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OF THE

Chester Society of Natural Science, Literature, and Art.

PART VI.—No. 1, MAY 1st, 1907.

ON SOME

RARE ARACHNIDS

CAPTURED DURING 1906.

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Rare Arachnids captured during 1906.

During the past year I have been able to do little work amongst the British Arachnids. I have, however, paid a few visits to Delamere Forest, and secured a fair number of Spiders and Phalangids from that locality. Mr. William Falconer, of Huddersfield, spent a few days with me in June, and kindly joined his observations to mine. As a result, over two hundred species of Spiders, fifteen of Phalangids, and two Pseudoscorpions have been discovered in and around Chester. All this in one season, and with very little work. The district, therefore, is a very rich one; and I hope some day to record its Arachnids in full. Two Spiders taken by us were very remarkable. One, *Hahnia pusilla* (C. L. Koch), was captured, in the female sex, by Mr. Falconer on June 4th. This was the first British record. Subsequently, we each obtained specimens of both sexes. The other species was obtained by me, at Oakmere, on October 31st. It is certainly new to Britain, and is, I believe, an addition to science. I have called it *Centromerus emptus*. Besides the Chester captures, several of my correspondents have sent me rare and interesting forms. The chief of these are *Teutana nobilis* (Thor.), sent to me from Hastings by Mr. W. H. Bennett, of that town; and *Diplocephalus protuberans* (Camb.), from Winlaton-on-Tyne, by Mr. Bagnall. The former of these Arachnids is the first *adult* captured at large in Britain. The latter is an addition to the British Fauna. Thus, I have four interesting Spiders to figure, one of which I must also describe. In addition to these, I am noting the capture of many interesting species, which have been obtained either locally or from my correspondents. The Rev. O. P. Cambridge, F.R.S., the leading British authority on Arachnids, has seen most of my captures, and corroborated my identification of them.

Order I.—ARANEIDA.

Oxyptila flexa (Camb.) Not rare amongst grass and herbage on banks near Chester.

Philodromus prædatus (Camb.) A single adult male from Delamere. The right to specific rank of this Spider is, to my mind, extremely doubtful.

Philodromus fallax (Sund.) Three adult males and numerous adult females amongst starr-grass, on Wallasey sand-hills, on May 9th. Probably, the time was a little late for the males.

Attus pubescens (Fabr.) One male; on the trunk of a pear-tree in my garden; June.

Phlegra fasciata (Hahn.) A single male, from MR. BENNETT. He obtained it at Hastings.

Lycosa miniata (C. L. Koch). A male from Hastings. Sent by MR. BENNETT.

Cœlotes terrestris (Wid.) Several adult females, and one adult male from Fairlight, near Hastings. MR. BENNETT.

Hahnia pusilla (C. L. Koch). Two females were taken by MR. FALCONER, in Delamere Forest, on June 4th, 1906. Two days later, we each obtained specimens, amongst which was a male. At the end of the month, both sexes turned up in a fresh spot in the forest. This is an addition to the British Fauna. According to Dr. R. de Lessert, it is abundant locally in some parts of Germany and Switzerland, but rare in France and Hungary. In colour, it closely resembles *H. helveola* (Sim.), but the abdominal pattern is much less distinct. Besides, it is much smaller, the male being only 1·3 mm. in length, and the female 1·4 to 1·5 mm. Nevertheless, in life it much resembles very young examples of *H. helveola* (Sim.). Both species occur together, and may thus be confounded when at large. The vulva of the female is quite unlike that of any other British Hahnia. The male palpus, however, much resembles that of *H. helveola* (Sim.) and *H. nava* (Bl.). It, however, can be distinguished by careful microscopic examination; and the small size of *H. pusilla* (C. L. Koch) easily distinguishes it from its former ally, while its pale colour separates it from the latter. *H. montana* (Bl.) has quite a different palpus, and cannot be confused with the present species.

See Plate; figures 1, 2, 3, & 4.

Dictyna variabilis (C. L. Koch). MR. BENNETT captured a pair of adults at Guestling, near Hastings, and kindly sent them to me.

Theridion impressum (L. Koch). Two males. Delamere, in June.

Theridion simile (C. L. Koch). Both sexes. Oakmere, June.

Onesinda minutissima (Camb.) Abundant locally in Delamere Forest. Adults were found as late as June.

Euryopis flavomaculatum (C. L. Koch). This rare but widely distributed species occurs in Delamere Forest. Immature examples may be found at any time; but one male, and several females, all adult, occurred at the end of June, and at the beginning of July.

Asagena phalerata (Panz.) Both sexes, at Plover's Moss, in June. They were full-grown, but not sexually mature.

Teutana nobilis (Thor.). A fine female of this large and handsome species was sent to me by Mr. W. H. Bennett, of Hastings. It was found by him on the cliffs, at a considerable distance from the town. The only previous British record was an immature female from Torquay. This Spider can easily be distinguished from its only other British congener, *T. grossa* (C. L. Koch), by its much greater size, its totally different abdominal markings and facies, and by the structure of its vulva. Several examples have recently been imported into England amongst bananas. Mr. Bennett, however, informs me that his specimen was found far from any house, and in such a situation that importation was almost out of the question. The Spiders of the genus Teutana seem to prefer living in the interiors of houses, in Northern Europe at all events. This, of course, facilitates their distribution by artificial means. I here figure *T. nobilis* (Thor.), showing also the vulva of *T. grossa* (C. L. Koch) for comparison.

See Plate ; figures 5, 6, 7, 8, & 9.

Cnephalocotes elegans (Camb.), A single male ; close to the edge of the lake. Hatchmere, in June.

Diplocephalus protuberans (Camb.) This is an addition to the British Fauna. It has previously occurred in France. Mr. R. S. Bagnall, of Winlaton-on-Tyne, captured a single male amongst moss near Gibside, in Durham, during December 1906. It is related to the common *D. latifrons* (Camb.), but the structure of its caput and palpi, renders it easily distinguishable. I would especially point out the curved spine near the apex of the palpal organs, and at the outer side. This is seen from above, in figure 10. M. Simon (Arach. de France, Tome V., Partie 3), gives its length as 1·4 mm. Mr. Bagnall's specimen is, however, 1·8 mm. in length. This is reached by some examples of *D. latifrons* (Camb.), but most of them are distinctly less. I do not know the female, but its vulva is figured by Simon (*op. cit*).

See Plate ; figures 10, 11, 12, 13, 14, & 15.

Tapinocyba pallens (Camb.) Common in Delamere Forest. Lately, Dr. H. Bailey has sent me two males from Port Erin, in the Isle of Man.

Styloctetor penicillatus (West.) Frequent in June, running on the trunks of Scotch firs and larches.

Entelecara flavipes (Bl.) Both sexes from Mr. Bennett, Hastings.

Entelecara Jacksonii (Camb.) Females at Oakmere in June, and again in October. A single male on October 31st. This is the second known locality for this Spider, which I discovered in Glamorganshire in 1901.

Metopobactrus prominulus (Camb.) Both sexes; Delamere.

Wideria fugax (Camb.) Males and females in Delamere Forest. The former sex is adult in May.

Wideria melanocephala (Camb.) One male on July 1st; Females in June, July, and November.

Tigellinus furcillatus (Menge). Four males and four females of this extraordinary Spider in July. Between Mouldsworth and Delamere. It is of great rarity in Britain, but has occurred in Dorset, Berkshire, and Yorkshire.

Gongylidiellum latebricolum (Camb.) Not rare locally in the forest. It has previously occurred in Dorset, Northumberland, and Scotland.

Porrhomma miser (Camb.) This Spider may be found amongst sphagnum at the Hatchmere end of the forest.

Tmeticus firmus (Camb.) MR. FALCONER struck a rich vein of this species under a heather bush. This was in June. He got two males and numerous females. Northumberland and Yorkshire were the only previous records. In the former county I could only find males in October and November. That sex has not yet occurred in the latter.

Centromerus emptus. sp. nov. Length of male 1·8 mm. (my females are rather less). Cephalothorax; legs, palpi, maxillæ, and labium of a yellowish brown colour, the first showing a few dusky lines radiating from the thoracic juncture. The abdomen is greyish-brown above, shading into dark-brown below. The spinners and spiracular plates are of the same colour as the cephalothorax and its appendages.

The *cephalothorax* is of normal form, sloping up gradually from the thoracic juncture to the caput, which is rather prominent.

The *clypeus* is distinctly higher than the ocular area.

Eyes—in two rows as usual, and, of course, eight in number. The posterior row is nearly straight; if anything, slightly procurved. The centrals are the largest of the eight. The posterior interspaces are about equal, and each is slightly less than the diameter of each posterior central. The anterior row is straight; its centrals are the smallest of the eight, and are in contact, or almost so. Each is separated from its adjacent lateral by a space about equal to its own diameter. The figure formed by the four central eyes is much broader behind than before. This description is from a male specimen. A little variation, both sexual and individual, however, may occur.

The *sternum* is suffused with dark-brown; it is longer than broad, and is produced between the coxæ of the fourth pair of legs.

Falces. In the female these are of moderate size and normal form; in the male they are larger and slightly divergent. In that sex each basal joint is ornamented in front with a longitudinal band of very short hairs. This runs down nearly the whole length of the joint; close to, and parallel with the external border. The hairs are numerous, and equal in length. A similar band exists on the falces of male specimens of *C. prudens* (Camb.), *C. arcanus* (Camb.), and *C. sylvaticus* (Bl.). It appears to be absent in *C. bicolor* (Bl.), *C. concinnus* (Thor.), and *C. expertus* (Camb.). A slight effort of the imagination will convert it into a stridulating apparatus; and diligent search will discover minute knobs on the inner surface of the palpi, which are capable (or incapable) of producing sounds by rubbing against it.

Palpi. In the female these are simple. I could find no terminal claw in my specimens, although I examined with a high power. In the male they are well developed and characteristic. Tibia and Patella are both short, the former being the longer. Each is provided on its upper surface with a fine seta. These are about equal. The Tarsus exhibits a lobe on its outer side. The palpal organs are not very conspicuous. The Paracymbium on the other hand is very characteristic. On its descending part there is a quadrilateral area bearing a number of short hairs which project outwards. This alone is quite sufficient for recognition purposes. The other details are shewn in the figures.

The *vulva* of the female too is very characteristic. It bears a long transparent colourless process which starts behind the spermothecæ, and nearly reaches the centre of the abdomen. It somewhat recalls the similar process borne by *Bathyphantes concolor* (wid.).

Legs. Metatarsus distinctly shorter than the tibia and patella combined. Each leg carries spines as well as "Acoustic setæ." The femora are provided below with a few strong hairs. These are well developed near the distal end of the joint. The first femur only carries a short, stout, spine on the dorso-internal aspect, not far from the distal end. The other femora are devoid of such an ornament. Each patella carries a similar spine on its upper surface. The first three tibiæ, each carry two spines dorsally, one above and one below. The latter is wanting in the fourth tibia; and the spider in this respect resembles the Erigoneæ. The Metatarsi and Tarsi have no such spines. The latter carry the usual three terminal claws. Each tibia bears one or two "Acoustic setæ." These are placed between the two spines. Each Metatarsus also bears a similar bristle.

The *spinners* and *spiracles* are of normal form.

Four males and three females of this little spider were found on October 31st and November 5th, at Oakmere. The species is quite new to Britain ; and, as MR. CAMBRIDGE believes it to be a new species, I have now described it as such.

See Plate ; figures 16, 17, 18, 19, 20, 21, & 22.

ORDER II.—PHALANGIDEA.

Oligolophus spinosus (Bosc.) A female taken at Brigstock, Northamptonshire, and sent to me by MR. H. W. FRESTON, of Poynton, Cheshire.

Oligolophus Meadii (Camb.). About a dozen examples from Oakmere on October 31st and November 5th. MR. CAMBRIDGE believes that some of them, at all events, are adult. This interesting Arachnid has only previously occurred in Dorset and Sussex. It is unknown on the Continent; but it has been suggested that possibly the British specimens are not mature.

Anelasmocephalus Cambridgii (Westw.). Four or five specimens were obtained at Guestling and Fairlight, near Hastings, and were sent to me by MR. BENNETT.

Trogulus tricarinatus (Linn.) MR. WALLIS KEW, of Bromley, kindly sent me two examples of this species. One is adult, and is the first adult Trogulus obtained in Britain. The other is very young. The former was obtained on "the Warren," at Folkestone, on May 5th, 1905, and the latter, four days later, at Cudham, Kent, A very young example was taken at Bloxworth, Dorset, in April some years ago. I, myself, found an immature Trogulus at Deepdale, near Buxton, in 1899. It was seen and recognised by the late F. O. P. Cambridge. Probably it was referable to this species, but the specimen is now lost.

ORDER III.—CHERNETIDEA.

Chthonius Rayii (L. Koch). Several examples from Hastings. MR. BENNETT.

Chthonius tetrachelatus (Preyss). A single specimen from MR. BAGNALL ; it was obtained at Ormidale, Kyles of Bute, under a stone on the shore.

Obisium maritimum (Leach). This interesting animal is not rare at Port Erin. Its habits are somewhat abnormal, so I here make a short note on them. It inhabits the crevices of the rocks there. These are of the Silurian series ; they are slaty and cleave easily ; the clefts being chiefly in the vertical direction. They are well below high-water mark, but are uncovered at each low tide. They are, of course, covered with algæ and barnacles, limpets, &c. When a chisel is used, flat pieces are easily separated. The under surface of these pieces of rock, and the beds from which they are removed are seen to be covered with a fine damp sand. Pressed flat against the rock are seen various animals. Some of these, of course, are marine animals, such as small Crabs, Annelids, and Nemertines. Others, however, are Tracheates. These are two Beetles, viz.: *Aëpus marinus* (Ström), and *Micralymma brevipenne* (Gyll.), the curious blue *Anurida maritima*, which occurs in thousands, and *Obisium maritimum*. The last are somewhat gregarious; when one is found, others are usually near; four or five examples may be found on a square foot of rock occasionally. They sometimes inhabit crevices deep in the rock, occurring at a depth of eight or nine inches; but they are also found quite near the surface. Although of such submarine habits, they are quite unable to support themselves in the water; and float about very helplessly if placed in that element. Under one piece of rock two small white cocoons were found. These were lenticular in shape, and about one-third-of-an-inch in diameter. One of them contained a cast skin of Obisium. The cuticle of the Pedipalps was very visible, the rest being reduced to débris. The other cocoon, which was placed close to the first, contained a pair of the Chernetids. One I think had just entered it, perhaps from the other cocoon. Several specimens of this Arachnid were observed to have seized an Anurida in their pedipalps; and, probably, this animal is their chief food. The flat shape of the *O. maritimum* is well adapted for living in such narrow fissures, where, probably, its enemies cannot follow it. In the same situations I also found a small mite, which I have not yet had identified.

Obisium muscorum (Leach). A very young example attached to the leg of a house-fly in August. Chester.

Roncus lubricus (L. Koch). One example; Hastings; MR. BENNETT.

Roncus Cambridgii (L. Koch). MR. BAGNALL obtained a single example amongst moss, in Glen Ashdale, Arran.

Chelifer Latreillii (Leach). MR. BENNETT obtained this species at the roots of grass on sandhills near Hastings. It was not uncommon.

Chernes nodosus (Schranck). Two examples attached to the legs of house-flies in August. Chester.

Chiridium museorum (Leach). MR. J. C. VARTY-SMITH, of Penrith, kindly sent me three examples of this species. They were obtained from starlings' nests by MR. BRITTEN, of that town.

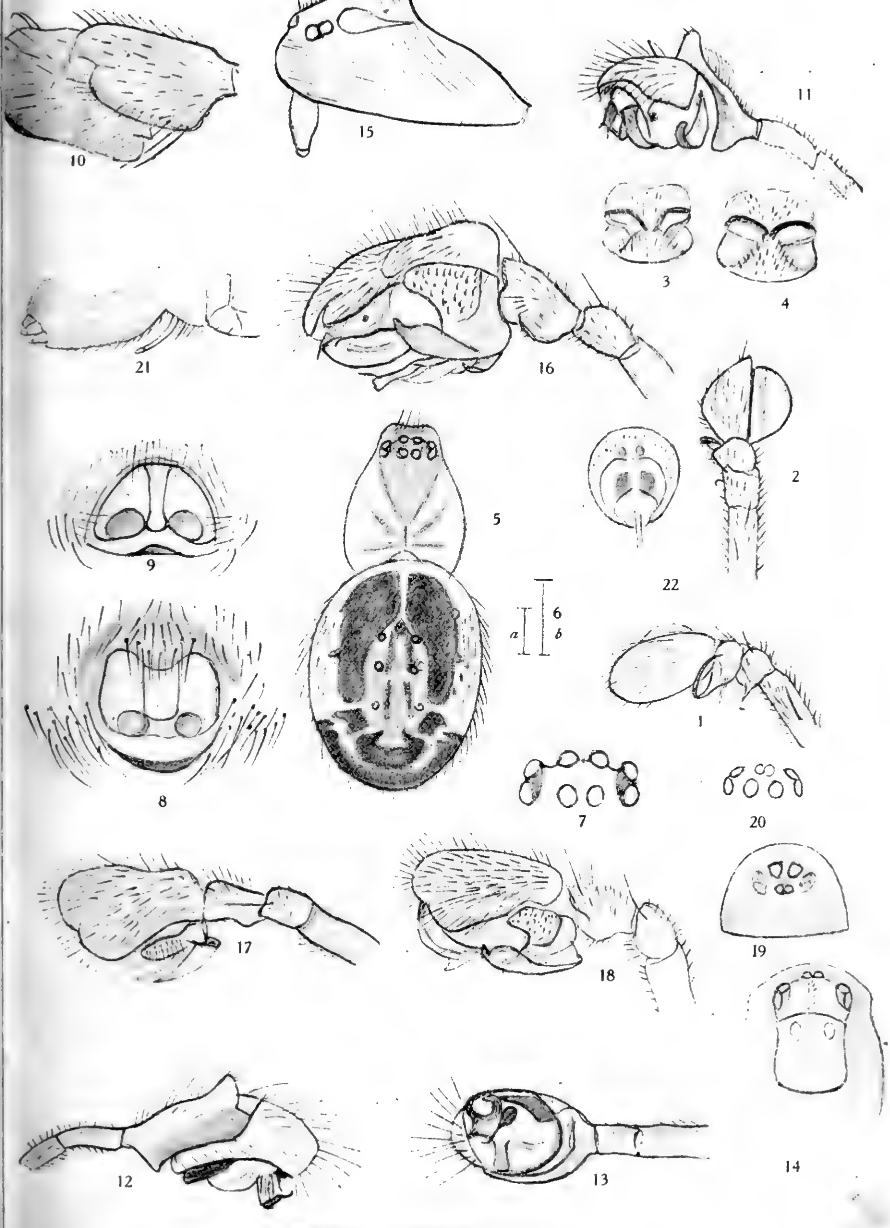
EXPLANATION OF PLATE.

1. *Hahnia pusilla* (Koch). Left palpus, from outside } Tarsus rotated out.
2. Ditto Ditto from above }

3 and 4. Vulvæ of different examples of same species.

5. *Teutana nobilis* (Thor.) Female; limbs not shown.
6. Actual sizes *(a)* of *T. grossa* (C. L. Koch); *(b)* of *T. nobilis* (Thor.)
7. Eyes of *T. nobilis* (Thor.), from above and behind.
8. Vulva of ditto.
9. Vulva of *T. grossa* (C. L. Koch).
10. *Diplocephalus protuberans* (Camb.) Tibia and tarsus of left palpus, from above.
11. Same, from outer side.
12. Same, from inner side.
13. Same, from below.
14. Cephalothorax of same Spider, from above.
15. Ditto, in left profile.
16. *Centromerus emptus* (Jackson). Left palpus, from outer side.
17. Ditto, from above.
18. Ditto, dorso-external view.
19. Cephalothorax, from in front, showing eyes and clypeus.
20. Eyes, from above.
21. Profile of abdomen of female, showing genital process.
22. Vulva of female.

PLATE I.



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