

The President made the following statement :—In putting forward the proposed lowering of the Composition Fee for Fellows of twenty years' standing or over who have reached the age of sixty-five, the Council's intention is to help those Fellows to remain in the Society after they have retired from active life. The option to pay the Composition Fee of £20 in five annual subscriptions has the same object in view. The payment of this Composition Fee, either in full or by subscriptions, will be dated from the time a Fellow of sixty-five years or over applies to compound; the previous payments of Annual Contributions will not be ranked as part-payments of the Composition Fee. In the event of a Fellow dying before the completion of the payment of the five annual subscriptions, the Council does not intend to claim the unpaid subscriptions from his executors.

Dr. MALCOLM A. SMITH exhibited a specimen of the Mexican Loggerhead Turtle (*Caretta kempi*) which had been stranded at Polzeath, near Padstow, Cornwall, on 3 January 1943. He pointed out the chief characters which distinguish it from the Atlantic Loggerhead (*Caretta caretta*) and drew attention to the fact that all the specimens of either species known to have reached this country had done so in the winter months of December and January.

The PRESIDENT referred to modern views about the Gulf Stream and its circulation of waters in the north Atlantic, and expressed the opinion that the turtle had been carried across by the NE. drift current which is caused by the prevailing south-westerly winds. Possibly the circumstances of strandings in winter might be accounted for by the increased strength of these winds at that season.

Mr. I. A. WILLIAMS asked if the turtle had arrived alive, to which Dr. M. A. SMITH replied that he believed so.

The following communications were read and discussed :—

THEODORE H. SAVORY, M.A. An account of the British Harvestmen (Opiliones). This is the first of a series of the Synopses of the British Fauna. Other sections are in course of preparation. (Communicated by Mr. D. M. Reid. Discussed by the President, Dr. E. Marion Delf and Miss R. F. Shove.) [Printed in full below.]

Dr. T. A. SPRAGUE. Field studies on *Valeriana officinalis* Linn. in the Cotswold Hills. (Discussed by Dr. Maria Skalińska, Mr. W. C. Worsdell and Canon F. W. Galpin.) [Printed in full, p. 93.]

### SYNOPSIS OF THE BRITISH FAUNA—No. 1. OPILIONES.

By THEODORE H. SAVORY, M.A., F.Z.S.

THE British Harvestmen have several features which should recommend them to naturalists for study. There are only twenty species; fourteen of them are probably to be found in every county, and twelve of them can be named at a glance. It is the purpose of this paper to show how they may be identified, to summarize the scanty records of their occurrence and to show that any collector can help in completing our knowledge of their distribution.

The Order Opiliones includes about 2,000 species, divided among three sub-orders. Only one of these, the Palpatores, is British. It contains six families, three of which are British—the Trogludidae (two species), the Nemastomatidae (two species) and the Phalangidae (sixteen species). These figures are given because they show that British Harvestmen represent but a restricted fraction of the world's population; and, in fact, the biology of many foreign species is very different from that of our own.

*Structure.*—Some knowledge of the structure of the Harvestmen is necessary to enable one to understand their mode of life and to use the identification key. The Opiliones are an Order of the Class Arachnida, in which their most familiar relatives are the spiders, scorpions and mites. They differ from spiders most obviously in having no waist, the two portions of the body, cephalothorax and abdomen, being joined across their whole breadth. The shape of the body is usually a smooth oval, and the only traces of segmentation are transverse grooves or rows of tubercles.

On the cephalothorax there are two eyes which in all common British species are large and are set back to back on an eminence. In the fore-part there is a pair of odoriferous glands which open near the bases of the second legs. There are six pairs of appendages—chelicerae, pedipalpi and four pairs of legs.

The chelicerae have three segments each, the last segment works against a projection of the second, forming a pincer-like limb, quite different from the piercing jaws of spiders, and containing no poison-glands.

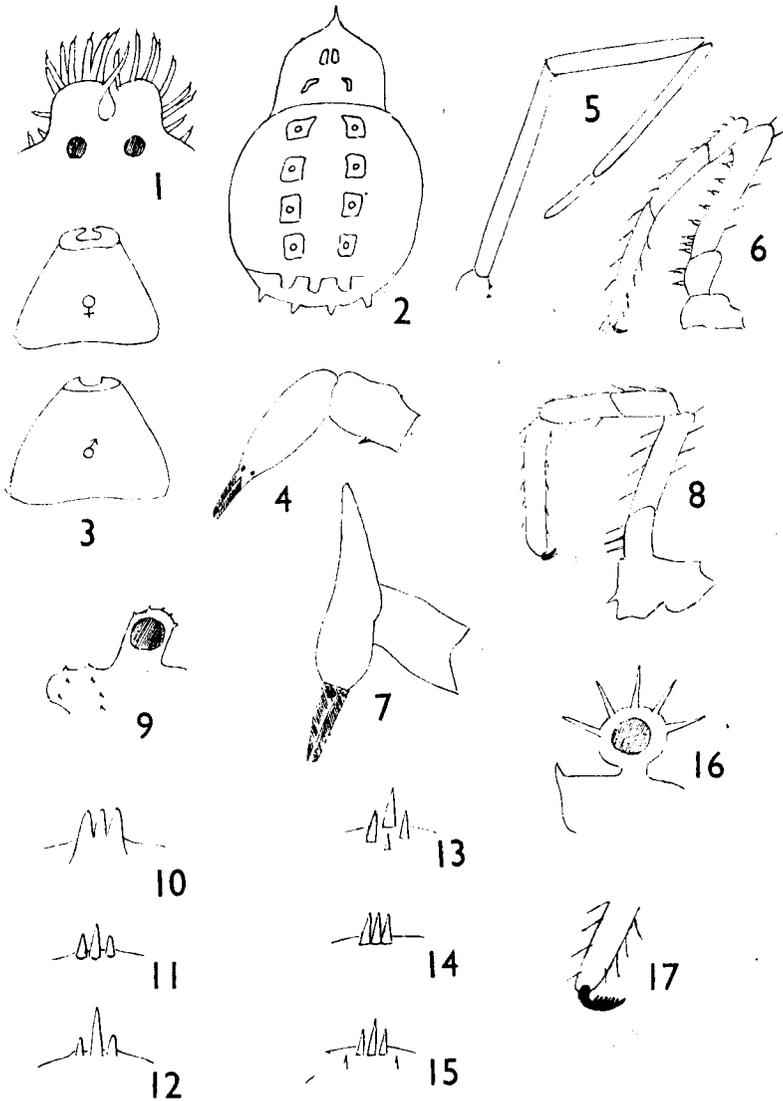
The pedipalpi or palpi are leg-like and are composed of six segments. The legs have seven segments—coxa, trochanter, femur, patella, tibia, metatarsus, tarsus. It is the metatarsus that is missing from the pedipalp. The tarsi of the legs are usually broken up into a large number of pieces, all bearing setae and forming a whip-like, sensitive limb.

The sexes are not usually very different: males have often smaller bodies and longer legs than females.

Most British Harvestmen are nocturnal in their habits, although a few species may occasionally be found running about in the autumn sunshine. Their diet appears to be varied. Undoubtedly they sometimes capture living prey, but they are also known to feed on dead animals, and have been seen to take the sugar spread to catch moths, and even the marmalade at a human picnic. In captivity they accept a wide range of food. They also require water to drink, and cannot be kept alive in cages without it.

Unlike spiders, they show no preliminary courtship actions, but mate freely and unhesitatingly when the sexes meet. The eggs are laid in clusters of about thirty at a time below the surface of damp soil. Most species appear to lay their eggs in the autumn. The young are hatched in the spring or early summer, but two or three species may be found as adults throughout the year.

Very little ecological observation has been recorded about Harvestmen. The genus *Nemastoma* reaches the summits of the highest mountains in Britain, and the variety of *Mitopus morio* known as *alpinus* seems only to occur at considerable heights. The family Trogludidae apparently



- 1, Hood of *Anelasmaocephalus cambridgei*. 2, Outline of *Homalenotus quadridentatus*, showing spine in front of cephalothorax and four blunt processes on abdomen. 3, Genital plate of female and male *Oligolophus agrestis*. 4, Chelicera of *Mitopus morio*, showing ventral spur on proximal segment. 5, Palp of *Nemastoma chrysomelas*; short tarsus without claw. 6, Palp of *Odiellus meadi*; long tarsus with claw, teeth on femur. 7, Chelicera of male *Phalangium opilio*, showing dorsal horn on second segment. 8, Palp of *Oligolophus agrestis*; setae on femur. 9, Backwardly directed ocularium of *Mitopus*. 10, Trident of *Odiellus spinosus*. 11, Trident of *Odiellus palpinalis*. 12, Trident of *Odiellus meadi*. 13, Trident of *Oligolophus agrestis*. 14, Trident of *Oligolophus tridens*. 15, Trident of *Oligolophus hanseni*. 16, Ocularium of *Megabunus diadema*. 17, Toothed palpal claw of Liobuninae.

lives only on a chalk soil. For the rest, distribution is much more general, and the normal habitat is a ditch or a wood or any spot where fallen leaves accumulate. As an example, eleven species have been found in one afternoon in one lane in Hertfordshire, which shows that most of our species seek the same kind of environment.

Like other Arachnida, Harvestmen grow by periodic casting of the exoskeleton. The number of such moults occurring between birth and maturity appears not to have been determined. The young are very difficult to rear.

Limbs are freely shed by autotomy, but are not regenerated at moulting, a remarkable feature which seems to be peculiar to the Order.

*List of British Opiliones.*

Family TROGULIDAE.

TROGULUS TRICARINATUS (Linnaeus).

ANELASMOCEPHALUS CAMBRIDGEI (Westwood).

Family NEMASTOMATIDAE.

NEMASTOMA LUGUBRE (Müller).

NEMASTOMA CHRYSOMELAS (Hermann).

Family PHALANGIIDAE.

Subfamily SCLEROSOMATINAE.

HOMALENOTUS QUADRIDENTATUS (Cuvier).

Subfamily LIOBUNINAE.

LIOBUNUM ROTUNDUM (Latreille).

LIOBUNUM BLACKWALLI Meade.

NELIMA SILVATICA (Simon).

Subfamily OLIGOLOPHINAE.

MITOPUS MORIO (Fabricius).

OLIGOLOPHUS TRIDENS (C. L. Koch).

OLIGOLOPHUS AGRESTIS (Meade).

OLIGOLOPHUS HANSENI (Kraepelin).

ODIELLUS PALPINALIS (Herbst).

ODIELLUS SPINOSUS (Bosc).

ODIELLUS MEADI (Cambridge).

LACINIUS EPHIPIATUS (C. L. Koch).

Subfamily PHALANGIINAE.

PHALANGIUM OPILIO Linnaeus.

OPILIO PARIETINUS (De Geer).

PLATYBUNUS TRIANGULARIS (Herbst).

MEGABUNUS DIADEMA (Fabricius).

Family TROGULIDAE.

The two species which represent this family in Britain are among the rarest of our Arachnida, though the 'rarity' is due to their limited

range and retiring habits. The characteristics of the family, which make it easily recognizable, are three. First, the legs are comparatively short and their tarsi consist of 2, 2, 3, 3, segments only. Secondly, there is no tubercle carrying the eyes, which are set on the surface of the carapace, like the eyes of spiders. Thirdly, and most characteristic, the fore-edge of the carapace is produced forwards into a bifurcated hood, under which the chelicerae and mouth-parts are hidden. The two species are not difficult to distinguish.

TROGULUS TRICARINATUS (Linn.). (Syn. *T. asperatus*, *T. rostratus*.)

Length 7 mm.

In this species the hood is composed of large semicircular plates which meet, or nearly meet, in front and which are furnished on their outer edge with short cylindrical tubercles, each surmounted by a spine or seta. The colour is brown in the adult, but the young are a striking purple.

*Distribution*.—Cornwall, Dorset, Kent, Surrey, Derby.

ANELASMOCEPHALUS CAMBRIDGEI (Westw.).

Length 3.5 mm.

In this species the hood is composed of smaller plates with much longer cylindrical tubercles, armed with spines (fig. 1). This distinction, together with the smaller size of the adult, sufficiently characterizes the species.

*Distribution*.—Cornwall, Dorset, Hampshire (Isle of Wight), Sussex, Kent, Surrey, Derby, Warwickshire, Glamorgan, Denbigh.

#### Family NEMASTOMATIDAE.

The two British members of this family are superficially so unlike that it is not easy to believe that they should be placed in the same genus. Besides the absence of the anterior hood and the presence of an ocular tubercle, which separate all remaining British Harvestmen from the Trogulidae, the Nemastomatidae possess palpi in which the tarsus is much shorter than the tibia and has no terminal claw (fig. 5). The coxae of the legs are strongly and characteristically toothed on their edges; those of the first, but not the second, pair possess gnathobases. The abdomen shows segmentation much more clearly than in any other British species.

NEMASTOMA LUGUBRE (Müller). (Syn. *N. bimaculatum*.)

Length 2.3 mm.

This common species is wholly black, save for two large white or pale yellow spots on the cephalothorax. The legs are quite short. This species and the next reach the tops of the highest mountains in Great Britain, and are generally distributed all over the kingdom.

NEMASTOMA CHRYSOMELAS (Hermann).

Length 2.5 mm.

The legs of this species are longer than those of the above. The animal is an almost uniform brown colour with transverse lines of small tubercles marking the abdominal segments. It is at once recognizable

by its pedipalpi, which are much longer than its body (fig. 5) and are armed with characteristic knobbed spines. It occurs under fallen leaves at all times of the year, even mid-winter.

*Distribution.*—Devon, Dorset, Surrey, Norfolk, Staffordshire, Lancashire, Yorkshire, Northumberland, Cumberland. Also in Scotland (Inverness) and Ireland (Carlow).

### Family PHALANGIIDAE.

In this family, which includes the remaining sixteen British species, the tarsal segment of the pedipalp is longer than the tibial, and ends in a claw. The legs of the second pair, which are always the longest, bear gnathobases on their coxæ.

#### Subfamily SCLEROSOMATINAE.

In this group the exoskeleton is much firmer than in the other subfamilies, and carries four large pointed tubercles on its posterior margin. This is really the fifth abdominal segment, the remaining segments being bent down at right angles, forming a 'sternwalk' and surrounding the anus. A fifth pointed tubercle is situated in the middle of the fore-edge of the cephalothorax (fig. 2).

*HOMALENOTUS QUADRIDENTATUS* (Cuvier). (Syn. *Sclerosoma romanum*.)  
Length 5 mm.

This, the only British species, is unmistakable because of its clear abdominal pattern of four rows of four dark spots, on each of which is a small blunt tubercle.

*Distribution.*—Wiltshire, Dorset, Sussex, Surrey, Hertfordshire, Buckinghamshire, Worcestershire, Herefordshire.

#### Subfamily LIOBUNINAE.

This subfamily contains three British species, in which the legs are excessively long and the abdomen, especially in the males, is small and sometimes almost circular, with its segmentation almost invisible. The palpal claw is toothed (fig. 17) (as in the Sclerosomatinae). The females normally show a pattern on the abdomen, consisting essentially of a darker median area, while the males are uniformly brown, or nearly so. Two species are very common, and the third has so far been recorded once only.

*LIOBUNUM ROTUNDUM* (Latreille).

Length, ♀ 6 mm., ♂ 3.5 mm.

The long legs of this species, which are dark brown or nearly black, have no spines, but only very small denticles on the femora. The eyes, on a smooth tubercle, are each surrounded with a clear black ring.

*Distribution.*—Cornwall, Devon, Somerset, Wiltshire, Dorset, Hampshire, Surrey, Essex, Hertfordshire, Oxfordshire, Norfolk, Cambridgeshire, Worcestershire, Staffordshire, Shropshire, Cheshire, Yorkshire, Durham. Also in Wales and Ireland.

**LIQBUNUM BLACKWALLI Meade.**

Length, ♀ 6 mm., ♂ 3.4 mm.

This species closely resembles the above, but is at once distinguishable by a white ring surrounding each eye.

*Distribution.*—Devon, Dorset, Surrey, Hertfordshire, Worcestershire. Also in Ireland.

**NELIMA SILVATICA (Simon).**

Length, ♀ 3.5 mm., ♂ 2.5 mm.

This species has only once been recorded from the mainland, a male having been found at Minehead by Dr. A. R. Jackson in 1938. It had previously been found on the islands of Skokholm and Moy, but it is possible that it occurs elsewhere near the shore. It superficially resembles *L. blackwalli*, but has pale trochanters and a dark spot on the coxae.

## Subfamily OLIGOLOPHINAE.

This subfamily may be recognized by two features, viz., the presence of a small ventral spur on the first segment of the chelicerae (fig. 4) and a conspicuous trident of three large spines on the cephalothorax in front of the ocular tubercle. It contains eight species distributed among four genera. Three of the eight may be reckoned as being among the 'unmistakables', but a little care is needed in distinguishing the others. The features of the genera are:—

*Mitopus.*—The spines of the trident are quite small, uniform in size and relatively far apart.

*Oligolophus.*—The trident is conspicuous, and the palpal femora carry simple black spines below (fig. 8).

*Odiellus.*—The palpal femora strongly toothed (fig. 6); the femora and patellae of the legs with simple spines below; leg-segments with terminal spurs.

*Lacinius.*—The femora of palpi and of legs with strong teeth, surmounted with spines.

**MITOPUS MORIO (Fabricius).** (Syn. *Oligolophus palliatus*; *O. alpinus*; *O. cinerascens*.)

Length, ♀ 7 mm., ♂ 5 mm.

The pattern on the back of this species is a black mark, constricted in the middle, and broadening towards the eyes and anus so that it has somewhat the shape of an hour-glass. The legs are longer than in *Oligolophus* and are lighter in colour. The species is widespread and often plentiful. An upland variety has been described under the name of *O. alpinus*: it differs from the typical form in having the third metatarsi curved and thickened, but the females appear to be indistinguishable.

*Distribution.*—All over England; also in Scotland, Wales and Ireland. On small islands and on mountains.

**LACINIUS EPIPIPIATUS (C. L. Koch).** (Syn. *Oligolophus vittiger*.)

Length, ♀ 6 mm., ♂ 4 mm.

This is a very distinct species: the ground colour is a pale yellow-brown and the central mark, which is black, has parallel straight sides and is

squarely cut off at its posterior end, some way from the abdominal margin.

*Distribution.*—Wiltshire, Dorset, Surrey, Essex, Hertfordshire, Oxfordshire, Norfolk, Cambridgeshire, Worcestershire, Staffordshire, Cheshire, Yorkshire. Also in Scotland and Wales.

**ODIELLUS SPINOSUS** (Bosc). (Syn. *Opilio histrix*.)

Length, ♀ 9 mm., ♂ 7 mm. Breadth 5 or 6 mm.

The shape of the body of this species is like that of no other British Harvestman; it is flat and broad, like that of a crab-spider, and the animal is much bulkier than any other. The spines of the trident point almost horizontally forward and arise from a small, readily-separable area (fig. 10).

*Distribution.*—Dorset, Hampshire, Kent, Surrey, Middlesex, Hertfordshire, Oxfordshire, Cambridgeshire, Northamptonshire, Gloucestershire, Worcestershire, Warwickshire, Leicestershire.

**ODIELLUS PALPINALIS** (Herbst). (Syn. *Phalangium terricola*.)

Length, ♀ 5 mm., ♂ 4 mm.

In this species the spines of the trident are almost vertical and are set in a straight line, the central spine being slightly longer than its neighbours (fig. 11). The patella of the palp has a slight distal apophysis and the legs are ringed with brown. It is similar to but smaller than *Oligolophus tridens*, from which the spines, mounted on tubercles on the palpal tibia, will readily distinguish it.

*Distribution.*—Dorset, Surrey, Middlesex, Norfolk, Staffordshire, Cheshire, Yorkshire. Also in Scotland.

**ODIELLUS MEADI** (Cambridge).

Length, ♀ 4 mm., ♂ 3 mm.

The spines of the trident in this little species are in a straight line and point forwards, the central spine being at least twice as long as its neighbours (fig. 12). The tarsal joints of the legs have conspicuously long setae, and a more obvious character is the demarcation of the abdominal segments by transverse rows of strong denticulae.

*Distribution.*—Dorset, Sussex, Kent, Cheshire.

**OLIGOLOPHUS TRIDENS** (C. L. Koch).

Length, ♀ 6 mm., ♂ 4 mm.

This species and the next are among the commonest and most widely distributed British species. Its trident consists of three spines in a straight line (fig. 14), and its other distinguishing features are its angular femora and its smoothly rounded genital plate.

*Distribution.*—General; also in Scotland, Wales and Ireland.

**OLIGOLOPHUS AGRESTIS** (Meade). (Syn. *O. ephippiger*.)

Length, ♀ 6 mm., ♂ 4 mm.

This species is distinguishable from the foregoing by its occasional reddish colour, rounded femora and a conspicuous notch in the front of the genital plate (fig. 3). The central spine of the trident is slightly the longest and is a little in advance of the others (fig. 13).

*Distribution.*—General; also in Scotland (Sutherland), Wales and Ireland.

**OLIGOLOPHUS HANSENI** (Kraepelin).

Length, ♀ 6 mm., ♂ 4 mm.

The trident of this species, which is a straight line, has the central spine the longest and, in addition, there is a spine on each side of the trident and a group of six behind it (fig. 15). The femora are cylindrical and the genital plate is smoothly rounded in front.

*Distribution*.—Surrey, Warwickshire, Shropshire, Cheshire, Yorkshire. Also in Scotland.

## Subfamily PHALANGIINAE.

The features which distinguish this subfamily are the absence of the ventral spur on the chelicerae and the absence of the trident of anterior spines. Of greater practical importance, however, is the fact that each of the four species which it includes is individually recognizable by conspicuous characters of its own.

**PLATYBUNUS TRIANGULARIS** (Herbst). (Syn. *P. corniger*.)

Length, 5 mm.

This is a yellow-brown species which appears in Britain in the spring and early summer, some weeks before most of the others. It bears a slight superficial resemblance to *Phalangium opilio*, but the branch on the tibia of the palp distinguishes it at once.

*Distribution*.—Cornwall, Devon, Wiltshire, Dorset, Hampshire, Surrey, Oxfordshire, Norfolk, Worcestershire, Warwickshire, Staffordshire, Shropshire, Cheshire, Yorkshire, Durham. Also in Scotland (Perth, Argyll and Inverness) and in Ireland.

**MEGABUNUS DIADEMA** (Fabricius). (Syn. *M. insignis*.)

Length, 4 mm.

This beautiful little animal is also an early species and is often to be found on hills where other species are absent. On its abdomen there is an intricate pattern of green, silver and black, but its most remarkable feature is its ocular tubercle. This carries two rows of five very long sharp spines, making a conspicuous object unlike anything else among the British species (fig. 16).

*Distribution*.—Devon, Wiltshire, Dorset, Hampshire, Surrey, Norfolk, Worcestershire, Warwickshire, Staffordshire, Shropshire, Cheshire, Lancashire, Yorkshire, Durham. Also in Scotland (Perth and Inverness) and Ireland.

**PHALANGIUM OPILIO** Linnaeus. (Syn. *P. canescens*, *P. cornutum*, *P. brevicorne*, *P. molluscorum*.)

Length, ♀ 9 mm., ♂ 7 mm.

This is the common conspicuous Harvestman of autumn, and is one of the largest of our species. Its abdomen is yellow-brown, usually with a dark streak in the centre. The chelicerae of the male give immediate identification of the species in this sex; the second segment is produced upwards into a conical horn-(fig. 7). A feature of both sexes is that the whole of the lower surface of the body is white.

*Distribution*.—Throughout England; also recorded from Scotland (Perth and Sutherland), Wales and Ireland.

*OPILIO PARIETINUS* (De Geer). (Syn. *Phalangium cinereum*, *P saxatile*.)

Length, ♀ 7 mm., ♂ 5 mm.

This species, which is the latest of the British Harvestmen to come to maturity, has a characteristic mottled grey pattern with a narrow brown streak, or a row of brown dots, down the centre of the abdomen. The lower surface is pale and each coxa carries a dark oval spot.

*Distribution*.—Devon, Wiltshire, Dorset, Kent, Surrey, Essex, Hertfordshire, Middlesex, Oxfordshire, Norfolk, Cambridgeshire, Herefordshire, Worcestershire, Staffordshire, Shropshire, Cheshire, Lancashire, Yorkshire. Also in Scotland (Lanark) and in Ireland.

#### DICHOTOMIC TABLE FOR BRITISH OPILIONES.

- |  |                                     |
|--|-------------------------------------|
| 1 (4). Cephalothorax with bifurcated hood; eyes level with surface of carapace (Fam. Troglidae) .....  | 2.                                  |
| 2 (3). Hood of large semi-circular plates, with small tubercles on outer edge .....  | <i>Trogulus tricarinatus</i> .      |
| 3 (2). Hood of small projections, with long cylindrical tubercles .....  | <i>Anelasmoecephalus cambridgei</i> |
| 4 (1). No such hood; eyes raised on ocularium . . . . .  | 5.                                  |
| 5 (8). Tarsus of pedipalp without claw (Fam. Nematostomatidae) .....   | 6.                                  |
| 6 (7). Body black with two white spots; palpi of normal length .....   | <i>Nemastoma lugubre</i> .          |
| 7 (6). Body yellow-brown; palpi much longer than body .....  | <i>Nemastoma chrysomelas</i> .      |
| 8 (5). Tarsus of pedipalp with claw (Fam. Phalangidae) .....   | 9.                                  |
| 9 (16). Palpal claw toothed. ....  | 10.                                 |
| 10 (11). Abdomen with four conspicuous tubercles on posterior margin (subfam. Sclerosomatinae); four rows of dark spots on upper surface ..... | <i>Homalenotus quadridentatus</i> . |
| 11 (10). Abdomen smooth posteriorly; legs exceedingly long (subfam. Liobuninae) .....  | 12.                                 |
| 12 (15). Ocular tubercle smooth; trochanters dark; coxae without dark spot (genus <i>Liobunum</i> ).   | 13.                                 |
| 13 (14). Black ring round eyes .....   | <i>Liobunum rotundum</i> .          |
| 14 (13). White ring round eyes .....   | <i>Liobunum blackwalli</i> .        |
| 15 (12). Ocular tubercle with two rows of teeth, trochanters pale; coxae with dark spot ..   | <i>Nelima silvatica</i> .           |
| 16 (9). Palpal claw smooth .....   | 17.                                 |
| 17 (32). First segment of chelicerae with ventral spur; ante-ocular region with trident of three spines (subfam. Oligolophinae).....           | 18.                                 |
| 18 (15). Femora of palpi with ventral spines or teeth.   | 19.                                 |
| 19 (20). Femora and tibiae of legs strongly toothed ..   | <i>Lacinius ephippiatus</i> .       |
| 20 (19). Femora and tibiae of legs only hairy .....  | 21.                                 |
| 21 (22). Body broad and flat; trident spines almost horizontal .....   | <i>Odiellus spinosus</i> .          |
| 22 (21). Bodily proportions more normal; trident spines erect or nearly so .....   | 23.                                 |
| 23 (24). Central spine of trident slightly longest; palpal patella with apophysis .....  | <i>Odiellus palpinalis</i> .        |
| 24 (23). Central spine of trident twice as long as the others; setae on tarsi long .....   | <i>Odiellus meadi</i> .             |
| 25 (18). Femora of palpi ventrally only hairy.....   | 26.                                 |

- 26 (27). Fore-edge of carapace with trident of small tubercles; legs long ..... *Mitopus morio*.
- 27 (26). Fore-edge of carapace with 1-3 spines; legs not very long ..... 28.
- 28 (29). Central spine of trident slightly longest and in advance of others; genital plate with anterior notch ..... *Oligolophus agrestis*.
- 29 (28). Spines of trident in straight line ..... 30.
- 30 (31). Angular femora; light colour ..... *Oligolophus tridens*.
- 31 (30). Cylindrical femora; dark colour ..... *Oligolophus hanseni*.
- 32 (17). No spur on chelicerae; no trident on carapace (subfam. Phalangiinae) ..... 33.
- 33 (36). Tibial joint of palp with apophysis. .... 34.
- 34 (35). Ocular tubercle with two rows of five long spines ..... *Megabunus diadema*.
- 35 (34). Ocular tubercle with normal spines ..... *Platybunus triangularis*.
- 36 (33). Tibial joint of palp unbranched ..... 37.
- 37 (38). Brown species with dark central mark; second joint of male chelicera with horn .. *Phalangium opilio*.
- 38 (37). Grey species with row of brown dots in centre *Opilio parietinus*.

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#### Discussion.—

The PRESIDENT congratulated Mr. Savory on his interesting account of this little-known group. He informed the meeting that Mr. Savory had prepared his valuable key to the British species of Opiliones at the instance of the Crustacea Committee of the Society, and that the Society intended to publish it as the first of a series of ecological fauna lists to be sponsored by its sectional committees.

Dr. E. M. DELF said that she had mostly noticed Harvestmen running over dry ground in late summer, that is to say by no means in the vicinity of water, and she asked if there is a period in their lives when the need of water is in abeyance, or is it that in some species the need is less pronounced?

Miss R. F. SHOVE asked if the marked need of water could be easily accounted for?

Mr. SAVORY answered that he had no theory to put forward in regard to water requirements.