Dart Frog General Care

Dendrobatidae

Preface: Dart frogs are not a single species but are a common name that covers the entire family of Dendrobatidae. This includes commonly kept species like Ameerega, Dendrobates, Epipedobates, Oophaga, Phyllobates and Ranitomeya. These are even further broken down into subspecies. For example, the species Dendrobates has three commonly kept subspecies: auratus, leucomelas and tinctorius. You can then break these down even further into locales (commonly referred to as morphs). If we use Dendrobates as an example with tinctorius as the subspecies you end up with a lengthy list of frogs: Azureus, Bakhuis, Citronella, Nikita, Oyapok, Patricia, Robertus, and the list goes on. Roughly 50 described locales that we know of just for Dendrobates tinctorius. Because of the large number of species available in the hobby this care sheet will provide general care that works as a baseline for most species. Species specific care sheets can be found at www.dendroboard.com/forums/care-sheets.26/

Things you need before buying/adopting a dart frog:

1. Cage: this is species dependent but an 18x18x18 or 18x18x24 terrarium is suitable for most species
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

Most dart frogs will do well in either an 18x18x18 or 18x18x24 naturalistic/bioactive terrarium. Increase enclosure size if keeping 3 or more frogs. Species like Oophaga or Ranitomeya will appreciate more height while species like Phyllobates will appreciate more floor space, select an enclosure accordingly.

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 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.

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.

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

Dart frogs do not have any specific lightning requirements other than a 12-hour day/night cycle. 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.

You may provide a shallow water dish. Dart frogs will soak but they are not the greatest swimmers and may drown. Some dart frog species have also been known to drown potential mating threats, female Dendrobates tinctorius being the biggest culprit. Other species, like Dendrobates auratus or Ameerega silverstonei, are naturally found along the sides of streams and water and do quite well with a shallow water source.

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 wet some species, like Phyllobates terriblis, are prone to foot rot. 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

Dart frogs are not necessarily social creatures but will tolerate the existence of other individuals of the same species or locale. This is the rule of thumb as there are exceptions, Ranitomeya vanzolinii will form a monogamous pair (1.1) in the wild and take care of their young together. Most dart frogs will do well in groups, but it is species specific. In the species Dendrobates the females are the dominant aggressors and have been known to fight to the death in terrariums as the weaker of the two cannot escape. For that species it is recommended that they are kept in pairs of one male and one female (1.1) or two males (2.0) or with a large enough enclosure a trio of two males and a female (2.1). If we return to the species Ranitomeya vanzolinii, who forms a monogamous pair (1.1), and we add another male to the mix they will fight until one is removed or dies. Or if we add another female or two the male will create a harem, something he would not do in the wild. Because of the many species and their differing behaviors refer to species specific care sheets for social behavior.

Due to the high amount of variability, it is tempting to house multiple species and locales of dart frogs together. Cohabitating dart frogs of different species can be dangerous and result in injury or even death. The same is applied to different locales as each are a unique subpopulation of their species and some may even look similar despite living thousands of kilometers apart. Azureus, Koetari River and Sipaliwini are all tinctorius and are a perfect example of three distinct populations that can look similar. If you are unsure of the lineage of your animal do not breed it, even if you believe you have accurately identified it. DO NOT cohabitate different species and locales of dart frogs.

If you feel you must cohabitate a popular option is mourning geckos. This micro gecko species can do well with some species of dart frogs if provided enough space. Do not house with thumbnail species, Oophaga or Phyllobates. If you decide to cohabitate with mourning geckos do understand that they reproduce asexually through parthenogenesis and can quickly overrun a tank and escape through the smallest of gaps and cracks.

Feeding and Supplements

Fruit flies are a staple feeder for dart frogs. There are flightless Drosophila hydei and melanogaster readily available. Froglets should be fed daily while adults should be fed every 1-2 days. They should be fed as many flies as they can consume within five minutes. 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 can be used alongside fruit flies. Bean weevils, firebrats, micro roaches, pea aphids and small black soldier fly larva are all good supplemental feeders. Pin head crickets can be used with larger species of dart frogs but due to the small size of dart frogs' mouths any crickets that escape quickly outgrow the frog's ability to eat them. The crickets may then bite the frogs and expose them to infection. Because of this pinhead crickets are considered a last resort feeder and not a staple.

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 isopod 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 can be used but may eat frog eggs or nibble on the frogs themselves. Some other species that work well are Porcellionides pruinosus and Cubaris murina, though C. murina are known to take a liking to eating soft-bodied plants. 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.