

Tiger Mosquitos Bulletin

Source: For further information:

<https://www.healthplanspain.com/blog/expat-tips/486-tiger-mosquitos-how-to-avoid-them-and-build-a-trap.html>

Most people have been bitten by a mosquito at some time in their life, and frequently in others too!

Mosquitos leave people with itchy 'bites'- but in some cases can transmit diseases such as: malaria, dengue fever, chikungunya and even Zika virus.



A new species of mosquito has made its way across the Mediterranean to Spanish shores, called the Tiger mosquito (*Aedes Albopictus*). Originally native to South East Asia, this mosquito has established itself in various Mediterranean countries: France, Italy, Greece and Spain.

The tiger mosquito is very different in appearance to usual mosquitos – but is also much more aggressive.

Identifying a Tiger Mosquito – named because of the black and white stripes on the body and legs, as well as being larger than normal mosquitos (up to 10mm long). They can fly above 200 metres and are usually found near standing and stagnant water, where they like to breed. They are most active between May & October – so be prepared in advance.

Some people seem to be more susceptible to mosquito bites – but there are many things you can do by following the advice in this bulletin, to help reduce the number of bites you get – and below, there is also simple instructions to help you build a simple trap to capture them.

Where can they be found in Spain?

First found in 2004, Tiger mosquitos inhabited Spain – however a number of studies show that they mainly inhabit coastal areas, but can and do reproduce and thrive within the interior of Spain.

Tiger mosquito bites

Typically, the bite is much more painful than an ordinary mosquito and it can cause sever swelling, scarring and possibly infection, requiring a visit to the doctor. It is the female mosquito that bites (identified by the longer body length) and the blood they take from both animals and humans (preferred) is then used in the production of their eggs.

Male Tiger mosquitos do not bite and tend to feed on nectar in plants.

How long do Tiger mosquitos live?

This varies with temperature, but typically males will last c.1 week – with females surviving for about a month or longer.

How avoid tiger mosquitos

Here are some tips on how to make yourself less interesting to mosquitos:

1. **Wear light coloured clothing** – mosquitos tend to be attracted to dark coloured clothing such as black and dark blue, because during their most active periods (dawn & dusk), dark colours

provide contrast, which attracts. Wearing lighter/neutral colours avoids mosquitos from being stimulated – but be aware of bright colours as they can attract wasps.

2. Apply mosquito repellents

Insect repellent is seen as the best way to stop mosquitos in the tracks. There is an array of products on the market, ideally choose one that contains a pesticide called DEET (N,N-dethyl-m-toluamide) – but remember to read and follow the instructions, as there could be associated neurotoxicity effects.

A general view is that if the repellent has more DEET, it is more effective, but this is not true. Try to only use products with 15-30% Deet, as any more can cause skin irritation and other side effects.

Other repellents containing natural ingredients such as Oil of Lemon Eucalyptus (OLE) and Picardin are felt to be safer for young children, and Picardin is said to be more effective than Deet at repelling mosquitos and ticks and also a lower absorption rate. Picardin is also ideal for pregnant and breast-feeding women as well as non-damaging to clothing.

Ins3ect repellents are extremely effective, but remember to apply it before you go outside and reapply during the day. Always read the labels before use. For further information on insect repellent: <https://www.consumerreports.org/cro/insect-repellent/buying-guide/index.htm>

In Spain when shopping for a repellent – ask for: *'repelente contra (para) mosquitos'*

3. Avoid dusk and dawn

Most mosquitos, including Tigers are very active at dusk and dawn – due to the temperature being cooler and less wind, therefore when they are active you are more likely to be bitten.

4. Choose your clothing wisely

Mosquitos will bite any area that is exposed and therefore try to wear clothes that limit areas of your body to exposure, such as long sleeves will prevent getting bitten on the arm, however warm climates and long sleeved/long legged clothing don't really suit each other – but lighter clothing than covers your skin will help at dawn/dusk.

NB: Tiger mosquitos generally fly low to the ground and bite ankles and legs (especially if you wear shorts) therefore you will need to apply plenty of repellent through the day.

5. Get an insect net

Mosquito (bug) nets are excellent protection against bites when you are sleeping, as they are made to stop mosquitos penetrating the material. As mosquitos are active at dawn, you are likely to be asleep, so a net is helpful to a good night's sleep.

6. Get a fan

Fans are a great way to keep mosquitos at bay, as mosquitos are most active during dawn and dusk, when there is little wind, but are not strong fliers and can easily be blown back by a strong fan – but make sure the fan is pointed away from you.

7. Remove/avoid standing water (even if only 1")

Standing water is a hot bed environment for mosquitos to breed in and they actively thrive in even the smallest amount of stagnant water. Where you can try to make sure there is nowhere for standing water to be around your home – as this will be less appealing to all mosquitos. Look around your home, especially after any rain, for places that might hold standing water. Also remove empty cups and glasses and things like plant trays and buckets etc. Other standing water sources can include: nearly empty swimming pools, wells, cisterns, tanks, animal drinking bowls and troughs etc. Get rid of any standing water, when you see it and also change pet drinking water every day.

8. Some plants are natural repellents

There are a number of plants and herbs that you can grow in your garden or in pots, that will help keep mosquitos away, such as: Rosemary, Citronella/Lemon Balm, Lavender, Basil, Marigolds, Catnip.

9. Perfumes, Colognes & Body Odour

Mosquitos are attracted to perfumes, colognes and other scented beauty products such as shampoos and skin creams in general use, so to avoid using these and use unscented products instead. Mosquitos can also be attracted to body odours due to poor hygiene, so ensure you don't give off the wrong scent!

10. Tiger Mosquito Bite Treatment

Important: If you do get bitten, it is important to use antihistamine to relieve you from the itchiness and reduce any swelling. In addition, an ice pack or cold compress may also help to alleviate the symptoms and swelling. Hydrocortisone creams and calamine lotion also helps to minimise discomfort.

11. How to build a Tiger mosquito trap

It is very easy to build your own mosquito trap, following these instructions provided by the Junta de Andalucía: You will need the following:

- a. 1 gram of dry yeast
- b. 200ml of tap water (leave standing for 12 hours)
- c. 50 grams of raw brown sugar (not white sugar, as it ferments too quickly)
- d. 1 plastic 2 litre bottle

Cut the top third of the bottle with a knife/scissors and use the bottom two thirds for the mixture. Dissolve the brown sugar in boiling water and then allow to cool before adding the yeast (must be cool!) Don't mix the yeast in – just leave it floating on the top of the liquid.

Next, place the top upside down into the bottom part of the bottle, as shown below.

For best results, make up a number of these and place around the house/property as you decide.

The principle is that mosquitos are attracted to the carbon dioxide (by product of fermentation) – then fly into the neck of the bottle and cannot get out again, following which they drop into the sticky liquid and die.

12. How do you find a mosquito in your room?

You are about to fall asleep, and then you hear a buzzing sound in your ear – really annoying, as you know you can't go to sleep now – so you get up and search, but cannot find it – so here are some tips from Lifehacker.com:

- **The flashlight hunting method**

1. Grab a flashlight and turn off all the lights if they're not already off.
2. Turn on a single, small light source—a lamp, phone, tablet. Keep your flashlight off for now.
3. Roam the room slowly and listen for the buzzing. After a few minutes, the mosquito will likely make its way toward the light source and land on the wall nearby.
4. Turn on your flashlight and hold it flat against the wall, then move the beam along the wall.
5. Eventually, the light will hit the mosquito and create a large shadow so you can find it and smash it.

- **The technology trap**

The other method which we'll call the "technology trap method," involves a tablet or phone. You don't even have to get out of bed to do it. Here's how it works:

1. You stay in bed on your back and place your tablet or phone on your chest with the screen on and set to be very bright (tablets work best here).

2. If you have light-coloured or white sheets, bend your knees and poke them up so the sheet is visible when look straight ahead. This will make the mosquito more visible. Think of your tablet as the stage and your propped-up sheets as the backdrop.
3. Now take big deep breaths and exhale in the direction of the tablet on your chest. The carbon dioxide from your breath, in addition to the light, will draw the mosquito in.
4. Play the waiting game. The mosquito will make its way to you, and might even land right on the tablet. Smash away.

The presence of mosquitoes in the Region

Murcia has undergone a significant increase in population in the last few years. Although they carry diseases such as Zika, Dengue, Chikungunya or most recently, Nile virus, the risk of contracting these is, although possible, unlikely.

This increase is due, among other factors, to climate change. Increasingly milder winters and longer summers, added to short but intense rainstorms, encourage the accumulation of water needed for the reproduction of the different species of mosquito. One of the areas with the greatest concentration of individual examples of different species of mosquito is the area around the Mar Menor and the Campo de Cartagena, due both to the climate and the terrain.

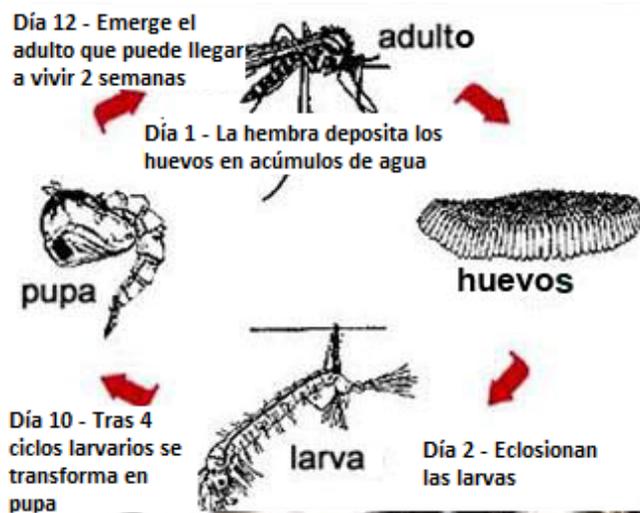
Biological cycle

The biological cycle of each species of mosquito has its particular features, but as a general rule, all present the stage of egg, larva, pupa, and adult. The immature stages (larva and pupa) are aquatic, whereas that of the adult involves life in the air.

The majority of species of mosquito breed in water. Some need more or less stable masses of water (lakes, river beds, irrigation ponds or unmaintained pools), whereas others, such as the tiger mosquito (*Aedes Albopictus*), do not need much water in order to breed. Their larvae grow perfectly well within small reserves of stagnant water such as that found inside a pot, a bucket, or even an ashtray.

The females lay the eggs, which are invisible to the naked eye, in the inner wall of containers in the case of the tiger mosquito, and on the banks of masses of water in the case of other species of mosquito such as the common mosquito (*Culex Pippiens*). Each female can lay between 80 and 500 eggs every six days in the summer months.

When these eggs are covered with water, they hatch, and the larvae emerge. Subsequently, the larvae are transformed into pupae.



In the course of a week, fed by human blood, the female will have to go back and lay between 80 and 500 mosquito eggs (depending on the species). Half of these will be females which, in another seven days, will have bred between 3.200 and 125.00 more mosquitoes.

The bite

Tiger mosquitoes (*Aedes Albopictus*) spend the greatest amount of their time flying around the ground, around the ankles, knees and calves. Unlike normal mosquitoes, tiger mosquitoes rarely bite at night. They prefer to bite during the day, especially in the early morning, and in the afternoon. Due to their life cycle, adult tiger mosquitoes are more likely from May until October.

It is highly likely that a bite from a mosquito will not make you ill, but it is also likely that you will experience some itching for a few days after being bitten.

It is better if you avoid scratching yourself, as if you scratch yourself, the bite can become infected. In order to alleviate the sensation of itching:

- Use a cold compress in the affected area for short periods.
- Take an antihistamine.
- Apply an anti-itching lotion.
- Put a bit of toothpaste (with menthol) on the bite.

Expansion of the tiger mosquito and climate change

The tiger mosquito has scarcely needed a decade to colonise a good part of the Spanish Mediterranean coast. And it has done this in parallel to the A-7, the motorway that runs along the coast from north to south, from Barcelona, where it was found in Spain for the first time, down to Malaga. The expansion of the tiger mosquito (*Aedes Albopictus*), an invasive species proceeding from south-east Asia, cannot be not explained without the help of road and merchandising transport.

What could have happened? For example, in a load of tyres with stagnant water going from south-east Asia to Europe, there is a female who has laid eggs in this water. If the conditions are right for these insects to be born (basically water and a hot temperature), a new territory is established.

Due to the change in temperatures and humidity, insect populations (many of these carriers of diseases) can **extend the geographical area** where they live and expose animals and people to diseases which they have no natural immunity against. Therefore, global warming increases the risk of expansion of diseases transmitted by pests.

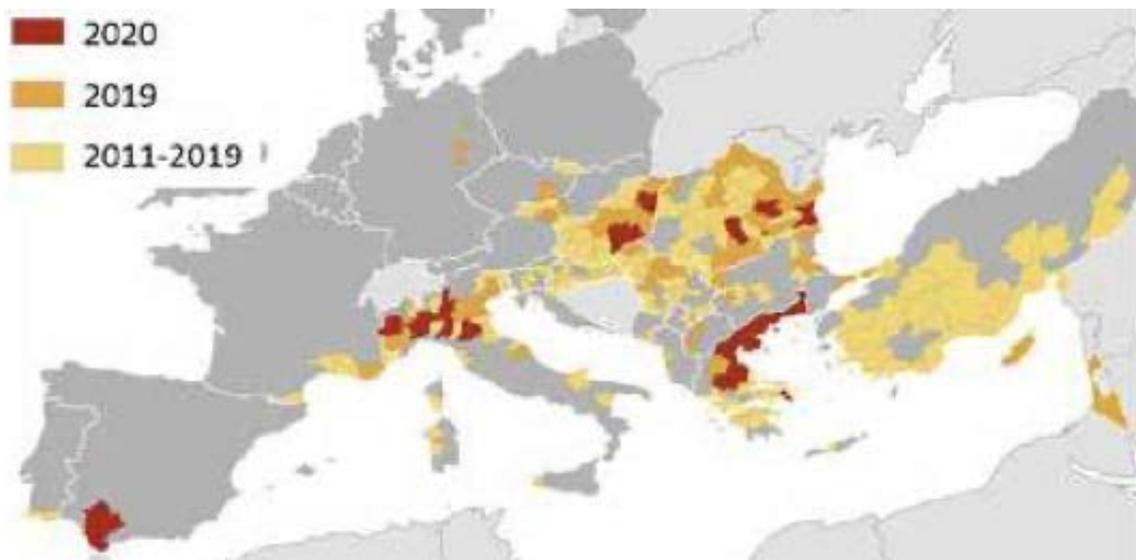
Vector-borne diseases

The expansion of the tiger mosquito (*Aedes Albopictus*) in Europe and in Spain is already having consequences for human health. This insect is a vector for emerging diseases such as yellow fever, dengue, Chikungunya or Zika. On the other hand, there is a growing preoccupation about the expansion of the West Nile virus, the vector of which is the common mosquito (*Culex Pippiens*) among other species of mosquito from the genus *Culex*.

In Europe we have suffered small epidemics of diseases transmitted by mosquitoes in the last few years, although these have alerted communication media more than the health system, due to the low incidence in the population. Nevertheless, the health authorities are carrying out monitoring of their evolution via the European Centre for the Prevention and Control of Diseases (ECDC). In this way, provided that there is a risk of expansion of vector-borne diseases, a control plan will be applied.

West Nile Virus

The West Nile virus is the cause of a serious neuroinvasive disease in horses, birds and humans. Its presence in Spain and Europe has been known for decades; however, it was not until 2004 that the first case was detected in humans in the province of Badajoz. Since then, the virus has been detected mainly in horses and birds, which the virus affects to the greatest extent. During the period from 2004 to 2020 only 6 more cases were confirmed in humans, all of these in Andalusia. It was in 2020 that the most significant outbreak up to now occurred, with 68 cases declared (67 in Andalusia and 1 in Extremadura) and 7 people dead. Taking into account the fact that only a small percentage of the people affected by the virus have symptoms, this data presumes an intense circulation of the virus.



Cases of West Nile Virus in Europe and the Mediterranean area between 2011 and 2020. Source: Infoplagas journal, edition 95. October 2020.

Symptoms:

80% of those affected by the West Nile virus are asymptomatic. The rest develop the so-called “West Nile virus fever”. This is characterised by fever, fatigue, nausea, headache, muscular pain and weakness. Only 0.5% of those infected develop the neuroinvasive form of the disease, which causes meningitis and/or encephalopathies. Of these, between 4 and 14% can lead to coma or even death (which involves 0.05% of the total).

How to fight the Mosquito:

Throughout the disinfection campaign against mosquitoes, we must distinguish three well-delimited lines of control:

- Control of larvae.
- Eradication of the adult insect.
- Domestic fight.

Although the first two lines of control correspond to being carried out by a specialist company, which will design and implement a good control plan against the species, in the case of the third line, it will be the responsibility of each person to take into account and carry out a series of simple suggestions:

- **Containers:** Avoid containers that can accumulate water, such as buckets or cans.
- **Water accumulated in objects:** Remove water accumulated in objects: vases, pot dishes, plastic pools, troughs, etc.
- **Flyscreens:** Hermetically seal deposits of water with a cover or flyscreen fabric.
- **Maintain levels of chlorine:** Maintain levels of chlorine in your lake, pond or pool.
- **Install ornamental fish:** Put ornamental fish in your pond or garden fountain, as they eat the larvae.
- **Gutters:** Clean roof and terrace gutters regularly.

Avoid bites

- Use repellents
- Cover the skin
- Flyscreens

Covid-19 “cannot” be transmitted via mosquito bites

On numerous occasions, the World Health Organisation (WHO) has communicated that the new coronavirus CANNOT be transmitted via mosquito bites.

According to a communication from WHO:

“The new coronavirus is a respiratory virus which is propagated mainly by contact with an infected person via respiratory droplets generated when that person coughs or sneezes, for example, or via droplets of saliva or secretions from the nose. Up to now there is no information or proof to indicate that 2019-nCoV can be transmitted by mosquitoes. To protect yourself, avoid close contact with any person with a temperature or cough, and practise good hand and respiratory tract hygiene.”

We hope that this information will be of use to you. We remain at your disposal should you have any queries or questions.



Yours faithfully, Javier Escobar García.

Responsible Technician from Control
Natural. In San Javier, 3rd November
2020.