TEXAS Master Naturalist™
HIGHLAND LAKES CHAPTER

February 2014 Volume 5, Issue 2

MISSION

The Texas Master Naturalist program is a natural resource-based volunteer training and development program sponsored statewide by Texas A&M AgriLife Extension and the Texas Parks and Wildlife Department.

The mission of the program is to develop a corps of well-informed volunteers who provide education, outreach, and service dedicated to the beneficial management of natural resources and natural areas within their communities for the state of Texas

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Chapter Presidents Letter

By Pat Campbell

Hi to all! Don't know about you, but I am beginning to think someone moved our house back to Indiana when I was sleeping! Cold, dreary days remind me of the Midwest. But then I think of my niece being without heat at -3 degrees and it doesn't seem so bad!. Hope everyone is weathering this roller coaster weather ok.

I again want to welcome the new Master Naturalist class to our chapter. I was amazed at the talents that were revealed and the impressive backgrounds!. I can see a lot of energy and wisdom being imparted in the future. Hope the weather warms up for you. We look forward to working along side you. Committee chairs, don't forget about these people when looking for volunteers.

The Pest of the Month will start again next month. I have decided to ask someone each month to do this. Actually, I hope to have enough volunteers that I won't have to ask. Sammye Childers will start next month, and please let me know which month you would like to present a pet pest of the month. For the newbies, this is an example of an invasive specie. We do not need a long presentation, just a couple of minutes would be great. This could be anything – plant animal mussel, etc.

I got to wondering how to tell an armadillo hole in my yard from a skunk hole. While looking this up I found out some interesting facts about armadillos I did not know. I did not find a good way to tell the difference in the holes however.

The nine-banded armadillo is the Texas state small animal. It is a solitary, nocturnal animal that can live 12-15 years in the wild.

Armadillos survive by sleeping up to 16 hours per day, then at night foraging for bugs, worms, slugs, frogs and lizards but they will also take advantage of road kill that no one else has claimed for an easy meal. Armadillos can smell their food through 8 inches of soil and they have sticky fly-paper type tongues that help them with catching prey and holding on to it. (I have also seen them eating from a fire ant mound).

Armadillos can hold their breath up to 6 minutes! This ability is to aide in foraging when their snout is buried for long periods of time digging for their next meal, but it sure helps out when they're swimming too.

Armadillos swim quite well, and they have the ability to fill their intestines with air so that they float, or they can fill their intestines with water if they want to sink to the bottom of a lake or stream!

Armadillos only have about four teeth, and they are small peg-like molars with no

(Continued on page 4)

Inside this issue:

Please submit pictures, articles, reports, stories, announcements, etc. to

chili865@gmail.com.

Photos should have captions and appropriate credits. The deadline for submissions to each month's newsletter is the 10th of the month and publication will be by the 15th.

March Program

by Chris Faught

The March 5, 2014 program will be presented by our Chapter member: Allan Wolfe. He and other members of the Class of 2013 will discuss the class project at Inks State Park. Volunteers spent many months and countless hours identifying and marking sites of interest on the Pecan Flats Trail. The work was divided up among five committees and all class members participated in one or more of these work groups. The end product is a new state of the art guide to the existing Pecan Flats trail with new identifying sign posts and a trail guide brochure which is coming out in the new format soon. He will have pictures of the process and several other members will be participating on the presentation.

Last Month's Program

by Chris Faught Photos by Jerry Stone

The February 2014 speaker was Mike Ross, a trained Herpetologist who has a passion for teaching people about the reptiles and amphibians in our environment. His presentation included several living specimens and he used them to teach us what to do when we find animals who seem to be out of their natural habitat. He left us with the names of several resources to keep on hand and his phone number (512 897 7235) which he invited us to use if we need help in identifying specimens.

The Eagle Lady and her Birds of Prey Entertain at Blanco State Park

by Joanne Fischer

This year Mother Nature was accommodating for Doris Mager's visit to Blanco State Park and she and her birds of prey were able to perform on a relatively mild winter day for a very appreciative, standing room only audience of approximately 120 park visitors. However, the presentation was barely over when a cold front arrived with breezy conditions and falling temperatures. Typical Texas weather!

Doris did her usual – which is not only to entertain, but to educate the audience about many aspects of raptors – their behavior, habits, benefits to nature and beauty. Given that the audience stayed not only for the entire presentation but afterward to get up close and personal with ET was a good indication that the event was very worth a Sunday afternoon visit to the park.

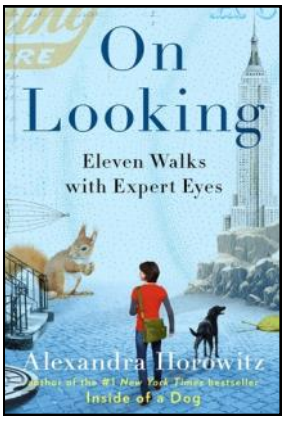
We hope to have Doris back again next year for her third annual visit, despite that she keeps bemoaning the fact that she is 88 years old and will be 89 next year!!

Stewardship

An ethic that embodies cooperative planning and management of environmental resources with organizations, communities and others to actively engage in the prevention of loss of habitat and facilitate its recovery in the interest of long-term sustainability

"On Looking: Eleven Walks with Expert Eyes"

review by Kim Bacon



I just finished reading "*On Looking: Eleven Walks with Expert Eyes*" by Alexandra Horowitz. How much do I miss seeing when I walk down a city street? Well, it turns out, I miss quite a lot.

I'd been meaning to read this for several months because it seemed like such an interesting concept. Take a walk around a block with an expert to see the world as they see it. Ms. Horowitz walks with an entomologist, a typographer, a blind lady, a sound designer, a doctor, an urban planner, a geologist, and a few others. Each walk was different for each expert. They each focused on and noticed different things.

Ms. Horowitz also offers explanations for the how and why of why we see what we see and what skills are needed to be a good observer. I was particularly interested in the explanations of human walking patterns on city sidewalks and how this explanation also applies to birds flying in a flock, fish moving in a beautiful school, groups of ants marching together across the ground. Turns out that all those groups follow three basic rules in order to avoid "crowd-stopping" congestion. You might be able to guess these or you could read the book.

This is a pretty easy and quick book to read and it should be available in the library. I've already started paying much more attention to the pieces of the city (and nature) that I wasn't really looking at before (and trying not to bump into people on sidewalks as I do it). It's a big world out there with a lot of little things to see.

President *(Continued from page 1)*

enamel and open roots. They really don't have much of a bite.

It's quite easy to sneak up on an armadillo. They have terrible eyesight, but their sense of smell and hearing makes up for it.

Armadillo mothers have the ability to put off a pregnancy. They may mate now but decide not to get pregnant until two years from now if they don't feel ready until then. Once they 'allow' themselves to get pregnant, they stay pregnant for 150 days, then give birth to quadruplets every time – always four babies, and always identical. She either has four boys, or four girls, all born from the same fertilized egg, identical in every way.

Baby armadillos are born pink with softer shells than the adults. Baby shells are more like a human fingernail in texture, and they gradually grow stronger between birth and six months. Before they are even four months old they will turn from pink to brown, making it easy from a distance to tell if an armadillo is a juvenile or adult.

Armadillos have a very low metabolic rate, which means they don't produce much body heat. This also means that they are not good at living in cold areas, because they can't keep warm very well!

They don't have a lot of body fat, so they must forage for food on a daily basis. Just a few cold days in a row can be deadly to an armadillo. Despite this fact, armadillos are steadily moving north.

Armadillos are used in leprosy research because their body temperatures are low enough for them to contract the most virulent form of the disease. They also do not have a very strong immune system, making them an ideal model for many types of medical research.

Monarchs at New Low

by Sondra Fox

The number of Monarchs overwintering in Mexico has reached a dramatically new low. They cover only 1.65 acres of Oyamel fir forest. There are approximately 20 million butterflies per acre, so this year's population is about 33 million. The peak was one billion in 1996.

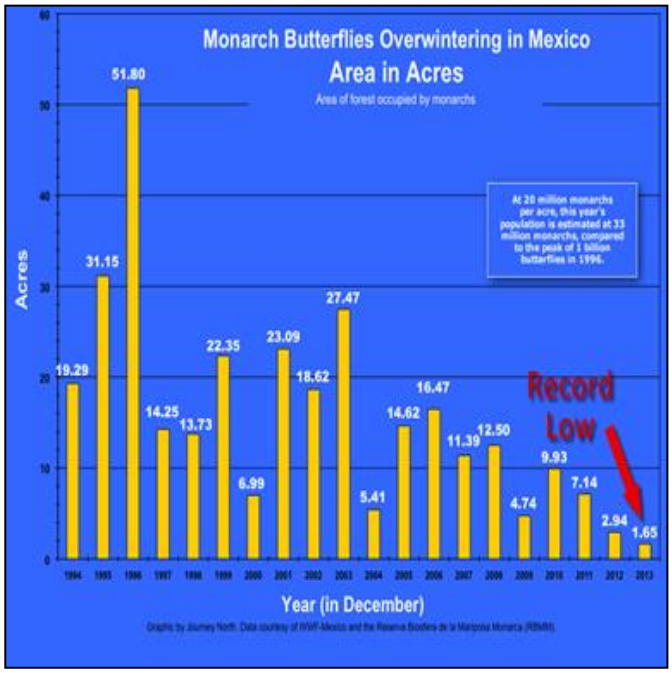
Zoologist and Monarch expert Dr. Lincoln Brower of Sweet Briar College says that when he first visited the Sierra Chincua Sanctuary in January, 1977, the colony was 1.50 hectares (1 hectare=2.47 acres) in area. Until recently, Chincua was one of the largest colonies. This year, Monarchs cover only 0.02 hectares, a 98% drop. Eighty-eight percent of the Monarchs are occupying two of the twelve overwintering sites. El Rosario Sanctuary holds 78% of this year's population. Five of the sites have no Monarchs at all.

Dr. Brower points to strong evidence that the main cause of the sharp decline in recent years is the genetically modified herbicide-resistant corn and soybean crops and herbicides in the U.S. which leads to the killing of competing plants, including milkweeds, the Monarch's principal food plant. This, of course, also affects other pollinating insects.

Dr. Brower has proposed that the Monarchs somehow leave a chemical fingerprint on the Oyamel trees that the following year's butterflies sense in order to locate the area the following fall. If this is true, there may be such a small amount of chemical left by this year's colonies that next year's Monarchs may not be able to sense their way back to the trees.

Photo by Sondra Fox

We must continue our efforts to plant locally sourced, native milkweed and nectar plants and to spread the word. We can also ask property owners and local governments to avoid mowing milkweed plants when Monarch eggs and larvae might be present and by avoiding insecticides.



Source: Journey North

Courtesy of Journey North

Photo by Sondra Fox

March Balcones Canyonlands News

by Joan Mukhergee

Spring is coming, despite the frigid weather we are having now as I am writing. Soon school kids with be arriving to participate in Bridges to Birding and Goin' Buggy programs. If you have never taught in these programs and would like to, you should try to attend the free Environmental Education program on Feb. 20th at Flying X Ranch. The last I heard there were still seats available. You can sign up by contacting Rob Iski at rob_iski@fws.gov ph. 512-339-9432.

We have great birding programs at the Refuge such as Sparrow Fest, Swift Fest and Songbird Festival. However, there is opportunity for more activities that the public could enjoy. We are looking for ideas and people to work on them. **There will be an informational get together for those interested in volunteering at the Flying X on March 18 at 1:30**. Mark your calendars. We will have light refreshments, talk about our ideas and then a birding hike for those interested. I will be sending out an agenda and trying to get a headcount early in March.

Photo courtesy of Rob Iski USFWS

March Amphibian Watch

by Joan Mukhergee

Has anyone been hearing Strecker's Chorus Frogs? I haven't yet this year. If you hear them, let me know, joanmargreth@gmail.com. In fact our cold weather has put a damper on all frog calls. On other years I have heard leopard frogs, both southern and Rio Grande in January and February. Our cold weather has kept even them from thinking about breeding.

I will be monitoring frogs on a regular basis this year at Balcones Canyonlands Turtle Pond, my home, and Inks Lake on a regular schedule, probably the second and fourth Tuesday of the month just after dusk. Let me know of other sites which would be good for monitoring in those vicinities and I will add them to the list. Let me know if you want to join me and I will keep you up to date on specific times.

The "Snow Bird" or Dark Eyed Junco

by Joanne Fischer

The Dark-eyed Junco is one of the most common birds in North America. In fact, the Dark-eyed Junco has been listed as the most common feeder bird in North America for several seasons of Project FeederWatch. It ranges from Alaska to Mexico and from California to New York. In the Texas Hill Country it is a winter visitor.

The Dark-eyed Junco is in the sparrow family (Emberizidae) and is a medium-sized sparrow with a rounded head, a short, stout bill and a fairly long tail with white outer feathers that are conspicuous in flight. Most have a gray head and breast contrasting sharply with a white belly. Females tend to be slightly browner than the males and the immatures are brownish and heavily streaked below.

Although the Dark-eyed Junco as described above in general terms, as having a gray upper body contrasted with a white belly, there is a huge range of geographic color variations. In fact the variations are so distinct that in the past, five of the variations were considered separate species. However that changed in the 1970s when they were reclassified into one species and birders' life-lists suffered as a result.

There are twelve (to fifteen – depending on the reference source) subspecies of Dark-eyed Juncos that are lumped into five major groups (sometimes referred to as "races"). The five groups are the "White-winged", the "Slate-colored", the "Oregon", the "Pink-sided" and the "Gray-headed" with the Slate-colored being the most common of the groups. All exhibit a pink or horn colored bill, all have dark eyes (as opposed to the yellow eyes of the Yellow-eyed Junco found in Southern Arizona), all have a white belly, and

(Continued on page 8)

Slate-colored

Pink-sided

Gray-headed

Oregon

JUNCO (Continued from page 7)

all have dark-centered tails with white outer feathers. The accompanying pictures display the variations in coloring of the groups. Any of the groups can be found in Texas during the winter – but not necessarily the Hill Country. I have personally seen members of three of the races in the Hill Country: the Slate-colored, the Oregon and the Gray-headed.

Dark-eyed Juncos are primarily seed eaters and spend most of their time foraging on the ground. At feeders they seem to prefer millet over sunflower seeds. During the breeding season they will supplement their diet with insects and in winter with berries. When foraging, Dark-eyed Juncos typically hop, rather than walk on the ground, pecking and scratching at ground debris or they may flit very low in underbrush gleaning food from twigs and leaves.

Most Dark-eyed Juncos are migratory, following the food supply south, however, many will winter over given an adequate food supply. And, it has been found that males often winter further north than the females of the species.

Although the Junco is very territorial during breeding season, during the winter months they often travel in flocks. During the winter they also are frequently seen foraging with other species of sparrows and bluebirds. When foraging in flocks, the flash of white tail feathers serves as a signal that alerts flock members when one is alarmed. During the breeding season Dark-eyed Juncos prefer forest habitats, however in the winter they can be found in a wide variety of habitats, including open woodlands and brushy areas including parks, gardens and backyards.

And why is the Dark-eyed Junco called the "snowbird"? Besides the fact that it shows up in many locations at the beginning of winter, it was called the snow bird because its plumage was said to mirror the winter season: "leaden skies above, snow below"!

UPPER HIGHLAND LAKES NATURE CENTER NEWS

by Billy Hutson

It's just January and already we have aggressive plans in the works.

1. Since we would never be able to generate enough money for a multi-thousand dollar building, we are fortunate enough to have the generosity of the landowner to furnish it for us. The steel frame and concrete walls will be built in place at the Nature Center and we will get to design and finish the interior to our needs. This all comes from his charity "Serve Who Serve" which he fills with money that comes from his outdoor activity events after paying for costs. Construction of the building blocks have already begun with girders and A frames being built and stored for the commencement of the construction after the May outdoor events have been completed at RPR.
2. Three bluebird boxes have been installed in strategic places at the Nature Center with the help of Ed Myatt, George Brugnoli, Paula Richards, myself and Phil Wyde. And let's not forget the lead lady Susan Morgan, who orchestrated the operation.
3. A survey and plans have been made to construct a new bird blind and modify an existing building into a bird blind in the fall. Plans are being drawn up at the present.
4. Several Archaeology surveys and digs have been conducted to assess existing native American sites on the ranch with sufficient success to warrant a demonstration site on nature hill as one of our education stations - schedule still pending. A new class member- Mary Musselman was helpful in the process. Welcome Mary!
5. A renovation and polishing off of our website is in process and is expected to be complete in a few months. When we get our new web address we will let everyone know. Paula Richards is heading up the program with help from our own Kim Bacon.
6. Master Gardeners and NPSOT are gearing up to participate in native plantings and exhibition gardens. In support of and continuing maintenance of these valuable partner organizations contributions we will be constructing a rainwater collection unit to automatically water their contributions. Plans are being drawn up as we read this.

Who says we're lazy!!!!!!!!!!!

Daddy-Longlegs (Harvestmen) Opilionid Arachnids

by Phil Wyde

Today's subject is the harvestman, or daddy-longlegs arachnid (see Fig. 1). I have been fascinated with these creatures since I was very little. Like most children I called them "daddy longleg spiders." I guess that I never heard that they were very, very poisonous, as I have been told many times since my youth, because my twin brother and I would pick them up and play with them. As it turns out I did not have to worry. Daddy longlegs are not poisonous. What's more, they are not spiders!

I chose harvestmen for the subject of this article for three main reasons: 1) They are so common; 2) They are so interesting; and 3) There is much confusion about them, and as Texas Master Naturalists and grandparents we want to be accurate. I hope that you read on because daddy-longlegs really have some fascinating characteristics.

I will begin by emphasizing that there are two types of eight legged creatures commonly called daddy-longlegs. One is the harvestman, an arachnid, but not a true spider (see Fig. 1; image taken from ref. 1). The other is both an arachnid AND a true spider (see Fig. 2; image obtained from a Google search for "daddy longlegs" images). To keep them straight I refer to the animal shown in Fig. 1 as a "daddy-longlegs" and the creature shown in Fig. 2 as a "daddy longlegs spider," (Fig. 2). (I did not dream up this scheme, but borrowed it from reference 1.) If you look at the creature shown in Fig. 1, you will see why it is not classified as a spider even though it has eight legs; its body is not clearly segmented into 2 parts, a requirement to be classified as a true spider. In contrast, the daddy-longlegs spider

Fig. 1. Harvestman or daddy longlegs Opilionid

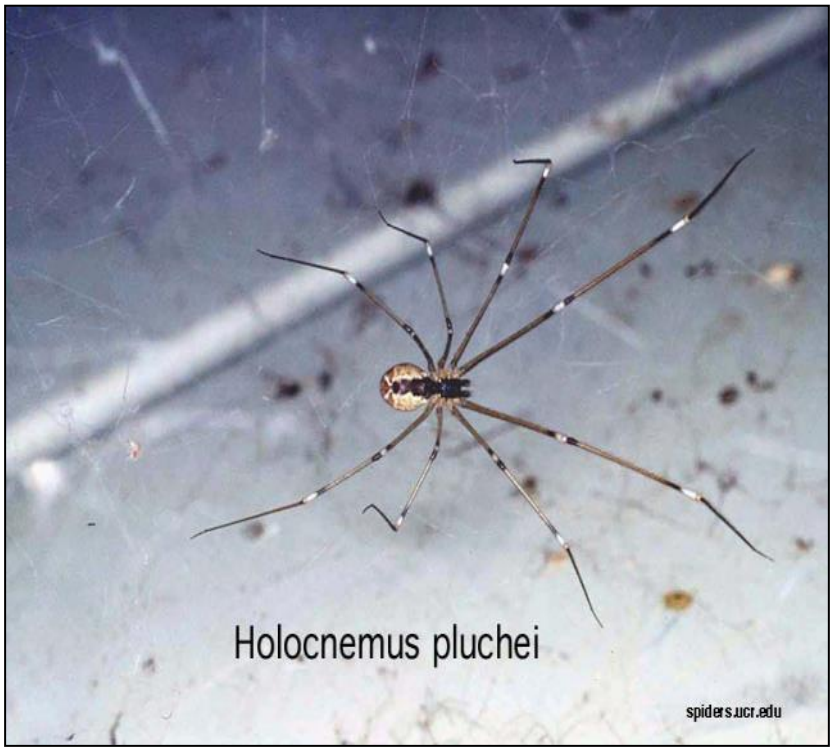


Fig. 2. A daddy-longlegs spider (actually a Pholcidae long legged spider)

I think that the following 2 schema should diminish any confusion that you may have:

Scheme 1 indicating that daddy-longlegs and daddy-longlegs spiders are both arachnids but belong to different Orders of animals.

Daddy longlegs: Kingdom: *Animalia* ⟶ Phylum: *Arthropoda* ⟶
Class: *Arachnida* ⟶ Order: *Opiliones*

Daddy longlegs spider: Kingdom: *Animalia* ⟶ Phylum: *Arthropoda* ⟶
Class: *Arachnida* à ⟶ Order: *Araneae* (true spiders).

Scheme 2 indicating that daddy-longlegs and daddy-longlegs spiders belong to different animal Orders; moreover, they are but 2 of 9 orders of arachnids.

Class *Arachnida* (arachnids):

Order *Amblypgi* (tailless whipscorpions)
Order *Araneae* (spiders)
Order *Uropygi* (whip scorpions)
Order *Opiliones* (harvestmen)
Order *Pseudoscorpiones* (pseudoscorpions)
Order *Schizomide* (short-tailed whipscorpions)
Order *Scorpiones* (scorpions)
Order *Solifugae* (wind scorpions)
Order *Acari* (mites and ticks)

shown in Fig. 2 is a true spider. It has eight legs and its body is divided into two distinct segments.

Now that we have gotten the hard part out of the way, let's look at the fun and interesting things about daddy longlegs. **However, like Public Television I must advise you that there is information in this article that may not be suitable for those of you that are faint of heart or sensitive (e.g., Helen, Cindy and Lyn).**

Daddy-longlegs facts:

- There are approximately 6,500 species of Opilionids (daddy-long-legs) worldwide.
- Daddy-longlegs species can be found on every continent except Antarctica and in almost every type of habitat (less common in desert areas and more common in moist habitats (e.g., under logs and rocks)).
- The sizes of different daddy-longlegs species vary, ranging from a few millimeters to a several centimeters. (If you are metrically deficient, that is more than a 10-fold difference in size.)
- In some species, harvestmen molt even after they are have reached adulthood**!**
- Although the legs of daddy-longlegs usually are several times the size of their bodies, there are some "short-legged" species.
- Daddy-longlegs are more closely related to scorpions than they are spiders. (Look as Scheme 2 again.)
- Daddy-longlegs do <u>not</u> possess silk glands (spinnerettes), do <u>not</u> produce silk and <u>cannot</u> make webs.
- Daddy-longlegs <u>lack</u> venom; they also <u>lack</u> glands to deliver venom.
- The major way that daddy longlegs defend themselves is by outrunning their predators.
- However, they have a second, more interesting defense mechanism. If a leg is lost during an attack or on purpose (some species can purposely cast off their legs), the leg can twitch for minutes, and sometimes for up to an hour. This twitching apparently is an adaption designed to hold the attention of the predator while the daddy-longlegs es-

capes.

- Still another defense mechanism is the ability of some species of daddy long-legs to secrete from their abdomen a substance with a very strong odor that can discourage a predator. This secretion may be poisonous if eaten.
- This fact is not about daddy-longlegs, but is thrown in because you might talk about real spiders when you are talking about daddy-longlegs to a group that you are leading, or when you are talking to your grandchildren about them. Texas has only two venomous species of spiders, the black widow (*Latrodectus mactans*) and the brown recluse (*Loxosceles reclusa*; ref. 4).

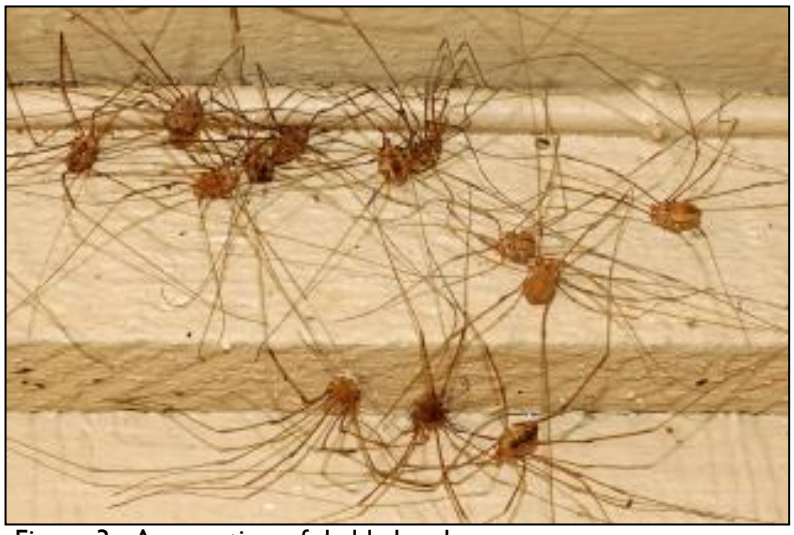


Figure 3. Aggregation of daddy longlegs

- Daddy-longlegs primarily eat decomposing vegetative and animal matter -- although if an occasion arises they will eat smaller, live insects.
- Get this one. Daddy-longlegs can **breathe through their legs**! There are spiracles (pores) located on some of the legs of harvestmen and the oxygen supplied to the legs after they are removed contributes to the duration of twitching seen in detached legs.
- In some species, daddy-longlegs molt even after they are have reached adulthood**!**
- Daddy-longlegs have been around for at least 400 million years!
- At least a dozen species of daddy-longlegs are known to be parthenogenetic (females lay fertile eggs without male fertilization)! The offspring resulting from parthenogenetic reproduction are always female.
- Daddy-longlegs often show aggregation behavior. The largest aggregation recorded is **70,000 individuals** on a candelabrum cactus! (I have often seen daddy-longlegs aggregations on the outside of homes that I have lived in.) Fig. 3 shows a small aggregation of daddy-legs.
- Why do daddy-longlegs aggregate? In these aggregates the legs of the daddy-longlegs seem to be twined together and the bodies are close to each other. When disturbed, a single daddy-longlegs characteristically pushes its body up and down in a slow, vibrating motion. If sufficiently disturbed the whole group will perform the same behavior. This pulsating mass may serve as a deterrent to potential predators. Furthermore, the defensive chemicals produced by a mass may be more effective than if done only by one or a few individuals. In short, such grouping probably provides increased protection while the aggregation rests or hibernates (ref. 6).
- Males of some daddy-longlegs species their chelicerae (mouth parts) to offer oral secretion to female – a type of bridal gift!
- Uniquely among the arachnids, fertilization amongst daddy-longlegs is direct, i.e., males pos-

References

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3. http://bugguide.net/node/view/2405
4. https://www.dshs.state.tx.us/idcu/health/zoonosis/animal/bites/information/venom/spider/
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