Brazilian Poison Frog General Care

Ranitmoyea vanzolinii

Preface: Ranitomeya vanzolinii, often referred to as vanzos, are a singular subspecies of Ranitomeya hailing from Brazil. These frogs were named after their discoverer, Paulo Vanzolinii a Brazilian herpetologist and composer (his compositions are quite enjoyable). Vanzolinii can be found in lowland rainforests and cloud forests in Brazil and Peru.

These frogs are diminutive, being considered a thumbnail dart frog as they do not get much larger than 3/4ths of an inch. Sporting a black body with golden polka dots and blue, geometrically patterned legs, these frogs are quite a sight to see.

Ranitomeya are facultative egg feeders and monogamous in nature. Both of which are quite rare in amphibians. Facultative egg feeding means that these frogs choose to feed their tadpoles unfertilized eggs to help them develop and grow.

Male R. vanzolinii have a shrill-like call that can be moderately loud. They use this call to claim territory as well as enticing their female to an egg laying spot or where he has stashed their tadpoles. At Frontier Exotics, we find that this call is typically used early to mid-morning during breeding for lengthy amounts of time, sporadically for short periods after egg laying as well as for facultative egg laying, and short subdued calls at lights out.

Things you need before buying/adopting a dart frog:

1. Cage: 12x12x18 terrarium or larger
2. Lighting: LED light
3. Supplements: Repashy Calcium Plus, Repashy Superpig and Repashy Vitamin A
4. Thermometer and Hygrometer: Govee
5. Drainage layer: filter foam, leca, lava rock
6. Substrate Barrier: weedblock or fine fiberglass window screen
7. Substrate: Atlantic Botanical Garden mix or similar
8. Plants: most tropical house plants work
9. Hides: coco huts, cork tubes, Tupperware
10. Food: access or ability to culture fruit flies
11. Clean up crew: isopods and springtails
12. Spray bottle

Tank and Enclosures

Ranitomeya vanzolinii will do well in a 12x12x18 naturalistic/bioactive terrarium. Increase size if keeping two or more frogs. Vanzolinii typically inhabit bushes and small trees, preferring to live 4 to 8 feet off the forest floor. Providing an arboreal based enclosure is important. Also, providing plenty of hiding spots and plant coverage will help this species become bolder.

Successfully keeping dart frogs requires that a few recommended modifications be made to the enclosure. To prevent fruit flies from escaping the enclosure it is recommended to glue or silicone fine

fiberglass window screen over any vents or if the terrarium allows it to remove the front vent and fill with aquarium filter foam. The screen tops provided with most terrariums need to be sealed off to retain the high humidity dart frogs need, about 80-90% of the top. This can be accomplished with glass, acrylic or even plastic wrap in a pinch.

An appropriately sized aquarium can be used but these tend to be more difficult to do maintenance on. Nothing like trimming plants to have tiny dart frogs jumping free from the enclosure. Aquariums also provide suboptimal ventilation which can lead to stagnant air and the enclosure not properly airing out.

Background and Plants

Creating a naturalistic custom background is one of the best parts about keeping dart frogs. You can keep the inserts that come with most terrariums, ensuring you seal the edges so that frogs cannot get behind the background. Or you can completely customize it with ledges, ramps, rocks, planters, and driftwood. This allows the frogs to utilize the entirety of their space as well as more enrichment opportunities. There are multiple ways to build a background and countless YouTube tutorials to help guide you.

Vanzolinii prefer a hardscape that gives them plenty of branches, both horizontally and vertically, throughout the enclosure. Being semi-arboreal, vanzolinii will spend nearly all their time off the enclosure floor coming down to hunt throughout the leaf litter.

Plants are key to a dart frog enclosure. They help to retain humidity as well as providing the frogs refuge. Most small tropical houseplants can be used in a dart frog enclosure. Alocasia, begonias, bromeliads, fittonia, hoyas, peperomia, philodendrons, pilea, syngoniums and many other plant species are suitable. Make sure any plants go through a quarantine process to eliminate pests and fertilizer. Any potting soil should be removed and rinsed off thoroughly before being planted in the enclosure. Vanzolinii love a heavily planted enclosure as this creates more refuge and dims the light.

Substrate

Dart frog enclosures should have a substrate consisting of four layers*:

1. Drainage layer: false bottom, filter foam, leca, volcanic rock or even gravel. Careful, it can get heavy.
2. Substrate barrier: weedblock, landscape fabric or a fine mesh fiberglass window screen.
3. Substrate: ABG mix or similar
4. Leaf litter: oak, magnolia, seagrape, cattapa are all great, long-lasting leaves.

*Many care sheets and tutorials recommend a 5th layer of sphagnum moss between ABG and the leaflitter. This is old, outdated information and should no longer be used. Sphagnum moss, unless frequently changed, becomes a spongy mat that provides zero benefits. In most cases it remains too wet and can lead to issues like foot rot.

The first layer consists of a drainage layer. This layer will catch any excess water keeping it from stagnating in the substrate. Too much water can lead to the substrate becoming anaerobic, killing plants and causing harm to frogs. It is highly recommended that you build some form of access to the drainage layer to siphon water from it or drill a drain into the terrarium if you have the means. A simple solution is a small length of PVC pipe with some holes or notches in the bottom of it, inserted down into the drainage layer and capped so frogs can't climb into it. Keep it easily accessible and you can drain water

from it by siphon, turkey baster or modified shop vac. Some water in the drainage layer is fine and will be utilized by plants as it is nutrient rich and will evaporate, increasing humidity.

The second layer is your substrate barrier. This keeps your substrate from falling into the drainage layer, which would defeat the purpose of the drainage layer. Cut this to be slightly larger than the floor of your enclosure so it folds up along the edges. This will help keep all the substrate out of the drainage layer.

The third layer is your substrate. ABG (Atlanta Botanical Garden) mix is the tried-and-true substrate for high humidity enclosures. It is a soilless mix consisting of peat, milled sphagnum, orchid bark, charcoal, and tree fern fiber. ABG allows water to flow through it but at the same time retains moisture. It is also soilless, which is key. The ingredients making up ABG do not decompose quickly, as soil would, and can last for years before needing to be changed or topped off. There are many variants and brands available from online retailers or you can make your own! Here's a simple recipe: 2 parts tree fern fiber, 2 parts peat moss, 2 parts orchid bark, 1 part sphagnum moss and 1 part charcoal.

The fourth and final layer is leaf litter. If the drainage and substrate barrier are to keep the enclosure healthy and the substrate is for the plants, the leaf litter is for the frogs. Dart frogs spend most of their time on the forest floor, hunting and hiding in leaf litter. Providing 1-2 inches of leaf litter allows the frogs to display this behavior but it also allows them to regulate their own humidity. The leaves form pockets where the frogs can get away from the moisture and "dry out". You will quickly find that individual frogs have favorite leaves or hiding spots and they can even make a network of tunnels within the leaves. Any clean, pesticide-free, non-toxic leaves can be used. Not all leaves are created equal though, some break down faster than others. Live oak and magnolia leaves tend to break down slowly and last for a long time in the high humidity of a dart frog enclosure.

Lighting

R. vanzolinii do not have any specific lightning requirements other than a 12-hour day/night cycle, though this species does enjoy dimmer lighting which will help embolden them. They are a diurnal species, active during the day, but do not require UVB. A simple LED shop light or under cabinet light will do the job. Getting a full spectrum, 5000-6000k, will see your plants growing and vibrant. Nicrew makes a planted aquarium light that is affordable and has a built-in timer and dimming functions.

Temperature and Humidity

Most dart frogs will do well in a temperature range of 65-76°F and a humidity range of 70-100%. They will thrive with stable temperatures between 68-74°F. Prolonged exposure to temperatures above 80°F or below 65°F can lead to death.

Humidity should spike and fall. This is accomplished by thoroughly misting the enclosure to obtain 90-100% humidity. Then it should fall into the 70s before needing to be misted again. It is not recommended to mist in the late evenings or upon lights out. Dart frogs hunker down at night and this allows the enclosure to "dry out" and any standing water to evaporate. This is also the time that plants do their magic, releasing oxygen and raising humidity.

To measure temperature and humidity it is best to use a digital thermometer/hygrometer combo. Govee makes some inexpensive and accurate devices. Place the device in the enclosure and take readings over a 24-to-72-hour period and then remove it. This will allow the

thermometer/hygrometer to dry out and prevent damage from the constant exposure to high humidity. Adjust misting as needed and repeat.

Dart frogs like high humidity but they do not like it wet. Your enclosure should smell like a forest after it rains, clean and fresh. Any sour or acidic smell is a sign of too much water and you should allow the enclosure to dry out by misting less frequently and draining the drainage layer. If kept too foot rot becomes a potential ailment. If drying out the enclosure does not work you will need to replace the substrate.

It is recommended that you use distilled or R/O water to mist your enclosure, especially if you use an automatic misting system. Treated tap water or spring water can be used but with the frequency of mistings and the amount of water put into the enclosure sediment builds up and the glass will need frequent cleaning.

DO NOT use foggers. The fine vapor mist can clog the pores on a frog's skin and causes them to suffocate. Did you know frogs breathe through their skin?

Social Behavior and Cohabitating

Ranitomeya vanzolinii will form a monogamous pair (1.1, one male to one female) in the wild and take care of their young together. In captivity they can be housed multiple females to one male with a large enough enclosure (18x18x24 or larger) though females may become aggressive to each other and attempt to control the best breeding areas. Eventually a dominant female may become established with the male either at the suffering of the other females or their deaths. Males are territorial. In nature males will typically control a territory that includes their small tree or bush as well as it's surrounding area. Housing more than one male will result in fighting and without intervention the death of the weaker male.

Cohabitating dart frogs of different species can be dangerous and result in injury or even death. With R. vanzolinii's territorial behaviors it is best to not house them with anything other than their own species. DO NOT cohabitate different species and locales of dart frogs.

Mourning geckos are popular cohabitating animals with dart frogs. Mourning geckos should not be housed with thumbnail dart frogs like Ranitomeya vanzolinii.

Feeding and Supplements

Fruit flies are a staple feeder for dart frogs. There is flightless Drosophila melanogaster readily available, Drosophila hydei are too large for vanzolinii to eat. Froglets should be fed daily with either springtails or small melanogaster, while adults should be fed every 1-2 days. It is useful to set up a feeding station, a slice of banana placed on a plastic lid or petri dish, where any flies that are not immediately consumed will congregate.

Other feeders, other than pea aphids and springtails, should not be used.

All feeders should be dusted with Repashy Calcium Plus at every feeding. Repashy Superpig, a carotenoid supplement, may be used 1-4 times a month. This supplement has added benefits and will see yellows, oranges and reds deepen and brighten on frogs. Repashy Vitamin A should be provided at least once a month, a minimum of twice if there is an egg laying female. Vitamin A is a key vitamin in

reproduction but also has added health benefits including the prevention of STS or Short Tongue Syndrome which causes the frog to be unable to catch prey.

All supplements should be refrigerated and replaced every 6 months.

Clean Up Crew

No dart frog enclosure is complete without a cleanup crew. Your cleanup crew should consist of isopods and springtails. These miniature janitors will clean up waste, decomposing organic material, spilt supplement powder and dead feeder insects. They also provide a snack for the frogs on occasion. Dwarf White isopods, Trichorhina tomentosa, are the tried-and-true isopods for dart frogs. A dwarf species, as their name implies, will spend the majority of their time borrowing through the substrate, aerating it and turning waste into nutrients for the plants. Other species of isopods should not be considered with R. vanzolinii due to their diminutive size. It is recommended that you apply for an APHIS PPQ-526 permit to own and house isopods.

Most species of springtails will work well in a dart frog enclosure. Temperate springtails (Colembolla sp.) and tropical springtails (Entomobrya sp. or Coecobrya sp.) seem to do best. It is recommended that you keep a separate culture of springtails to seed the enclosure periodically. This separate seeding culture can be kept in a Tupperware container with an inch or two of horticultural charcoal and half as much distilled or R/O water. Feed nutritional or brewer's yeast weekly at the least.

Handling

Dart frogs should not be handled unless it is required. Dart frogs are very similar to fish in an aquarium in that they are best suited for enjoyment through observation. Having lost their toxicity in a captive environment these frogs pose no danger to us. We do pose a danger to them through handling. Skin oils, chemicals, lotions and everyday dirt and grime can cause skin irritations and in extreme cases be fatal. If you must handle your dart frog it is best to do so with medical gloves.

Lifespan

Dart frogs typically live 5-10 years but it is not unheard of to have frogs living 20+ years when kept correctly.