

Acanthophyma gowerense (Locket) (Araneae, Linyphiidae), an erigonine spider new to Sweden

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Summary

A. gowerense has been found at two eutrophic lakes in the vicinity of Stockholm. It has previously not been reported outside the British Isles. Characters are illustrated notably by scanning electron micrographs. Observations on the shape of the chemosensitive hairs and the male sulcal pits are presented.

Introduction

The spider fauna of Sweden is comparatively well known when taking into account the relatively few investigators who have contributed to its exploration, but there are still a number of species to be found which occur in nearby northern European countries. This note, however, reports on the surprising discovery of the erigonine species *Acanthophyma gowerense* (Locket), hitherto known only from the British Isles.

Locket (1965, sub *Lasiargus*) first described this species from a single female found in the Gower Peninsula of Wales. Cooke, Duffey & Merrett (1968) collected a number of specimens from the same locality and described the male. Mackie (1970) recorded one male from the Dingle Peninsula, Eire. Merrett (1975) reported the occurrence in Norfolk, where the species was collected by Dr E. Duffey (in litt.). Recently Millidge (1977) gave evidence for this species being included in the genus *Baryphyma*. In this note, however, I keep this species in *Acanthophyma* for convenient reference to the nomenclature adopted by Locket, Millidge & Merrett (1974).

An examination of Swedish specimens was made by scanning electron microscopy. Material preserved in ethanol was dehydrated in an ethanol series, then kept in xylene, air-dried, mounted on SEM stubs and sputtered with gold. Examination was carried out in a Cambridge Stereoscan Mark IIa. The specific charac-

ters were found to coincide with those previously given from British material.

Description

Both sexes about 3 mm long ($\sigma\sigma > 2.5$ mm, $\text{♀♀} < 3.5$ mm), with deep brown carapace and blackish abdomen. Abdomen of female with longer hairs than in the male. Legs light to dark orange, furnished with longer bristle-like hairs in the female (Fig. 11) than in the male (Fig. 10).

Male with cephalic portion raised into a distinct lobe (Fig. 1), which frontally bears two submedian rows of long curved hairs (Fig. 3), the tips of the hairs in each row being directed laterally. Male palp tibia with distinctive apophyses (Fig. 9). Bulbus (Fig. 6) with broad embolus (Fig. 7), the terminal opening of the seminal duct surrounded by a "collar" (Fig. 8). Suprategulum with a process bearing a tuft of hairy extensions and a conspicuous, pointed suprategular apophysis (Fig. 7) directed forwards.

Female without cephalic lobe (Fig. 2). Epigyne, both cleared (vulva: Fig. 13) and uncleared, distinct.

Chemosensitive hairs and sulcal pits

In connection with the examination of species-specific characters, the shape of the chemosensitive hairs and the male sulcal pits was observed.

The chemosensitive hairs, as far as I know not previously presented for linyphiids, are of araneoid type (own obs., unpubl.), having spirally arranged grooves and an apical pore opening (Fig. 12). A number of such hairs were found on the tarsus, metatarsus and tibia of the first leg of both sexes, and some were also found on the cymbium.

As a number of other erigonine species, *A. gowerense* has shallow postocular sulci, anteriorly deepening into a pit, in this species surrounded by small spine-like hairs (Fig. 4). Probably the fangs of the female will rest in the sulcal pits during copulation, as in *Hypomma bituberculatum* (Wider) (Bristowe, 1941) and *Baryphyma pratense* (Blackwall). In the latter species Blest & Taylor (1977, p. 491) observed that "the female's chelicerae are locked by the male's post-ocular sulci just as in *Hypomma*, but that his head immediately becomes covered by a drop of blood which she drinks during copulation; pre-

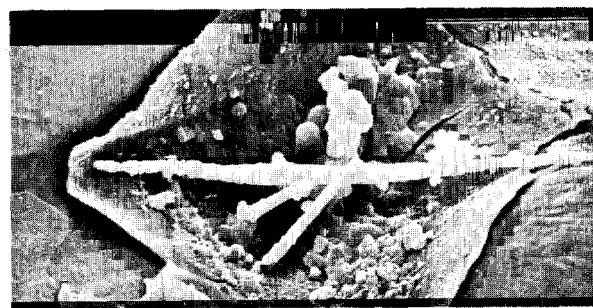
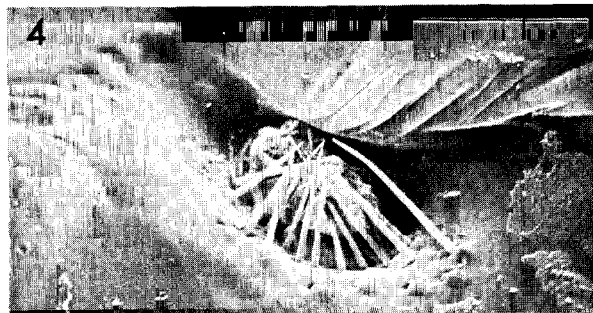
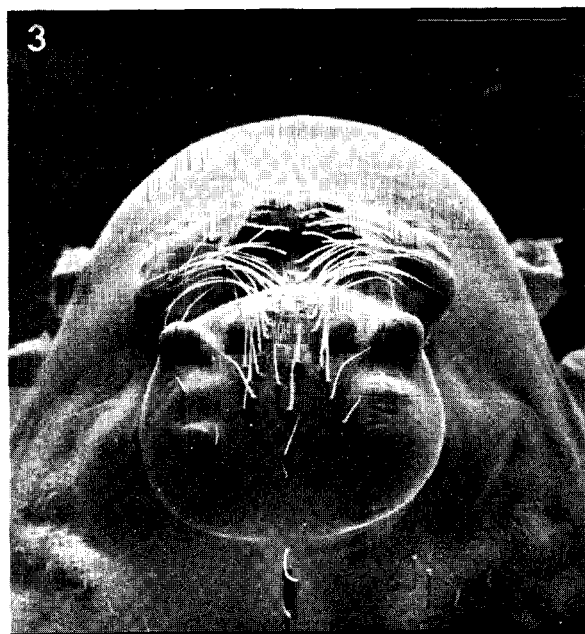
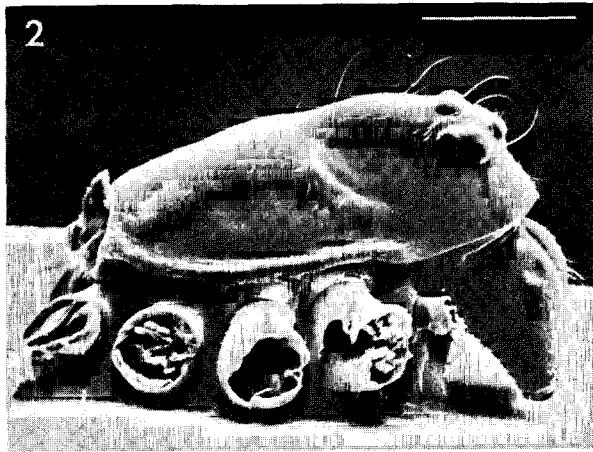
sumably her fangs pierce the walls of the sulcal sacs . . .". If this is also the case in *A. gowerense*, then the substance flaked around and in the pit in Fig. 5 could be dried blood.

Material and habitat

Uppland: Vada, at Lake Angarnsjön, 1-6 June 1974 1 ♂ 11 ♀♀, 21-28 May 1975 1 ♂ 2 ♀♀, 24-25 May 1976 6 ♂♂ 4 ♀♀

(leg. T. Kronestedt); Sänga, at Lake Igelviken, 31 May 1942 1 ♀ (leg. C. H. Lindroth, housed in the Swedish Museum Nat. Hist. but left unidentified by the late A. Tullgren).

The locality Angarnsjön is a partly drained eutrophic lake, now mostly covered, e.g. by *Scirpus* sp., its surrounding shore meadows largely flooded in the spring. The site of the shore meadow where *A. gowerense* was found consisted of vegetation including *Deschampsia caespitosa* (L.) Beauv., *Juncus*



Figs. 1-5: *Acanthophyma gowerense* (Locket). 1 Male carapace, lateral view; 2 Female carapace, lateral view; 3 Male cephalic lobe, dorsal view; 4, 5 Male sulcal pit (4: left, 5: right), in 5 covered by a substance (cf. text). Scale lines: 400 μ m (1, 2), 200 μ m (3), 40 μ m (4, 5).

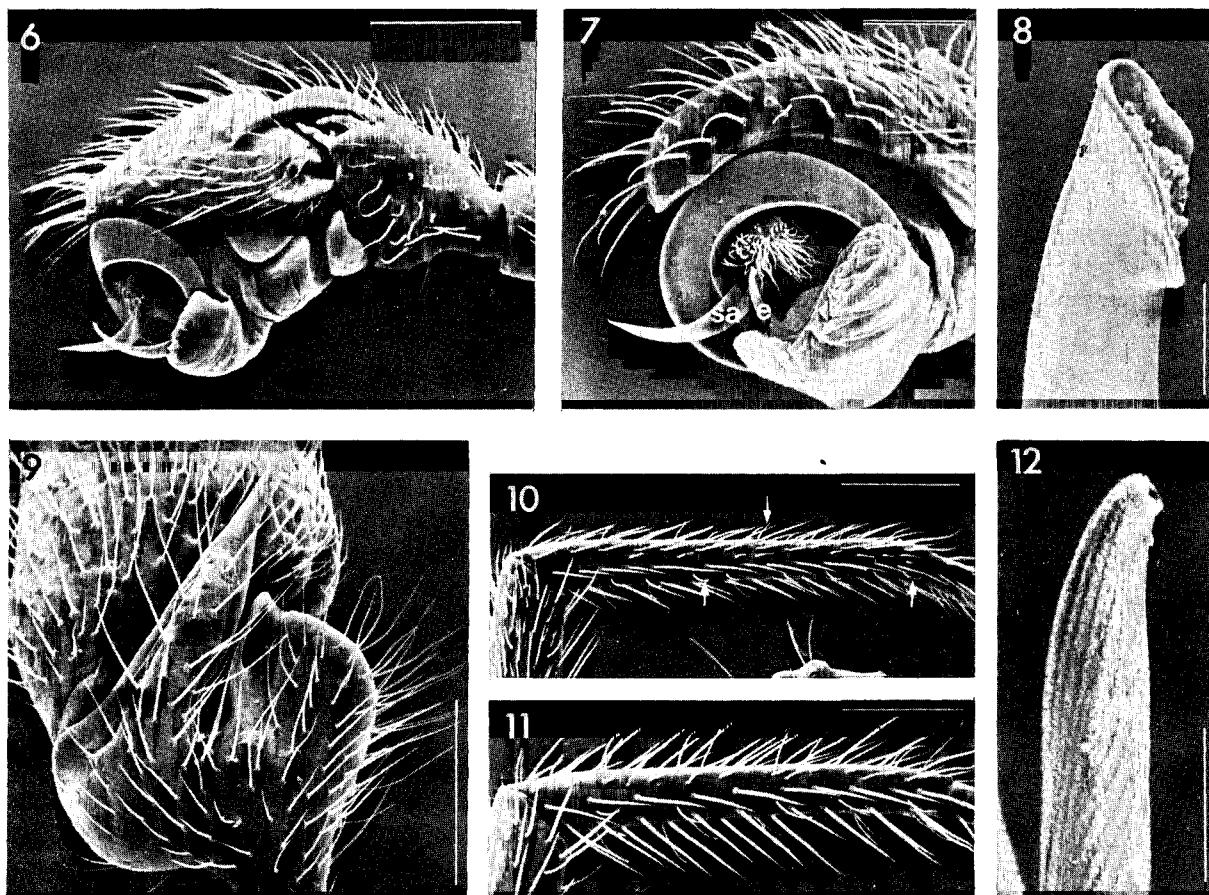
effusus (L.), *Carex nigra* (L.) Reichard and other *Carex* spp. *A. gowerense* was found on the wet substrate under old vegetation, e.g. in *Deschampsia* tussocks.

Until the species was found in a freshwater marsh in Norfolk, all British finds were from saltmarshes.

Adults were collected at the end of May and in June, which is in accordance with the data presented from Britain (Locket, Millidge & Merrett, 1974).

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Figs. 6-12: *Acanthophyma gowerense* (Locket). 6 Left male palp, retrolateral view; 7 Left male palp, close-up of distal part in more frontal view; embolus (e) and supratergular apophysis (sa); 8 Embolus tip; 9 Tibia of right male palp, dorsal view; 10 Male first metatarsus (arrows point to some of the chemosensitive hairs); 11 Female first metatarsus (chemosensitive hairs with steep insertion angle); 12 Chemosensitive hair on male first metatarsus; note apical pore opening. Scale lines: 200 μ m (6, 10, 11), 160 μ m (9), 100 μ m (7), 4 μ m (8), 2 μ m (12).

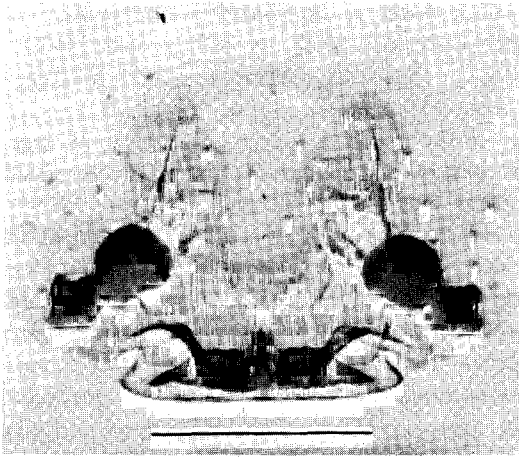


Fig. 13: *Acanthophyma gowerense* (Locket), cleared epigyne.
Scale line: 0.2 mm.

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