

Vinegaroon Care

US Native Mastigoproctus species

Mastigoproctus ex giganteus (M. tohono, M. cinteotl, M. floridanus, etc)

Overview:

Recommended Experience: Beginner

Enclosure size: 5 to 10 gallons for adults

Diet: Insects and other arthropods

Behavior: Terrestrial semi-fossorial

Handleability: Good

Lifespan: 7 to 9 years

General Biology

Vinegaroons, also called whip scorpions, are arachnids belonging to the order Uropygi, also known as Thelyphonida. Despite also being called whip scorpions, they are not scorpions, and possess no venom. Instead, they mainly rely on making themselves look bigger to defend themselves. When that doesn't work, they spray a very fine mist of a cocktail primarily consisting of acetic acid—which is just vinegar! The mist is extremely fine, and there is not much liquid at all. Just enough to sting the eyes of small mammals or the exoskeletons of arthropods that may want to eat them! It is completely harmless to humans as long as it isn't sprayed or rubbed into eyes, where it would probably sting a bit. Despite having large claws (pedipalps), they do not typically use them in defense. Their claws are just for digging burrows and capturing prey.

Despite having 8 eyes, vinegaroons have generally poor eyesight. To sense their environment, they mainly rely on their antenniforme legs, their flagella, as well as setae scattered around their bodies. Antenniforme legs are the first pair of legs on a vinegaroon. They are long, spindly, and are usually being waved around and touching their environment to sense it. A vinegaroon's flagellum is the long "tail" on the end of their abdomen. It seems to primarily be for aiming their spray. The spray comes from pores at the end of their abdomen (the pygidium), and can be aimed with surprising accuracy.

Vinegaroons are all over the world, from Asia to Africa to the Americas, but not Australia or Europe. They are most prolific in warm regions, including deserts and tropical forests. The ones I am discussing in this care guide are Mastigoproctus, found in the Southwestern United States and Florida. They are some of the largest of all vinegaroons, and the most common in the US hobby.

Care

Vinegaroons are some of the easiest invertebrates to keep in captivity. They are hardy, simple, and fun. The majority of vinegaroons in captivity are wild caught, and not many people breed them. Wild caught individuals are typically adults or sub-adults, of the 5th or 6th (mature) instar. Captive bred/born vinegaroons are typically sold at the 2nd instar. They live 7-9 years, molting about once each year for 4 years until they reach the mature instar. Mature vinegaroons in captivity are at least 4 years old, subadult/penultimate vinegaroons are around 3-4 years old. 2nd instar vinegaroons are at least 2-3 months old.

I keep my vinegaroons at around 75F. This might seem strange for a desert species, but in the wild, they would be hunkered in their burrows while the temperatures are too low or too high, and coming out in the evenings or at night when temperatures are more suitable. This is also why higher moisture levels than you might expect are recommended for them in captivity, as they are especially active after a rain, and retreat to their burrows for the higher humidity it provides. I recommend keeping the lower layers of their substance moist and the upper layers more dry. I personally try to recreate their active period (the monsoon season) by making the entire substrate moist for some months out of the year. For *Mastigoproctus floridanus*, I would recommend keeping the enclosure moist for the entire year.

Enclosure Setup

For 2nd instar juveniles, a 16oz deli cup or equivalent works well. You can go larger, but I wouldn't go any smaller. They do not need excessive ventilation. When they are this young, they are more prone to desiccation (drying out) than adults. Fill the enclosure around 3/4 of the way with substrate, leaving at least enough room for the vinegaroon to roam the surface without bending its flagellum on the lid. Adding a small piece of cork bark on top of the substrate (or something similar) and pushing a small hole in the substrate underneath it will give the vinegaroon a starting point for its burrow, and more stability. That is all that is necessary at this age. You may be able to provide a water dish using a small tattoo ink cap or similar. Be cautious of providing too large or deep of a water dish, as there is a risk of drowning. Adding springtails to the substrate will help prevent mold. You may also add extra starter burrow options, fake foliage, and other decorations. Ensure the substrate is kept moist. but not wet.

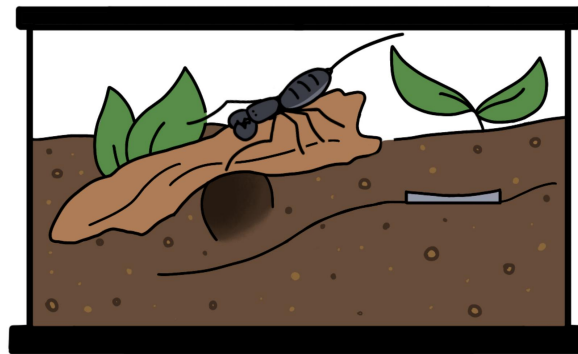


For subadults/adults, a 5 or 10 gallon enclosure will be plenty big enough. Ensure the enclosure is tall enough to provide at least 5 inches of substrate, but 6 is preferable. I typically make an enclosure with about 4 to 5 inches in the front and slope it to 6 to 7 inches or more in the back. Provide a starter burrow by placing some sort of structure like wood or cork on or partially buried in the substrate, and digging or pushing out a hole underneath it. You may provide a shallow water dish, but caution should be taken to minimize drowning risk. They do drink from their water dish when it's provided. Decorate the enclosure as you see fit. In my experience, they may pick up, move around, bury, and/or put small items in their burrows if they are provided. I use small dinosaur toys and similar objects to observe this behavior. Foliage, wood, etc can be used in the enclosure. Be careful to not use anything that's too heavy, so tunnel collapses aren't dangerous for them if they dig underneath the object. You're welcome to try live plants, but vinegaroons do a lot of "re-decoration" and may uproot them. Keep the substrate moist, particularly the lower layers. Upper layers of the substrate may be allowed to dry out.

5 to 10 gallons

Substrate

Anything that holds burrows well will ensure that the burrows well without use a mix of topsoil, 35% coco coir, clay. The exact



holds moisture and work. It is important to substrate holds collapsing. I personally approximately 50% and 15% excavator measurements do not

matter, as long as it holds its shape well. Adding springtails will help keep mold at bay. You should pack down the substrate very well, as it adds to its structural integrity for burrows. While making the substrate, check the integrity by digging into it with your fingers after packing it down, and adjust the ratios as necessary. Pouring water into the substrate in the enclosure rather than misting is the best way to keep it moist for longer. Take care to avoid where the burrow(s) are, and allow the water to drain down to the bottom of the substrate. Pushing a hole into a corner of the substrate may help achieve this without flooding. You want the substrate to be moist enough to hold its shape when squeezed, but not so wet that it drips.

Feeding

Vinegaroons are carnivores that feed on arthropods. Feeding schedules vary greatly among individuals, feeder item species and size, as well as the age of the vinegaroon. The biggest thing to consider is the vinegaroon's abdomen size. When they eat, their abdomen swells with stored food. Ideally they are kept at a reasonable abdomen size. I typically aim around the abdomen size pictured. Once they're over that, I'll reduce or stop feeding until it shrinks back down. Young vinegaroons typically need fed more often than older ones, and it is

best to keep them much “fatter” than you might adults, to appropriately nourish them for molting. (Also, immature vinegaroons are capable of becoming more proportionally fatter than adults are.) Keep in mind that vinegaroons preparing to molt or preparing to lay eggs will have naturally larger abdomens, sometimes looking ridiculously swollen. Well-fed vinegaroons may also refuse food, and this is normal. Vinegaroons can go months, to even a year, without food and be perfectly fine. In fact, it's natural to their wild behavior to go long periods without food. The only time to worry about refusing food is if they already look skinny.



Feeders can be pretty much any feeder arthropod (Crickets, dubia roaches, discoid roaches, mealworms, superworms, waxworms, silkworms, locusts, even isopods). I typically what can comfortably fit in their pedipalps. 2nd juveniles will readily take pre-killed, and that is

what I offer. As they age in that instar, they become more willing to hunt live food. They're not always great at it, but they are very enthusiastic. For 2nd instar juveniles, I provide pre-killed baby roaches, mealworm segments, pre-killed isopods, and the occasional live baby roach or isopod. All of my adults, in my experience, will also take pre-killed perfectly well, but live will alert them to the presence of food faster, and their hunting behavior is enjoyable to watch. I like to use larger roaches and superworms for adults.

aim for
instar
typically

Always remove live or uneaten prey from the enclosure after 24 hours. This ensures it does not damage your vinegaroon or its burrow. I find squishing the head of species like superworms before offering is very helpful. Superworms have powerful jaws to defend themselves, and it'll keep them from burrowing into the dirt and living there. If your vinegaroon has sealed off its burrow, do not offer food. It will not eat it.

Behavior

Vinegaroons are a burrowing species. In the wild, they hibernate during the colder/drier months in their burrows. They often do this in captivity, as well. This is completely normal, and in the cases of immature vinegaroons and gravid females, necessary. Immature vinegaroons molt once a year, nearly doubling in size with each instar. This process can take months, so if your vinegaroon disappears for some time, don't fret. I have had some vinegaroons disappear underground for over 8 months. It's similar to keeping terrestrial tarantulas or scorpions: Do not disturb or dig them up during this time unless you begin to smell something foul. The rule of thumb is they will stay in their burrows just until after you've assumed them to be dead, and that is when they will emerge.

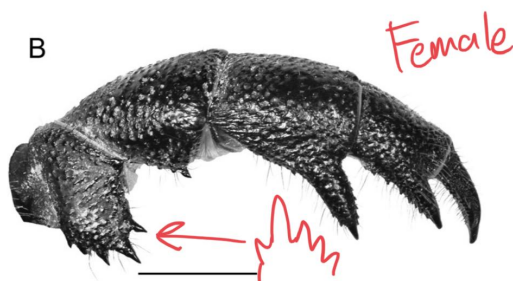
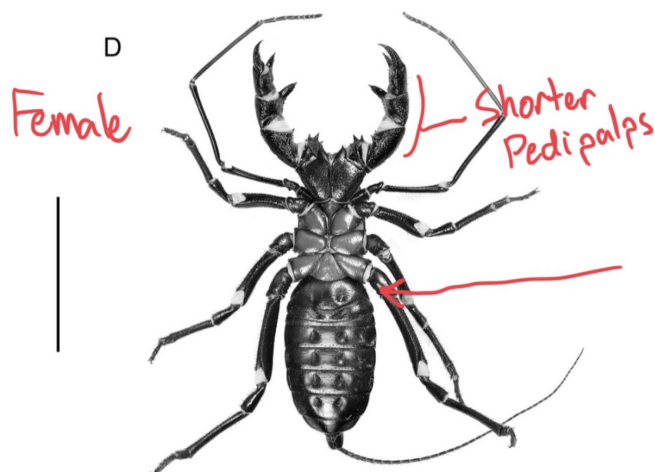
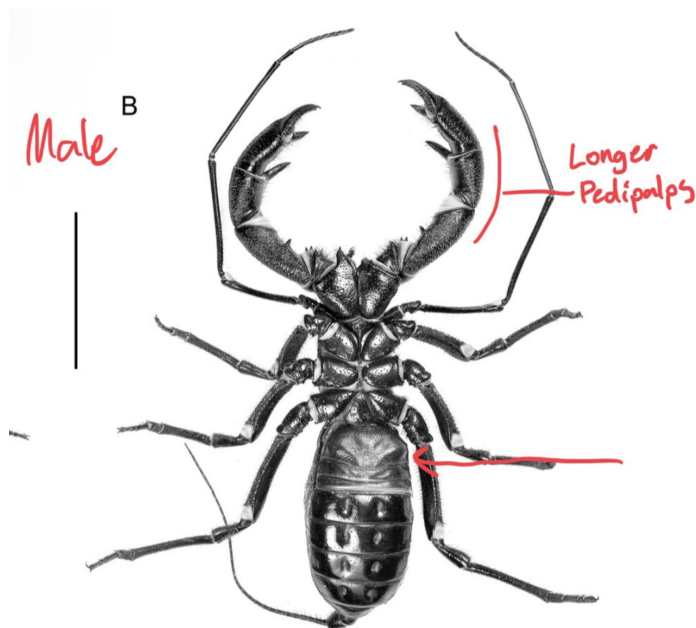
They can be very fragile during the molting process. If your vinegaroon has just recently emerged and is notably larger, I would avoid offering food for a week or so to ensure it fully

hardens. Offer a pre-killed meal to ensure safety. They typically only emerge after fully hardening, but it doesn't hurt to be safe about it.

Gravid females will get very fat before laying eggs. She will dig a burrow to raise her babies in, maybe explore for some time looking for food, then she will seal herself off in the burrow for around two to three months. When the eggs are laid, they are attached to her at the abdomen, and cannot be removed. Infertile sacs will be eaten by the female within days of being laid. Fertile ones may also be eaten if the vinegaroon is stressed. You're sure to only get infertile sacs out of captive bred vinegaroons that have not been paired with males, and from wild caught vinegaroons that have already molted at least once in captivity. Mature specimens collected as mature specimens may have already mated in the wild, and may have fertilized eggs. The babies will hatch and climb on the mother's back for around two months, then molt out into their 2nd instar and stay within the burrow for their mother to feed them. After about a month, they will begin to exit the burrow on their own. Learn more about vinegaroon breeding [here](#).

Sexing

Mature females may be distinguished from males by a few features. Males have significantly longer pedipalps, have differently shaped spines on their pedipalps, and have a differently shaped area around their gonopores. **Immature vinegaroons cannot be reliably sexed.** They will all appear to be female, regardless of sex.



Handling

In my opinion, giant vinegaroons are one of, if not the most handleable arachnid. They possess no venom, are generally unwilling to use their claws in defense, are slow and deliberate, are large enough to comfortably handle, and the worst they can do only makes your hands stink for a little while, and washes off with soap and water. In my experience, they're not especially prone to spraying. Individuals vary in temperament though. I would suggest not handling them next to your face or eyes. It's not likely to be medically serious if you do get sprayed in the eyes, but it would certainly sting.

Vinegaroons are capable of using their claws in defense, but with all of mine that are large enough for it, I can stick my fingers in even the most annoyed one's pedipalps without fear of them pinching. In the rare instance they do pinch, it is not particularly damaging to our skin or painful, from the anecdotes I have heard. When upset, they will open their pedipalps as if to threaten to pinch, but mine have never gone through with the threat, even if I offer them a finger to pinch. It is possible that they can resort to it, but it's seldom heard of. Either way, they will let you know with other body language that they are upset (threat posing, tail wagging, spraying), so it would be pretty easy to avoid.

It is best to handle your vinegaroon close to a surface like a table or the floor. They are not very adept climbers and could fall, so be cautious about that. While they're not nearly as fragile to falls as other arachnids like tarantulas, care should still be taken. They can be easily "treadmilled" with one hand after the other as they walk. They can bolt, but it's for short bursts and is relatively slow. They would much rather freeze and assess the situation before doing anything, though. Take some care with their flagella and antenniform legs. They are somewhat fragile, especially the flagella. Immature vinegaroons will grow broken appendages back with future molts, but if they are already mature they will not regenerate. They are curious and docile animals that are tons of fun to observe, and interesting to handle.

It should be mentioned that vinegaroons do not enjoy nor benefit from handling, and your pet will be happiest when left alone. If you would like to avoid handling your vinegaroon at all, a cup and paintbrush method may be used to move it when necessary. Although in my experience, they are not as easy to move with paintbrushes as tarantulas and scorpions. Aside from my ambassador vinegaroons, I personally only handle them when I need to move them.

Avoid handling when vinegaroons are especially fat or swollen with food, as they are more fragile. Avoid handling obviously gravid females or females carrying egg sacs or babies. Avoid handling freshly molted vinegaroons, which may be fragile.

Breeding

Please check out my breeding guide [here](#)!

**If you have any questions, please email me at
CreatureConnections.CC@gmail.com!**

References

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