

## A New Morph of Plains Garter Snake

by Tim Spuckler

It was in late May of 2011 when I found myself in the sand prairies of Illinois. I had driven 6 hours from my home state of Ohio in hopes of finding my first wild Bullsnake (*Pituophis catinefer sayi*). As I roamed abandoned farmlands and flipped pieces of artificial cover, I found Blue Racers (*Coluber constrictor foxii*) and a fine looking Eastern Milksnake (*Lampropeltis triangulum*). I may have had “tunnel vision” in that I was so focused on finding my “target snake” that I neglected to consider that there were other “lifers” in the area to be found. This became apparent when I flipped the hood of a school bus laying on the ground and two Western Glass Lizards (*Ophisaurus attenuates*) were under it.

As time went on, for all the searching I did, I was unable to find my first Bullsnake (although I did go back the following year and find three). But there was another “lifer” in store for me on the trip. A vacant lot behind a rundown gas station in a bad neighborhood had some boards laying around behind it. I thought “what the heck,” and decided to investigate. Underneath the first board was my first-ever wild Plains Garter Snake (*Thamnophis radix*). It was a juvenile in a shed cycle, but it was still a very good find.



*My first encounter with a wild Plains Garter Snake was behind a gas station in Illinois. It was a juvenile and in shed, found underneath boards in the vacant lot behind the Shell building.*

The Plains Garter Snake has traditionally been broken into two subspecies, the Eastern Plains (*Thamnophis radix radix*) with a relatively small, spotty distribution in the eastern United States (including an isolated population in my home state) and the wider-ranging Western Plains Garter Snake (*T. r. haydenii*). These days they are considered to be the same species with no subspecies allocated to them.

It is an adaptable serpent that makes its home in a wide range of environments and despite its “plains” common name, it also frequents farm meadows, city parks and vacant lots. It’s not uncommon for them to hibernate in people’s basements in the winter.

In October of 2021 I received an e-mail from a customer of mine that had a unique Plains Garter Snake in her possession that was mostly white in color. It was a wild-caught individual that she had for several years. She asked if I’d be interested in it for a breeding project. I accepted.

This neat morph looks similar to, but is more rare than, the Pearl Plains Garter Snake; I dubbed it the “Nebraska White” Plains Garter Snake. It has brown or blue eyes, while Pearls have black eyes. Nebraska Whites gain more brown surface area as they age, while Pearls keep the same number of brown scales as they age. Therefore, Nebraska Whites also have a noticeably different pattern than Pearls as adults. They appear to look almost calico. They don't just gain more brown pigment with age, they also get black and orange splotches. In some ways they look a lot like a “Palmetto” morph of Corn Snake.



*The original wild-caught Nebraska White Plains Garter Snake. This adult female became the founding stock for this morph in the hobby.*

I obtained a few male normal Plains Garters to breed with this unique female. None of the males that I was able to acquire was yet one year of age. After a winter cooling, I began noticing courtship activity. On June 4, 2022, my Nebraska White produced 36 normal-looking offspring. I sold half of these, but kept the remainder, in hopes that they would be heterozygous for the Nebraska White trait.

The snakes proved to be fast-growing and easy to raise. Starting off on earthworms or live fish, they easily transitioned to chopped pinky mice mixed with chopped chicken hearts. In 2024, the year that these offspring would reach two years of age, I decided to see if they'd reproduce after a winter cooling period.



*The original wild-caught Nebraska White Plains Garter Snake with her offspring on June 4, 2022. She was bred to a normal male Plains Garter Snake that was less than a year old.*

On April 29, 2024, I hit "paydirt" and one of my females produced 29 offspring, 8 of which were the Nebraska White type. So the trait indeed appeared to be a simple recessive genetic one. As the babies grow, it is interesting to see the changes in their patterns as they gain more patches of color. At the time of this writing, they are 6 months old.



*The results of the het x het breeding of offspring produced on June 4, 2022. This litter was born on April 29, 2024.*

The care and breeding of the Plains Garter Snake is fairly straightforward. This species seems to be more hardy than some other commonly kept species and willing to eat a wide variety of food items.

I tend to keep my garters in screen-covered glass aquariums with semi-naturalistic set-ups. I vary the tank size in accordance with the size of the snakes kept in them. For heat I generally use an overhead basking light on a timer combined with a heating pad left on all the time (except during winter cooling) placed underneath part of the cage.



*A couple of my garter snake enclosures. I like semi-natural set-ups with plenty of hiding spots.*

The vivarium must have a good lid to prevent escapes. It should also be free from hazards that might cause injury (like being crushed by a rock). Garter Snakes are active snakes, so although they may seem small and of slender build, they still need a fair amount of room to accommodate their lifestyle.

For substrate I use aspen shavings. I like to include live plants in my Garter Snake enclosures. By far the easiest terrarium plant to keep is Pothos (*Epipremnum aureum*). Pothos is a vine with heart-shaped green leaves featuring different color variations of white and yellow, depending on the variety. It is tolerant of a wide range of light and watering conditions, making it an ideal terrarium plant. Arrowhead (*Syngonium podophyllum*) is another attractive and durable plant that I like to use in my terrariums. Both plants can be grown either as cuttings in a jar of water or in small pots.



*Newborn Nebraska White Plains Garter Snakes.*

An incandescent bulb in a spotlight fixture at one end of the cage works well for creating heat and light. If kept at room temperature, a hotspot between 84 and 88 degrees Fahrenheit is ideal. I check cage temperatures using a reliable digital thermometer. I like using an under-tank heating pad for gravid females and they spend time on the heated area it creates when not basking under their light in the daytime as well as at night. I keep my lights on a timer starting at 8 hours when the snakes come out of winter cooling and advancing to 16 hours by mid-June, before gradually going back to 8 hours of light by mid-November.

A variety of naturalistic options are available to create hiding areas for garter snakes. Cork bark provides a nice flat surface for them to hide under. There are some commercially available, naturalistic-looking caves on the market as well. Crafty keepers can build their own custom hiding areas out of stone or wood. I often use pieces of slate under the basking light. Sometimes the snakes warm themselves under the slate which has a gap underneath that can accommodate them.

My adult Plains Garter Snakes mainly eat chopped rodents mixed with chicken hearts. I occasionally add fish to the mix, but it seems a whole-food diet of rodents satisfies their nutritional needs. Newborns will usually eat live guppies and/or earthworms. I attempt to switch them over to rodents as soon as feasible. These snakes grow fast and males can successfully breed at less than one year of age. Females can reach near-adult size in one year, but usually don't breed until their second year.



*Heterozygous for Nebraska White Garter Snakes, nearing two years in age.*

For snakes that I wish to breed, winter cooling goes from late November to mid-February. The snakes are kept in their enclosures with no heat and whatever natural light is present. Winter cooling temperatures vary, but average about 55 degrees F. I tend to keep my Garter Snakes in pairs or small groups year-round and breeding is often observed not only in early spring, but also in late summer after my females have given birth.



*Nebraska White Plains Garter Snakes at 6 months old, starting to gain patches of pigment.*

The “Nebraska White” Plain Garter Snake offers something new to the hobby and it will be interesting to see the results of mixing it with other well-established color morphs of this species.

Tim Spuckler has been breeding snakes for over 30 years and has many photos of the snakes he’s worked with as well as his field outings on his webpage: [www.thirdeyeherp.com](http://www.thirdeyeherp.com)