15 September 1978 a further 3 males were taken in the original site and another 4 males and 2 females in an adjoining dune slack approximately 100 m to the north. The vegetation here was similar in composition to that of the sea-

ward side of the first site although the proportion of grasses was smaller, in some places the turf being almost pure Birds-foot Trefoil. Marram was very sparse in the trapping area but predominated on the surrounding dunes. There were also quite large areas of Sea Buckthorn (*Hippophae rhamnoides* L.).

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