

## *Tegenaria picta* Simon, a spider new to Britain (Araneae: Agelenidae)

R. Jones

26 Byerley Road,  
Portsmouth,  
Hants PO1 5AX

### Summary

Both sexes of *Tegenaria picta* Simon, a western palaearctic species, are described, and some aspects of its biology discussed.

### Introduction

On 26 April 1982, a visit was made to the Amberley Chalk Pits Museum at Houghton, West Sussex. A small number of unfamiliar but immature agelenid spiders were seen, and three specimens were collected for rearing. One of these died within a few days, but the other two made webs in small plastic boxes and were fed on a variety of small flies, until they reached maturity in the first week of May. These proved to be *Tegenaria picta* Simon, a species new to Britain. The descriptions of both sexes which follow are based on material from the above site.

### *Tegenaria picta* Simon (Figs. 1-4)

**Total length:** ♀ 6-7 mm, ♂ 5.5-6mm. **Carapace:** Length: ♀ 2.7-3.1 mm, ♂ 3.0 mm (one specimen). Yellow-brown, with darker veinings. Sparsely covered in plumose hairs, and with a row of long bristles in median line running from fovea to posterior median eyes. **Abdomen:** Dark, greyish brown with lighter dorsal markings approaching those of *Tegenaria agrestis* (Walck.), but much fainter. Specimens preserved for some time show a reddish brown patch over the cardiac area and darker mottlings on the sides. Ventrally with a uniform yellow-brown area. **Spinners:** Apical segment of posterior pair longer than in any other British *Tegenaria*; in ♀, apical segment about 2.4 times length of basal, in ♂ about 2.0 times as long. Posterior pair slightly darker than others. **Sternum:** Yellow-brown, without other markings, or with a very faint median band about one quarter of width of sternum. This median line appears to be more developed in immature stages than in adults. **Legs:** Yellow-brown becoming reddish brown

on apical segments. Furnished with many long hairs, interspersed with shorter, prone, plumose hairs (as in other British species). Tibiae I have a pair of ventral spines near the base, and another pair in the distal third. **Male palp** (Figs. 1, 2): The tibial apophysis, seen from the side, is anvil-shaped. Ventrally, a helical process emanates from the base of the bulb. The spoon-shaped conductor on the outer side of the palp lies along the same axis as the cymbium and almost parallel to it. The embolus is very long and its apical part lies within the 'spoon'. **Epigyne** (Fig. 3): Like *T. agrestis* this consists of a shallow depression. The two sclerotized prominences near the posterior border are not always well developed. In live specimens, the epigyne is totally obscured by long hairs.

### Diagnosis

*T. picta* is the type-species of Simon's *Tegenaria* Group 3, which also contains *T. soriculata* Simon from Corsica and Sardinia, and *T. ligurica* Simon from Alpes-Maritimes in France.

In the field, the general lack of markings (especially of the sternum), the overall length of the posterior spinners and the relatively small size distinguish *T. picta* from other Northern European *Tegenaria* species. The genitalia of both sexes are quite distinctive, although the overall appearance of the male palp is similar to that of *T. silvestris* L. Koch. The tibial apophysis is different in the two species, as is the relative size and shape of the apophyses on the base of the embolus and conductor.

In *T. picta* the process at the base of the conductor is helical whereas in *T. silvestris* it consists of a small spur. At the base of the embolus, *T. picta* has a small triangular structure; in *T. silvestris* this is large and rather bulbous. Additionally the embolus of *T. picta* is longer and more slender apically than that of *T. silvestris*, and the palpal organ as a whole, as seen ventrally, has a slimmer appearance in *T. picta*.

### Occurrence and observations

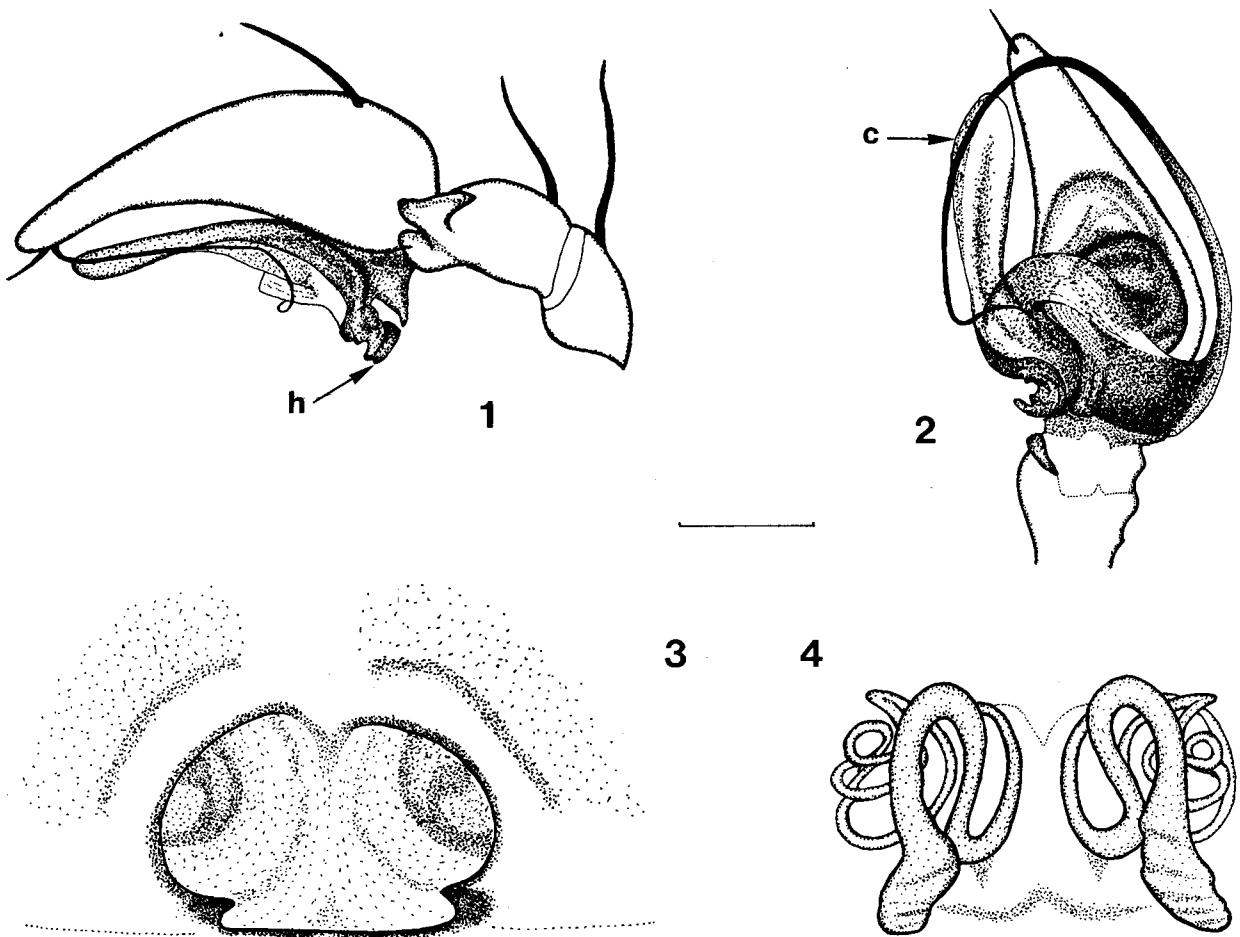
The spiders have been found beneath lumps of chalk on the floor of the quarry workings at Amberley Chalk Pits Museum, Houghton, West Sussex (Grid ref. TQ 030123). From the early part of the nineteenth century, the site had been exploited by a lime works, but this ceased operation in 1968. From then until

1979, the quarries were undisturbed by human activity until the present owners opened their industrial museum. Large chalk boulders have been left near the walls of the old quarries where sparse vegetation grows between them. The spiders show a preference for those boulders which have an unobstructed space of about 1 cm between them and the ground. The web has an area in the region of 100 cm<sup>2</sup> and is in the form of a sheet supported by several vertical silk tubes attached to the ceiling formed by the rock. This constructional feature was repeated by captive specimens which were housed in plastic boxes 8 x 4.5 x 2 cm. Each was provided with an opaque paper shelter, in which it could hide, but the majority

spurned this and spent most of their time, both day and night, on the structure of the web. One spider used the shelter for moulting, but others ecdysed on the web platform.

A few days after the male had matured (probably on 8 May 1982), he was introduced to the female's web. He appeared to add some silk to her web by spreading his posterior spinners and applying them to the sheet. When the two spiders met, there was some mutual leg stroking and the male lubricated his palps between his chelicerae. The pair were disturbed by photographing them with flash, and mating was not seen.

Small flies were introduced to the web using a



Figs. 1-4: *Tegenaria picta* Simon. 1 Left male palp, lateral view. h = helical process; 2 Right male palp from below. c = conductor; 3 Epigyne, ventral view, hairs omitted; 4 Vulva, dorsal view. Scale line = 0.2 mm.

pooter, and both spiders caught their own food on the female's web. Periodically water was provided, which both eagerly drank. Some ten days after the male had been placed in the female's container, his responses to prey ceased, and on the night of the twelfth day he was dead and the female was seen to be feeding on him. The following day the female was on the sheet of the web and accepting prey, but in the evening she was seen again to be feeding on the remains of the male. The following morning, only the sclerotized and scattered remains of the male were seen. The palps were removed from the box and identified from the illustrations in Dahl (1931).

During the early part of June, owing to my absence, no observations were made, but on my return an egg sac had been attached to the top lid of the container, and particles of prey (including bits of the male) had been attached to the wall of the sac. A return visit to the site on 18 June 1982 produced two more females, one of which had two egg sacs. These were covered in pieces of chalk which were almost as big as the sac itself.

On 7 July 1982 the spiderlings emerged from the sac of the captive female, and these were subsequently returned to the chalk pits. In order to have a whole specimen of a male, the site was visited again in mid September, when two further females were found — one of these was dead, but occupying a web. Six immatures were collected for rearing, two of which became adult males during the last week of April 1983. A further visit to the site in May 1983 produced no adult *Tegenaria picta* in spite of an intensive search, but a number of spiderlings, thought to be of this species because of the faint median stripe on the sternum, were found. Also present, and not found before, were a number of *Tegenaria silvestris* L. Koch. In all instances this latter species had made

a more aerial web attached to the sides of large boulders, but not below them.

The life cycle of *T. picta* (in Britain) would appear to be as follows: the spiderlings emerge from the egg sac at various times throughout the summer, passing through the winter and continuing their development through a second summer and winter. Maturity is attained in the following spring. Some specimens probably mature more quickly in Germany (where adults are also found in September and October), but this may not be true of all the surviving spiders from one sac. This scheme seems to be typical of species from diverse families, in which eggs are laid during the summer.

#### Distribution

At present, this is the only site in Britain where the species has been found. Simon (1937) records *T. picta* as being widespread and common in woods throughout France; in Spain and Algeria it is found in mountainous regions. The spider also occurs in Holland, Belgium, Bulgaria and Germany.

#### Acknowledgements

I would like to thank Mr Ian Dean, the Director of the Chalk Pits Museum, for access on numerous occasions, and Mr Paul Hillyard of the British Museum for confirming the identity of the spider. Thanks are also due to Mr John Murphy for the loan of literature.

#### References

- DAHL, M. 1931: Spinnentiere oder Arachnoidea. VI. 24. Familie. Agelenidae. *Tierwelt Dtl.* **23**: 1-46.  
 SIMON, E. 1937: *Les Arachnides de France* **6**(5): 979-1298. Encyclopédie Roret, Paris.

#### Nomenclatural Note

The following Opinion has been published by the International Commission on Zoological Nomenclature in *Bull.zool.Nom.* **41** (1): 10, on 29 March 1984.

Opinion No. 1265 *Bellota* Peckham & Peckham, 1892 (Araneae, Salticidae): type species designated under the plenary powers.

Editor