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The Brown Recluse

Now there are many species of recluse spiders worldwide but only 13 in the United States. It's easy to lump them all together or any spider for that matter but please note that this is not the brown recluse spider we are talking about in this report. *Loxosceles reclusa*

Welcome to the land of the brown recluse.... This arachnid gets its name because it prefers to be in secluded, undisturbed areas of your home. This spider is really quite shy and hides, rather than spend time out in the open. Because these spiders like to stay so secluded, it is very difficult to determine how many brown recluses are in your home. A family in midwest had an estimated 3000 brown recluse spiders in their house for over 2 years yet no one ever saw one and more importantly, no one was ever bitten. These spiders are generally found in the dark and rarely used areas of your home. Ideal areas for them to hide are attics, crawl spaces, garages, closets, furniture, folded linens, behind book shelves or any such area that's left undisturbed. They are not just inside your home either, they can be found in other places like barns, storage sheds, rock piles, stacked wood piles or again anyplace quiet that offers them protection and a place to themselves.

This chosen habitat of the recluse is probably what keeps more people from getting bit however this is also what makes a brown recluse spider very dangerous. Although studies have shown it to be non-aggressive, the spider's shyness and its very good hiding places make it easy to disturb them unbeknownst to you. Bites and encounters often occur when you're cleaning closets, attics, and other various hiding places and you stumble upon a nest or resting spot of the brown recluse. Grabbing an item with a recluse hiding inside or near by will often result in a bite from the brown recluse who just wants to be left alone. Another fact of the brown recluse is



that it is nocturnal, meaning they only like to come out at night. This is another more likely time you are going to be bitten which is while your sleeping and you accidentally roll over on one who has climbed onto your bed. Again this has nothing to do with the spider being aggressive or attacking you for any reason. Most bites like this are because you pinned the spider or began to crush it as you rolled over and it simply reacted in a defensive move. Since the bite is not particularly painful and symptoms take hours to manifest, you may not even realize when you were bitten and the spider by this time may be long gone.

While the recluse is basically a home body that returns to it's nest there are times when day breaks and the spider has not made it completely back from the nights worth of hunting. At these times the spider may choose a resting spot in clothing articles such as a shirt, coat or a shoe. This scenario is also a common time where the recluse is put in a defensive position and when the home owner puts their body next to the articles a reactionary spider bite is the unfortunate result.

As I hope you can tell by the actions of this spider you are not in any danger from aggressive actions from the brown recluse and with some precautions you can avoid being bitten altogether from this spider who would also like to avoid the confrontation.



1.1 Distribution

Brown recluse spiders are specifically native to the United States. Though there are other species of recluse spiders that have been mistakenly lumped into the "brown recluse" category, these are not the brown recluse spiders we are talking about here. The habitat of the actual brown recluse spider is limited to the central and midwestern United States, stretching southward towards the Gulf of Mexico. In addition, brown recluse populations may be found in the fringes of this boundary.

1.2 Visual Identification and Similar Species

The brown recluse spider is very easy to identify. First, you will recognize it because of its eyes. Instead of having eight eyes in rows of four, the brown recluse spider is distinctive because of the presence of only six eyes arranged into one anterior dyad or pair and two lateral dyads. Some brown recluse spiders also have this "violin" pattern in the spot where the legs meet the first part of the spider's thorax. Earlier, this has been considered

as a diagnostic characteristic or a mark that is used to identify the brown recluse. It has been noted lately, however, that not all brown recluse spiders can have this pigmentation on their bodies. Additionally, the spider's abdomen is colored uniformly, with the color ranging from light tan to dark brown. Hairs also cover the entire abdomen, making it look velvety to an observer's eyes.

While identifying the brown recluse spider is easy, misidentifying it for a different species is also equally easy. Here are some species that you may likely mistake for a brown recluse spider.





Woodlouse spider

The woodlouse spider is often mistaken for a brown recluse because they both have six eyes. However, the woodlouse spider's eyes are found in the anterior part of the body before the abdomen. They are also arranged in close triads instead of dyads. A very obvious difference is the lack of body pigmentation pattern which brown recluse spiders have.

While brown recluse spiders are limited to the central Midwestern states, the woodlouse spider is distributed all throughout the United States.

Spitting Spiders

Mistaken often not only for brown recluse spiders but recluse spiders in general, the only trait spitting spiders share with brown recluses is the number of eyes that are arranged in a similar pattern. However, spitting spiders are not venomous and have a humped appearance that brown recluse spiders do not have. Spitting spiders also have black stripes on their thorax areas.

Yellow sac spiders

The other spider in this report, yellow sac spiders don't share any visual similarity to brown recluses. However, they both have venomous bites leading to the general public confusing the yellow sac spider for the brown recluse.



1.3 The Brown Recluse Spider Bites: Symptoms

It is noted that brown recluse spiders bite only when in pain or threatened, and generally will not touch humans unless they directly interact. The difficult part is that the brown recluse's spider bite is venomous and can have several effects on the individual. The venom of the brown recluse is necrotic and dissolves tissue which results in the ulcerating sores so commonly viewed when someone researches the subject. Of note, several

other things can and do cause this same type of ulcer on humans and is often mistaken for the recluse bite. Namely, yellow sac and other types of spiders, staph infections commonly picked up in hospitals and other airborne pathogens that can infect the body and cause similar lesions.

It is interesting that the bite of a brown recluse spider can be either lethal, mild or even have no effects on the individual. This is



because the effects would depend on the amount of venom that has been injected into the person by the spider. Adult spiders may only bite hard enough to escape when you've accidentally rolled on them or put your foot in a shoe where they were hiding. Younger recluse don't regulate their bites as well and may inject you with a full venomous bite. However, the first symptom of a brown recluse spider feels like a pinprick which they may not notice after a few hours. In some cases, people start exhibiting symptoms such as restlessness, and itchiness in a generalized area in the body. The victim may also develop fever along with chills, and may experience nausea. The victim may go into shock as well.

The bite starts off as a small white blister at the area where the spider bit the victim. This white blister is surrounded by swollen tissue. As time



passes, it slowly becomes red and, simultaneously, grows in size. The lesion itself is called the "red, white and blue sign." That is because the physical appearance of the lesion takes on a dry sinking patch which can be colored blue-gray or blue-white, and has ragged edges and a red surrounding area.

Having a brown recluse spider bite is painful. Worse, it can even develop gangrene. Generally, bites result over time to an ulcer whose size may vary from a thumbnail to being as big as an adult's hand. The bite can also take time to heal, with recovery periods spanning several months. When a victim fully recovers, a scar may remain in the skin.



1.4 Treating Brown Recluse Spider Bites

When you have been bitten by a brown recluse spider, quickly get an ice pack and apply it to the bitten area. This is to relieve pain and control the swelling. Call your physician or ask someone to do it for you if you are having difficulties. You should also collect the offending spider, but take care not to get bitten again. It doesn't matter if you have killed or injured the brown recluse spider because even mangled specimens are useful for accurately diagnosing or confirming that you have indeed been bitten by a brown recluse spider.

The latter requirement arose because it has been noted that misdiagnosing or generally diagnosing brown recluse spider bites have caused problems in the treatment. Other arachnids or insects can bite you and leave similarlooking evidence, and would require different medicines in order to treat. Physicians are more frequent to require proof or presence of a brown recluse spider in order to accurately diagnose the bite.

Treatment options are not available commercially, hence it is important to go to a physician to be treated. Doctors will generally inject cortisone hormones in high doses, but only as a measure to counter systemic complications. Victims may also be prescribed with oral dapsone to prevent worsening of tissue damage due to the spider's necrotic venom.

Treatment, however, is usually limited to controlling the damage that the spider's bite could cause on your skin and tissue. To date, there has been no effective therapy that has been prescribed specifically for brown recluse spider bites.



1.5 Pest Control For The Brown Recluse

Spiders in general are difficult to kill using residual sprays. Insects such as a roach walk and move with several absorbing parts of their bodies touching the surface. Spiders walk on tiny hooks that do not absorb dried insecticides and so your regular residual barrier is of little use. The recluse hunts at night for the most part but can go a long time without feeding so it is usually necessary to hunt down the reclusive spider and apply pesticides directly to the spiders body or on the webbing that is commonly around their nest. These nests can be found in a variety of places as previously noted and great care needs to be taken when dealing with this creature. Nests and webbing should be destroyed using brooms or vacuums and removing clutter will help discourage other recluse from taking the spot of the ones you've removed. Products such as Raid or other aerosols will kill the recluse quickly and dusting products like Drione, Delta or boric acid powder should also be considered. People also once thought that killing off the insects that brown recluse spiders prey on will control the infestation. However, according to Jamel Sandidge of the Kansas University, this actually increases the size of the brown recluse spider population. While it has been first thought of as a predator, Sandidge's studies have shown that the brown recluse spider is also a scavenger. Thus, you can say that killing off the brown recluse spider's prey will have no positive effects on your control efforts.



2. The Black Widow

The second spider in this group, the black widow is perhaps some of the most famous species of spiders around. The name itself invokes a feeling of fear, due to several stories that have circulated about its potent venom. It is so famous that there has been at least one fictional character in comic books and movies that have taken on the name of Black Widow, and all of them inspires a fearsome character much like how the public views the black widow spider.

Just like the brown recluse, the black widow can be found both indoors and outdoors. It is more of an outdoor spider rather than indoors however. You can find it nesting near the grounds of your property, and it almost always stays in its web rather than moves around. They are non aggressive as well, and bites only occur when a human strays into its territory and touches the nest or of the black widow or the spider itself.

Indoors, a black widow can be found in dark and undisturbed places. You may not know it for long periods of time, but a black widow may have her nest behind your furniture, under desks, tables or any other undisturbed item that offers her some protection from harm. The widow is not a hunting spider so her choice of nesting sites will almost always include a nook where she can retreat. In this part of her web she'll spin a protective cave type area which also is somewhat water proof and may insulate her from even your insecticide sprays.



2.1 Distribution

The black widow is one of the most ubiquitous of all spider species in the world. It inhabits many areas and is in every state but particularly the warmer regions. In addition, it can be found in the four deserts of the American Southwest.

2.2 Visual Identification and Similar Species

Like their name suggests, the black widow spiders are totally black in color. When they are newly hatched, however, they can be white or yellowishwhite but they gradually acquire the black color as they grow towards their mature stages. Immature black widows may also have spots on their back, as well as yellow and red bands. Male black widows can also have the

same bands on their bodies even past their maturity stages.

It is important to be able to distinguish between the two genders of the spider, since it female is the who is venomous. Males as well as juveniles are harmless to humans, not until the female youngling develops the potent venom for which the specie is so famous for. Fortunately,



black widow spider sex is easily determined. The females are generally larger than the male, who instead have longer legs than the opposite gender. Males are about half the size of the female. In addition, females have a red hourglass-shaped pigment on the underside of their bellies which is its tell tale marking. Both species have globe-shaped abdomens which take on a shiny appearance.

As for similar species, the black widow is only one of the many members of the Cobweb Weaver family. They are called so because of their tendency to



just weave webs which is how they catch their prey. They are not active foragers like the brown recluse spider, and instead they just wait out until some poor insect comes into the web. Members of this family include:



Brown Widow Spider

Another widow spider found in the United States, the brown widow spider also goes by the name of grey widow spider. It is found mostly in Florida, where they are found infesting homes and even workplaces. The brown widow spider is not as venomous as the black widow, but still their bites can be painful and should be treated immediately.

The brown widow spider is quite hard to recognize because of its varied coloring. Though it carries brown in its name, the brown widow spider can actually come in markings of black, white, yellow, orange, or brown. Perhaps the reason why it is mistaken for the black widow is that both carry the same hourglass marking, but the brown widow carries orange to yellow orange hourglass markings.

Red Widow Spider

Another potentially dangerous and venomous relative of the black widow, the red widow spider can be found in small numbers in Florida. Unlike the black widow or the brown widow spiders, the red widow is strikingly rare. Despite its venom which is very potent, individuals do find a value in collecting these spiders because of their colorful nature and also because of their rarity.



2.3 Variations of Black Widow Spiders

By itself, the black widow is a family. There are more than one form of black widow that you can find, since they are so ubiquitous and so spread out throughout the world. Specifically there are seven types of black widows that you can find around the world, and these are:

Western black widow spider, lactrodectus hesperus

As you can infer from its name, the western black widow spider is found mostly in the western regions of the United States. The females of the western black widow spider shares the hourglass pattern common among its black widow cousins. The male is also smaller than the female black widow spider, and is tan rather than black. The male western black widow spider can have light stripes on the abdomen.

The Western black widow spider is noted for its lack of cannibalistic tendencies after mating. In fact, pairs can even breed several times during their life spans.

Southern black widow spider, latrodectus mactans

Highly venomous, the southern black widow spider is spread out throughout the United States and down south in Mexico. This specie can be easily distinguished, because its female specimens carry distinctive black and red coloring, and they also consume their mates after reproduction. The females are black and shiny, and may also have orange and red patches on the upper part of their abdomens. They carry the hourglass marking common among black widows as well. Males, on the other hand, may be black or slightly grayish to black with white stripes like juveniles. Males can also have orange and red spots as well.

Northern black widow spider, lactrodetus variolus

Closely related to the lactrodectus mactans, the northern black widow spider is common in many places in the United States, particularly in



Florida, eastern Texas, Michigan, Oklahoma and Texas. It can even be found in Southern Canada. This black widow specie is very distinctive because of its split hourglass marking on the underside of the belly. Unlike most black widow species where the hourglass is complete, the northern black widow's hourglass is split in the middle. It may also have red spots on the belly as well as lateral white stripes.

European black widow spider, latrodectus tredecimguttatus

Also known as the mediterranean black widow, this breed is mostly found in the Mediterranean area particularly Spain and up to Central Asia. Like its relatives, the european black widow is dominantly black in color but it also features thirteen spots on its upper abdomen. The spots may either be red, yellow or orange in color. Unlike its American counterparts that lives in logs, trees and indoors, the european black widow thrives in steppes and other grasslands which means that they come into frequent contact with humans especially farmers harvesting grain.

Red-back spider, latrodectus hasselti

This variation of black widow is found only in Australia, but have since migrated to Japan through shipping containers and airline flights. Reports have also been made of sightings in nearby New Zealand as well. This black widow is distinctive for the presence of a red stripe on the upper part of its abdomen along with the species' trademark hourglass pattern. The female is pure black, while the male (who is also smaller in size than the female) is colored light brown.

The red-back spider is noted for its practice of sexual cannibalism, which curiously involves the male actively contributing to the practice as well.

Katipo, lactrodectus katipo

Found in New Zealand, the katipo is different from its other cousins for its preference to live in sand dunes in the seashores of the nation.



The katipo is easily picked out because of a long red stripe that covers its back, together with the hourglass marking that is specific to members of the black widow family.



2.4 Black Widow Bites: Symptoms

Black widow bites are significantly rare because black widows are timid or nervous creatures that prefer to flee rather than injure any organism larger than it that comes along its way. Statistics have shown that from 1926 to 1943, mortality rates are low at only 4 to 5 percent.

The effects of black widow bites brought about bv its are neurotoxic venom. This means that the main target of the venom is the nervous system. After being bitten by a female black widow, the victim may feel tightness or pain in the muscles and in the chest. They may also feel nauseous as the pain expands from the bite site to the abdomen, causing the abdominal muscles to cramp. Victims may also feel restless or



anxious, or they may have difficulty breathing or talking. You may also notice swelling in the extremities as well as in the eyelids. Symptoms take quite a while to appear, however, and decrease in severity after two or three days.

Fatalities brought about by black widow bites are extremely rare. However, the few cases that brought fatalities involved children, elderly people and individuals that have had a history of high blood pressure. Victims usually succumb to the respiratory complications brought about the symptoms of black widow spider bites.



2.5 Treating Black Widow Bites

Though symptoms take so long to develop, it is still important that a victim gets immediate treatment for black widow bites. Since there are commercial anti-venom products available for black widow bites, people may resort to treating themselves instead of going to a physician. All the same, right after being bitten, one can apply first aid by putting an ice pack on the bite site to prevent pain and swelling.

If one chooses to go to a physician instead of using commercial black widow anti-venom, the doctor may administer doses of calcium gluconate. The calcium gluconate is able to counteract the symptoms of the bite even before they appear. In addition, a black widow bite can consume or depress calcium salts. The calcium gluconate injection will replenish those depleted calcium salts to aid you in faster recovery. The calcium gluconate treatment is important especially for those with a heart condition or blood pressure issues since commercial anti-venom is said to have less dramatic effects on the black widow spider bite.

Just like the brown recluse spider as well as the yellow sac spider, it is important to be able to produce a specimen whether living or dead for the physician to give an accurate diagnosis and administer the right treatment.



2.6 Treating the black widow

Since widows rarely if ever leave the nest it is important locate any and all living spots of the widow. Webbing around the nest is not uniform like other spiders and indeed can be quite messy having debris or leaves caught up in it's silk. Widows can be found high up in the corners of eaves or around downspouts but are generally down low toward the ground. Widows aren't prone to be visible on their webs so you may not see the actual spider until you contact the nest itself. The motion or activity on the forward lines of a widows nest can trigger her to come out but heavy motion or destruction of the web will cause her to stay secluded for fear of danger. A careful inspection usually reveals her location and aerosol sprays such as Raid or others are usually all that is needed to eliminate the widow. Sweeping the web will remove the widow after you've treated it as well as any egg sacs that are hanging near by. Make sure you destroy the egg sacs as well as the body of the widow by stepping on them or smashing it with the broom.



3. Yellow Sac Spiders

The third and last spider on this group is said to have bitten more people than any other spider type in the world. The yellow sac spider is often mistaken in diagnosis for a brown recluse spider. That is because they are both similar in their use of a cytotoxin venom. Both the brown recluse spider and the yellow sac spider have venom that kills and damage the cells of a victim. Thus, they produce almost similar symptoms causing doctors to mistake one from the other when diagnosing spider bites.

The yellow sac spider is very small in size, which could lead to them making bites and getting away with it unnoticed. They are typically found in the outdoors, but they may also find their way into homes or structures – with their small size, it's an easy feat. The yellow sac spider preys on small insects and is an active forager like the brown recluse spider. It is a nocturnal spider so it is mostly active at night. The yellow sac spider, being a forager, does not build a nest but instead constructs sac-like nests where they lay eggs and sleep during the day.

The yellow sac spider often wanders into structures and remain indoors during the autumn. That is because outdoors their food supply suddenly thins out and they have only one place to go. This can be a great concern of home owners that have to deal with their infestation as well as possible accidents which unfortunately result in bites with sometimes severe symptoms. Also pest control efforts for the yellow sac spider are much the same as with the recluse.



3.1 Distribution

Like the black widow, yellow sac spiders are widely distributed throughout the world. They can be found both in the Old and New World countries. You can find specimens in Northern Europe, Japan, Southern Africa, India, Australia and even in Antarctica.

3.2 Visual Identification and Similar Species

The yellow sac spiders can be recognized through their distinctive yellow color, although they may also be bright-green in color. In addition, scientists have noted in studies that a yellow sac spider's color may change in response to recent food consumption. For example, eating red-eyed fruit

flies caused the spider to take on a gray hue while eating a caterpillar gave it a green color.

Yellow sac spiders lack any distinguishing marks unlike the black widow and the brown recluse spider. However, they can be recognized because of their legs: their legs are longer than their bodies, plus they also have "darkened" feet where hairs



have aggregated and grew in more numbers than the rest of the yellow sac spider's body. Yellow sac spiders also have brown eyes and a brown-colored mouth.



3.3 Yellow Sac Spider Bites: Symptoms

Like most spiders, the yellow sac spider is generally harmless unless provoked. They stay away from humans as much as possible, and are in fact found more often in high places. They can be on ceilings, walls, and other places where they can avoid potential predators. Outdoors they can be found in logs and rocks. The only time a yellow sac spider may bite a

human being is when there is an accidental encounter. Much as in the way homeowners may come across the widow and recluse they are likely to encounter the female guarding the eggs sacs closely. Failure to observe proper safety and procedure will surely lead to a bite from the defensive spider.

The yellow sac spider's bite is described to be similar to a hornet's sting or a wasp's attack. Victims will feel a stinging sensation when the spider bites. Afterwards, redness and swelling is sure to occur as the yellow sac spider's cytotoxic venom begins its work. In some cases, the lesion may even burst and become sore. This sore spot



typically heals after several weeks, as compared to brown recluse bites that take up to several months to recover from. The presence of the venom in the victim's bloodstream may also produce symptoms like fever, headache, chills, dizziness, nausea, and even shock; symptoms that are otherwise similar to the results of a brown recluse spider bite. For this first hour after being bitten, a victim may also feel a burning sensation at the location of the bite.



There have been reports of necrotic effects on the skin cells near or around the bite location, but the occurrences are not as common with yellow sac spiders than they are with the brown recluse spider.

Fatalities are rare from yellow sac spider bites. In fact, official records show zero fatalities from the bite of a yellow sac spider. This doesn't mean, however, that a bitten individual should not seek out immediate medical treatment from a physician after being bitten by a yellow sac spider.

3.4 Treating Yellow Sac Spider Bites

Treatment is very important when bitten by a yellow sac spider. When bitten, immediately capture the spider and bring it with you to identify the offending species. For first aid, apply cold compress to the bite's location in order to minimize swelling and reduce possible pain. Sterilize the wound and start to monitor the symptoms. If you feel any of the aforementioned symptoms like muscle and chest pains, you should immediately seek the help of a physician at the local hospital.

3.5 Yellow sac spider control

As with the recluse and the widow it important to seek out the nesting location when possible. Remember, the sac spider has no large web to call home but rather a smaller indistinct nest site where she also lays her eggs. This site is usually chosen because it is away from activity and possible predators so it made be difficult to find. Direct spray contact is best or dusting the nest site. Physically removing the spider with a vacuum or broom will do but caution should be taken to make sure it is dead and never handle this or any spider with your bare hands.



Controlling Spider Infestations

Whenever you're applying insecticides you need to be careful and wear the proper safety equipment such as gloves, mask, long sleeve shirts or anything else the label recommends. Take a minute to read the label to make sure you understand where to and not to spray or treat as well as find any information that you might not have considered.

In order to prevent bites from even occurring, you would have to start thinking about ways with which you can control the infestation of brown recluse spiders, yellow sac spiders and black widows at your home. One of the common mistakes that people make when trying to treat the spiders in this report or spiders in general is to use insecticides that are sold in the grocery stores or supermarkets and believing that this in and of itself will be enough. Insecticide can kill a spider with direct contact but it is difficult to give a mortal dose of insecticide to a spider when it is running along the ceiling. Spraying baseboards and the like seems like a good idea and one would think when the arachnid runs across the barrier they'll soon after die. The problem is spiders run on all sorts of surfaces and it would be unsafe to just hose everything down not to mention staining on ceilings and walls. Also general insecticides can be picked up very well by insects such as roaches or earwigs but spiders are not insects so their metabolism is not affected the same way and their feet are completely different than most insects and do not come in contact with near enough residual of liquid sprays to do any good.

The best way to control the infestation of spiders in your home is to use professionally made wettable powder insecticides, dry dust applications or even sticky traps. The main reason is that these powders or dusts are picked up much easier by the spider and although still slower than with other bugs, death will result. These forms of insecticide can be put in many



of the hard to reach places that spiders lurk and hunt and their residual life far outlasts other types that break down quickly. While there is no 'full proof' strategy for using sticky pads or glue boards. You can improve your success by putting them near water sources taking advantage of the need of most spiders to drink h2o. An upside down cap of water placed in the middle of the sticky board actually works quite well to draw them in and trap them.

Another great strategy for reducing spiders is to spray the exterior of the home using your powder based solution. Webs are often easy to see so you can target those areas with good success. Sweep the webs down to ensure you are destroying any egg sacs and so you'll be able to see when new spiders move in. Spiders go where bugs go so treating around lighting is also beneficial. Dusts can work very well in voids to not only kill spiders but to also 'block' them off from possible future access points since the residual is so long lived.

Any good pest control program will always include pest proofing steps as this helps keep the spiders out long before they become a problem. Spiders are surprisingly good at fitting through some tight spots so a survey of the home should be done noting any place that could be used for a spiders access. These areas should include but are not limited to; doors, windows, screens, thresh holds, cable or phone lines coming into the house, soffits, garage doors, dryer vents, recessed lighting in the ceiling, cracks in foundation, widow sills and plumbing. Tightening up these areas goes a long way to reducing spiders from getting in and will help your pest control efforts out tremendously.

As a general rule, spiders are our allies and live on the front lines of our constant battle with bugs. Some people can tolerate more than others so your boundary may be different than others. For our spiders the brown



recluse, black widow and yellow sac spiders however the lines are pretty clear. Let's keep them where they do there beneficial work best, out and away from our homes.