

The Real Truth About Spiders

Fact vs Fiction



AccuWeather/Tony Laubach



Master Gardener
Program

WASHINGTON STATE UNIVERSITY
EXTENSION



Poll 1

Why are you interested in spiders?



What we're going to talk about:

Just what IS a spider?

Which ones live here?

Which ones DON'T!

Spider myths revealed

How to keep them out of your home



Why we're going to talk about it!

- Help folks appreciate spiders as the “good guys” and the amazing creatures that they are
- Give practical advice to avoid bites and the nuisance of spiders in homes



Poll 2

Are spiders insects?

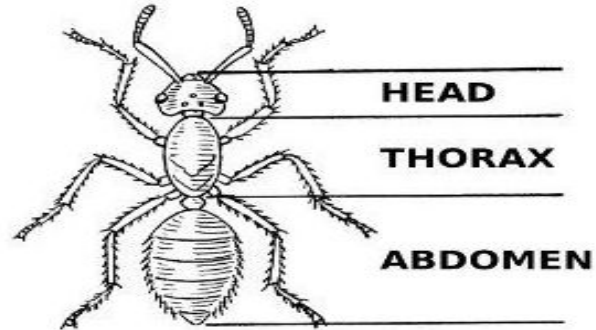
- No! They are arachnids.
- Spiders are as different to insects as birds are to fish



Cephalothorax

Abdomen

Eight legs



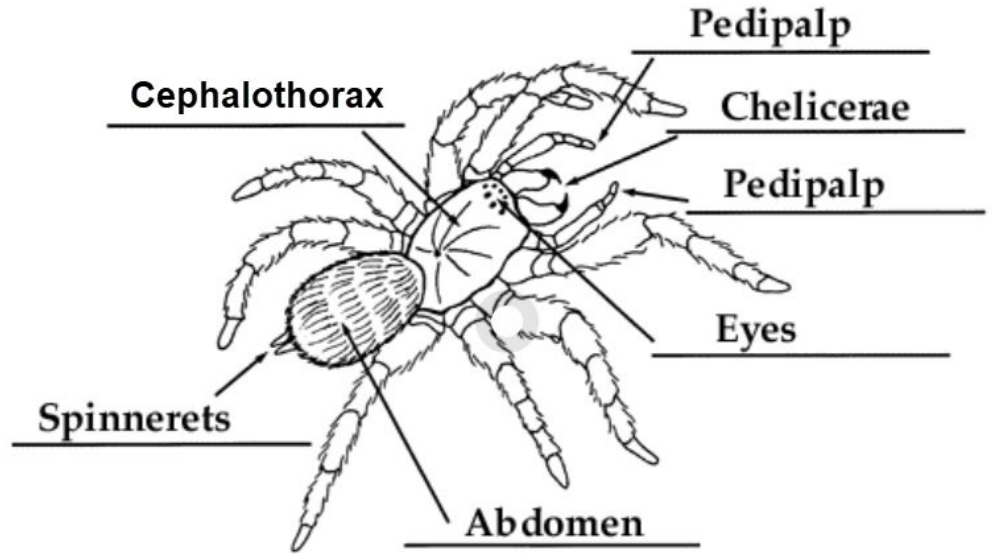
HEAD

THORAX

ABDOMEN

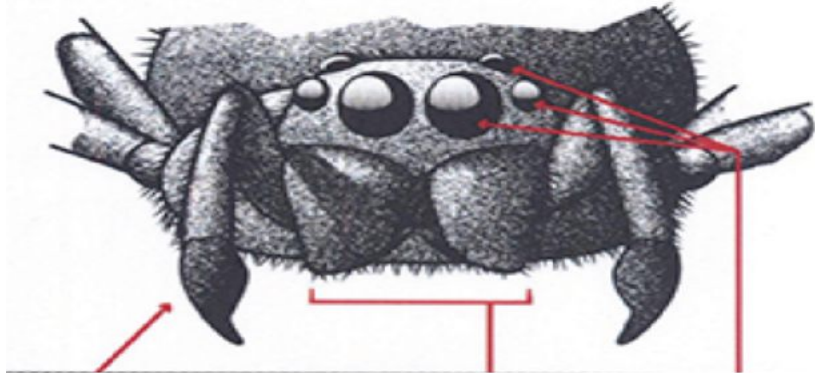
Spiders have

- 2 body parts
- 8 legs
- 2 palps
- 6-8 simple eyes



click.com.cn

Illustration by Andrew Mack, WSU Puyallup

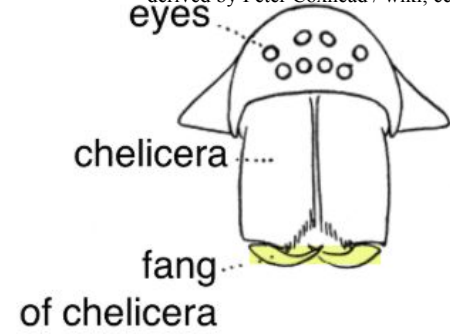


Pedipalps
(Palps)

Fangs
(Chelicerae)

Multiple simple
eyes

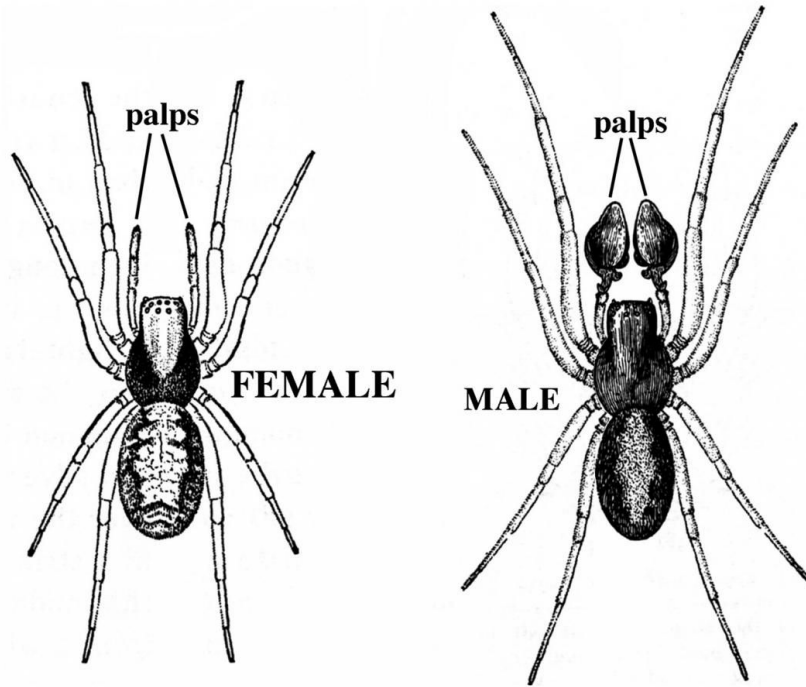
Spider anatomy. (James Henry Emerton, as
derived by Peter Coxhead / wiki; cc by-sa 4.0)



Eye pattern of a crab spider

Chelicerae are used to catch
and hold prey while injecting
venom through the fangs.
Palps also help to
manipulate food.

When love is in the air...



<https://www.burkemuseum.org/collections-and-research/biology/arachnology-and-entomology/spider-myths/myth-all-spiders-are-male>



How do tiny spiders get so big?

Spiderlings molt 5-10 times before they reach adult size.

Very vulnerable after a molt



Start
on 26



How do they hear, taste, smell, and communicate, climb?

- Hair on the body-(for more than just for looks!)
 - Sensitive to touch and vibration
 - Hair on legs feel air movement
 - Taste chemical composition
 - Smell
- Gripping brushes on feet for climbing



What do spiders eat?

- Up to **2000** insects per year!




How do they eat?

LIQUID DIET!

- Mouthparts act like a short “straw”
- Digestive juices secreted from chelicerae to dissolve prey
- Suck up liquefied food!
- Moves to midgut and storage sacs (ceaca)
- Spider poo is a mixture of uric acid and waste--white

Why are there spiders in my house?

- You have food (insects) for them to eat!




Hey--I just ate all those nasty bugs you hate!

Are you gonna give me a High Five??



Poll 3

All spiders make webs

- 
- How do they catch insects?
 - Fact: a web is a silk structure made to catch prey.
 - Only about half of the known spider species catch prey by means of webs.
 - Others actively hunt, or wait for prey

Spiders that do not make webs



Wolf spider



Ground spider



Crab spider

How spiders “fly”--Ballooning



Start
at 16

Silk structures that are not webs



Dragline

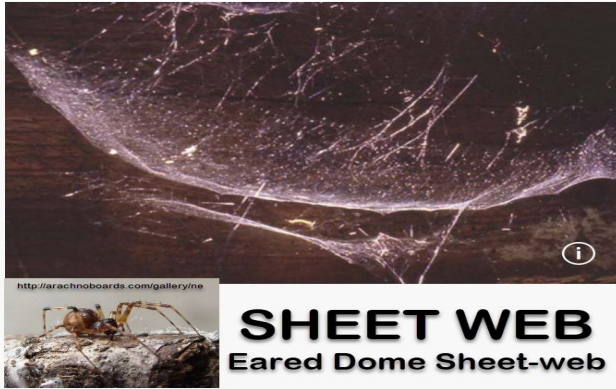


Egg sack



Retreat

Webs and Web Spiders





Poll 4

You can ID a spider by comparing its appearance to a photo.

Identify spiders

- Eye size and placement
- Other very small identifying characteristics.



Jumping spider

Eyes of Jumping spider - *Marpissa radiata*
Source: Lukas Jonaitis from Vilnius, Lithuania



Hobo spider

Bugguide.net Copyright © 2006 Kerry S.
Matzagrestis eyes - *Eratigena agrestis* -



Wolf spider

Image credits: Thomas Shahan, via wikimedia commons
Rights information: CC BY 2.0

NO EYES!

- Eyeless huntsman spider
- Evolved because it lives permanently without light!



Jäger P. 2012. Revision of the genus *Sinopoda* Jäger 1999 in Laos with discovery of the first eyeless huntsman spider species (Sparassidae: Heteropodinae). *Zootaxa* 3415: 37–57



Spider identification by eye arrangement

<https://www.thebiologistapprentice.com/blog/spider-identification-by-eye-arrangement>

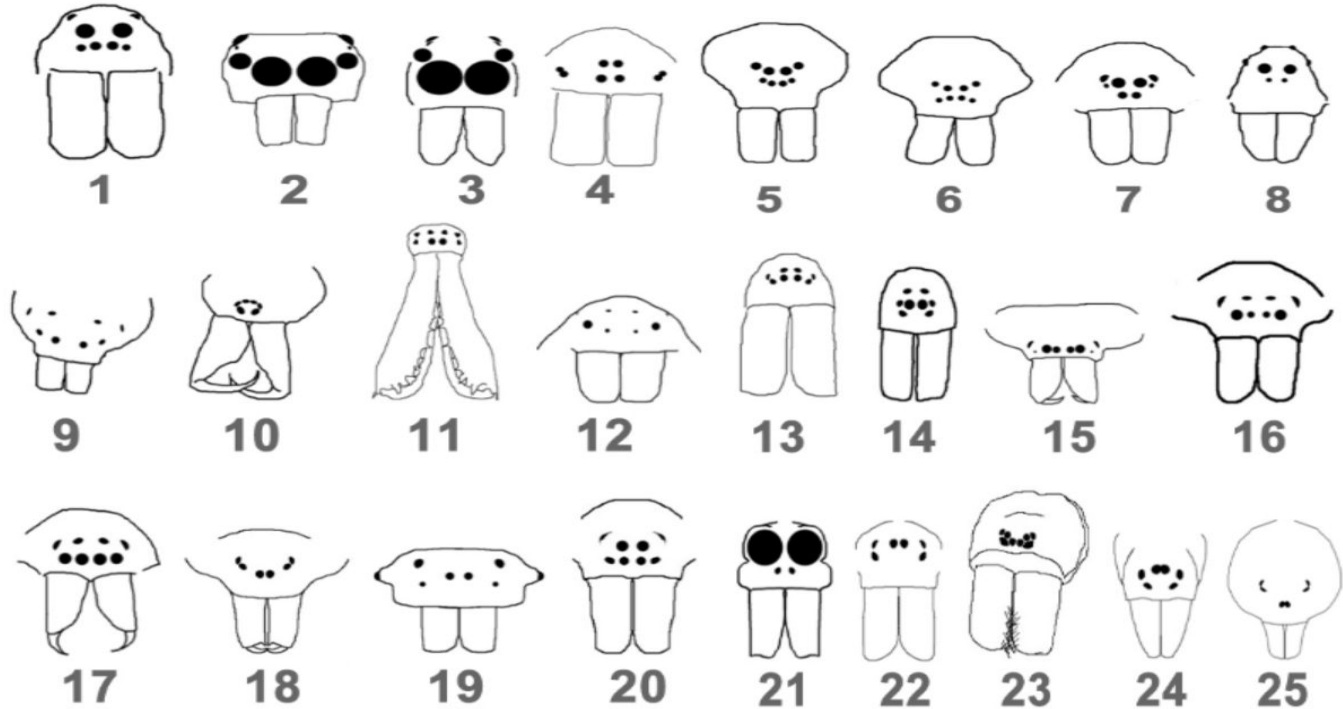


Chart of the eye arrangements of a few arachnid families

Quick change artists!







Are spiders dangerous?

- All spiders use venom to incapacitate their tiny prey
- Most spiders' fangs are not large enough to penetrate human skin!
- Often no venom injected "dry bites"
- Bites usually caused by accidentally "trapping"



Poll 5

Doctors can tell a spider
from the bite.



But my doctor said it's a Hobo/Brown Recluse bite

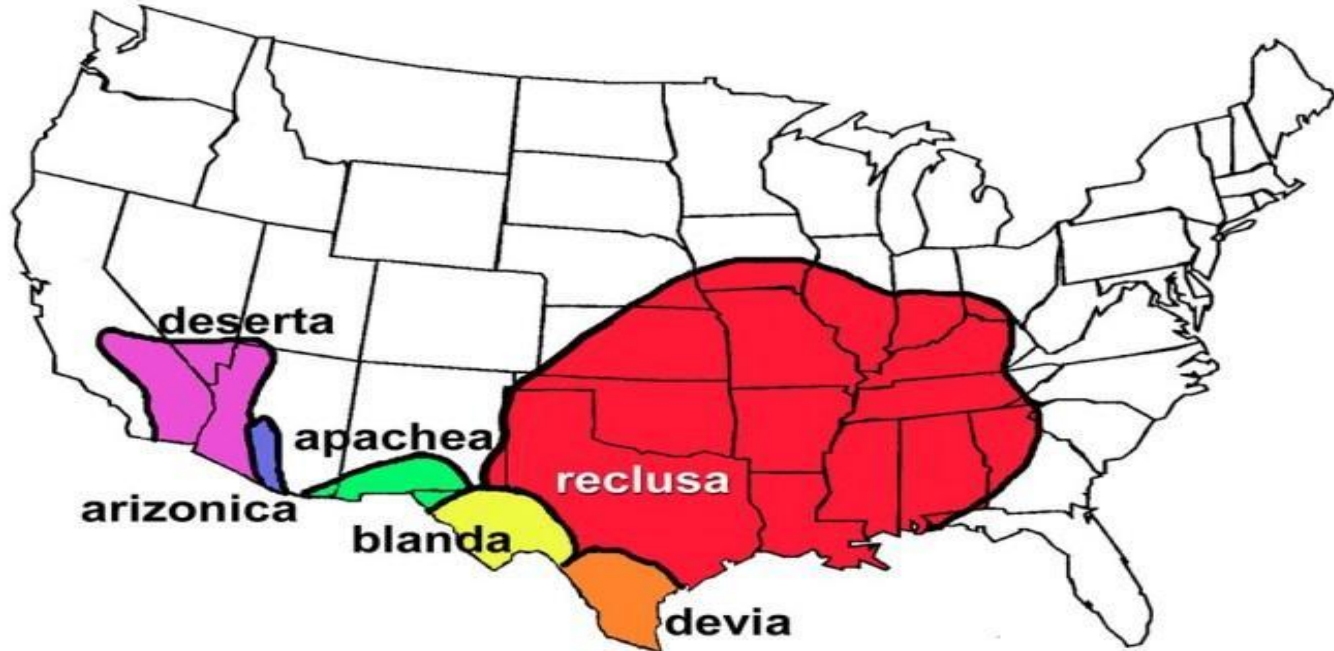
Two criteria must be met:

1. Someone has to see the bite happen

2. An expert has to identify the spider species

- Some sensitive people may react strongly to any kind of bite
- MRSA, causes poor healing skin wounds and is often referred to as "false spider bite diagnosis."

NO Brown Recluse Spiders in Washington!



What about the dreaded hobo spider?

- Most common spiders we see are Giant House Spiders
- Hobos are smaller!



Hobo Spider's venom is no more dangerous than any other

(Yup—it's TRUE!)



Female hobo spider-Body length one inch, leg span 1 1/2 inches
Photo by M Bush WSU Extension



Giant House spider--body length one inch, leg span over 3 inches
Photo Todd Murray WSU Extension

Funnel-weavers



Figure 5. Family Agelenidae. A view from above of a male grass spider (body length 3/8 inch). Note the arrangement of the eyes. Photo by M. Bush, WSU Extension.



M. Waldvogel, NC State University



Cobweb spiders



Black Widow

<https://extension.colostate.edu/topic-areas/insects/western-widow-spider-5-605/>




bugguide.net Copyright © 2008 Peter Bryant

False Black Widow
has the same body
shape & size




Myth: when black widows mate, the female always kills and eats the male

- 
- Fact: This myth is believed even by scientists, and can be found in many ecology textbooks!
 - Most observations are made in the laboratory where the male spider cannot escape.
 - Male cannibalism has never been observed in the wild.

Folding Door Spiders



Photo by M. Bush WSU Extension



**Myth: Those large hairy
spiders I find in my house
must be Wolf spiders**

Wolf Spiders



Thomas Shahan Eye Arrangement of a Hogna Wolf Spider



Identified by eye arrangement



Wolf Spider with babies Copyright © 2010 Karl Hillig Bugguide.net

- They DON'T hunt in "packs" like wolves!
- They can bite, can be painful, but not dangerous--treat like any other wound--clean it, don't scratch.
- Eyes will reflect light with a flashlight!
- Moves FAST!!



Wolf spider

If you see a large spider indoors, it's probably a giant house spider, not a wolf spider.



Giant house spider

Jumping spiders



Copyright © 2015 Tavia Schwartz
Female Red Back Jumping Spider



Bold jumping spider, *Phidippus audax*. Photo by M. Bush, WSU Extension.

Orbweavers



Eugene E. Nelson, Bugwood.org

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cat-faced spider
(*Araneus gemmoides*)

cross orbweaver
Araneus diadematus

Cellar spiders


- Live on ceilings of rooms, garages, cellars
- Eats other spiders, including Hobos and Giant House Spiders!





Poll 6

What time of year are there more spiders?


- 
- There are not more spiders in late summer, they are just bigger and more mature!




Poll 7

Why do spiders come indoors in the fall?

- a. Because the weather is getting colder.
- b. They wander in looking for mates.

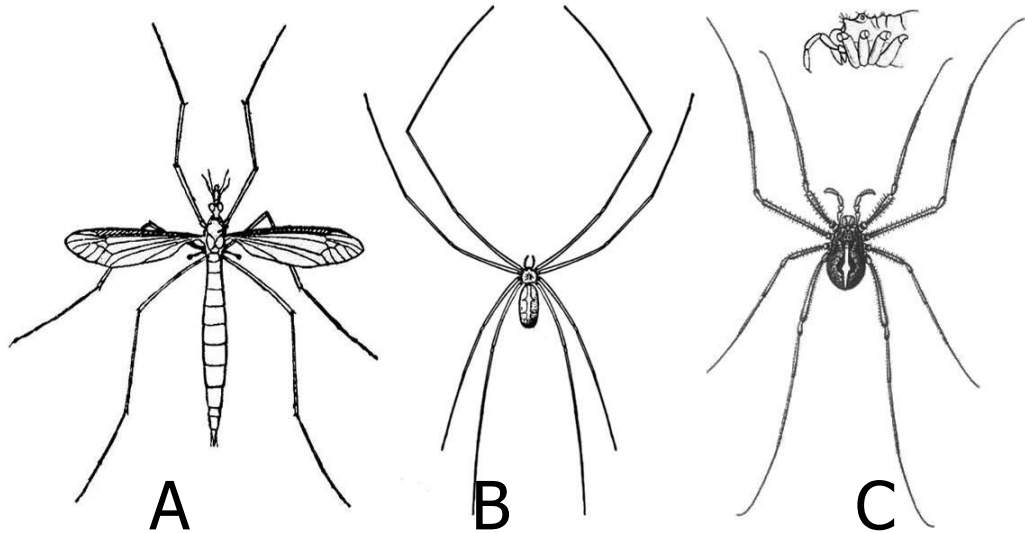
- 
- In the fall many species of male spiders are looking for mates and may wander inside.
 - Spiders are cold blooded and not attracted to warm houses.
 - Spiders just become less active or dormant in the winter.



**Myth:
Daddy-longlegs
have the world's
worst venom.**


Poll 8

Which one of these “Daddy Longlegs” is a spider?

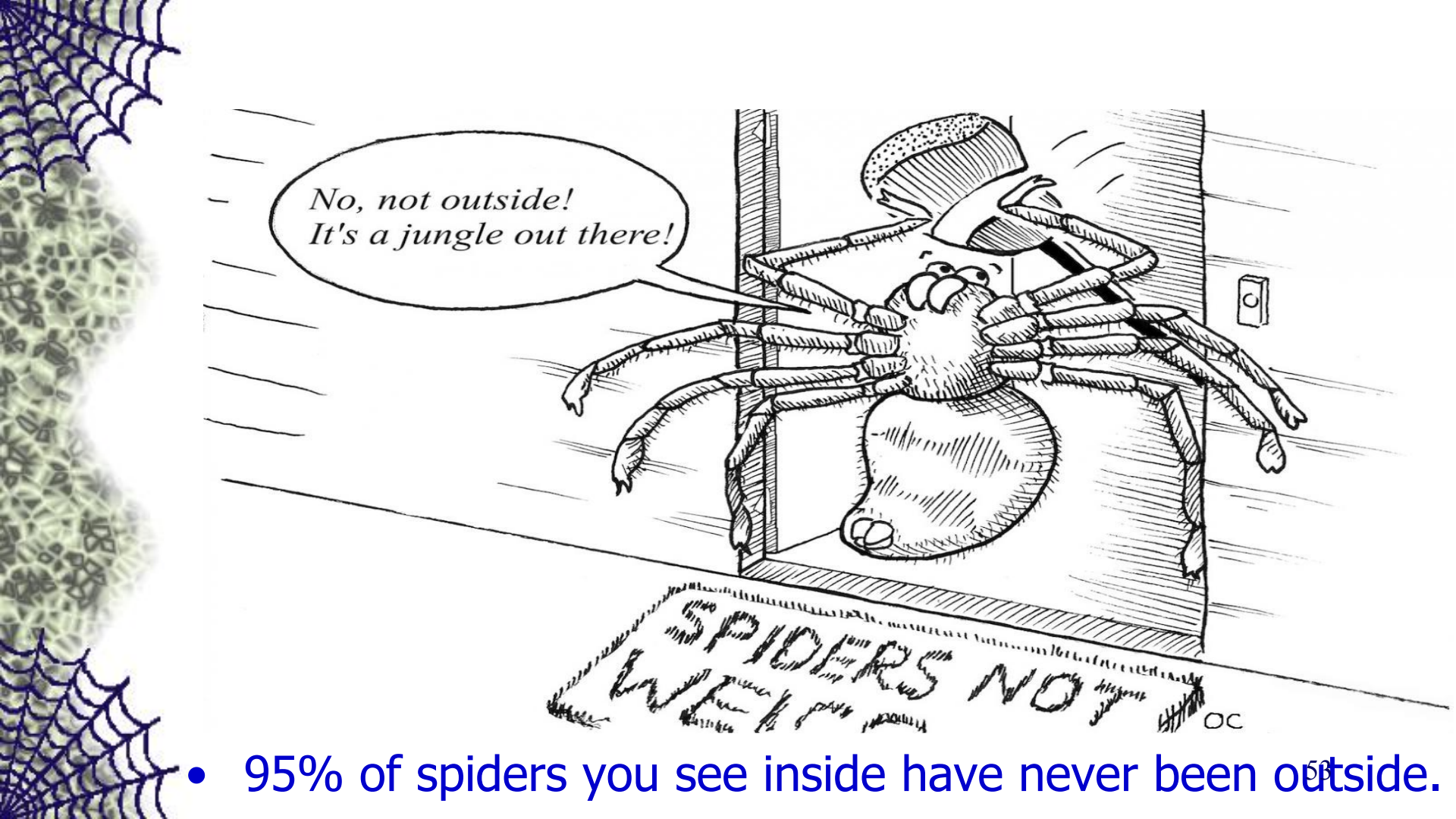


Facts

- The Crane fly is sometimes called a Daddy-longlegs.
- The cellar spider is sometimes called a Daddy-longlegs.
- Daddy-longlegs is a harvestman not a spider and has no venom. It also does not have silk glands.



**Myth: House spiders
should be put back
outside.**



*No, not outside!
It's a jungle out there!*

SPIDERS NO

- 95% of spiders you see inside have never been outside.

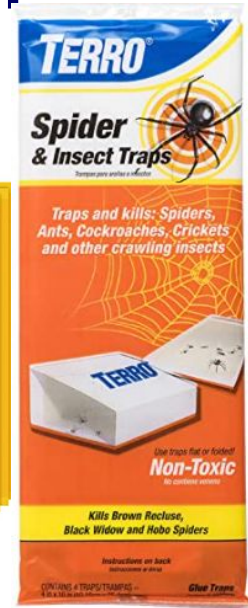


How to keep spiders from your home

- Porch lights attract insects, which attract spiders
- Spider and insect proof your home—caulk around any potential openings
- Inspect firewood for spiders and egg sacs
- Vacuum webs from corners and crawlspaces
- Use sticky traps
- Last resort--perimeter insecticide spray

How to keep spiders from your home

- Use sticky traps
- Last resort--perimeter insecticide spray



ALWAYS READ AND FOLLOW LABEL INSTRUCTIONS!



The lowdown:

Just what IS a spider?

Which ones live here?

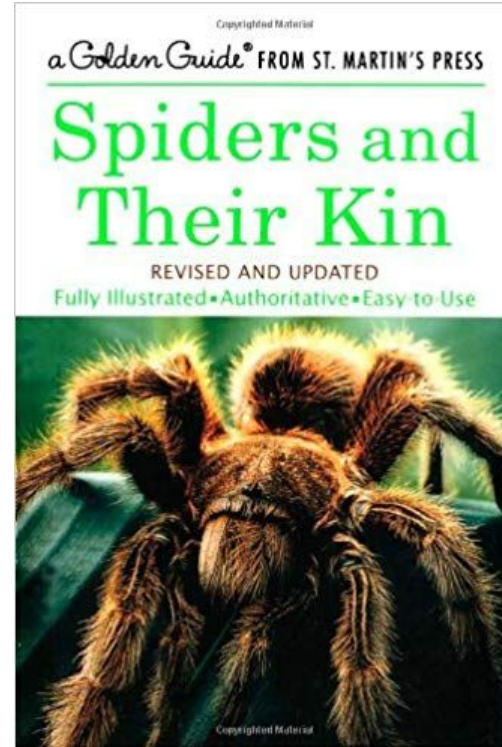
Which ones DON'T!

Spider myths revealed

How to keep them out of your home

References

- Spider eye arrangement-
<https://files.nc.gov/ncparks/481/Spider%20Eye%20Arrangement%20Activity%5B3%5D.pdf>
- WSU Extension *Common Spiders of Washington* EM113E
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<https://utahpests.usu.edu/uppd/hobo-spiders>





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- Interview Rod Crawford
<https://www.seattletimes.com/seattle-news/there-arent-more-spiders-theyre-just-bigger-and-mature/>
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