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POISON DART FROGS

Vicente's Poison Frog

Oophaga vicentei

Oophaga vicentei is a small, brightly coloured and diurnal poison dart frog of up to 24 mm, found only in central Panama. The colours vary from yellow and red to blue, grey and green, often with a black reticulated pattern. The species is endangered in the wild, and little is known about its husbandry.

Family: Dendrobatidae Former name: *Dendrobates vicentei*

KEY FACTS

THE ANIMAL

Adult size	**12-24 mm** snout-vent length
Lifespan	**10-15 years**
Active	**By day**
Lifestyle	**Arboreal and terrestrial**
Habitat	**Rainforest**
Skin toxins in the wild	**Mild**
Skin toxins in captivity	**None** Captive-bred animals. Wild-caught animals can keep their toxins for a long time
Difficulty	**Experienced**

CARE

Min. enclosure	**45 × 45 × 60 cm** L × W × H for 2 adults
Temperature, day	**22-26 °C**
Temperature, night	**19-21 °C**
Humidity	**80-100%**
Water	**Water dish** depth 1-2 cm
UVB	**Optional** Ferguson zone 1
Diet	**Small invertebrates (springtails, fruit flies)**
Kept	**In pairs**

BREEDING

Reproduction	**Egg-laying**
Development	**Tadpoles carried to water**
Egg-laying site	**In leaf axils (e.g. bromeliads)**
Eggs per clutch	**1-12**
Hatching	**10-14 days**
Larval period	**42-56 days** from hatching to metamorphosis
Larval diet	**Unfertilised eggs from the female**
Parental care	**Guards the eggs, carries the tadpoles and feeds the tadpoles with eggs**

PROTECTION AND PAPERWORK

CITES	**Appendix II**
IUCN	**Endangered (EN)**

About the species

Oophaga vicentei is one of the smaller species in the genus *Oophaga*. Adults measure 12-24 mm from snout to vent, and the sexes are the same size. The dorsal colour varies greatly between populations: yellow, red, blue, grey or green, most often with a black or dark brown reticulated pattern on the back and on the upper surface of all four limbs. Newly metamorphosed young are much blacker than the adults, and the snout can be both rounded and pointed.

The species was described in 1996 by Jungfer, Weygoldt and Juraske under the name *Dendrobates vicentei*. It now belongs to the genus *Oophaga*, in which the female feeds the tadpoles with infertile eggs.

Skin toxin: in the wild *O. vicentei* eats, among other things, ants and mites that produce alkaloids, and the toxin in the skin presumably comes from there. The strength of the toxin has not been investigated for the species, so it is regarded as mild. Animals raised on fruit flies and springtails do not acquire the toxin. Always wash hands after working in the enclosure.

Read more: Feeder animals: keeping and breeding Read more: Rearing tadpoles

Distribution and habitat

Oophaga vicentei is found only in central Panama, in the provinces of Veraguas, Coclé and Colón on the country's Caribbean side. The population is divided into two genetic groups, a western and an eastern. The range includes Santa Fé National Park and Omar Torrijos National Park.

The range is small, and the forest is being cleared for mining, agriculture, cattle farming and towns. In addition there is collection for the pet trade and the fungal disease chytridiomycosis, which has killed other frogs in the area. The species is therefore listed as Endangered (EN) on the IUCN Red List.

> **Native range:** Panama.

HABITAT

Oophaga vicentei lives in humid tropical rainforest from the lowlands near the coast up to about 900 m above sea level. It is first and foremost arboreal and breeds high up in bromeliads, but also forages in the leaf litter and among stones on the forest floor. The species is diurnal.

The climate is tropical: warm and humid all year, cooler at altitude, and the air in the forest is almost always saturated with moisture. The species has no winter rest.

Care

THE ENCLOSURE

Little is known about the husbandry of *Oophaga vicentei*. It is therefore based on climate and habitat and on relatives that are better known in captivity: *Oophaga pumilio*, *Oophaga histrionica*, *Oophaga sylvatica* and *Oophaga lehmanni*. Temperature, incubation time, larval period and lifespan are borrowed from *Oophaga pumilio*, which has the same size and the same breeding biology.

A pair needs a tall enclosure of at least 45 × 45 × 60 cm, because the species climbs and breeds high up. Build up the bottom with a drainage layer of clay pebbles, an insect mesh and a damp substrate of coconut fibre, moss and orchid bark. Lay a layer of large dead leaves on top, so that springtails and isopods can live on the bottom and the frogs have cover.

Place bromeliads at several heights, and plant with creeping plants such as philodendron and creeping fig. The bromeliads are both cover and breeding site. Provide many hides and broken sight lines so that the animals can avoid each other. Cover all gaps, because such small frogs escape through very small holes. More than one pair requires a much larger enclosure.

Read more: Terrarium construction and bioactive substrate Read more: Incubating eggs

TEMPERATURE

The daytime temperature should be 22-26 °C and the night 19-21 °C. The frogs tolerate heat poorly, so avoid longer periods above 28 °C. Place the enclosure in a cool spot, ensure ventilation, and use lamps that do not give off heat.

The species has no winter rest.

HUMIDITY AND MISTING

Humidity should be 80-100 % and never below 70 %. Mist the enclosure thoroughly once or twice a day with water free of lime and chlorine (rainwater or reverse-osmosis water), so that leaves and bromeliads are wet. A mist or rain system makes it easier to keep humidity stable.

Keep the air moving with ventilation panels, because stagnant, wet air causes mould and bacteria. The substrate must be damp, but not standing in water. If the enclosure becomes too dry, the frogs retreat into hiding and lose weight.

Read more: Humidity, misting and ventilation

WATER AND WATER QUALITY

A shallow water bowl with 1-2 cm of water is enough, because the frogs are poor swimmers. Keep it clean, and change the water every day or every other day. Use rainwater, reverse-osmosis water or dechlorinated water, because amphibians absorb water and substances through the skin. Avoid cleaning agents, soap and plant-care products in and near the enclosure.

For breeding there must be bromeliads or small water-filled containers at several heights. The tadpoles grow up in the small pools of water, not in the bowl.

LIGHTING AND UVB

UVB is hardly necessary, but a little UVB (Ferguson zone 1) does no harm and is optional. Plant lighting for 10-12 hours a day keeps the plants alive, and the night must be dark. The lamps must not heat the enclosure above 26 °C.

Read more: Lighting and UVB

FEEDING

The species needs very small feeder insects. The staple is small, flightless fruit flies (*Drosophila melanogaster*) and springtails, supplemented with aphids, small termites and small isopods.

Feed adults 3-4 times a week, and do not add new flies until the old ones are almost eaten. Dust the flies with calcium and vitamins once a week for adults and at every other feeding for young. A female laying feeder eggs needs plentiful and varied nutrition.

Keep your own cultures of fruit flies and springtails. In the wild the diet consists of small arthropods, including ants and mites.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Oophaga vicentei is diurnal. The male calls from a spot high up and finds the breeding site. Females may eat other females' eggs, so a pair is the safest. The frogs should not be handled, because the skin is thin and sensitive. When cleaning, the animals are moved in a clean, wet container.

Do not change too much at once, and keep the hides so that the frogs do not become stressed.

Breeding

SEXUAL MATURITY AND SEXING

The sexes resemble each other in size and colour. The male is recognised by his call and by the fact that he selects the breeding site. Age at sexual maturity is not documented; *O. pumilio* becomes sexually mature at about 10 months. The safest route to a pair is to let two young grow up together.

MATING

The male finds a spot by a bromeliad and calls the female. The pair make stroking movements with the hind legs, and the female turns in circles before and after egg-laying. Breeding follows the rain, so heavier misting can set it in motion. The female does not lay new eggs while she is feeding tadpoles.

EGGS AND TADPOLES

The eggs are laid on a leaf by a bromeliad high up. The female lays 1-12 eggs at a time; the largest clutches are unusually large for the genus, in which *O. pumilio* lays 3-5 eggs. The parents do not stay with the eggs, but the male returns about once a day and moistens them.

When the eggs hatch, the female carries the tadpoles one at a time on her back up to water-filled bromeliads. There she feeds them with infertile feeding eggs: the tadpole swims and vibrates at the surface when she approaches, and eats the eggs she lays. The tadpoles live exclusively on feeding eggs and take no other food. Each tadpole must have its own small body of water, or they eat one another. Do not remove eggs or tadpoles, because the feeding eggs cannot be replaced.

METAMORPHOSIS

The eggs hatch after 10-14 days, and the tadpoles metamorphose after 42-56 days. When the forelimbs appear, access to land must be easy, because the newly metamorphosed frog can drown.

REARING THE YOUNG

The newly metamorphosed young are very small and much blacker than the adults. Give them a humid, simple enclosure with kitchen paper as substrate and small bromeliads or leaves as hides. Feed them daily with springtails and the very smallest fruit flies, dusted with calcium and vitamins at every other feeding. The young are moved to a larger enclosure when they eat well and have grown; the growth curve is not documented for the species.

Health and common mistakes

Typical errors and diseases are the same as in other small poison dart frogs:

- Temperature too high or air too dry: the frog withdraws and loses weight. Cool down, and mist more often.
- Calcium and vitamin deficiency: weak limbs and deficiency diseases. Dust the food according to the schedule.
- Chytridiomycosis: a fungal disease that has affected amphibians in the species' homeland. Quarantine new animals, and contact a vet with knowledge of amphibians in the case of lethargy, skin shedding or loss of appetite.
- Intestinal parasites cause thinness even though the frog eats.
- Young are delicate: calcium deficiency and poor thriving are the most common problems.

Use clean tools for each enclosure.

Read more: Quarantine and hygiene

Always ask someone who knows

This guide is a good place to start, but it cannot replace experience. Animals differ, and much of what matters most is learned from people who have kept the species for years. Talk to a breeder, an experienced keeper or a vet who knows reptiles and amphibians before you get the animal - and again if anything looks wrong.