SANDFLY

Sandfly (or sand fly) is a colloquial name for any species or genus of flying, biting, blood-sucking Dipterans encountered in sandy areas. Source: Wikipedia

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What are Sandflies?

To many of us, they are those annoying pesky little flying insects that decide our blood is good enough for their lunch!

Wikipedia's description is as follows: Sandfly (or sand fly) is a colloquial name for any species or genus of flying, biting, blood-sucking Dipterans encountered in sandy areas.

As Wikipedia describes, Sandfly is a very general name given to the flying, biting insects. In the United States, it may refer to a type of horse fly or sand gnat, sand flea, no-see-um, granny nipper, chitra, punkie, or punky. Generally these belong to the family – Ceratopogonidae. Outside the US sandflies may be referred to as members of the Phlebotominae sub-family.

The NZ “sandfly” is actually a blackfly, which belongs to the family Simuliidae. In general the sandflies are small. They measure between 1-4mm in length, which can make them hard to see unless they are in a swarm.

What type of environment does the Sandfly like?

Sandflies like flowing water and are denser around rivers, lakes & beaches. They also love the bush and high humidity zones.

The busiest days for sandflies are warm, cloudy, and windless, and they are noticeably worse just before it starts to rain or before thunderstorms. They are year round creatures, but are less active when it’s cold. Thankfully, sandflies leave when the sun does. They cannot see in the dark. Unfortunately, however, they are often the most hectic just as the sun sets, making sure you feel like you have earned your peace when they finally go.

Luckily, unlike their counterparts, mosquitoes, sandflies tend to remain outdoors. Although they will take advantage of shady areas and particularly like the downwind side of a house. Once inside they will tend to collect by warm windows and so are easy to dispatch.
The Life Cycle of a Sandfly

Sandflies breed in fast-flowing streams or rivers, where there is better aeration and food supplies. Their eggs are laid on rocks or plants around or below water.

From these eggs, larvae hatch. They collect food from the current, using foldable parts that surround their mouths. These open up to catch passing organic particles, algae, and bacteria. The larvae breathe through their skin and by rectal gills.

In the spring, when the weather conditions are more favorable, the larvae pupate. They spend around 12 days in this form, before emerging as flies at the water’s surface.

The length of the life cycle varies, depending on the time of year, but averages around six to seven weeks.

Even though the life cycle is relatively short, all efforts to eradicate them from their natural habitat have failed.
All about the bite

Interestingly, it is only the female that bites. This is because she needs blood to be able to make her eggs. One blood meal can result in the up to 100 eggs. She sucks her blood from warm-blooded vertebrates such as birds, mammals and of course us humans. In cattle she favours their bellies as a source of nutrition, whereas in horses it is their ears and poultry, their heads. For us, it is generally the lower legs and ankles along with our wrists where the sandfly likes to bite.

It takes about two minutes for the sandfly to feed. It literally saws the skin and then sucks on the pool of blood that forms on the surface. They do not collect the blood directly from the blood vessel.

The sandfly action for getting blood is much more basic than the mosquito, that’s why their bite hurts more at the time it is happening, which means you KNOW when you’re being bitten.

On the other hand, the males are vegetarians and very little is known about them.

Their bite is sometimes not felt and leaves a small round, reddish bump that starts itching hours or days later. Some report reactions even months later, with the bump or itching felt long after the holiday. Sandfly saliva (maybe you don’t want to talk about sandfly saliva) contains a protein, which can cause an allergic reaction. It is our bodies dealing with the protein that causes the itch.

The bite will have both a physical component, a small wound, and a chemical component of how our body reacts. Swelling and heat are signs of either infection but more likely a histamine (chemical) reaction generated by our body.
Ideas for avoiding bites

If you avoid areas that are renowned for sandflies, this probably means you are missing out on some of the most untouched and beautiful scenery in the world. There are plenty of ways to mitigate bites and to treat them effectively if they do occur. Here are a few tips:

1) The single best thing you can do for managing sandflies, is to dress well for the occasion. A light-coloured long sleeve merino top would be a good choice for comfort, weather, sun and bug protection. A hat with a good brim provides protection for your face.

2) Sandflies are more attracted to dark/warm colours and standing next to a person in a black fleece jersey will provide instant relief to you! You can also provide your own sandfly attraction by wearing dark trousers & a light coloured top.

3) Sandflies don’t tend to attack moving targets. They prefer us when we are still, so keep moving if you can, even a gentle walk will do it.

4) Sandflies tend to congregate lower rather than higher. So if you cover up your feet and ankles and stand up you’ll be less hassled. When you do want to stop, just remember to cover up. Bring a light sarong or shirt to lay over your legs/ankles if you are not wearing long pants.

5) Use a bug repellent. There are plenty of bug repellents on the market, however it is best to use a natural variety, especially for the kids.

6) Avoid using “sweet” smelling body care products. Sandflies love that.

7) Carrying a baby (smartly dressed) on the front of you instead of in a stroller or backpack will help you look after them better.

8) Keep car windows and door closed when you are in sandfly areas, otherwise, they’ll be attacting your ankles all the way home.
Managing bites

Many people find that they get more bites the first time they visit sandfly areas and reactions to a sandfly bite can vary. Sandfly bites often turn into a raised red welt that itches horribly and usually in the middle of the night! If there are quite a few bites, the whole area can swell. You may have on and off itching for a few days to even several weeks before the bites completely heal. What is happening is that the saliva of sandfly has a protein that our bodies have to deal with. If your body has not seen the protein before, it may have a harder time dealing with it, than a person who has a finely honed sandfly saliva, protein-digesting machine of a body. Our body’s response to the bite is a reflection of how much hassle this protein is causing. Your goal is to help your body process this protein.

If you are new to sandflies, you may find that you are “sweet”. In other words the sandflies like you better than they like the locals. It is also thought that they like people who eat a lot of sugar, literally sweet.

People often find that they respond less badly over months as their bodies get used to processing the bites, and can actually reach a mythical state where you have almost no mark and no itching with bites.

There are many products on the market that can alleviate the bites. Goodbye Sandfly is a purely natural product that can be used, not only to avoid being bitten but also to soothe away the annoyance of the bite. By applying it on straight away after being bitten, it reduces the severity of the bite. If you don’t have such a product on hand, you can use a good cold pressed vegetable oil, like olive and add a small amount of tea tree.

Here’s a quick recipe.
1 Tablespoon Olive oil and 2 drops of tea tree essential oil.

By doing this, you are immediately disinfecting and soothing the sandfly bite before a reaction begins.

Applying a bite soother as a gentle massage just before bedtime will set you up for a better sleep. It may not be itching when you go to bed, but chances are, those bites will wake you.

Don’t scratch! This can inflame the bite and break the skin. Scratching extends the healing time and can cause infection. This is where bites can turn into real problems. Gently massage a bite soother on the irritation instead.

There can be a lot of heat and swelling associated with a sandfly bite. Cooling bites gently will soothe, but you do not ice them, because the body contracts so greatly that the process of clearing the bite from the body is shut down. On the other side, you do not want to heat skin that already has heat, so if you
have a bath, make sure it is not too hot, and be even more mindful of staying out of the sun.

You can place your hand over the bites with the intention of easing pain, clearing swelling or being of assistance, as the body needs it. One of the hands on treatments is called Reiki, and it can be very calming.

**Other natural remedies that can be helpful:**

Apply raw onion or raw apple, straight lavender or tea tree essential oils or the use of homoeopathics can be very helpful. Gentle massage and gentle point pressure can alleviate the pain too.

There are several herbs, which have antihistamine properties, and you may benefit from taking them as an infusion (tea), or adding them to a warm (not too hot) bath or compress. When taken as a tea, the herb will support your whole body to process the bites. Herbs to try are chamomile, peppermint, basil, Echinacea, fennel, oregano & tea (green or black).

If you are one of the unlucky ones with legs covered in bites, all we can say is, survive this round of bites as best you can and try NOT to scratch. If your bites are getting out of hand, or you’re not sure if they are getting better, see a professional (doctor, homeopath, naturopath....).

Then, work on how to stay bite free. You can live and travel in fierce sandfly country and get very few bites. It takes some understanding, but it is possible!

**Diseases**

Sandflies are the main carriers of a few insect related diseases such as leishmaniasis, bartonellosis and pappataci fever. In the Americas and Oceania, leishmaniasis is spread by sand flies of the genus Lutzomyia, which are common inhabitants of caves, where they feed on bats. Whereas in Europe, Asia and Africa the disease is spread by sand flies of the genus Phlebotomus as mentioned above. Source: Wikipedia

There are different forms of leishmaniasis.

Cutaneous leishmaniasis. This affects the skin and mucous membranes. This is the most common form. Skin sores usually start at the site of the sandfly bite. In a few people, sores may develop on mucous membranes. It heals within 2 months to a year, generally leaving a nasty scar. This common form can progress to the following:
Systemic, or visceral leishmaniasis. This affects the entire body. Generally this form takes place 2 - 8 months after a person has been bitten. Most people won’t even remember having a skin sore. This form can lead to fatal complications especially if it gets into the immune system.

Leishmaniasis is transmitted when the female sandfly bites the skin. Some symptoms include; breathing difficulty, skin sores, stuffy nose, runny nose, and nosebleeds, swallowing difficulty, ulcers and wearing away in the mouth, tongue, gums, lips, nose, and inner nose. If the infection is of the systemic visceral type, it begins suddenly with a cough, vomiting, diarrhea, fatigue, weakness and a fever.

Treatment is vital and the earlier the treatment occurs the better. Medicines called antimony-containing compounds are the main drugs used to treat leishmaniasis. The cure rates are high with the proper medicine and it is vital for patients to be treated before damage to the immune system occurs.

Because this Sandfly Report is based on 15 years of working with bug repellents in New Zealand, and there is no leishmaniasis in New Zealand, it is beyond the scope of this document to advise on leishmaniasis. If you live in, or are going to countries that have the sandfly vector for this disease, please research with the local destination.

**New Zealand and the sandfly**

As mentioned previously the NZ Sandfly is actually a blackfly. There are 13 species of blackfly in New Zealand.

The two main species groups are:

* Austrosimulium australense* (NZ blackfly) - found in both Islands

And

* Austrosimulium unguilatum* (West Coast blackfly) – found in the South Island and sub-Antarctic Islands.

New Zealand’s stunning environment is a haven for these sandflies/blackflies with its beautiful lakes, rivers, beaches and bush areas. The West Coast and Fiordland are infamous for their sandflies. There is a point at the end of the Milford Track that is known as Sandfly Point. They swarm around here getting their “supplies” from all the tourists as they board the ferries to the Milford Sound.
The New Zealand sandfly is about 2.5mm long and are dull velvety black with a humped back. When they suck blood their wings are folded back and they look like tiny black spots.

Many New Zealanders just grow up with sandflies as a fact of life, and don’t even realize how iconic and horrible they can be to visitors. Sandflies have been in New Zealand even before the original Maori people. Maori legend has it that when one of their Gods saw the beauty of the Southern Sounds she feared that humans would wish to live there forever. So, to remind them of their frailty and mortality she liberated sandflies, the mosquito and the flea and commanded them to go into the Sounds. Source: *Those Sandflies* by Marjorie Orr.

When Captain Cook came to New Zealand he encountered these small blackflies and it is due to him and his sailors that they are known as sandflies here in NZ.

Although a species of sandfly in other countries can carry a variety of diseases, there are no records of New Zealand’s blackfly doing so.

**Sandfly Humour**

It may seem odd that this offending creature can be the source of humour, maybe we’ll call it black humour. But the way people respond to them really can make you laugh. We’ve selected the best of the Sandfly Videos to give you an idea of what they look like, sound like and how we live with them.

http://www.goodbyesandfly.co.nz/best-sandfly-videos/
About Goodbye Sandfly

Goodbye Sandfly was started by American Becky Cashman in her search to address the sandflies that were hassling her and her guests on a canoe trip that she guided on the Dart River, Glenorchy, New Zealand. She reacted badly to the bites as did many of the guests both emotionally and with itching and swelling. Sandflies are a part of the Kiwi culture, and as such, Kiwis are usually more relaxed about dealing with them.

She and her partner John spent the summer of 1999 trialing different blends with willing canoe guests, getting feedback and refining the formula. Goodbye Sandfly was developed with patience, and over the summer, one formula became the consistent choice for effectiveness and good smell. (They had other formulas that worked, but they smelled pretty horrible!)

The very first bottles of Goodbye Sandfly were given away to guests at their outdoor wedding in December 1999. John (Kiwi) and Becky met as raft guides working in Nepal in 1996. They now have two children: Isaac (4) and Helena (8) who are their laughs, growth, and test subjects for Goodbye Sandfly.

Goodbye Sandfly is now New Zealand’s #1 selling natural repellent available in over 600 locations. Aztec data Mar 2011 and 2012

Living with Sandflies

Becky and John moved to Karamea in 2006, and for the first time, were actually living in sandfly country. Their house backed onto the bush, and had sandflies in our house if the wrong windows were left open. Helena, then 2 years old suffered from the bites for about 2 years, until her body adjusted. Isaac was born with immunity and was quoted as saying as he stood naked with a multitude of sandflies having a party on him, saying “I like their little bites.” Goodbye Sandfly got daily use, and their understanding of the product and the environment improved.

Living with sandflies on a daily basis, and learning from their community, they realized that there is a lot of information to share. People on the coast have such a patient, grounded attitude about sandflies.
Resources and Natural Living

The New Zealand Sandfly Map was started in late 2009.

http://www.goodbyesandfly.co.nz.nz-sandfly-map/

It provides people with a clearer picture of the location and intensity of sandflies in NZ.

In September 2011 Goodbye Sandfly launched its own digital magazine called *It’s Not about the Bugs* which provides “how to” and inspiration on natural living.

Providing information and interaction has become as much a part of Goodbye Sandfly as the product.

In January 2012 Becky finished her book *Why Natural Matters*, which she acknowledges is a rather dry sounding title. However, the book reads like an adventure, with stories thrown in to bring great colour and motivation to natural living. Becky and John are keen to make the information and strategies easily available and offer the book for free from the Goodbye Sandfly sites.

Becky says, “From 15 years of Kiwi influenced sandfly country experience, I come to see that NZ sandflies are iconic. They can shape our perception, sometimes for the bad and sometimes with humour. All efforts at providing information through Goodbye Sandfly reflect my desire that people have a better experience as a result of a little knowledge, and maybe even some laughing.”

Contact
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For more:

www.goodbyesandfly.co.nz All about Bugs

www.goodbyesandfly.com All about Natural Living - *It’s Not about the Bugs*