Vinegaroon
*Mastigoproctus giganteus*
Fact Sheet

**Status:** Common

**Distribution:** Southern and southwestern United States

**Habitat:** It hides under rocks and debris in the day time

**Diet:** Insects, like crickets, young eat pin head crickets

**Length:** Up to 6 inches

**Weight:** [Nothing Determinable]

**Reproduction:** The reproductive process of these animals is similar to scorpion. The male places a sperm packet on the ground and pulls the female over it. She then accepts it into her abdomen. Afterwards, she lays 20 to 50 eggs which she places under her abdomen. They hatch after 30 to 60 days and remain on their mother’s back until they undergo their first molt.

**Longevity:** [Nothing Determinable]

**General Description:** The vinegaroon has eight eyes, a set of pinchers and is typically brown to black in color. At the end of its abdomen, it has a long, thin whip-like tail, which it usually holds cocked forward over its abdomen.

**Behavior:** This whip scorpion is nocturnal, like true scorpions, but not venomous. Rather, when frightened, it squirts acetic acid from the end of its thin whip-like tail. Acetic acid is not harmful to humans, and it has a vinegar-like smell.

**Did you know?** Although similar to a scorpion, this animal lays eggs instead of giving birth to live young, like the scorpion does.

**Where can you find them?** As pets, in the zoo and in their natural habitat

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First up, I should say that this article is only about my subjective experience keeping vinegaroons. It is not about rearing, or even breeding, them. I have never succeeded in that. But others have. And I think vinegaroons are one of the best pets a person could have, period.

Several years ago (Nov. 19, 1993) I bought a vinegaroon from a pet store. I kept it in a 5.5 gallon all-glass terrarium with a hood, etc., using pea gravel as a substrate and an amorphous slab of concrete as a hide. Fresh water was always available in a very shallow, naturalistic-type water bowl. I fed it crickets.

This vinegaroon was one of the neatest and most interesting animals I had ever kept as a pet. I could not help viewing it in the same light as I would some sort of visitor from another world. Some of this came from knowing that the species it belonged to was the largest of the whole group, a dinosaur among midgets if you will; some, from that the group as a whole had a relict distribution, again giving it that aura of something from the very ancient and otherwise inscrutable past; and some, from the seeming incongruity and oddness of the thing's build. I would have no trouble believing it came from Mars.

Strangely enough, my wife liked it as well (she usually has no affection for my invertebrate pets) and promptly named it "Vinnie." Vinnie turned out to be a girl, or rather, a female. We had an obvious clue. She formed a small egg case on 9 Feb 1994. I took a series of color photos the same day. Some of these turned out OK. The case was small, and remained attached to the underside of the female, near the base of the abdomen. It contained only about 17 very large eggs. Two days after being formed (Feb. 11), the egg case shriveled up and fell off. After this "Vinnie" seemed exhausted, and stopped feeding. She died on Mar. 13, 114 days after I had bought her.

As for Vinnie's death, I believe it was an accident. Although she did not eat, she was still active in the evening and at night. At these she times would explore every cranny in her cage with what looked like her "antennae," which anatomically are nothing other than an enormously elongate, "touchy-feelie" pair of legs. Invariably during these explorations she would climb onto the slab of concrete, walk to its edge, and then plunge over its side to the pea gravel below. Most of the time she caught herself by a leg or so, or seemed OK after she fell. On the day she died, I found her upside down on the pea gravel, with her abdomen burst open, and a cricket or two greedily feeding from the wound.

But she may have died a natural death. J. L. Cloudsley-Thompson, in his book, Spiders, Scorpions, Centipedes and Mites, relates that, after laying eggs, the female of the tailed whipscorpion Thelyphonus caudatus becomes so "thin and weak as a result of her prolonged virgil that she falls into a state of lethargy from which she does not recover." Vinnie had refused food for almost a month before
she died. This was very unusual. I fed her about a dozen crickets a week, and she usually ate them all. She was also much less active than previously. She could have simply starved to death, or been too weak to right herself when the crickets attacked.

Vinnie normally would attack crickets by spreading her pedipalps and then making a short lunge. I was surprised that this usually worked, especially as the pedipalps look fairly clumsy. In contrast, the small chelicerae look wicked, and seem as if they could easily puncture the skin.

Vinnie would also drink water directly from a bowl. When doing this, she would draw back both the pedipalps and the "feelers," and then cock her body so that the prosoma ("thorax") and opisthosoma ("abdomen") made a shallow angle to each other. I don't remember now whether any sort of "pumping" action was visible. I don't think it was.

Speaking of Vinnie's "abdomen," it had no play in it at all, and seemed almost a sort of balloon. The intersegmental membranes were stretched to the limit. This may have been because of overfeeding. In any event, from the looks of the thing and the ultimate fate of its owner, I got the impression that death-by-rupture might be a common fate. I attribute the demise of the eggs to lack of sufficient humidity.

A few years after Vinnie's death I was attending one of the bigger reptile shows, on the prowl for any interesting arthropods I might find. As things usually go at these meets, I came away with more than I had intended to buy. It so happened that one dealer had two vinegaroons which were in perfect condition. One looked like a male. The other was smaller and looked like a female, which perhaps had one more molt to go before becoming an adult. I bought them both.

Between the time Vinnie had died and the time I bought her two replacements (21 Sept. 1996), I had acquired a number of technical articles on vinegaroons. These articles are listed at the end of this section. The most important from an husbandry point of view was by far and away the 1971 paper by Peter Weygoldt. This is a fantastic read, and I strongly recommend that anyone interested in breeding or rearing vinegaroons look at it before they proceed any further.

Anyway, the point is that I was sure that, this time, there would be no mistakes--no overfeeding and no ruptured abdomens. In fact, I would (and did) feed my new captives five crickets each, every two to three weeks. This quota had worked just fine as the staple diet of my adult flat rock scorpions (Hadogenes) for years, and as things turned out, it would work equally well here. But I also planned to mate the two vinegaroons, and rear the resulting young. But Fate is often stingy, and, in captive breeding at least, rarely offers up any prize without requiring some sacrifices. Or, to bring myself back to the Twentieth Century and more scientific parlance, there is a lot of informed trial-and-error involved in getting the correct conditions, and with this uncertainty it is practically inevitable that initially you will lose some animals. These losses are part and parcel of the cost of success. In this case it was the female. Weygoldt had discovered that vinegaroons pass through four nymphal instars while maturing, after which they
never molt again. Further, the molts between these instars happen about a year apart. So when I bought her I had every prospect that she would molt into an nubile adult within a year. She never molted at all.

To facilitate molting, Weygoldt had placed his specimens on a "deep layer of humid sand" in the Spring. They burrowed into this sand to construct a chamber, in which they would be secure, as for arthropods molting is always a process fraught with peril. Here I should have followed Weygoldt's directions to the letter. But I improvised, based on my experience with burrowing tarantulas, particularly a giant species of Hysterocrates (sold as hercules), which I had previously reared from minute spiderlings to adults. In short, I used damp vermiculite rather than sand. This was enclosed in a small clear plastic box. The vinegaroon could enter or exit the box through a large hole I had drilled in the top.

And sure enough the female entered the box and constructed a molting chamber. She even managed to "glue" the vermiculite together so as to close off the opening in the top. She stayed in the chamber from 27 June 1998 to 7 January 1999. Then she died. I had kept her for a total of 839 days, or 2 years, 3 months, and 17 days.

The male, in contrast, did just fine. Early on, his abdomen was quite flattened, but with time it filled out to the normal balloon shape, indicating he was well fed, in spite of the reduced rations. He seemed to learn that when I would pick up his terrarium, and remove the top, that he was about to receive food. He would begin waving his feeler legs about anxiously, and run out from under a hide I had provided, as if to say "give it to me." He would even take crickets directly from the forceps. The only word I can use to describe him is "tame."

But late in his career he managed to loose his "whip" or telson. How it happened I cannot say. I suspect he snagged it on a rough piece of wood in his cage. He was not alone in this loss, however. Vinnie had lost her whip before the end, and the unfortunate female I had intended to mate him with had lost hers as well. I found this depressing. A vinegaroon's telson is covered with tiny hairs, or, more properly, setae, and is apparently a very sensitive instrument, something like a third "antenna," directed posteriorly. Further, it is obvious that they use it to detect air movements, as it is waved about in the most expressive fashion if you chance to breathe on it. So its absence seemed a major loss, and I could not help but think that it had something to do with incorrect husbandry, putting the blame squarely on me.

This is probably the best place to mention that vinegaroons are not entirely defenceless, and such defence as they have is associated with the very telson I have been discussing. According to Cloudsley-Thompson, if one is grabbed or handled roughly, it will expel a cloud of vinegary-smelling dust from the anal region. Some have said that this cloud can be aimed using the telson. This may or may not be true. In any event, if you are keeping vinegaroons, it is not a good idea to handle them, or to place your eyes anywhere near their body. Supposedly the discharge is acid, and will smart on an open wound. In a worst case scenario it might cause blindness. I have to say this. Although this is extremely unlikely given an intelligent adult, or even a moderately intelligent child, some people will
do the stupidest things, and then blame others for their incapacity. As one example, there have been people who got urticating hairs from everyday rose-hair tarantulas in their eyes. How did this happen? They put the spider in their face, to get a close view.

But back to my story. I am not one to cause myself pain, given any opportunity to avoid it. I had now tried twice to breed vinegaroons, and had only wound up with a mutilated male, which would never be able to repair itself. I was reminded of this every time I fed or watered it. So I decided to send it to a friend who had just purchased two vinegaroons, with the intent of breeding them. I sent it by regular mail, packed as best I knew how. When my friend opened the box, it too was dead, again from a ruptured abdomen. This vinegaroon had been in my captivity for 923 days, or 2 years, 6 months, and 11 days. He would undoubtedly have lived for much longer had I decided to keep him.

I will probably not get any more vinegaroons in the future. I have a busy life, and in the last year or so it seems to have been getting busier. There is just no time for them anymore. But I am not sorry I had the three I did, and I would not want to keep anyone else from trying their hand at breeding. The instructions have all been laid out in considerable detail by Weygoldt, and it only remains for someone to adapt them to commercial production. This will be necessary if our children and grandchildren are ever to be able to experience these remarkable creatures in any meaningful way.

Further Information

Much more specific information can be obtained about the vinegaroon from the following book and technical articles.


From: http://www.key-net.net/users/swb/pet_arthropod/vinegaroon.htm