



## Essex Health Protection Unit

Further advice on any of the areas discussed or copies of this sheet may be obtained from the unit:

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# Factsheet on Biting bugs

## Introduction

There are a great variety of insects and other bugs which live in the environment, but cause a nuisance (and sometimes transmit serious disease) when they emerge to bite humans and domestic animals. Fortunately relatively few are a problem in the UK. Fleas and ticks are a common cause of enquiries to the communicable disease team. Another insect pest which may be making a comeback is the bed bug, which can live for months without feeding, and can be imported in luggage and furniture from abroad.

Further more detailed information is available on sites from departments of entomology in Australia and the United States (click on "links").

## Fleas

In the UK human fleas are rarely a problem (and can be cured by removal of infested clothing) but cat fleas (which also infest dogs) may cause considerable nuisance. A few adult fleas live on the animal host, while hundreds of eggs and larvae contaminate the pet's bedding and favourite resting places. The eggs are just visible to the naked eye as small pearly white round objects. Adult fleas require blood meals to survive (and the female needs a blood meal for her eggs) but can survive for months without a feed. Fleas go through several stages in their life cycle including a pupa from which the adult emerges after 1-2 weeks (in ideal conditions) up to several months.

New owners of a house may sometimes have an unpleasant surprise when fleas begin jumping out of the carpet. These fleas have survived when an infested pet moved out; probably vibration has induced the pupae to hatch. The trends for fitted carpets throughout the house and recent warm damp summers have been ideal for fleas. Many households have suffered from heavy infestations introduced by a pet.

Cat fleas will bite humans - bites tend to be concentrated on accessible areas such as the lower leg. A flea may have several attempts at obtaining a meal, so bites tend to be clustered. A wheal appears after 5-30 minutes accompanied by intense itching, which in the next day or so becomes a small vesicle. Sometimes reactions are delayed up to 24hr in sensitised people. Scratching leads to secondary infections.

Prevention is by treatment of the pet together with thorough cleaning of bedding and other favourite areas, vacuuming of carpets and application of preventative sprays or powders to carpets. The most effective treatments are available only from veterinary surgeons.

Fleas are carriers of the cat and dog tapeworm, which may infect humans. Apart from this there is no disease transmitted by fleas in the UK (although they are still an important carrier of plague in many parts of the world).

## **Ticks**

In the UK ticks are associated with the transmission of [Lyme disease](#) in certain areas (New Forest, Highlands of Scotland, Exmoor) where ticks and their hosts (usually deer) are present.

Female ticks deposit around 3000 eggs in moist leaf litter before they die. A small fraction of these survive to become larvae, which must have a blood meal before going to the next stage in the life cycle. The larvae climb to the top of some vegetation and wave their legs until they make contact with a possible host (usually an animal, but may be a human). After feeding for about 5 days they drop off to develop into the nymph stage. This requires a further blood meal before they can become adults. Adult females also need blood meals (males feed off the females). The life cycle of the tick takes about a year to complete depending on climate and species.

It is likely that the nymph stages rather than the adult ticks are most involved in transmission of Lyme disease to humans, as they are more difficult to see.

### *Prevention*

Antibiotics are not generally recommended following a tick bite in the UK. Evidence of efficacy is uncertain. Ticks should be removed by grasping the tick as close to its point of attachment on the skin as possible with a pair of tweezers and pulling back slowly and steadily. Avoid crushing the body of the tick. Application of DEET to the body of the tick will kill it in about half an hour.

Attachment of ticks can be prevented by wearing trousers tucked into boots or socks, long sleeved shirts and blouses tucked into the waistband and a hat. Spraying clothes and exposed skin with DEET (an insect repellent) will also help. Keep to the centre of paths and avoid thick vegetation where possible.

## Bed bugs

Bedbugs have a worldwide distribution and have been associated with human habitation for many centuries. They look rather like a small lentil but are rarely seen without a careful search. They feed at night on sleeping humans, and retire during the day to cracks and crevices in walls and floors. Both adults and nymph stages require blood meals. Bed bugs will feed frequently if the opportunity presents, but survive up to 6 months without feeding if necessary.

No diseases are transmitted by bedbugs, but the bites can be very distressing. Wheals from biting can be up to a centimetre or more, with inflammation, swelling and sometimes blistering. Subsiding wheals may leave small red purpuric spots.

Bedbugs do not move far on their own, but are readily spread by movement of furniture or luggage. A heavy infestation may be accompanied by a sickly sweet smell from the scent glands the bugs use for communication. There have been reports of infestations in hospital premises from healthcare workers bringing luggage from abroad.

Treatment is by application of insecticide to contaminated premises after careful inspection to determine the full extent of the problem. Blocking cracks and crevices will help prevent re-infestation.

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<http://www.hpa.org.uk/ProductsServices/LocalServices/EastOfEngland/HealthProtectionUnits/Essex/Factsheets/>