

Vulva: two spermathecae, complex ducts, fig. 9.

Palp: long, yellow-white.

Legs: leg I, very similar to leg I of *M. trucidans*, more robust than leg I of male, yellow-white; remaining legs slender, yellow with black claw tufts.

Leg	Tarsus	Metatarsus	Tibia	Patella	Femur	Total
I	0.44	0.95	1.40	0.68	1.17	4.64
II	0.27	0.39	0.46	0.29	0.45	1.86
III	0.21	0.48	0.53	0.33	0.57	2.12
IV	0.30	0.45	0.59	0.51	0.95	2.80
Palp	0.22	—	0.15	0.20	0.56	1.13

Leg order 1432. Measurements in millimetres.

Diagnosis: see key to species.

Acknowledgements

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On the affinity of the genus *Scotargus* Simon (Araneae: Linyphiidae)

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The confusion surrounding the type-species of the genus *Scotargus*, *S. pilosus* Simon, and its confounding with *Neriene inerrans* O.P.-Cambridge by Simon and most of the subsequent authors, has been clarified by Denis (1966). It is clear now that *Milleriana inerrans* (O.P.-Cambridge, 1885), a distinctly erigonid species with *Trichoncus strandi* Schenkel, 1929, among others, as junior synonym, is obviously different from *Scotargus pilosus* Simon, 1913, which has *Oreonetides strandi* Schenkel, 1934, among its synonyms. However, Denis did not enter into the matter of the generic affinity of *Scotargus*, and it is on this interesting problem that I would like to comment here.

In the course of a recent study of the genus *Oreonetides* I examined *Oreonetides strandi* Schenkel, described from Switzerland (Schenkel, 1934). The females in the Schenkel collection at

Basel did not fit in with my conception of the Erigonidae, where the genus *Scotargus* belongs according to Denis (1966) and Saaristo (1972).

A number of males from Czechoslovakia, received from Prof. Dr F. Miller of Brno, whose helpfulness is gladly acknowledged here, were found to confirm my dissenting views. The epigyne is too elaborate a structure, the fourth tibia bears two dorsal spines and the anterior tibiae (I and II) each bear a retro-lateral spine. Add to this the presence of a metatarsal spine on the anterior metatarsi (I and II) and we have a combination of characters that makes a direct relationship with the Erigonidae very unlikely.

If we compare the diagnostic characters of the monotypic *Scotargus*, which will be enumerated below, with those of *Sintula* Simon, we cannot fail to notice a number of striking resemblances between the two genera. Denis (1967) devoted a paper to *Sintula*, illustrating all known species. The generic characters of *Sintula* with which *Scotargus* is compared here, are largely taken from his paper. However, he did not dissect any palps or take out epigynes and examine the internal structures. I am convinced that had he done so this might have led him to the same conclusions presented here.

There are few sources available which describe the form of the genital structures of *Sintula*, and I do not know this species from personal experience. Wiehle (1961) added figures of the genitalia to the rediscovery of *Sintula corniger* in Germany; the sperm duct of the male palp shows a distinct widening in the embolus. Merrett (1963: 384, fig. 41) depicted the male palpal structures of *S. corniger* (Blackwall). Miller (1968), when describing the male of a new species from Czechoslovakia (*S. buchari*), depicted the male palpal structures of both *S. buchari* and *corniger* and also the vulva of the latter. Merrett seems to have missed the widening of the sperm duct in the embolus, present in Wiehle's (1961: fig. 26) and Miller's figures (1968: figs 6, 7, 10) of both species depicted, but otherwise Merrett's illustrations are quite helpful. A similar widening of the sperm duct in the embolus of *Scotargus pilosus* is one of the characters that suggest a close affinity of the two genera; other common characters are the presence of a retro-lateral spine on tibiae I and II (not always present in *Sintula*), the absence of femoral spines, the presence of a d-spine on metatarsi I and II, the absence of a trichobothrium on metatarsus IV, and the absence of true stridulating files on the chelicerae. The position of the trichobothrium on metatarsus I is slightly more distal in *Scotargus pilosus* (0.34-0.43) than in *Sintula* (basal third). The dentition of the chelicerae appears to be variable: Denis (1967: 370) reports two dorsal (anterior) and two ventral (posterior) teeth, but Miller (1968: 241) mentions three dorsal teeth for *Sintula buchari*. In *Scotargus pilosus* there are also three dorsal teeth and three (or four) ventral denticles.

The genitalia of *Scotargus pilosus* and the species of *Sintula* are comparable in general form and thus support the generic relationship suggested here. There are also many differences which warrant the maintenance of *Scotargus pilosus* in a separate genus. In the first place the male palp lacks the cymbial horn-like process with conspicuous spines, present in all *Sintula* species and at once distinguishing *Sintula* from other genera. In *Scotargus* the cymbium is drawn out into a comb-like process without such spines. As to the embolus, I have already drawn attention to the peculiar widening of the sperm duct within the embolus (fig. 2), which occurs in both genera. A difference between the two lies in the shape

of the embolus and the course of the sperm duct through the element. In *Sintula*, as far as I can infer from the available sources mentioned, the embolus is rounded proximally, while the sperm duct enters rather far distad; in *Scotargus* the element is more prolonged, semi-circularly curved to S-shaped, and the sperm duct runs full length through the element.

The shape of the embolus is generally correlated with the form of the epigyne. In *Scotargus* the striking feature of the organ is the way the scape is rolled up (fig. 6), not double-folded as, for example, in *Lepthyphantes*. From the epigyne in a preserved specimen, I cannot gain an insight into the movements necessary and allowed for during copulation, that is, whether it unrolls partly or completely. In species with a double-folded scape it has been found that the scape is pulled out of its resting-position and even distorted. But then, this type of scape always has a specialized structure at its tip, such as a stretcher or tongue-shaped structure with a central, often half-covered, depression by means of which the median apophysis of the male palp pulls the scape out of the folded situation. Here, in *Scotargus*, there is no such specialized structure nor a median apophysis that is fit for this purpose. Therefore it is not very likely that the scape undergoes much change of shape.

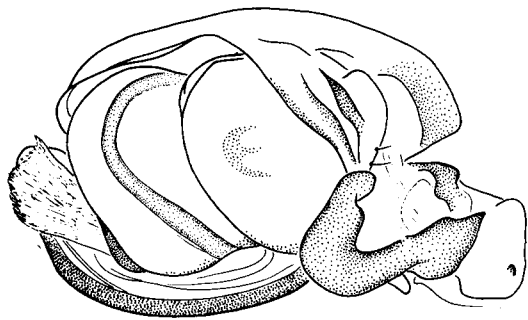
The epigyne of *Scotargus* differs from the type found in *Sintula*: in the latter it is neither rolled up nor double-folded, but simply projecting backwards. Otherwise the epigyne of the two genera resemble each other to a large extent.

Summarizing the conclusions obtained from the similarities and differences observed between *Scotargus pilosus* and *Sintula* we can say:

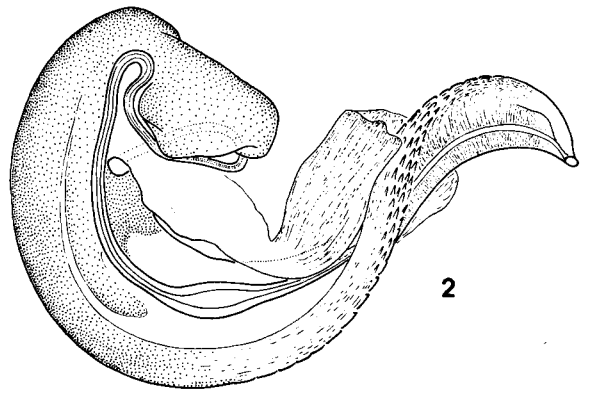
- (i) *Scotargus* Simon appears to resemble *Sintula* Simon in a number of characters, which might point to a systematic relationship;

Figs. 1-10. *Scotargus pilosus* (Simon). 1, male palp, lateral aspect; 2, embolus, ventral aspect; 3, palp, mesal aspect; 4, paracymbium, slightly from behind; 5, radix, dorsal aspect; 6, schematic representation of epigyne, left lateral aspect; 7, epigyne, ventral aspect; 8, epigyne, posterior aspect; 9, vulva, dorsal aspect; 10, vulva, ventral aspect.

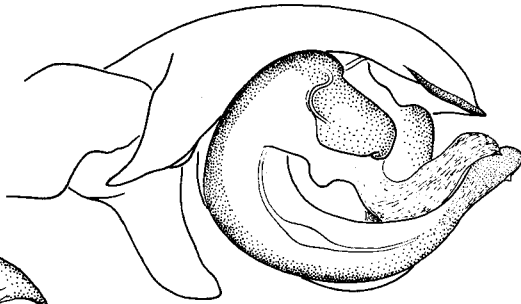
1, 3, 4, x 100; 2, 5, 9, 10, x 160; 7, 8, x 100.



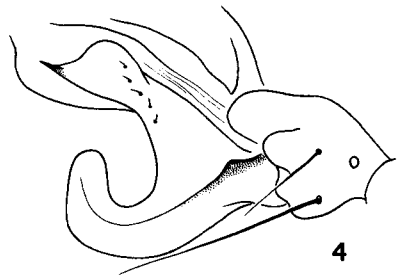
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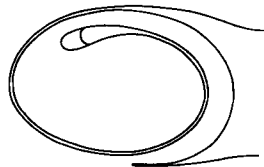
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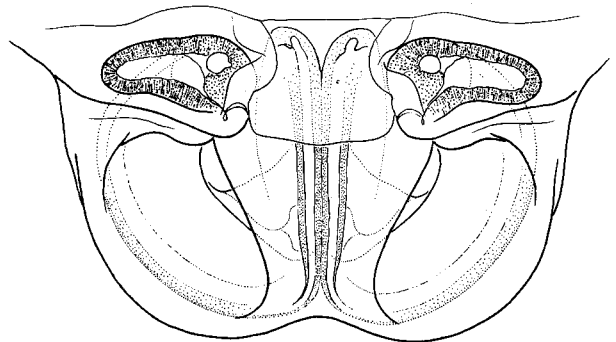
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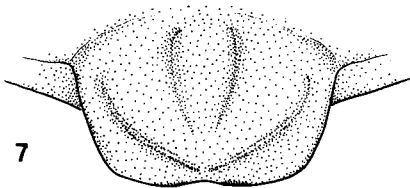
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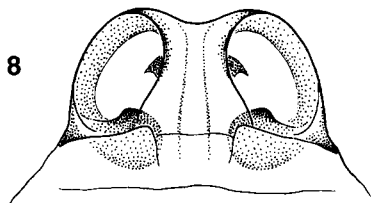
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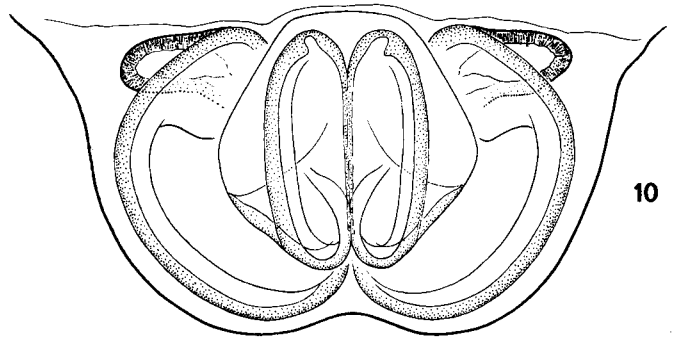
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8



10

- (ii) *Scotargus* and *Sintula* show a number of characters that places them among the Linyphiidae and not among the Erigonidae.

Diagnosis of *Scotargus*

Small (2-3.5 mm); weakly pigmented. Cephalothorax with few spine-like setae in eye-region. Posterior row of eyes equidistant (about 1 diam. apart); all eyes except AME of same size; lateral eyes touching; AME small and close together. Chelicerae without stridulating files; dorsal row with three teeth, ventral row with three (or four) teeth. Legs not annulated; femur I slightly shorter than cephalothorax; tibia I slightly shorter than femur I and 8-10 diams. of tibia long. All femora spineless, all tibiae with two d-spines, tibiae I and II with a retro-lateral spine, metatarsi I and II with a single d-spine (position ca 0.5); patellae with a well-developed basal dorsal spine, apical dorsal spine very small. Tm I 0.34-0.43, metatarsus IV without trichobothrium. Position of d"-spine on tibia I 0.30-0.34, spine 1.8-2.0 diams. of tibia long (♀) or 2.5 diams. (♂).

Male palp (figs 1-5) with well-developed paracymbium; cymbium with a blunt, rather comb-like projection proximo-dorsally. Median apophysis or radix well-developed, curved, distally rounded. (I am inclined to consider the sclerotized element situated proximally of the embolus to be the radix rather than the median apophysis; it arises from the tegular surface but is not a continuation of a sclerotized rim of the tegulum; the connection is membranous.) Embolus semi-circularly curved for 3/4 of its length, apical fourth curved dorsad; spermduct with characteristic widening before the middle and ending at the very end of the relatively broad tip (Anschluss-Embolus). Embolic membrane arising from membranous connection between radix (?) and embolus.

Epigyne (figs 6-8) and vulva (figs 9, 10) with rolled up scape near the very tip of which the spermducts begin with a pouch-like opening; receptacula pointing laterad.

Distribution

The only species included, *S. pilosus*, has been stated (Denis, 1966) to occur in Spain (caves), France (Alpes-maritimes, Ardèche, Haute-Savoie), Switzerland and Czechoslovakia. There is another record from Czechoslovakia (Polenec, 1970), and several from Poland (Wiehle, 1956; Czajka, 1966a, b; Proszynski & Starega, 1971).

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