

Essential harvestman info



Advancing Arachnology

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Harvestmen are an ancient group of spider-like animals with an array of defences, weapons and special tricks that could come straight from a Bond or Sci-Fi movie.

What's in a name?

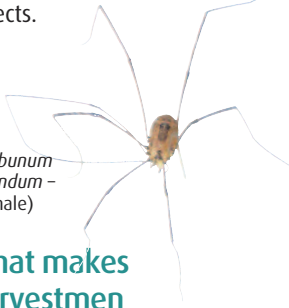
Harvestmen are so-called because they are more noticeable towards the end of summer, the traditional harvest time.

The family containing harvestmen is the Opiliones, meaning shepherd. In Roman times, herdsman walked on stilts to watch over their flocks, so the family name alludes to the typical harvestmen's long legs.

A common name for harvestmen is 'Daddy long-legs' but beware, the same name is given to a spider (*Pholcus phalangioides*) and to craneflies, which are insects.

Marco McGinly

Leiobunum rotundum – (female)



What makes harvestmen so successful?

Harvestmen have an adaptable body form – simple changes to the proportions and shape have allowed them to evolve to meet the demands of a wide range of habitats and ecosystems. For example, they vary greatly in their relative leg-lengths and this reflects the different environments in which they live (see Where to find them). Their utilitarian design makes them the Swiss army knives of the invertebrate world!

Armour – Superficially harvestmen appear soft and

How to recognize a harvestman

Although, like spiders, harvestmen are arachnids and have eight legs and a pair of pedipalps at the head end, they differ from spiders (see Factsheet 1) in several important ways:

Harvestmen	Spiders
A body in one part (head/thorax /abdomen fused together)	A body in two parts (cephalothorax and abdomen)
Abdomen with segments visible	Abdomen without segments visible
Don't produce silk or make webs	Characteristic silk production, with web made in many species
Two eyes on a raised 'turret' (ocularium)	Usually eight eyes, always at the front
Each chelicera (jaw) formed of two parts like a lobster claw	Each chelicera a single piercing prong
No venom produced <i>via</i> chelicerae	Most species inject venom via chelicerae
Odoriferous (stink) glands produce various noxious chemicals	No odoriferous glands
Genital operculum (flap) covers male penis or female ovipositor	Genital organs consist of modified male pedipalp and female epigyne

fragile but look closely and you'll discover they have a wide range of hard, pointed bits – some very large – variously called spines, tubercles and denticles. These make it difficult for predators to attack them front on.

Amazing legs and prehensile feet – Harvestman legs provide an ideal platform for suspending the small body

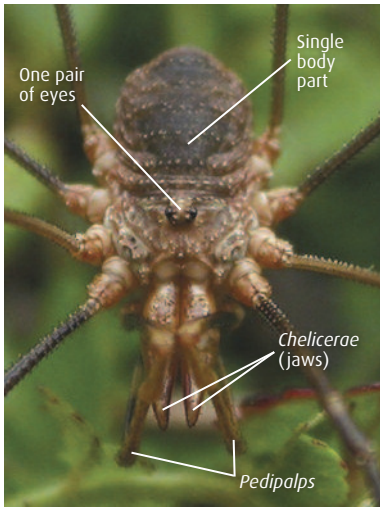
and moving rapidly across vegetation and rocks. The larger species have extra segments in their feet, making them incredibly flexible. Like monkey tails, they can coil round plant stems allowing them to move easily through vegetation.

Chemical weapons – During their evolution, harvestmen have been exposed to all sorts

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Impressive defensive spikes around the eye 'turret' of *Megabunus diadema*



NIK HUNT

Phalangium opilio (male)

of bacterial and viral infections and have evolved chemical protection to combat them. When released through their odoriferous (stink) glands, droplets of these chemicals also help to deter predators through their nasty taste and smell.

Disposable legs and group protection – If a predator grabs a leg, the harvestman can detach it and make off on the ones remaining. Meanwhile, the disconnected leg can twitch for several minutes, distracting the predator while the owner escapes. In contrast to immature spiders, harvestmen can't regenerate lost legs when they moult.

Some harvestman species roost in sheltered places (e.g. under bridges) during the day, often in very large numbers, and disperse to go hunting at night. When a group is disturbed, the nearest individuals will start bobbing

up and down, probably to distract a would-be predator - this behaviour rapidly spreads through the group.

Where to find them

Harvestmen can live anywhere from seashore to mountain summit as long as they have access to a reasonably humid shelter during the day. The small, short-legged species, with legs 1-2 times their body length, are adapted for living in soil and leaf-litter, where they feed on snails. Those with medium-length legs are usually found lower in the vegetation but range higher up as they grow. The long-legged species, with legs up to 10 times their body length, are usually found on humid rock-faces and tree trunks in forests and gorges but some are now also associated with human habitation.

What's for dinner?

Part of the harvestmen's success comes from their ability to use a wide variety of foods, from fermenting fruit to soft-bodied invertebrates and carrion. They are able to sip fruit juices and other fluids directly and can use their claw-like chelicerae to tear apart solid foods. Like spiders they part-digest food before sucking it up but they also ingest solid food.

The next generation - the harvestman mating game

Harvestman males and females look similar, with the females slightly larger when

Fossil harvestmen

The basic harvestman structure can be seen in fossils 400 million years old, and they must have evolved millions of years before that. Their features have been so successful and adaptable that they have survived many millennia of changes to their habitats, predators, diseases and prey.

full of eggs. Both sexes have their genitalia hidden below a flap (operculum) between their leg bases. This opens like an aircraft cargo hold allowing the male penis to be extended and, after a fairly rudimentary courtship, inserted below the front edge of the female's operculum. Subsequently, the female extrudes her ovipositor from below her operculum and seeks out crevices in soil and below bark in which to lay her eggs. Females of some species can produce viable eggs without fertilization (parthenogenesis) – a useful trick for species spreading to new areas.



Dilys and Trevor Pendleton

Mass congregation of harvestmen

Why should we care about harvestmen?

Harvestmen are important scavengers and predators commonly feeding on garden and agricultural pests.

We know much less about their distribution and ecology than we do about spiders but we should be concerned about widespread pesticide use and aware of the threat the recently introduced species may pose to native and naturalised species. *Opilio castaneipes*, now

widespread in Britain, is believed to have caused the population collapse of a number of species in Europe.

How to find a harvestman

Many people nowadays are totally unaware of harvestmen – whereas in the past everyone working in crop fields and pastures (hence the name) would have been very familiar with them. Most buildings have harvestmen living around the walls and the best way to see them is to go out at

night with a torch when you can watch them going about their fascinating lives. There is much still to learn about Britain's 27 species of harvestmen, so there are many opportunities for amateur enthusiasts to advance our knowledge.

Dicranopalpus ramosus resting on a twig. Its habit of stretching its legs at right angles to the body, and its conspicuously forked pedipalps, make it very recognizable. Note that two of its legs are missing.



Geoff Oxford

For more information

Richards P. (2010) *Guide to Harvestmen of the British Isles*. Field Studies Council, Shrewsbury.

Harvestman Recording Scheme - srs.britishspiders.org.uk

The British Arachnological Society

The BAS is Britain's only charity devoted exclusively to spiders and their relatives. We use science and education to advance the wider understanding and appreciation of arachnids, and to promote their conservation.

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