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Rediscovering the Oxapampa poison frog, *Ameerega planipaleae*

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The Oxapampa poison frog *Ameerega planipaleae* (Anura: Dendrobatidae) was discovered in 1996 and described in 1998 under the name *Epipedobates planipaleae* (Morales & Velazco, 1998) from only four specimens (one female and

***Oxapampa poison frog,* Meerega planipaleae. © G. Chávez**

three males) found at the mountain forest of the Cordillera Yanachaga-Chemillén, central Andes of Peru. The name was subsequently changed by Grant et al. (2006) and included into

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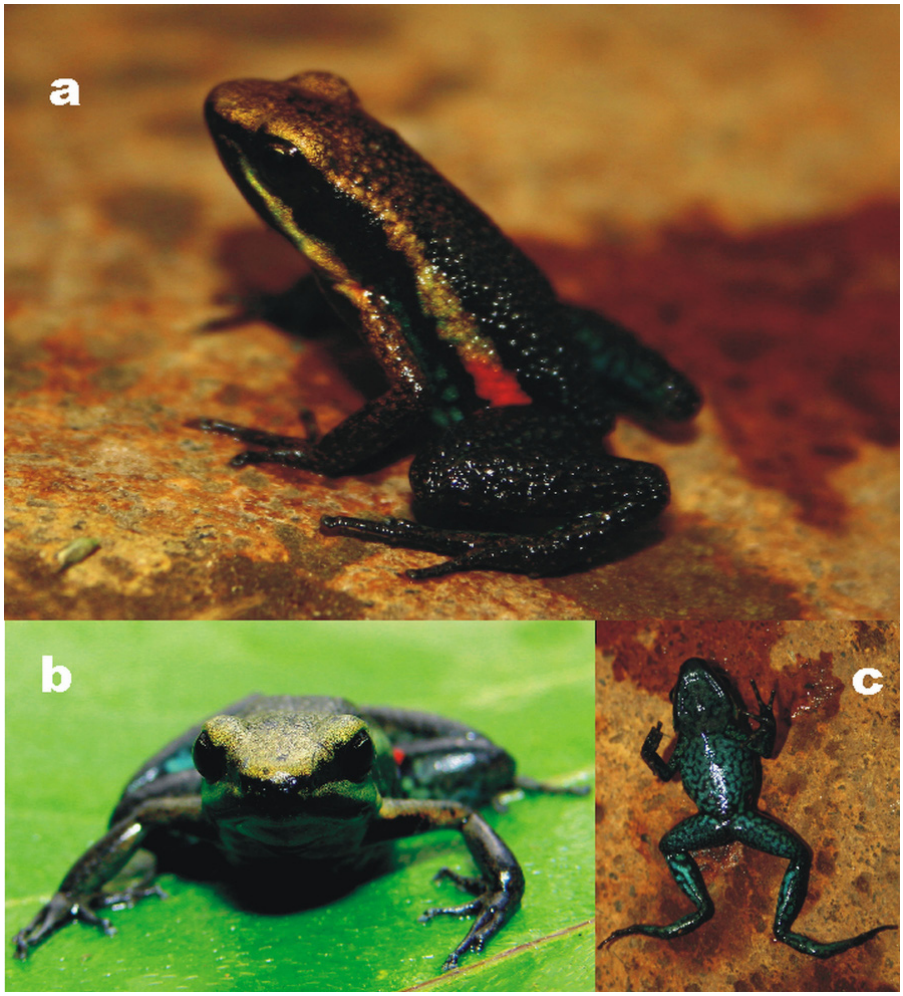
the genus *Ameerega*. This species has been reported just once since its description, in 1999 in the type locality (Javier Icochea, pers. comm.), and never previously photographed. It is likely that *A. planipaleae* is the poisonous frog with the highest known elevational range. According to reports, habitat loss and fragmentation in the type locality is a major problem for the species. For that reason, it was classified as Critically Endangered (CR) by the IUCN Red List (Icochea et al., 2004) and by the Peruvian category of threatened fauna (INRENA, 2004). This frog is known only for the type locality and its ecology and natural history are practically unknown.



Oxapampa poison frog,* Meerega planipaleae. *© G. Chávez

This species has been reported just once since its description, and never previously photographed

Considering this background, our team of peruvian researchers proposed a project in 2006 to find populations of *A. planipaleae* and to obtain data about their natural history and ecology, with the aim of elaborating an action plan to help the conservation of this species. From 2007 to 2009, we made six trips to the type locality; the survey included searching streams and forests habitats between 1900 to 2300 m.a.s.l. in each season. The effort was conducted by four researchers, and the first results were obtaind in August 2007, when we found the first individual of *A. planipaleae* after almost nine years. Since then, we have found eighteen specimens (according to the last record in January 2009) and we recorded valuable data about this frog.

The population was found in only two streams close to the type locality, and we can say with some confidence that this frog is not common in these forests. According to some observations, the coloration described by Morales and Velazco (1998) is apparently incorrect, because we observed a color pattern variation in this species (Medina-Müller & Chávez, 2008). We are not sure about the sexual dichromatism mentioned in the first description, which consists

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of a dark gular region in males and bluish with dark reticulations in females. We found both of them with the gular region dark or bluish coloration without predominance of any color for males or females. Apparently, this frog prefers rock habitats close to streams and it is sympatric with direct development frogs of the family Strabomantidae and glass frogs of the family Centrolenidae. None of these species were diurnal like *A. planipaleae*, so we can conclude that it is the only diurnal frog in these forests. To confirm the distribution, we conducted several surveys in other localities near to the type locality, with no success. While we recorded the same sympatric species as found in the Planipaleae´s streams, it was impossible to find *A. planipaleae*. The photo record included on the previous page is the first of this species, but it is the second to be published (two photos were previously published by Medina-Müller & Chávez [2008]). The call was not recorded and the tadpoles are unknown.

Since 2007 we have been working on a project to montor disease in Peruvian amphibians (Enciso et al., 2008). We have already sampled in several localities in the northern Peruvian Andes and we are interested in conducting monitoring in the central Andes, in localities including Oxapampa, where *A. planipaleae* occurs. It will declared our flagship species. We have initiated a health evaluation in the *A. planipaleae* population that we know. We must consider the great threat that chytridiomycosis presents, and the importance of researching this disease in amphibian species of Peru (von May et al., 2008). This evaluation is not only for the fungal disease, but also for the diseases of bacterial origin.

From our data we concluded that *Ameerega planipaleae* is an endemic frog with a very short distributional range. It does not have diurnal competitive species, and it appears to exhibit a preference for streams and habitats close to water bodies. These habitats are threatened by habitat degradation caused by agricultural activities, with increasing amounts of agro chemical substances in the soil and water. Additionally, garbage is not recycyeld in this area, and there are exotic species present. There is also a possibility to find pathogenic agents, but we´re still working on this aspect. It is necessary to carry out more research to reveal the natural history and ecology of *A. planipaleae* and to increase our knowledge on the distribution of the species in order to suggest conservation actions for this enigmatic and endangered frog.

Acknowledgements

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AROUND THE WORLD: RESEARCH

Preliminary note on the 'red patch' infection in the skipper frog (*Euphlyctis cyanophlyctis*) (Amphibia: Dicroglossidae) in Sri Lanka

Anslem de Silva, N. P. K. Dawundasekera & Panduka Gunawardena

During an ongoing island-wide survey to 'Investigate the incidence and geographical pattern of Malformations, Abnormalities, Injuries and Parasitic infection of Frogs, Toads and Caecilians of Sri Lanka' we observed in some aquatic frogs redness above the eye. We have named this condition 'red patch'. This is the first report of this condition from Sri Lanka.

The host species

Of several species of sympatric aquatic anurans that were investigated during the ongoing

Figure 1. Skipper frog (Euphlytics cyanophlyctis) showing 'red patch'

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Figure 2. Conspicuous 'red patch' in a dead specimen© Anslem de Silva

survey, we observed a conspicuous 'red patch' externally above the prominent eye balls of *Euphlyctis cyanophlyctis* (Schneider, 1799) (Skipper frog = English; Utpatana mädiya = Sinhala). It was present in both sexes (Figure 1). Two frogs that had this condition died, however, the 'red patch' infection was highly visible even in the dead specimens (Figure 2).

Laboratory investigations

These frogs were investigated in the veterinary pathology laboratory. Tissue samples including the 'red patch' collected form the affected frogs were fixed in 10% formol saline for histopathological examination. The fixed tissues were gradually dehydrated in ethanol by means of an automatic tissue processor and embedded in paraffin wax. Microsections of 5 m cut from paraffin embedded tissue blocks and stained with Haematoxylin and Eosin (H&E) were subjected to microscopic examination. Presently detail investigations are been conducted to see etiology of the condition.

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Insect attacks on amphibians: some recent observations from Sri Lanka

Anslem de Silva, N. P. K. Dawundasekara & Sameera Karunarathna

There are few reports from Sri Lanka of predation by invertebrates on amphibian larvae and adults. These invertebrates ranged from arachnids (Bamabaradeniya, 2001), crustaceans (de Silva, 1997), hemipterans (de Silva, 2001a) and Dipteran larvae (de Silva 2001b, de Silva and de Silva, 2001).

The present paper is on two incidents of coleopterans (beetle) larvae (species not yet identified) attacking and feeding on the body fluids of amphibians. These were observed during an on going island wide study on amphibian malformations.

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Figure 1. Beetle larvae clinging on to Duttaphrynus melanostictus
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Figure 2. Unidentified beetle larvae © Anslem de Silva

On December 9th, 2008 we observed around 10 am a beetle larvae clinging on to a toad: *Duttaphrynus melanostictus* Schneider, 1799 (common house toad) in an anthropogenic habitat at Puttalam (N 08º 00' 59.7" and E 7.9 50' 17.7", 28 m asl). The insect was clinging on to the toad by its claw-like appendage about one millimeter above the cloacae of an adult common house toad (Figure 1). This larvae did not fall or detached itself from the toad though the toad was handled quite freely during photography. The insect was removed photography for identification (Figure 2).

The second episode was observed at Talawakele (1400m above sea level) in an anthropogenic habitat around 10 am where an arboreal shrub frog Philautus viridis Manamendra-Arachchi & Pethiyagoda, 2005 was attacked on the ventral surface of the frog by two coleopterans (beetle) larvae. One larva was attached to the lower chin area whilst the other on to the abdomen. However, the attack on the chin appeared severe as the larvae has virtually burrowed into the flesh (Figure 3). The frog appeared weak and died subsequently within an hour. Both larvae fell during photography (Figure 4). This attractive frog is highly polymorphic in colour (Figure 5); it is an endemic and an endangered species (IUCN, 2007).

The above two cases suggests not only of an unusual

***Figure 3. Fatal attack on the chin of* Philautus viridis**
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Figure 4. Unidentified beetle larvae© Anslem de Silva

predator of amphibians, but also that it could be fatal for amphibians.

Acknowledgements

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Figure 5. **Philautus viridis** ***green color phase© Anslem de Silva***

Remarkable amphibian diversity in the South Nguru Mountains, Tanzania

Simon Loader, Michele Menegon Hendrik Müller, David Gower, Mark Wilkinson, Kim Howell, and Frances Orton

Myers et al's (2000) identification of the Eastern Arc Mountains (EAM) as a hotspot of species richness provided a much-needed focus on an area long regarded as biologically rich. The Eastern Arc is a chain of disconnected mountain blocks that run subparallel to the coast in a Northeastern direction from southern Tanzania up into southern Kenya. The area is renowned for its high species richness, which is mostly concentrated in the forests covering each mountain block. Amphibian diversity on these mountain blocks is high, with many endemic species and even genera. Of the spatially restricted species, many are rarely encountered or collected and generally very little is known of their distribution and biology. The basis for current understanding of amphibians in the EAM is almost entirely founded on work conducted on only three of the thirteen mountain blocks (Poynton et al. 2007). Outside of these three areas only fragmentary surveys have been carried out, and these have provided tantalizing glimpses of the species assemblages in less well-studied parts of the EAM (e.g. Emmrich, 1998).

Diversity of the Nguru Mountains

Previous surveys provided tantalizing glimpses of the species assemblages in less well-studied parts

A clearer understanding of species diversity and distribution throughout the fragmented EAM is a priority if basic questions on the evolution and conservation of amphibians are to be addressed. To meet this need, over the past ten years herpetological surveys have been conducted in areas outside of the Usambara, Uluguru and Udzungwa Mountains, the three relatively well surveyed main blocks. Several localities were surveyed for the first time during this work. The surveys were conducted collaboratively by a group of herpetologists working in the region. A recent survey of the Nguru Mountains strikes us as being particularly interesting to report and highlights the remarkable amphibian diversity in the EAM.

Our group received funds from the Declining Amphibian Population Task Force to conduct additional surveys in the Nguru Mountains, complementing those recently reported in Menegon et al. (2008). Our work was focused on the collection of data to continue ecological, morphological and molecular studies on the Eastern Arc amphibian fauna. In 2008 we collected voucher specimens of various life history stages, swabbed 400 specimens that are now being used in PCR-based tests for the presence of poten-

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tially lethal chytridomycosis fungus, and collected tissue samples for phylogenetic analyses. Our overall aim was to gain a better understanding of the species inhabiting the Nguru Mountains.

the South Nguru Mountains stand out as being exceptionally diverse

In total, our combined work surveyed 15 sites in the Nguru Mountain forests; nine sites in Nguru South Forest Reserve, and six in Kanga Forest Reserve. Sampling sites were located in submontane and montane forests between 750 and 2200 m asl. A total of 41 species of amphibians from 12 families were recorded in South Nguru Forest Reserve, Kanga Forest Reserve and adjacent farmland. Of the species collected, the majority was recorded from forest, and their altitudinal and habitat distribution suggests strong dependence on the fragmented forest habitats that remain. A good example of this forest-restricted assemblage is the recently described species *Arthroleptis nguruensis*, known only from montane forest of the Nguru South Forest Reserve between 1800-2200m. This giant Arthroleptis was described by members of our team (Poynton et al. 2008) and has a Critically Endangered conservation status because of its highly restricted distribution and the changing land use patterns in the Ngurus. Many other potential new species await description from our collection, which includes a new toad and caecilian species figured.

The number of undescribed and endemic species is striking

From our study of amphibians, species identifications suggest that the South Nguru Mountains stand out as being exceptionally diverse. Indeed, the South Ngurus are comparable to, and potentially richer than the better-surveyed areas in the EAM. The number of undescribed and endemic species is striking. Based on preliminary results of our work, 39.02% of the herpetofauna species are strictly endemic to the South Nguru Mountains and all but one of these are currently undescribed (Poynton et al. 2008). A further 24.3 % of the species have ranges restricted to within the Eastern Arc Mountains. The surveys and taxonomic assessment of the species collected show that, in total, 16 amphibian taxa are probably distinct enough (based on morphological and molecular data) from other known taxa to be considered new species. Thus the South Nguru Mountains appear to be one of the most important ranges for amphibian diversity on the continent of Africa (Menegon et al. 2008).

The need for a rapid taxonomic and conservation assessment of these newly discovered, but as yet undescribed species is clearly a high priority. Today, because of a combination of the relatively recent exploration of the area and a taxonomic hiatus, the Nguru Mountains has few described endemic species, and consequently a perceived low diversity. Conservation concern is therefore accordingly low, as an area with relatively few species. With increasing land use changes in the South Ngurus being a real concern, several of the undescribed species are likely to be threatened. We continue with our aims to better understand and promote this

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The South Nguru Mountains appear to be one of the most important ranges for amphibian diversity on the continent of Africa

richly diverse amphibian assemblage (see www.tanzanian-herps.org), and suggest focused attention be accorded to this area in the future. A positive direction from government institutions is already evidenced by the possible designation of the South Nguru Mountains as a Nature reserve by the Tanzanian Government's Nature Reserves (Menegon et al. in print). This will ensure better long-term protection to the area and the species that inhabit the forests of the Nguru Mountains.

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Inhibition of metamorphosis in *Bufo americanus* tadpoles in the Nine Mile Run Restoration Area, Pittsburg, Pennsylvania USA

Kalyn Wylie, Michal-Lynn Gramby and Mary Kostalos

Amphibian decline is a significant problem world wide. This group of vertebrates has been on the earth for over 300 million years. Over 168 species may have already become extinct and about 1,856 species of amphibians are threatened (AmphibiaWeb, 2008). Since toads often breed in temporary pools, any delay in metamorphosis can reduce the likelihood of completing metamorphosis before the pool dries up, leading to a reduction in the population.

For two years, 2007 and 2008, studies were conducted on the population of American toads, *Bufo americanus*, in the Nine Mile Run restoration area in Frick Park, a city park in Pittsburgh, Pennsylvania. These studies were conducted as senior research projects by Biology majors at Chatham University. The Nine Mile Run restoration was a $7.7 million dollar project to help control flooding and sewer overflows in this urban watershed, and restore the stream area to a more natural state. As a part of the restoration, new wetland areas were constructed and existing areas expanded.

Nine Mile Run Restoration Area

In 2007 Gramby (unpublished thesis) conducted a population survey of *Bufo americanus* in two wetland areas within the restoration area. She estimated that at least 13 pairs of toads had laid eggs in the two wetland areas (A and B) that she surveyed, and thousands of tadpoles were present in late April. However, metamorphosis seemed to be inhibited or delayed, and none of the tadpoles had developed legs by the middle of June when the wetlands dried up, killing

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the tadpoles. No toadlets were observed in the study area. As the wetlands were drying up, an extensive bloom of an unidentified filamentous green algae occurred in one of the wetlands.

In 2008, Wylie (unpublished thesis) conducted a field and laboratory study to examine the role of the green algae in tadpole development. Egg masses were first observed in both wetland areas on April 20, 2008. Tadpoles were collected from Site A for the laboratory portion of the study on April 23. On May 27, 2008, the tadpoles at site B had developed hind legs while those at Site A had only leg nubs. By June first, hundreds of toadlets were observed at Site B, while the tadpoles at Site A still had only leg nubs. By the end of June, a few tadpoles at Site A had developed hind legs and few toadlets were seen; however, most of the tadpoles had failed to develop. By early July, the wetlands had dried up, killing the tadpoles. Additional observations from a small backyard pond about a mile from the study site showed that some of the toad tadpoles completed metamorphosis; however, in both 2007 and 2008, when the pond was cleaned in November, tadpoles were still present. A few had developed hind legs by this point, but most had only leg nubs.

The algae affected survival, but did not appear to inhibit metamorphosis

In order to study the possible effect of the algae on tadpole development, tadpoles were maintained in an environmental chamber under controlled conditions. The alga was identified as a species of Spirogyra. Three bowls containing 750 ml of water and 10 tadpoles were set up for each treatment. Three treatments were established, stream water from near the wetland sites (Control), stream water to which approximately 10 gm of live algae were added (Algal Treatment), and water in which the algae had been maintained for several weeks, but from which the algae were filtered before use (Extract Treatment). The tadpoles were kept in an environmental chamber (Percival model AR-36) at 17.5° C with a 12 hour light cycle. The tadpoles were observed for 126 days, and were monitored for survival, development of hind and front legs, body length and transformation into toadlets.

The results, illustrated in Fig 1. indicated that the Extract Treatment was acutely toxic and all tadpoles died in less than two weeks. In both the Algal Treatment and Control, 5 of 30 tadpoles developed hind legs and one tadpole completed metamorphosis to become a toadlet. An Anova test, comparing survival among treatments, showed that survival was significantly higher in the Control group compared to the Algal Treatment and

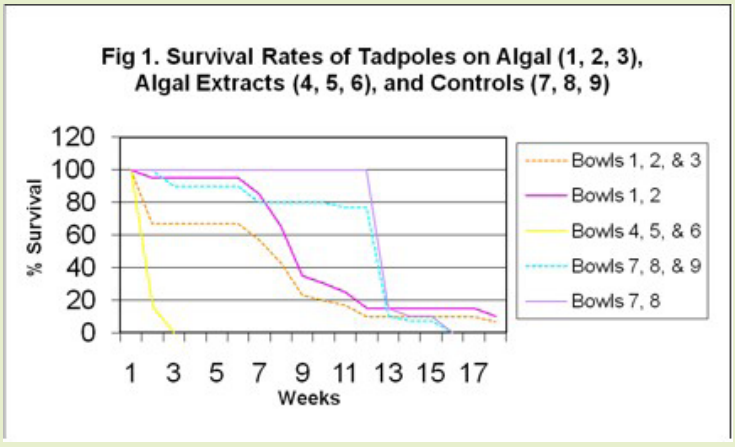

Fig 1. Impact of algae on Survival Rates of* B.americanus *tadpoles

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the Extract Treatment (p= 0.5; f= <.001). The tadpoles in the Control generally survived until week 13 after which there was a rapid decline, while the tadpoles in the Algal Treatment began to die in week 6 and showed a steady decline until the end of the experiment. The algae affected survival, but did not seem to be a factor inhibiting metamorphosis.

Although *Bufo americanus* are common in the study area and are not threatened or endangered, continued delay or failure of the tadpoles to complete metamorphosis will result in a decline in the population over time. Further studies are planned to try to confirm these results and determine the reason for this phenomenon. One important aspect is to try to determine the geographic extent of this problem. The authors would appreciate any information on the delay or failure of metamorphosis observed in other areas or other species.

Acknowledgements

The authors wish to thank Mr. Jim Sweet for identifying the algal species.

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CONSERVATION

Amphibian breeding station in Hanoi: a trial model for linking conservation and research with sustainable use

Nguyen Quang Truong, Dang Tat The, Pham The Cuong, Nguyen Thien Tao and Thomas Ziegler

At present, Vietnam contains a total of 176 species of amphibians (Nguyen et al. in prep.). Within the past four years, 15 new species have been described (Böhme et al. 2005, Orlov 2005, Orlov & Ho 2005, Stuart & Bain 2005, Stuart et al. 2005, Bain et al. 2006, Ohler & Delorme 2006, Orlov et al. 2006a,b, Orlov & Ho 2007, Nguyen et al. 2008, Orlov 2008, Orlov et al. 2008). In contrast to this increasing, still underestimated and poorly studied species richness, many populations, if not whole species, are facing extinction as a result of habitat loss and overcollecting for food consumption, trade and traditional medicine use. In response, the Institute of Ecology and Biological Resources (IEBR), together with the Cologne Zoo, decided to upgrade an already existing facility on the outskirts of Hanoi that was established in 2004 by IEBR.

The main focus of the amphibian breeding station is

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to keep, breed and study Vietnamese amphibians and selected reptilian species in an "in country (i.e., in situ)" facility, with the following goals: 1) to breed endangered species for a) maintaining a captive assurance population especially in times of world-wide emerging chytridiomycosis, and b) preparation for subsequent release of offspring into the wild, if required; 2) to study the natural history, especially the reproductive biology of rare or poorly known species in captivity; and 3) to provide a surplus of offspring of certain species for the trade to a) decrease the number of wild caught specimens, and b) guarantee a long-term maintenance and self financing of the station.

Fig 1. **Rhacophorus maximus** ***at the Amphibian Station in Hanoi***

In their preliminary report, Ziegler & Nguyen (2008) reported about 24 already existing enclosures for the keeping and breeding of amphibians and reptilians at the station, plus a workroom and two store rooms for different kinds of food. Within the Vietnamese / German cooperation project between IEBR and the Cologne Zoo, both manager and technical staff of the station participated in a training course at Cologne Zoo in February 2008, focused on amphibian rearing methods and providing an introduction to respective techniques. Subsequently, in addition to more facilities, a quarantine station was built in 2008.

Currently, 12 species (eight amphibians and four reptiles) are kept at the Hanoi station. All of them are registered with the Forest Protection Department of Hanoi. In 2008 we developed a breeding program for half of the amphibian species kept; *Hylarana maosonensis, Rhacophorus feae, R. maximus,* and *R. rhodopus*. Three of these species, *H. maosonensis, R. maximus*, and *R. feae*, were sucessfully bred at the station meanwhile. Three hundred froglets of *Rhacophorus dennysi,* which was successfully bred in 2007, were released in June 2008 into the wild at Tam Dao NP, from where the parents were collected. Captive animals, and those being released, are tested for the amphibian chytrid fungus; to date it has not been detected within the station's inhabitants. Releasing a limited number of the offspring of *Rhacophorus feae* and *R. maximus* is planned for 2009. Also initial reptilian breeding successes (e.g., the first breeding of the endangered Shinisaurus crocodilurus from Vietnam) confirm the current husbandry concept of the Hanoi breeding station.

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***Fig 2. Tadpoles of* Rhacophorus feae**

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Species	Number of adults (parents)	Number of froglets (offspring)	Breeding success
Tylototriton vietnamensis	36	-	not yet
Hylarana maosonensis	11	42	first in April 2008
Kurixalus verrucosus	12	84	first in July 2007
Rhacophorus rhodopus	12	-	not yet
Rhacophorus dennysi	50	about 12,000	first in February 2008
Rhacophorus maximus	20	about 1,500	first in April 2008
Rhacophorus feae	20	about 1,500	first in October 2008
Theloderma corticale	20	60	first in September 2008

Table showing breeding success of amphibians at the Amphibian Station in Hanoi

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Fig 3. Release of froglets (*Rhacophorus dennysi*) within Tam Dao National Park, Vinh Phuc Province, Vietnam

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YOU can help the Amphibian Ark save the Pirri harlequin frog from extinction

Kevin Zippel

As the Froglog community well knows, there are nearly 2000 amphibian species currently threatened with extinction. Most of them are facing threats that can be mitigated in time to prevent their extinction, and we should all continue to support those organizations who are working to protect these species in the wild (e.g., the ASG). However, there are perhaps 500 species facing threats that we cannot mitigate in time to save them in the wild (e.g., disease, climate change). An integral part of the ACAP is the Amphibian Ark www.AmphibianArk.org, in which select species that would otherwise go extinct will be maintained in captivity until they can be secured in the wild. AArk partners around the world are already working with nearly 50 priority species in captivity and continuously working to increase our capacity to save more.

Currently we are promoting a fundraiser through the online community FaceBook to help our partners in Panama save the Pirri harlequin frog (*Atelopus glyphus*). This species occurs in the highlands of extreme eastern Panama in the Serranía de Pirre and just crosses over into the Chocó region of Colombia The Pirri harlequin frog occurs in

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two protected parks, yet it has been classified as Critically Endangered by the IUCN and as a priority for rescue by the AArk because of the imminent arrival of the amphibian chytrid fungus. Of approximately 113 species in the genus Atelopus, thirty are presumed extinct and only ten can be found in 'stable' populations today. We predict that the Pirri harlequin frog will be hit (and possibly driven extinct) by the fungus within five years.

We are fairly certain that we will be successful with this species in captivity because preliminary husbandry research conducted at the El Valle Amphibian Conservation Center (EVACC) has shown that they are straightforward to keep and breed. Our rescue facility will be a modified, refrigerated shipping container, a cost-effective, biosecurity-friendly system pioneered at the Amphibian Research Centre in Australia. Our "amphibian pod" will be established at the Summit Zoo on the eastern side of the Panama Canal, one of multiple species-specific rescue facilities planned there. Long-term management of the facility will be the responsibility of a consortium involving multiple institutions, including the Houston Zoo, which established and supports EVACC to the west of the canal.

Saving the Pirri harlequin frog from imminent extinction will cost $53,000 and we are hoping to raise this by June 1, 2009. This amount includes $41,000

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for purchase, outfitting, and installation of the facility (shelves, tanks, lights, generator), and $12,000 for the first year of operation (staff, live food, vet services, etc.). The facility will hold approximately 20 wild-caught adult pairs plus a managed group of offspring for a total of about 500 animals required for proper genetic management.

Never before has it been so easy to be a part of preventing an imminent extinction. Please, do your part to save the Pirri harlequin frog by donating today and recruiting your friends!

Author email: KevinZ@AmphibianArk.org

ANNOUNCEMENTS

Save the frogs day - April 28th, 2009

Kerry Kriger

In an effort to raise awareness of the plight of amphibians, the scientific community has declared April 28th, 2009 the 1st Annual 'Save The Frogs Day'. On this day we encourage the appreciation and celebration of amphibians by people from all walks of life.

It is our duty as herpetologists to protect amphibian populations, and this will not be possible unless we rapidly and successfully educate the public about the amphibian extinction crisis. A large sector of society is still unaware that amphibians are in trouble, and we all have a vested interest in changing this:

(1) An environmentally conscious society attempts to care for versus destroy the environment, and thus by educating the public regarding environmental issues we will help to ensure that our current hard work will not be laid to waste by the environmentally-destructive actions of future generations;

(2) Increasing students' interest in herpetology will mean a larger pool of potential graduate students for us to choose from, and thus higher quality researchers working in our labs; and

(3) Issues that are engrained in the public's consciousness receive more monetary funding from governments, private foundations, and average citizens, and we all depend on this money.

Can you devote half of a day on April 28th towards educating the public about the amphibian extinction crisis? Please help us make Save The Frogs Day successful by giving a free public lecture on amphibian extinctions (or your area of expertise) at a local school on April 28th, 2009. It's great publicity and a great way to spread

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the word about amphibian declines and get students interested in herpetology and environmental conservation.

Please email me if you are able to give a free lecture so that we can list the event on the SAVE THE FROGS! website (www.savethefrogs.com), help you develop the lecture, find local journalists who can attend the event, and provide you with informational flyers to distribute. If you can help develop lesson plans for teachers, please also let us know.

If you are affiliated with a herpetological society, please have your group announce Save The Frogs Day via its mailing list and website. Our goal is to make the amphibian extinction crisis common knowledge by 2010: help make it happen!

Author email: kerry@savethefrogs.com

ASG Seed Grants

Recipients of ASG Seed Grants are generally expected to publish the results of their projects in refereed journals, or as articles in Froglog. They are also required to send us reports, so that their results can be made available to ASG members. Below are reports that we have received recently. Anyone wanting a copy of either should contact the author in the first instance; if you cannot reach the author, contact Robin Moore - rdmoore@conservation.org. Please keep an eye on www.amphibians.org for announcements of an upcoming round of seed grants.

Boby Darmawan, Mirza D. Kusrini & Angus P. Kartono. (2008) Amphibian Diversity in Ex-Forest Concession Area of PT Rimba Karya Indah, Bungo Regency, Jambi (Sumatra).
(mirza_kusrini@yahoo.com)

Instructions to Authors

FROGLOG publishes a range of articles on any research, discoveries or conservation news relating to the amphibian decline phenomenon. We encourage authors describing original research to first make submissions to a refereed journal and then, if appropriate, to publish a synopsis in Froglog. Submissions should be in English, normally no more than 1000 words and follow the style of FROGLOG Vol 83 (as should references). You may also submit images, maps, figures or tables. We encourage the submission of photographs to accompany text. Short news items and press releases are also acceptable. Please submit potential contributions to Robin Moore at the address in the box to the right.

FROGLOG is the bi-monthly newsletter of the Amphibian Specialist Group (ASG). Articles on any subject relevant to the understanding of amphibian conservation, research and / or assessments should be sent to: Robin Moore, Editor, Conservation International, 2011 Crystal Drive, Suite 500, arlington, VA 22202, USA.
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rdmoore@conservation.org