



PestAware Advice Sheet

Mithered by moths?

British Pest Control Association 'Mithered by moths?' pest awareness advice

BPCA is the trade association for the professional pest management sector. It's our role to help everyone understand the importance of proper pest control, provide pest

prevention advice, and help you find an appropriately trained and trusted pest management company. Our PestAware guides are designed for home and business owners

and are packed with practical advice and tips for getting to grips with British pest species.

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Driving excellence in pest management

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Mithered by moths?

Pest advice for controlling moths

Are your clothes looking a bit more than “fashionably ripped”? Has your carpet fallen victim to hungry moth larvae? And are those wings in your flour?

Find out everything you need to know about moths in the UK, including how and why we control them, using our complete guide.

Whether you’re thinking about doing some DIY pest control or you’re looking to enlist the help of a professional pest management company, this guide is for you.



A moth is a type of winged insect of the order Lepidoptera.

If you think you’ve spotted signs of a moth infestation, you’re in the right place.

A moth is a type of winged insect of the order Lepidoptera.

There are roughly 165,000 species in the world, and around 2,500 of those are in the UK.

While most moths found in the UK are harmless, a few are considered to be pests.

“Certain moth species can do incredible damage to property such as clothes, carpets or food. They can also cause a negative impact on personal wellbeing.”

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The dangers: why we control moths

If there were a scale for dangerous pests, moths would certainly be on the lower end of that scale.

They aren’t known to spread disease, and they don’t bite humans - in fact, many adult moths don’t even have mouths!

However, certain moth species can do incredible damage to property

such as clothes, carpets or food.

They can also cause a negative impact on personal wellbeing - fear of moths is a fairly common phobia.

It is thought that moths can also exacerbate allergy symptoms or cause allergic reactions in some people, particularly those who are sensitive to things like dust mites.

Moths in the home

A moth infestation in your home can be very distressing, particularly because some species can cause damage to items of sentimental or religious value, such as wedding dresses or prayer mats.



Moths are not known to spread disease, however certain species damage property.

The damage can be upsetting and costly, with items having to be thrown away or replaced.

Some moths are stored product pests, like the Indian meal moth. These will infest items such as cereal, flour and dog biscuits, leaving webbing, larvae and pupal cases in your lunch!

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Although there are no disease risks associated with accidentally ingesting any food that has been contaminated by moths, it's still not ideal.

Moths around businesses

A moth infestation spotted in foodstuffs can be damaging to a brand or business. Aside from the reputational costs, there are also fines for businesses (usually food related) found to have a pest problem.



If a company or organisation has a highly publicised moth problem, it will heavily impact its reputation.

These often come at a significant expense, with repeat offenders in danger of facing legal action. Environmental Health Officers can issue notices to food business owners who don't have adequate pest management procedures to prevent Stored Product Insects (SPIs) like moths contaminating food.

DID YOU KNOW?

Lepidopterophobia is the fear of butterflies and moths, while Mottephobia is specifically a fear of moths.

Fun fact: Not all moths are bad for business. The silkworm, the larva of the domesticated moth *Bombyx mori*, is farmed for the silk with which

it builds its cocoon. As of 2021, the silk industry is projected to be worth almost 17 billion U.S. dollars.

Stately homes and museums

Textile moths, which are different to SPIs, are one of the most common pests in museums, stately homes and other types of heritage property.

They can cause irreversible damage to valuable artefacts, which can never be replaced.

as conservators at Blickling Hall deploying wasps to rid the building of moths.

Types of moth in the UK

There are around 2,500 species of moth in the UK, and most of these are considered harmless.

We have some very beautiful species, like the Small Emperor Moth, the Cinnabar Moth and the Elephant Hawk-moth.



The domesticated silk moth, *Bombyx mori*, farmed for the silk with which it builds its cocoon.

This is because the larvae of some species, like the common clothes moth, love to munch on the wool, silks, cotton and natural fibres, which make up many of the exhibits.

Entomologist David Pinniger told the BBC that he believes "virtually all the major museums [in the UK] now have clothes moths".

Due to the delicate nature of many of the exhibits, it's not possible to use certain chemical or temperature treatments for control.

It's led experts to try some more unconventional methods, such

Unfortunately, many moth species are in decline in the UK, which raises concerns about how it will affect the ecosystem, particularly other wildlife relying on them as a source of food.

However, some moths can be pests when in close proximity to humans.

The three most common culprits are:

- Common Clothes Moth (*Tineola bisselliella*)
- Indian-Meal Moth (*Plodia interpunctella*)
- White-Shouldered House Moth (*Endrosis sarcitrella*).

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Common Clothes Moth (*Tineola bisselliella*)

This is currently the most important and widespread clothes moth pest throughout the world and has been present in the UK since the 1800's.



Common Clothes Moth
(*Tineola bisselliella*)

It's a species with the potential to cause enormous amounts of damage and is a major pest of wool, furs, hides and feather products in the UK.

The larvae do all the damage and can cause the loss of irreplaceable material of aesthetic, historic and scientific importance, as well as damaging everyday items such as clothes, furnishings and other materials prepared from animal derived fabrics.

Appearance

- Small, shiny and silvery-gold colour
- No markings
- Gingery-brown hairs on the head
- 5-8mm
- Two antennae.

Biology and behaviour

- Complete metamorphosis
- Total life cycle about 3-10 months:
- Egg 1-5 weeks hatch
- Larvae 2-7 months

- Pupae 2 weeks - 2 months
- Adults have a short lifespan which spans only days
- Females do not fly, males occasionally.

As with most insects, the female moth tries deliberately to lay her eggs amongst fibres of a suitable food material for the larvae.

People often ask "What's the point of this pest? What is its purpose to our ecosystem?"

Well, clothes moths help degrade and naturally deal with nature's waste such as dead animals.

In warmer climates, they can be seen living naturally in animal and bird nests.

Indian-Meal Moth (*Plodia interpunctella*)

The Indian-meal moth is a stored product insect and can often be seen flying around kitchens and food stores, and loves to infest cereal cupboards.



Indian-Meal Moth
(*Plodia interpunctella*)

Its larvae can penetrate packaging materials, such as paper, cellophane and polythene. This enables them to live within their food of choice, such as flour, biscuits and cereal.

DID YOU KNOW?

Complete metamorphosis is the type of insect development that includes egg, larva, pupal, and adult stages.

The fully grown larvae wander away from the foodstuff to spin white silken cocoons within which the pupae are formed.

At this stage, larvae are often noticed climbing walls, ceilings or the inside of cupboards.

They're most commonly found on imported foods, such as peanuts, cocoa beans and dried fruit.

Appearance

- Easily identifiable - distinctive colouring
- Forewings are reddish brown with a copper lustre, pale yellowish buff bases, a dark band at the intersection between the proximal and distal regions, while the hindwings are greyish white
- Adults are 8-10 mm in length with 16-20 mm wingspans
- Two antennae.

Biology and behaviour

- Complete metamorphosis
- Life cycle variable depending on conditions - can be completed anywhere between 27 to 300 days
- 20-30°C ideal temperature
- Adults fly in a zig-zag pattern, usually at night.

A single Indian-meal moth female can lay up to 400 eggs after mating.

The mating and laying of eggs occurs about three days after adult emergence.

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The eggs are tiny, around 0.3 to 0.5 mm, and can be laid singly or in clusters, and are generally oviposited directly on the larval food source.

The eggs are sensitive to climate, hatching in seven to eight days at 20°C or three to four days at 30°C.

Upon hatching, the larvae begin to disperse and within a few hours can establish themselves in a food source.

The pupal stage can last from 15 to 20 days at 20°C or seven to eight days at 30°C.

The number of larval instars (moultings) varies from five to seven (depending on the food source and the temperature).

The larvae can complete their development in six to eight weeks at temperatures from 18-35°C and are 12mm long when fully grown.

The larvae are surface feeders. Most of the "damage" to stored products occurs when the larvae spin massive amounts of silk that accumulate fecal pellets, cast skins, and egg shells in food products.

White-shouldered house moth (*Endrosis sarcitrella*)

The White-shouldered house moth is generally an indicator of poor hygiene management.

They thrive in accumulated animal hair and fluff in central heating ducts and radiators - when you turn your radiators on in winter, this may blow the adults out!

Sometimes they can be a simple nuisance and no more, but in large numbers they are distressing.



White-shouldered house moth (*Endrosis sarcitrella*)
Image: entomart/Wikimedia

They feed on organic debris and are common in bird nests and blocked chimney flues.

Appearance

- 7-9mm in length with an open wingspan of 10 - 23mm
- Brown in colour with brown mottled wings
- Characteristic white head and shoulders
- Distinctive fringe on wings
- Two antennae
- Larvae are small and white with a brown head.

Biology and behaviour

- Like other moths, the White-shouldered house moth goes through a complete metamorphosis: egg, larvae, pupa, and adult
- Approx. 200 eggs
- Relative humidity (RH) of 80% is needed/preferred
- Ideal temperature is 20-30°C
- Larvae 2-5 months, migrate away from food when fully developed
- Pupae - in tough silk cocoon
- Adults live for about 2-3 weeks.

During its reproductive cycle, the female moth lays up to 200 eggs near a food source, which can take 7-25 days to hatch, depending on temperature conditions.

The larvae begin feeding on the available food source immediately.



Are moths more common in summer?

As well as the warmer temperatures giving moth life cycles a helping hand, we're also more likely to keep our windows open in summer, inviting moths inside.

However, don't be lulled into a false sense of security! Warmer winters and temperature-controlled buildings mean that moths can be a problem all year round.

They form a silk-like tunnel within the food source, feeding at night and hiding by day.

The pupae are formed in a silk cocoon and the adults emerge within 1-5 weeks. The adult's life span is around 2-3 weeks.

The tell-tale signs moths are about

The first sign of a moth infestation is almost always the adult insect; moths flying around in your home or business.

Some people may unwittingly think that getting rid of these will solve the problem, however the other life cycle stages may still be alive and well.

Egg, Larval and Pupal stages aren't always that easy to spot, particularly the eggs which are often too

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small to see with the naked eye.

Other signs are:

Common clothes moth

- Damage to carpets or other fabrics
- Holes in clothes, particularly wool, cashmere and silk
- Moth eggs and moth larvae on clothing
- Tubular case trails on clothes from moth larvae.

Indian-meal moth

- Damage to food packaging and products
- Moth larvae webbing, which they will spin as they feed and contaminates products
- Webbing can also cause considerable damage to machinery and equipment
- Food may 'taint', which is visible as discolouration
- Grain that is infected tends to become warmer which can lead to damp, mould and even grain germination
- Frass (excrement of moth larvae) is another common sign of an infestation.

White-shouldered house moth

All of the above!

The White-shouldered house moth as a pest is a risk to stored food in the same way as the Indian-meal moth, as well as to clothing and carpets like the Common clothes moth.

What do moths eat?

Clothes moth larvae feed on natural fibres; they contain a specific protein called keratin, which the larvae convert into useful nutrients.

It's the larvae that do the damage

as they feed on hair and wool, cashmere, silk and cotton.

The Indian-meal moth larvae feed on grains, grain products, dried fruits, nuts, cereals, and a variety of processed food products.

have mouthparts, so it wouldn't be possible for them to bite!

Most moths also don't sting, and certainly not any species that are found in the UK.



Indian-meal moth larvae feed on grains, grain products and imported foods like cocoa beans.

Common clothes moth larvae have a taste for natural fibres like wool, hair and cotton.

White-shouldered house moth larvae feed mainly on a variety of dried seeds, grains and other organic matter, such as;

- Peas, beans and vegetable debris
- Corn, wheat bran
- Mixed feeds
- Seed potatoes
- Rubbish in bird nests and blocked chimney flues
- Thatch on roofs
- Fungi in trees
- Mouldy residues.

Adult moths do not actually feed: once they hatch from their cocoons, their only goal is to reproduce.

Which is why I'm taking my Tinder-for-moths app to Dragon's Den.

Do moths bite?

Fun fact: there are many adult species of moth that don't even

What you might think is a bite, could be an allergic reaction instead.

Putting something cool, like a clean, damp cloth, on the affected area may help with any itching and any swelling.

You should consult a pharmacist for advice and treatment.

How to prevent moths and moth damage

Common clothes moth

There are a few things you can do to try and prevent a clothes moth infestation in your home or business:

- Wash garments thoroughly before you put them away - clothes moths are attracted to perspiration and food stains
- Keep your wardrobe well ventilated
- Brush any clothes made of wool or fur after you

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wear them outside

- Wash your clothes and belongings before you store them away for long periods of time, preferably in airtight containers or plastic garment bags
- Keep storage areas for clothing and other belongings dry
- Frequently vacuum and clean carpets or rugs, particularly in the corners and crevices.



Clothing that has been extensively damaged by clothes moths.
Image: Djones/Flickr

Indian-meal moths

It's not really possible to prevent Indian-meal moths, as you won't know you've purchased an infested item until you bring it home and use it.

However you can help prevent future problems and the spread of any infestations, through good storage and hygiene practices.

Store all food products which come in flimsy packaging, such as cardboard or plastic bags (cereal, dry pet food etc), in tightly sealed containers. This will ensure insects cannot get access to the food inside.

“For most moth infestations, particularly in or around businesses, we would always recommend contacting a professional pest management company.”

On opening any packaged, dried foods, why not give it a quick once over, visually checking for any signs of moth activity before you happily place it into your cupboard?

Regularly use a vacuum cleaner to get rid of food debris in cupboards, removing that tempting, easy-to-access food source.

What if you find an Indian-meal moth in a product you've purchased from a shop?

If you believe that you have narrowed down the source of the infestation to a particular product, you should return it to the store you purchased it from.

Inform the management, so that they can investigate and implement their own control measures if necessary.

They will also need to inform suppliers so that it can be established where the insects entered the production process.

White-shouldered house moths

The key to preventing an infestation of White-shouldered house moths is good hygiene practices.

- Thoroughly and frequently vacuum and clean carpets, wardrobes and drawers
- Regularly check over stored clothing, blankets and other textiles
- Regularly clean the insides of food cupboards, larders and pantries

- Dust cracks and crevices in the home, such as behind radiators
- Check for old bird nests in attic spaces or chimneys.

Getting rid of moths

DIY moth control

For most moth infestations, particularly in or around businesses, we would always recommend contacting a professional pest management company.

They are trained in moth identification and control, and will have access to a range of professional use insecticides and tools which are not available to the public.

However, a small infestation of moths in the home may be manageable depending on the species.

There are DIY moth control insecticides and traps available for amateur use.

**REMEMBER
ALWAYS FOLLOW
THE LABEL
INSTRUCTIONS**

You should always read the instructions very carefully before using any of these and follow all label conditions.

You should also be cautious when buying products online.

Not all products you come across on the internet may be registered for use in the UK, and would therefore not be legal.

It is also worth bearing in mind that these products are not a magic solution - you must still find the source of the problem

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and take steps to prevent a re-infestation. A professional pest controller can help you do this.

Common clothes moth

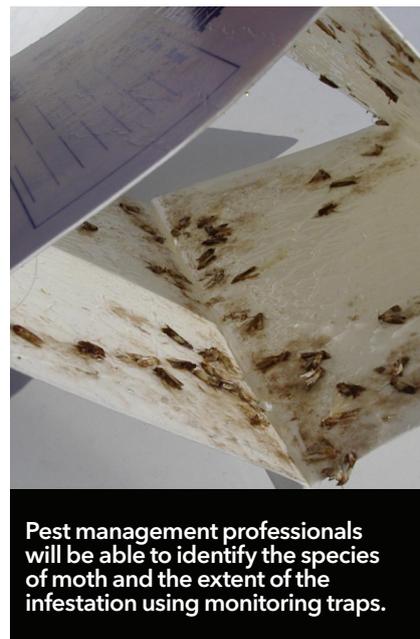
If you have a large enough freezer, you may be able to save any clothes that are infested but not yet destroyed.

clothes moths infest natural fibres, clothes made from these usually come with label instructions not to wash above 30°C.

There would be little sense in trying to save your treasured cashmere jumper from clothes moths, just to ruin it in the wash!

been stored, thoroughly cleaning up any spills or food debris.

Then check all products which were in close proximity and repeat if the infestation has spread. If the infestation is persistent, contact a professional pest management company.



Pop the items into a plastic bag and leave in the freezer at -18°C for at least two weeks (the larger the quantity of infested clothes, the longer you should leave them in the freezer).

This should kill any larvae living on those garments.

DID YOU KNOW?

Fun fact: there are many adult species of moth that don't even have mouthparts.

Dry cleaning is not recommended as a control method, as the chemicals used in this process are not insecticides and you may spread any infestation to that business.

Washing at hot temperatures is also not recommended - as

Indian-meal moths

Indian-meal moths can be relatively simple to manage, providing they are discovered early.

Once in your home, they will infest food products will spread quickly through your property in search of other foods such as dried fruit, rice and cereals.

Usually the initial source of the infestation can be traced back to partially used products that have been forgotten in the backs of pantries and shelves.

The most effective step in eliminating an infestation is to throw away these infected products, preferably into an outside bin.

Then deep clean your cupboards, pantry or anywhere food has

White-shouldered house moth

Good hygiene practices are key to controlling White-shouldered house moths and preventing reinfestation.

Again, there are DIY moth control insecticides available for amateur use - always read the label before use and follow the directions carefully.

When using insecticides you must be certain that you will not be harming other species, such as bats roosting in your attic space.

As White-shouldered house moth infestations can sometimes be traced back to old bird nests and debris in these spaces, this is a consideration you need to bear in

Mithered by moths? Pest advice for controlling moths

mind if attempting DIY control.

Professional moth control

For most moth infestations, particularly in or around businesses, we would always recommend contacting a professional pest management company.

They are trained in moth identification and control, and will have access to a range of professional use insecticides and tools which are not available to the public.

A pest professional would implement an Integrated Pest Management (IPM) strategy for getting rid of and preventing infestations.

This will include surveying, monitoring and hygiene advice. If necessary, it can also include chemical control such as residual insecticides.

“A BPCA member company will be able to treat infestations quickly and safely.”

With Indian-meal moths in businesses, advice should be given on:

- Stock rotation and checking
- Early warning systems
- If bulk buying, having checks in place
- Not storing products for long periods.
- In some cases, businesses with an infestation may require fumigation - again, any control methods will be discussed and agreed with you by your pest management contractor.

Moth infestations can require several visits, to ensure the control programme has been fully successful and to ensure advice is being implemented.

Finding a pest controller to get rid of moths

A BPCA member company will be able to treat infestations quickly and safely.

They can help minimise pest activity with a range of techniques and have the technical knowledge and experience to apply products in an efficient manner, while minimising risk to the environment and non target species.

BPCA members all have:

- The correct insurances
- Trained and qualified technicians
- Been audited to the British Standard in pest management EN 16636
- To follow BPCA's Codes of Best Practice.

BE PROTECTED. PROFESSIONALLY. How do you know your pest management contractor is fit for the fight?



British Pest Control Association is the trade association for professional pest management companies in the UK.

By choosing an audited BPCA member you can be assured that the services you receive are from a trained and trusted company that meets our strict membership criteria.

Our member companies meet or exceed all legal and 'due diligence' requirements and comply with the most current legislation.

No other trade body gives you this security.

Make sure you stay safe.

Select a BPCA member.

**Stay protected.
Always look for
the logo.**



Find a pest controller

A BPCA member company will be able to treat infestations quickly and safely.

They can help minimise pest activity with a range of techniques and have the technical knowledge and experience to apply products in an efficient manner, while minimising risk to the environment and non target species.

You can find a BPCA member, local to you, using our Find a pest controller tool.

bpc.org.uk/find
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