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A new species of *Hahnia* (Araneae, Hahniidae) from Britain

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Introduction

During a comparative study of the spider fauna of some areas of chalk grassland in Dorset undertaken by R. S., a single female of an unknown species of *Hahnia* was taken in a pitfall trap in December 1975. Another female of what was obviously the same species was taken six days later at a site near Royston, Hertfordshire by E. D. in a pitfall trap. Although both specimens were taken in vegetation on chalk soils the second site is 225 km north-east of the first.

Hahnia microphthalma sp.n. (Figs. 1-6)

Female

Total length: 1.4 mm. *Carapace:* Length 0.6 mm, width 0.4-0.5 mm. Pale yellow with the cheliceral bases seen through the integument. Clypeus scarcely wider than anterior lateral eyes. Nine very strong black spines in ocular area (Fig. 1); some of these had been knocked off in the Royston specimen but their bases were still evident. No other hairs on carapace. The fovea is a dark line. *Eyes:* Posterior medians considerably reduced, both in size and amount of pigmentation. Anterior and posterior laterals contiguous. *Chelicerae:* Pale yellow. No cheliceral teeth, but posteriorly there are a few minute denticles. Fang fringed by a row of plumose hairs, those nearest to the base of the fang being extremely long and directed inwards and posteriorly. There are also several rather long normal hairs in the region of the fang (Fig. 2). *Labium:* Broader than long with a pair of strong forward-pointing hairs on the anterior edge. *Sternum:* Pale yellow, broadly truncate between coxae IV, sparsely covered with long hairs, length/breadth 0.9. *Legs:* Pale yellow. IV, I, II, III. Holotype measurements in mm:

	Femur	Tibia	Metatarsus	Tarsus
I	0.48	0.40	0.33	0.34
II	0.47	0.32	0.31	0.33
III	0.42	0.30	0.30	0.32
IV	0.55	0.42	0.44	0.40

Metatarsi III and IV with two weak spines distally, one short ventral and one longer dorsal, both scarcely stronger than hairs. *Abdomen:* Pale yellowish grey clothed with fairly long hairs. Tracheal stigma approximately 0.35. *Spinners:* In a more or less straight transverse row. *Epigyne:* There is no true epigyne but the characteristic double cardioid arrangement of the ducts can be seen through the integument (Figs. 3-6).

Types

Holotype ♀, ENGLAND, Lyscombe Hill, near Piddletrenthide, Dorset (Grid ref: ST 734026), in a pitfall trap, 30 December 1975. Paratype ♀, in a pitfall trap in cultivated land adjacent to Royston Heath, Hertfordshire, England (Grid ref: TL 342399), 5 January 1976. Male unknown.

The holotype is deposited in the British Museum (Natural History). The paratype is held by E. D.

Etymology

The specific epithet refers to the small size of the posterior median eyes.

Diagnosis

The females of *H. microphthalma* may be recognised easily by the reduced posterior median eyes and by the double cardioid arrangement of ducts in the anterior half of the vulva. The male is unknown.

Taxonomic affinities

The placing of *H. microphthalma* in the genus *Hahnia* causes certain problems. The fact that the anterior median eyes are larger than the posterior

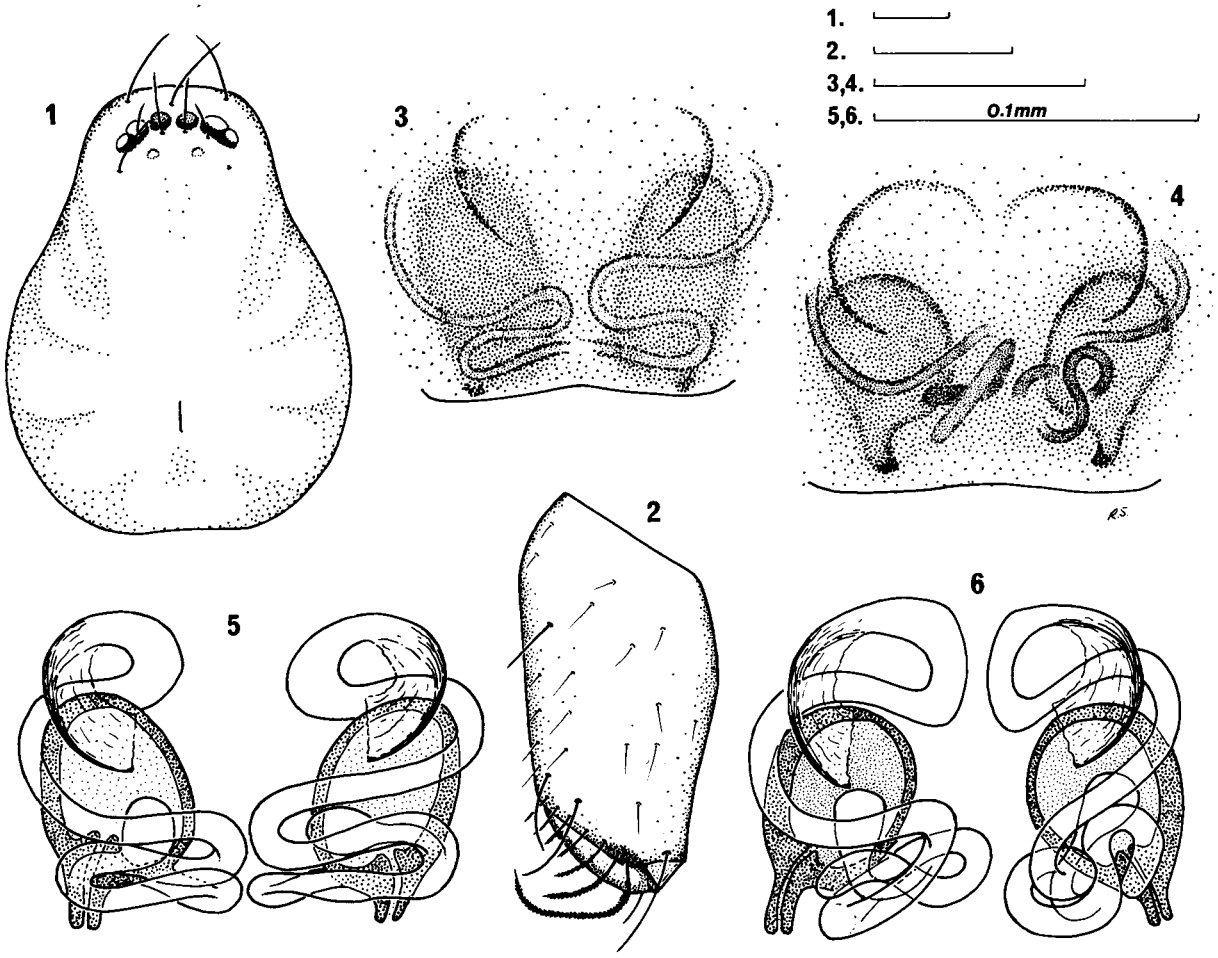
medians and that there are no cheliceral teeth, suggest that the species is not a *Hahnia.* Although the number of cheliceral teeth is not a diagnostic character in the hahniids, there seem to be no other species which lack them entirely.

The tracheal stigma, however, is consistent with it being a *Hahnia* and the vulva is of a *Hahnia* type. There is a similarity between this species and *H. difficilis* Harm, in that the secondary spermathecae are greatly reduced and are not sclerotised. It seems probable that these are no longer functional spermathecae and that this reduction may indicate a trend towards the type of vulva found in *H. petrobia* Simon, in which the secondary spermathecae are absent (Brignoli, 1978).

According to Harm's definition (Harm, 1966) this species would fall into the "*montana*" group and thus into the radically relimited genus *Iberina* of Lehtinen (1967). However, we propose to retain the generic name *Hahnia* until such time as the taxonomic reorganisation of the hahniids is more clearly established. Whether these characters show enough divergence from other *Hahnia* species to merit the erection of a new genus is a matter of conjecture which may be elucidated when the male is found.

Occurrence

The first specimen was taken in a pitfall trap between 3 and 30 December 1975 at the site at Lyscombe Hill, Dorset, described by Snazell (1978).



Figs. 1-6: *Hahnia microphthalma* sp.n., female. 1 Carapace, holotype, dorsal view; 2 Chelicera, anterior view; 3 Epigyne, holotype; 4 Epigyne, paratype; 5 Vulva, holotype; 6 Vulva, paratype.

The site is on a steep south-facing slope of chalk grassland which is grazed by cattle during some of the winter months. A very rich flora is present especially in grazed areas. The most abundant grasses were *Brachypodium pinnatum* (L.) Beauv., *Dactylis glomerata* L., *Anthoxanthum odoratum* L., *Holcus lanatus* L. and *Poa annua* L. with some *Briza media* L. and *Arrhenatherum elatius* (L.) J. & C. Presl. Also common on the site were the Common Rockrose (*Helianthemum chamaecistus* Mill.), Marjoram (*Origanum vulgare* L.) and Thyme (*Thymus drucei* Ronn.). Nest mounds of the ant *Lasius flavus* (Fabr.) were present in large numbers, suggesting a long period without major disturbance. In fact, it is unlikely that the site has ever been cultivated, because of the very steep slope.

The site at Royston, Herts., although close to permanent chalk grassland, was situated in an arable field which had been cultivated for cereals until 1973 when it was allowed to revert to grassland. In the autumn of 1975 the site was ploughed and harrowed before pitfall traps were placed in the bare soil. By 5 January 1976 a sparse growth of weedy grasses had developed, although much bare ground remained. No other *Hahnia* spp. were taken but *H. nava* (Bl.) occurred in nearby permanent grassland. An examination of *Hahnia* spp. taken on other chalk grassland areas in southern England have not, so far, revealed additional specimens of *H. microphthalma.*

As in the case of *Pseudomaro aenigmaticus* Denis, also described from the Lyscombe Hill site (Snazell, 1978), some of the characters of the spider suggest a subterranean habitat, possibly the same habitat as that of *P. aenigmaticus.* It is unlikely that either species could inhabit the spaces between soil particles as they are both rather large for such a habitat. *H. microphthalma* may possibly be myrmecophilous or, more likely, inhabit the network of small fissures and solution channels found in the chalk subsoil at the Lyscombe site.

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