

October/November 2005

Welcome to the second issue of Dartfrog 'News'

Where does the time go? It seems like only yesterday we were sending out the maiden issue of this newsletter. So what has happened in between? Well, we went to the Bocas Del Toro archipelago in northeast Panama and to say that it was a dart frog paradise would be quite an understatement – it literally was dart frog heaven. In this issue we have the first instalment of our Bocas diary. We also have some photos of new dart frog acquisitions, of various tadpoles and a review of the excellent tree fern root or xaxim products. On the caudata front there are photos of egg/larvae development in the emperor salamander (*Tylototriton shanjiing*). As always there are other offers, some amazing frogs for sale that will not appear on our general web pricelist and tips and hints...

"Amphibian of the month"

Zaparo's poison frog (*Allobates (Epipedobates) zaparo*)



We first came across this species at one of the Dutch frog day shows near Amsterdam in October 2003. The specimens we picked up were rather small (about 10mm) and non-descript, just beginning to show the prominent yellow flash marks. Having never seen this species in true life we had no idea at the time what they would turn out like. We need not have worried – the dorsum gradually become more and more granular and an increasingly deep red in coloration. In the wild this species hails from Eastern Ecuador,

northern Peru and possibly into southern Colombia and are concentrated around the humid forests of the Rio Pastaza and Rio Napo river basins. According to people who have been to that area you can rarely see the frogs but you can certainly hear them.

In all honesty they are now one of our favourite species outside the genus *Dendrobates* and would make a superb addition to anyone with an interest in these frogs. Growth is initially quite fast and after several months the frogs were around 17 - 18mm and easily capable of taking relatively large crickets, lesser waxworm and waxmoths. They also greedily devour spiders. They always have a tendency to be timid, but sit in front of the vivarium for a while and wait and they will soon pop out in case they are a missing a meal.



Our own specimens, which were acquired in Holland, did not show signs of reproductive activity until March 2005 when they were around 20 – 25mm. Differentiating the sexes externally is extremely difficult as they have such big appetites both sexes will appear rotund. However the flanks and belly of an egg-laden female do become very elastic looking (shiny stretched skin). Then of course there is the call of the males. For such a little frog they certainly do make a big sound. It is slightly reminiscent of a duck quacking but with a higher tempo. In fact while feeding other frogs my two males will sometimes begin their 'let's see who can call the loudest' competition and it really is quite ear-splitting. It would be interesting to know the actual decibel level but I am sure it would warrant a health warning! Usually when the calls are more frequent this means there is an imminent chance of spawn. And boy do they produce some spawn. The first three clutches my females

produced were all infertile and draped like a rosary bead across several bromeliads. The number of eggs counted was 26, 66 and 44 respectively which is



Over 40+ eggs deposited in a film canister (the 3 white ones are infertile)

amazing considering the size of the frog. On the fourth clutch (containing 82 eggs) we got our first 2 tadpoles. It proved quite tricky using forceps and razor blade to detach the infertile eggs but we managed it. On the advice of a Dutch breeder, instead of using the solo rearing method that we use for most other Dendrobatids, we placed the tadpoles in a plastic sandwich box



A 4 week old tadpole

containing 2 inches of 50% tap water (left to stand for 24+ hours) and 50% RO water. It was also heavily planted with water milfoil (*Myriophyllum*). Tadpole development is rapid and after a week the two tadpoles had trebled in size from their original 7mm. They devour large quantities of tropical fish flake, crushed nettle & calcium (home-made flake) and freeze dried bloodworm. We added a further 25 tadpoles from the fifth clutch and it is interesting to note there is no cannibalism even in runt tadpoles. The water was changed every 7 days and metamorphosis was achieved after approximately 45 days (+/- 3 days). The emerging froglets are miniscule and the initial diet can only consist of springtails and fruit-fly mites. Yet within a week of intensive feeding they are already taking pinhead crickets with *Drosophila melanogaster* fruit flies being devoured another 5 – 10 days after that (always supplemented with springtails). Spindly-leg syndrome was apparent in around 6 froglets from the second successful clutch but is almost negligible in subsequent clutches. The froglets are reared until they are around 15mm in the ventilated plastic snake rearing containers we sell on our site (we use these for most juvenile dendrobatids). For anyone who has some experience in keeping dart



Frog 4 weeks after metamorphosis

frogs, this species is certainly worthy of consideration and we usually have a small number of frogs available. Check out our website www.dartfrog.co.uk for details.

Equipment Review: Xaxim



Tree fern root (or Xaxim) comes from threatened Brazilian tree fern (*Dicksonia selowiana*) which is now a CITES listed species. However, in southeast Asia (in

particular Indonesia) these plants are now cultivated artificially to produce a range of xaxim products which Dartfrog stocks.

Historically used as a growing medium for orchids, granulated xaxim is also an excellent medium for the dart frog vivarium. We use granulated xaxim together with coco-soil, fine orchid bark and a low-fertiliser compost to create an open mixture suitable for growing orchids and bromeliads in the vivarium.



Xaxim panels come in two sizes – 20cm x 30cm and 20cm x 50cm. They can be adhered to the back and sides of the vivarium using a good quality silicone sealant, placed on the floor of the vivarium to create a clearing where frogs



congregate to feed, or even broken up into smaller pieces and fixed to the xaxim back/side panels to create levels and gradients. Kept well-watered and given sufficient light it will soon sprout mosses and small ferns from the spores that naturally occur in the product. Alternatively sprinkle Kyoto moss spores over the surface, hand mist them in and 3 – 4 weeks later a wonderful green baize will appear.

Xaxim branches are the heavy thick stems of the tree fern and can be utilised to create an elevated branches teeming with mosses, bromeliads, ferns and orchids. It is certainly one of the best products for growing epiphytic orchids which thrive in it under correct lighting.

The relatively new xaxim plants pots of an effective way of utilising this product to grow bromeliads or orchids in situ and allowing them to be easily moved. As the xaxim which allows good air transportation to the roots and does not become sodden or waterlogged like peat or soil-based composts, bromeliads such as *Vriesea* species or orchids such as *Dendrobium* species which can rot quite easily tend to get established and thrive.



Although relatively expensive compared to other background panels and décor, we believe that xaxim is certainly one of the best out.

New equipment

We have added quite a few items to our website over the last few months. The list below reflects the new additions:-

- 80W Dulux L Lighting system
- Heating element for aquatic situations
- 4mm & 6mm blind stops for misting systems



- Valve for misting systems
- 20L water reservoir for misting systems
- Heavy duty silicone sealant
- Live sphagnum moss
- T-Rex Tropical Bark Bowls
- Xaxim plant pot
- 0.5l plastic fruit-fly culturing tubs
- Petri-dishes

Please view our website for further details. If you would like to send us your own reviews of any products we sell, positive or negative, please feel free.

Breeding News

September & October have been relatively quiet on the breeding front. Zaparo's poison frog (*Allobates zaparo*) continues to produce spawn on a monthly basis but as we are beginning to lower the temperatures in our tropical frog room, egg output from many species will begin to decline. We had a surprise from a small group of the dwarf Escudo strawberry poison frogs (*Dendrobates pumilio*) which deposited a



The stunning dwarf species
Dendrobates pumilio 'Escudo'



Dendrobates fantasticus tadpole
11/10/2005

clump of 8 eggs in a film

canister within the restricted confines of quarantine container. All eggs were fertile so the entire group of 5 frogs plus film canister were carefully placed in a new vivarium. Thankfully the female did begin transporting tadpoles a few weeks later so, touch wood, juvenile frogs will be present soon. We expect

tadpoles of the red-headed poison dart frog (*Dendrobates fantasticus*) to metamorphose over the next few weeks. Aside from that several other pumilio morphs are busy producing eggs including Sheppard Island, Bastimentos and San Cristobal. We also had eggs from our group of arboreal or polka dot poison dart frogs (*Dendrobates arboreus*) for the first time. Unfortunately they were infertile but at least it's a start!



Dendrobates arboreus adult

On the caudate front the adult ringed salamanders (*Ambystoma annulatum*) have again entered the water so we are hoping for more clumps of spawn soon. Emperor salamander (*Tylototriton shanjing*) larvae are now growing fast having doubled their size in the month. They are avidly devouring bloodworm, tubifex and daphnia. See below for some shots of the eggs & larvae and one of our adults.

Dartfrog Availability

Following a trip to see breeders in Germany and Denmark we now have the following rare surplus Dendrobatids available:-

Green Vicent's poison dart frog (*Dendrobates vicentei*)

We have a trio of c/b adults (1:2). These are superb thumbnail (larger) frogs, easy to keep and one of the egg-feeders that seem easier to breed. The male is extremely raucous but great fun to watch. The price is £400/trio.



We are again going on our travels in early November. We have been offered the following *Dendrobates pumilio* morphs and as usual these must be reserved prior to travel. The cost will be approximately £200/pair (tbc) and a 50% deposit will be required on reservation:-

- Black-jean
- Blue-jean – all sold
- Nancy (Isla Solarte)
- Bri-Bri
- Also a trio of juvenile green *Dendrobates vicentei* at £270/trio

We also expect to have small quantities of the following species from some European breeders:-

- Blue & Black poison dart frog (*Dendrobates auratus*)
- Blue poison dart frog (*Dendrobates azureus*)
- 100% Orange splashback poison dart frog (*Dendrobates galactonotus*)
- Orange/black splashback poison dart frog (*Dendrobates galactonotus*)
- Panguana Imitator poison dart frog (*Dendrobates imitator* 'Panguana')
- Reticulated poison dart frog (*Dendrobates reticulatus*)
- Various dyeing poison dart frog (*Dendrobates tinctorious*) morphs including New River, Patricia, Citronella, Oranje, Nominat & Yellow-back
- Amazonian poison dart frog (*Dendrobates ventrimaculatus*)
- Yellow Colombian poison dart frog (*Phyllobates terribilis*)
- Banded poison dart frog (*Phyllobates vittatus*)

If there are any species of dart frog you are interested in obtaining please email us before the 4th November and we will attempt to obtain genuine captive bred

specimens for you. Serious enquiries only please.

We can also still obtain small numbers of the absolutely stunning **Bulls-eye Harlequin poison dart frog (*Dendrobates histrionicus*)** in various colours.



We brought back a small number of legal animals from a dealer in Germany but these sold very quickly. We have been told that there are a further 8+ specimens available. These are in perfect condition and all the males we brought back previously were calling even in the quarantine container. This species feeds intensively on fruit fly, lesser waxworm, up to 2nd instar brown or 1st instar black field crickets. Sexed pairs are at £650/pair. Size is approximately 40mm.

Caudata Front



Adult *Tylototriton shanjing*

The **Emperor salamander (*Tylototriton shanjing*)** is surely one of the most sought after salamander species. Its oriental-looking vivid orange and black coloration and increasingly bold disposition in the vivarium have endeared it to many amphibian enthusiasts. We acquired a group of 5 adults back in 2002 with 3 of the specimens exhibiting open wounds, sores and missing digits with one having only half its tail. Swift treatment both orally and topically with 5% solution of marbocyl (similar but less potent than baytril) soon cleared the problems up

even to the extent where the half-tail specimen has of now (Oct. 2005) completely regenerated its tail. After maintaining the salamanders in relatively warm conditions for the first 2 years to enable them to recover, last winter we gave them a dormant period (down to a minimum of 40°F) and after a particularly warm spell during early August where temperatures inside the vivarium exceeded 78°F, during one night the largest female deposited 46 large gelatinous eggs singly or small clumps of 2 – 4 eggs in the damp sphagnum moss surrounding the water area. We removed the eggs and placed on a raft of live sphagnum in 2 inches of pre-boiled rainwater filled with *Myriophyllum*. At 68 – 74°F the 38 fertile eggs



Eggs of *Tylototriton shanjing*

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Well advanced larvae of *Tylotriton shaniina*

began hatching after 17 days and the emerging larvae wriggled into the moss then down into the water. The last one hatched after 27 days of being in the egg. Initial mortality over the first few days was quite high but we were left with 22 larvae which are now growing steadily and devouring tubifex, bloodworm, daphnia and recently chopped earthworm. They are being maintained in groups of 7, 7 and 8 in small aquaria with 2 inches of water heavily planted with

Myriophyllum and maintained at between 70°F (night time) to 80°F (daytime). Hopefully we will have pictures of the emerging salamanders in the next issue.

Special Offer for Existing Customers

If you have previously made a purchase from Dartfrog over £50 during the period January 1st 2005 to October 1st 2005, we can offer you £10 off any order over £50 (not including postage). Please email us to claim your voucher which must be used by the 31st December 2005.

Plants: the cockle shell or black orchid (*Encyclia cochleatum*)

To many the thought of growing orchids in the dart frog vivarium causes unease and images of slushy rotting leaves and stems. It is true that some species are extremely difficult to grow in the humid, warm surrounds of a vivarium but some species actually thrive in it. One of these is the tropical central American species *Encyclia cochleatum*. Not only does it thrive under these conditions it can also be grown epiphytically on cork, coco or Xaxim panels, or on liana, cork branches and several other woods. Once it achieves its full grown size of around 30cm tall it will then, under suitable conditions, flower all year round. The flowers are green, yellow and a deep pink and are reminiscent of an octopus. Gradually this orchid will begin to grow pseudobulbs around the base which develop into fully-formed plants. These are easily detached and should be re-potted into a warm, humid propagator in an open 80:20 orchid bark : low-fertiliser compost mix for a few months to get optimum root growth. They can then be transferred to the vivarium. A very attractive, rewarding orchid species.



The Bocas Diary: Part 1 Arrival & Isla Solarte

On the 1st September we set off on a marathon 32 hour journey to get to the wonderful archipelago of the Bocas Del Toro nestled off the coast of northeast Panama. As we approached the islands in the 20-seater plane it was obvious that many of them were heavily forested and surrounded by a beautiful azure sea. For the next 17 days we had the opportunity to visit six of the north and central



islands that make up this archipelago. Our base was Bocas Town on the largest of the islands - Isla Colon - and here this gave us the opportunity to hire boats for



Bocas Town

whichever island we wished to visit. After resring for a few days we decided to take a short boat ride (10 minutes) to Isla Solarte (Nancy) which we could clearly see from our hotel room balcony. The boat captain dropped us off on a jetty on the extreme northwest tip of Solarte. Initially we had no clue where to go so took a dirt path that veered through some private gardens until we came to a small sandy cove. As soon as we approached the cove we

could hear the familiar calls of *Dendrobates pumilio*. As we entered the forest the heavens opened and within seconds we were soaked through to the skin. It was still extremely warm though - around 30°F in the shade and the advantage of the rain was that it effectively forced the swarms of mosquitoes and other biting insects into hiding. We had only walked a few seconds into the forest on what soon became an increasingly treacherous



An adult Nancy *Dendrobates pumilio*



A pair of adult Nancy *Dendrobates pumilio*

muddy track, when we spotted the first Nancy *Dendrobates pumilio* sitting in the middle of the track without a care in the world. I have to say that in all my field trips I have never seen so many frogs in one small area (apart from one population of golden mantellas in Madagascar). These frogs were literally everywhere, ranging in size from 5mm juveniles up to paired adults following each other around the base of the huge hardwood trees. In the space of 15 minutes we counted over 100 frogs and around the track itself. Also we saw many other reptile and amphibians including a tiny toad species which we are still trying to identify and various lizard species such as the very abundant ground anole (*Norops humilis*) and attractive yellow-headed gecko (*Gonatodes albogularis*). Then the track began to lead uphill into a cleared area where palms and coconuts had been planted. The ground was a lot drier here because of the palm leaves but

there was a distinct call coming from here. After intensive searching which involved avoiding swarms of army and leaf-cutting ants, we came across the culprit for the raucous noise - a plump brown Dendrobatid with attractive rusty



Habitat of *Colostethus talamancae*



Adult *Colostethus talamancae*

red stripes along the dorsum. The Talamancan rocket frog (*Colostethus talamancae*) was extremely abundant in this area. Every time we took a step one or more frogs would leap frantically out. They were practically impossible to capture on camera although after many hours I did manage to get a couple of good shots. Although we also found *D.pumilio* here they were far less abundant than in the moist, lush forest. Similarly *C.talamancae* could be found in the lush forest but was less abundant than *D.pumilio*. Our first visit to Isla Solarte was only a short one but we did manage to get back there for another extended visit later on in the trip.

Next Issue – Disappointment on Red Frog Beach, Bastimentos & the amazing Bastimentos Town.

And Finally...

Next newsletter will be the festive edition out sometime in December...

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