

Bites, Bugs and Uninvited Bed-Fellows

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Bites and stings from a variety of winged insects, ticks, leeches, snakes, animals and fish can be either a mere nuisance to the traveller or a serious threat to life.

Vacationers need not travel far from home to be exposed to skin-puncturing creatures, and the wounds may prompt a minor inflammatory response or a generalised allergic reaction. Summer brings unwanted skin invasion from bees, wasps, horseflies, black flies, midges, ticks and mosquitoes and bites from snakes and four legged animals. Single insect bites and stings – unless to the allergic individual – are usually insignificant – although painful.

They are treated by removal of the sting if present, skin lavage, with an antiseptic and the application of an antihistamine cream. The multiple bites of the voracious highland midge, however, may require oral antihistamine administration and topical steroid cream to contain the pain and itch.

With bites and stings, some people develop a resultant skin infection and cellulitis, and older people with oedematous limbs appear more at risk in this respect. Anecdotally, women appear to have a more violent response to insect bites than their male counterparts. The more extensive use of perfumed products also seems to attract more biting insects to their proximity.

Snake, rabid dog, monkey and bat bites can be lethal, especially in children, but they are rare in Europe. Fear of snakes and snake bites is a dominant phobia in America¹ and does appear in the hierarchy of common fears in the British public² but the risk to the holiday-maker and traveller in Britain is very low.

Tick borne disease is very likely to affect the hiker, climber or forest walker in the UK, Europe and the USA, although the public is largely unaware of its prevalence and health risk. Some measure of protection from skin bites can be provided by clothing, especially if impregnated with permethrin and the application of good anti-insect skin barrier DEET (N,N-diethyl meta-toluamide).

Mosquitoes

Much is written of the malaria and dengue mosquito, but their more benign non-malaria transmitting counterparts are much more common world-wide. They can leave the unprotected with multiple bites and an insatiable itch for several days after the attack.

Holiday-makers to the Mediterranean, Greek, Spanish and Turkish islands are often badly bitten during hot nights. They throw off bedclothes and abandon nightwear to provide a feast for the attendant mosquitoes. Bites rank after sunburn as the most common reason for tourists to present to pharmacies in popular tourist areas. Mosquitoes are at their most active at dawn and dusk, when skin should be covered and protected by a good chemical deterrent. Mosquito nets should be impregnated with an acaride such as permethrin.

The midge

Midges are common in damp, misty upland areas of Europe and Asia. The Scottish Highland midge, although small is mighty and makes up in number for its minute size. Midges rise from the heather in their thousands and the unwary intruder can be left with a myriad of irritating pin pricks, each causing a local response. Those particularly susceptible can be left with every exposed skin surface so peppered with bites that the inflammatory response merges to angry red perfusions, with an itch that drives the individual to distraction.

The midge invasion is at its zenith in British holiday months of July and August and travel on the moors and hills of the Highlands, especially after rain in windless conditions, is best avoided. Midge bites are not usually associated with other more generalized disease, although the bites continue to itch for days after they occur. The first frosts wipe out the midge hordes until they rise again in another season. The mighty midges of Skye are often undeterred by any chemical barriers, but the application of 'Jungle Juice' to exposed areas deters some from attacking.

Ticks

Tick bites bring the risk of a generalised infection and when the bracken and grasses are high there is a high risk of unwittingly hosting these animal vectors. Ticks will settle and gorge just as happily on human skin as on animal skin. Lyme borreliosis is a risk to which hikers and climbers are exposed to in land grazed by cattle, sheep and deer.

The reservoir of infection of the *Borrelia burgdorferi* lies with small rodents, while larger mammals such as farm animals, dogs, roe deer and red deer serve as hosts for the adult tick. *B. garinii* has also been isolated from song birds and pheasants with spirochaetes localising in their skin. The birds become parasitised by ticks including those known to be vectors of Lyme disease for man.³ Risk of infection is highest in high summer when the bracken and grasses grow tall on hillsides and in woodlands. The current high deer population in the Scottish Highlands increases the risk still further. Lyme borreliosis occurs throughout the northern hemisphere from America, through Europe to China and Japan. The risk to walkers, forest workers and farmers is still poorly appreciated. Clinical manifestations of infection are not always identified by health professionals. In Britain up to 30% of ticks are infected with spirochaetes and walkers in shorts or skirts are likely to have ticks attach themselves to the skin of their legs and thighs. The advent of cold weather with frost kills the bracken and grass and reduces the risk. Wearing trousers tucked into the socks and clothing impregnated with acaricides such as permethrin can deter tick attachment. They can, however, adhere to clothing and work their way to the skin over time. In the high season, clothing used in risk areas should be laundered before reuse. The wearing of light coloured clothing expedites the finding of ticks in a search. Clothing and skin should be searched for ticks after summer walks in infected areas. Removal of attached ticks within a period of 48 hours may avoid tick infection. Care has to be taken to remove all biting parts embedded in the skin.

Cattle and sheep ticks are large enough to be identified before they become engorged with blood and can be carefully detached from the skin. The deer tick is the size of a pin head and difficult to detect, until full of blood, when it becomes discernible where it has burrowed its head into the skin. The resultant bite is itchy and usually becomes

an irritable lump. Thereafter it can proceed to an erythema migrans lesion and symptoms of fatigue, malaise, headache fever, arthralgia and myalgia can develop.

Tetracycline therapy early in the disease presentation can abort the disease process. Vaccines have been in development to combat some tick borne infection.

Tick borne encephalitis (TBE) is a health risk to backpackers, climbers and campers in areas of Europe such as the Black Forest. A vaccine is available and should be recommended to travellers to infected areas by health professionals at travel health clinics. In central and western Europe, TBE is transmitted in highly focal areas of sheltered forest and meadows, and are best avoided. Tick activity is usually seasonal – peak transmission for Colorado tick fever is during April and May – and those with a flexible itinerary should avoid travel to high risk destinations at peak times.

Mites

Mites too can sometimes affect the unwary backpacker. In rural areas of India and South America, mites from poultry can infest the person. On one trip into the Himalayas, a group of climbers bought food from local markets as the trail was climbed. Hens and ducks were slaughtered for each evening meal. The men killed the birds and the women plucked them. The latter task invariably meant the women were soon covered in red chicken mites not averse to nipping the skin. Infestation can be avoided by plunging the birds into boiling water before removing the feathers.

Bed bugs

Bed bugs can also enjoy a meal from human flesh. Travellers are bitten while sleeping on unprotected mattresses that furnish the wayside huts and bothies used by walkers and climbers on the lower Himalayan trails. They produce itchy skin lumps which are often mistaken for mosquito bites. The swelling and itch lasts for weeks.

Snake Bites

Snake bite is feared by many travellers. Few people in Britain have ever seen a snake in the wild. The risk of a bite in the UK is very small but is a risk for tourists in the Australian Outback. In a life time of wandering the hills in the UK I have only seen them three or four times. Forewarned, they avoid contact with humans and only the adder has a potentially dangerous bite. It strikes only in defence when startled or unable to escape. This summer when crossing a bracken patch, I stubbed a foot on an exposed boulder lit and warmed by the sun. An adder was basking on the rock and startled, it struck immediately. Fortunately, the fangs hit my boot and venom was splashed along the upper. It immediately slithered off at speed and I was left contemplating a lucky escape from a bite. In the past, first-aiders were taught to put a tourniquet on the limb above the bite. This is unwise. Prompt access to a casualty department and administration of appropriate anti-venom antidote is recommended. Fatal responses to snake bite in Britain are very rare.

Rabid animals

Rabid animals are not uncommon in many parts of the world and may bite the incautious traveller. A bite by a rabid monkey is likely to occur to the tourist who, unwisely attempts to feed monkeys which frequent temples and tourist attractions in many parts of the Indian subcontinent. In Asia, where caves are often on the tourist agenda, the risk from bat bite is low, but spelaeologists ought to be wary of rabies-

infected bats. Rabies vaccination should be a consideration for back-packing travellers and cave expeditioners visiting areas of high risk. Most travellers to India will be in reach of a hospital holding vaccine supplies for emergency use.

Sea creatures

Beach and sea are magnets for national and international adventurers. *Seabathers' eruption* and *swimmers' itch* are water borne conditions. The former is caused by the venomous stings of larval forms of **cnidaria** such as **jellyfish** and **sea anemones**. The latter results from skin penetration by intact schistosome cercariae. The traveller should be advised to avoid swimming in affected water.⁴

Hook worm larvae

The hook worm larva, discarded from the intestines of dogs and cats, infects sand above the waterline on beaches of the Caribbean. Those wandering barefoot are liable to become infected with larva migrans, which once in situ wanders aimlessly up the foot and leg, leaving an itchy trail to torment the sufferer. A course of merbendezole will cure the disorder but it is best avoided by wearing beach shoes.

INSECTS

Fleas can be unwanted companions of the traveler. Human and animal fleas easily transfer between hosts when in close proximity. Bus, train and plane travel provides ample opportunity to unwittingly host fleas, which leave small itchy lumps that are easily infected in tropical climes. They merit prompt treatment with an antihistamine and where appropriate an antibiotic cream. Rare outbreaks of bubonic plague are reminder of this potential for infection from rat fleas. Tourists are at low risk unless frequenting rat infested areas.

Sandflies, because of their small size, can penetrate screens and bednets. They feed on windless evenings and at night and can produce febrile illness. They are common, but they are deterred by permethrin sprays on clothing. Natural citronella products may be more effective than synthetic products in repelling. Most travellers to India will be in reach of sandflies.

Leishmaniasis is a protozoal infection transmitted by the bite of **phlebotamus**.

The tsetse fly can carry the trypanosome and safari travellers in east Africa run the risk of infection. A week after a bite by an infected fly, a chancre develops at the site, which may be mistaken for a simple unrelated insect bite. The traveller should be advised to be wary of infected insect bites and ensure they are not mistreated.⁵

Leeches In the monsoon and wet weather on Himalayan and jungle trails, the leech suspends itself on greenery for ready transfer to the passing human. It sucks blood painlessly from its victim, until satiated, when it falls off leaving a bleeding wound which attracts attention. Protective clothing lowers the risk from bites, but the leech has remarkable skill in penetrating to unprotected skin.

Travel and vacation in rural, wilderness and beach environments exposes people to skin invasion by a legion of flying, crawling, hopping and slithering insects and animal bites. Bites and puncture wounds usually bring discomfort, itching and pain,

but in most instances the agony is short lived and of no lasting consequence. The allergic individual is at much greater hazard and should be aware of the risk in the area of travel and perhaps be encouraged to carry steroid medication. A few skin intrusions can lead to chronicity and fatality. Barrier prevention of contact with the use of insect repellents is recommended.⁶ The wearing of protective clothing, awareness of risk and appropriate precautions can minimise insect bite risks to health. Good counsel is for travellers to 'be aware and travel prepared'.

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