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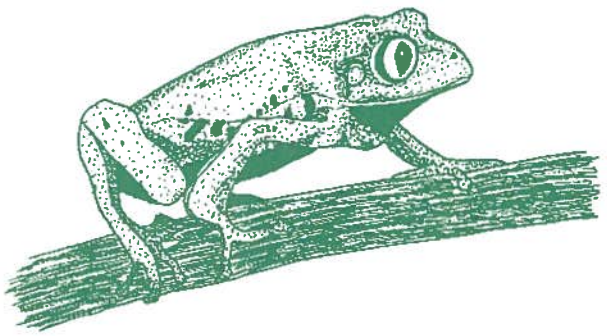

Phyllomedusa distincta

FROGLOG

Newsletter of the Declining Amphibian Populations Task Force

October 2000, Number 41.

Seed Grant Round 2000

We are pleased to announce a new round of Seed Grants for 2000/2001. These are intended as one-time awards of between $500 and $2000 for the support or initiation of research projects which further the DAPTF's mission to determine the nature, extent and causes of amphibian population declines. There are no special categories for this year's round but, as announced in *Froglog* 40, we will favour joint applications that involve a partnership between herpetologists in developed and developing countries. We will accept applications in Spanish, Portugese and French, as well as English.

Proposals of no more than 4 pages should be addressed to Tim Halliday, DAPTF International Director, at the address on the back of this *Froglog* or by e-mail on **t.r.halliday@open.ac.uk**.

Proposals should contain: (1) Name, affiliation and contact information of proposer(s), (2) Project title, (3) Description of the intended work, including localities and species involved, (4) Start date and schedule of the project, (5) Explanation of how the project will further the DAPTF's mission, (6) Budget breakdown, including details of additional funding obtained or sought from elsewhere (note that we are unable to provide funds to cover salaries), (7) References, if appropriate, (8) Any other pertinent information.

All information acquired with the support of the DAPTF remains the intellectual property of the grant recipient, but must be freely available to the DAPTF and for the DAPTF's use in furthering its mission.

The closing date for applications is 31st November, 2000.

Amphibian Research and Monitoring Initiative

By Stephen Corn, U.S. Geological Survey.

In June 1998, Secretary of the Interior Bruce Babbitt directed the US Geological Survey to prepare a budget request for Fiscal Year 2000 to initiate monitoring of trends in amphibian populations and research into causes of declines. The initial $5.6 million request for USGS grew to an $8.1 million initiative involving other Department of Interior (DOI) agencies (National Park Service, Fish and Wildlife Service, Bureau of Land Management). Congress enacted about half ($3.9 million) of this request, with USGS, NPS, and FWS receiving increases to base funding. The Fiscal Year 2001 budget includes an additional request for USGS.

The project, named the Amphibian Research and Monitoring Initiative (ARMI), has the following objectives:

1) Initiate long-term monitoring by USGS scientists to determine trends in amphibian populations and associated environmental changes. Studies will concentrate on Federal lands. However, the ultimate goal is that ARMI will provide the framework for incorporating data collected from a variety of sources, including non-Federal lands as well.

2) Conduct research into causes of amphibian declines and malformations. These include, but are not limited to, habitat destruction, disease, exotic predators, contaminants, global climate change, increasing UV radiation, and acid deposition.

3) Make use of both the research expertise within USGS and resource management capabilities in the DOI.

4) Make the population and environmental information available to scientists, resource managers, decision makers, and the interested public, in formats readily able to be integrated and understood.

The USGS, as the science and research branch of the Department of Interior, has taken the lead in planning and organization for ARMI. Monitoring will be distributed nationally among seven regions, involving several USGS research centers, herpetologists, and hydrologists. Monitoring will be hierarchical, organized along guidelines established for large natural resource inventory and monitoring by the Committee on the Environment and Natural Resources (Bricker and Ruggiero 1998). This scheme is characterized by increasing intensity of data collection, beginning with simple surveys at many sites in large areas and ending with intensive studies of one or a few species at single locations. As an example of the former, ARMI will provide a permanent home for the amphibian atlas currently being developed by Michael Lannoo, U.S. DAPTF Chair. The extensive bottom tier will also provide an opportunity for participation and synthesis of data collected on non-Federal lands by a variety of programs (for example, the North American Amphibian Monitoring Program, and State Heritage Program and atlas projects). More intensive monitoring will emphasize Department of Interior lands (National Parks, National Wildlife Refuges, BLM lands) and will be coordinated by USGS scientists.

Research will occur at all levels of the hierarchy and will focus on two tasks: identifying causes for declines, and refining methods for monitoring. The role of disease is expected to be a major focus of research, and David E. Green, a veterinary pathologist with extensive experience in amphibian disease, has been hired at the National Wildlife Health Center, Madison, Wisconsin. Another area of research will be the utility of geospatial information in developing monitoring efforts and

determining patterns of occurrence and causes of declines.

Additional research in 2000 is being funded by intramural competition. Increased funding for research, including extramural competition is dependent on the additional funding requested in 2001. Data collected under this initiative will be managed nationally through the Patuxent Wildlife Research Center, Laurel, Maryland. Results will be made available in a timely manner, and it is hoped that the database will provide a forum for other researchers to share their findings, so that analyses can address trends in species throughout their distributions, and not just on Federal lands.

Other DOI agencies are funded through ARMI. The Fish and Wildlife Service is initiating a national survey of contaminant burdens and occurrence of malformed amphibians on 43 National Wildlife Refuges in 32 states. The National Park Service is working with USGS to develop amphibian inventories in National Parks. Initial efforts are focused in parks that are part of PRIMENet, a group of large parks with intensive air quality and UV radiation monitoring. The Bureau of Land Management did not receive funding under ARMI in 2000, but remains interested in collaborating with data collection on its lands. Finally, the U.S. Forest Service, which also did not receive new funding under ARMI, nevertheless currently spends about 5% of its research budget on amphibian projects, and individual National Forests frequently conduct surveys for amphibians. One of the objectives of ARMI is to work with the Forest Service so that data collected in these surveys are compatible for inclusion in the ARMI database.

For more information please contact:
Dan James, US Geological Survey, 12201 Sunrise Valley Drive, Reston, VA 20192, USA.
Tel: (703) 648-4253
Dan_James@usgs.gov.

Reference

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Fish Elimination by Pond Drainage to Preserve a Toad Population in Spain

By Alberto Alvarez and Lorenzo Martín

Some ponds in the Regional Park of High Basin Manzanares River (Madrid, Spain) were drained away by the Park authorities in order to avoid the predation of adults and larvae of amphibians by fishes and introduced terrapins. One of these ponds (600 square meters approx) is used by 4 anurans (*Bufo bufo, Alytes cisternasii, Rana perezi, Pelobates cultripes*) and 2 urodeles (*Triturus marmoratus pygmaeus and Pleurodeles waltl*) to breed. During recent years, high populations of some introduced exotic fish *(Cyprinus carpio, Ictalurus melas, Lepomis gibbosus, Micropterus salmoides, Gambusia affinis*) and crayfish (*Procambarus clarkii*) had become a serious problem, especially as they jeopardize the reproduction of amphibians. Over the last two years it has been very difficult, almost impossible, for any young toad to become adult. Additionally, the pond had two species of indroduced terrapins; one native (*Mauremys leprosa*) and one exotic (*Trachemys scripta elegans*).

In September 1999, over three days, the water of this pond was pumped out. Hundred of fish and crayfish, as well as terrapins, were taken away. The mud was extracted with special trucks. The following week it began to rain and the pond returned to its higher level. None of the exotic fish have been seen again (May 2000).

It was observed that the first *B. bufo* arrived at the pond in February 2000, and so did other toads and *Triturus spp.* The first *B. bufo* larvae began to hatch by the 2nd of March.

Contact: Alberto Alvarez Lopez, Dept. de Nutricion y Bromatologia III, Facultad de Veterinaria, Universidad Complutense de Madrid, 28040 (Madrid) Spain.
Albertix@eucmax.sim.ucm.es

Establishment of a Frog Care Facility in Far North Queensland, Australia

A small but useful effort is underway in Cairns to assist frog conservation and further our knowledge of amphibians. Aptly named, the Cairns Frog Hospital is basically a receiving station for injured and sick frogs which are turned in by the public, park rangers and veterinarians. Being the only facility in the region, frogs are received from a long stretch of the coast from Cooktown to Townsville but the vast majority are from Cairns (a coastal city of 104,000 people plus tourists).

The Cairns Frog Hospital has been receiving frogs and tadpoles since August 1998 and so far, has handled 206 frogs and thousands of tadpoles. The majority of patients suffer injuries including being hit by cars, attacked by dogs and cats, attempted as food by snakes, birds and bigger frogs, squashed in windows and doors, exposed to toxins (deliberate and accidental), burned and scalded (usually accidental but, very sorry to say, sometimes deliberately), sprayed with Dettol and other chemicals intended for cane toads (*Bufo marinus*) and lacerated by farm machinery or workers harvesting bananas.

Nearly 7% of the frogs turned in have been affected by disease scenarios, some of which have turned out to be scientifically significant. Last winter, such cases included two frogs with tumours diagnosed as squamous cell carcinoma (skin cancer), one confirmed case of *Mucor amphiborium* in *Litoria infrafrenata*, one terminal case of the feline tapeworm *Spirametra erinacei* (not normally fatal), and several specimens with symptoms of a drastic 'wasting syndrome' which remains unidentified. It is also during the tropical winter months that the dreaded chytrid fungus could appear on the Far North Queensland coast. The Cairns Frog Hospital is remaining extra vigilant during May through August for any signs of the appearance of chytrid locally.

When the frog hospital's Curator, Deborah Pergolotti, first started looking after injured frogs, there was a distinct absence of treatment information, even on the internet. As a result, treatments have sometimes been a matter of trial and error to find what works. Despite venturing into 'new ground', roughly 65% of all injured frogs received were successfully recovered and released back to the wild. Another 30% have arrived too severely injured to survive or are suffering incurable diseases, although some progress is being made to find better ways of helping these frogs 'make it'. Deborah hopes to eventually publish the treatment and care techniques used so that other groups can undertake frog care and rehab in their own areas.

To help facilitate greater community involvement in frog conservation in Far North Queensland, Deborah has also started a new non-profit initiative called the Frog Decline Reversal Project which hopes to tackle an all-species survey of frogs in the Cairns region as its first major project.

The Cairns Frog Hospital can be contacted at: P.O. Box 2731, Cairns, FNQ 4870, Australia.
frogcrusader@north.net.au

Amphibians in Environmental Education in Atlantic Brazil

Germano Woehl Jr. and Elza N. Woehl

The Atlantic rainforest is home for a myriad of anuran amphibians, many of which are endemic. As many as 40 species can occur per hectare. In Brazil, this ecosystem is the most threatened. Brazil's biggest cities are located in the Atlantic rainforest, so the economic pressure to destroy the last original forest is high. The government of Brazil has enacted laws protecting this rich ecosystem. These laws, however, have failed to stop its destruction.

Although amphibians are protected by Brazilian environmental laws, the authorities have allowed the destruction of reproduction sites: swamp areas near forest fragments which are used to cultivate rice which use a large amount of agrochemicals, and for rearing non-native, frog-eating fish. It seems that for an agricultural project to be approved the rule is just to not fell the trees. Each species has its own reproduction strategy and, of course, the swamp areas are not the only place used by amphibians. Many of the species use temporary pools to lay their eggs that contain water for only a few days or weeks. This is a good strategy because these temporary pools are unlikely to contain aquatic predators such as fish. Such sites provide a safe environment for tadpoles unless the water evaporates before the tadpoles complete their development. We have verified that the populations of amphibians which breed in this environment are strongly driven by climatic conditions. However, climate change has very often dried up the temporary pools, which has not allowed enough time for the development of tadpoles. During the last breeding season (from late August 1999 until early February 2000), for instance, the rain was not enough to keep the temporary pools filled with water, most of them dried within 20 days, the time taken for the fastest-developing tadpoles to reach metamorphosis. Almost all the tadpoles perished in the last breeding season. Continuous unfavorable climatic conditions over just a few years can put many frog species in danger.

Since the Brazilian environmental laws have failed to protect one of the most important ecosystems of the planet, something else has to be done to save it. Environmental education seems to be the right way. We started an environmental education project in which frogs play the main role. Despite their importance, not much attention has been given to anuran amphibians due mainly to their historic bad reputation. In Brazil, an extra obstacle arises when we talk about amphibians: the Indian name for anuran amphibians, *perereca*, which is largely used by people to designate arboreal frogs, has also received a pejorative meaning. We have suggested that teachers use the Portuguese terms!

For the purpose of preservation, six years ago we bought a 70,000 m^2 plot of land containing original forest in the Atlantic rainforest domain, northern Santa Catarina State, Brazil. The site has three kinds of water bodies (temporary pools, permanent pools and streams) which are used as breeding sites by many anuran amphibians species. We have so far catalogued 41 species; some of them are very rare and at least two species are unknown. We have taken detailed pictures of all those species we found. The number of species occurring there might be greater. The area is bordered by a large area of well preserved forest, except for one side which is bordered by rice cultivation belonging to farmers. There are many pools around our house, so we can survey the frogs in their own environment over long periods. We don't collect frogs, just observe them. We soon concluded that our effort wasn't enough to avoid frog population decline and disappearance. We then opened our place, which we named Santuario Ra-bugio (Ra-bugio is the common name of *Physalaemus olfersi*, a terrestrial frog which lives there), allowing students to visit it. There, they learn how important frogs are to ecosystem equilibrium. Usually, students don't know that there are so many species living in the forest near their houses. This year, nearly 1,200 students have visited the Santuario Ra-bugio.

We have already put a lot of money (and time) into this project. Until last year, 1999, this money had come from our savings. We feel pleasure in doing this because we love frogs. This year, the Fundacao O Boticario de Protecao a Natureza (a non-governmental funding foundation) is supporting our project. In addition, the local government of Guaramirim Municipality is giving us some help (providing transport, telephone and other facilities).

Thanks to the Fundacao O Boticario de Protecao a Natureza it has been possible to expand our project this year. Besides the student visits to Santuario Ra-bugio, the project includes: ten sets of photo exhibits, each one with 35 enlarged photos of native frogs; a myriad of slide photos of frogs and breeding sites which are displayed for teachers and students during talks on frogs; and texts on frogs and their relationship with the ecosystem. Each picture has a caption where we emphasize whether the species was in trouble and the possible causes such as habitat loss, contamination by pesticides and herbicides used by farmers, introduction of non-native, frog-eating fishes into the habitat, and increased levels of harmful ultraviolet light. We want to teach how the frogs relate to their environment, not just how they function (their internal organs) as is currently taught to students. We suggest that teachers taking their students outside the classroom to show frogs living in their own environment look for breeding sites and check their condition (if the site is contaminated try to find the contamination source); try to find egg clutches; spot tadpoles and predators such as fish and birds; catalogue which species are using each breeding site.

The photo exhibition and texts on frogs are passing from one city to another through Santa Catarina State, and southern Parana State. The largest bus company in Santa Catarina State transports this material free of charge. The local government delivers the photos and texts to local public schools, or the photos are exhibited in a suitable place where students and teachers can visit. In the latter case, residents are also invited to visit the photo exhibition. We are giving talks on frogs for teachers in the largest cities.

Nearly 800,000 people (mainly students) will have seen our work on frogs by the end of this year. We think we are getting good results. Everyday we hear a lot of cases of children's action to protect frogs. Two cases are worth mentioning: (1) The children that live on a farm had noted that often a truck unloaded an unknown waste material over a swamp area near their house. They suspected the truck because it always came after midnight. Then, the children inspected the swamp and found several tadpoles dead. Immediately, they associated the death of these tadpoles to toxic substances from the unknown waste. Their fathers notified environmental agents who concluded it was a case of illegal discharge of toxic waste. (2) A farmer complained to my wife that his children hadn't allowed him to destroy a swamp area just because the frogs were using it for breeding. He then had to negotiate with his children and a small swamp area was

set aside for native frogs.
For further information on this project, contact: Germano Woehl Jr., Santuario Ra-bugio, Estrada Rio da Prata, 523-Caixa da Água, 89290-000 Guaramirim, Santa Catarina, Brazil. **germano@ieav.cta.br**

Froglog Shorts

DONATIONS We gratefully acknowledge receipt of the following donations received during July & August 2000. Organizations: Mid-Missouri Herpetological Society, Portal Publications Ltd., Saint Louis Zoo and Sedgewick County Zoo. Individuals: Alan Byboth and a group called Magnolia Twig as a memorial to Sarah Metcalfs Talpey and her dedication to amphibian research.

Fourth World Congress of Herpetology: Colombo, Sri Lanka 2-9 December, 2001 (Please note change of dates!) For details and expressions of interest, contact the Conference Director, Anslem de Silva, Faculty of Medecine, University of Peradeniya, Peradeniya, Sri Lanka or visit the updated website at: **http://www.4wch.com**
Michael J. Tyler, Secretary General

Conference on Frog Diseases An international group met in Cairns, Australia, from 26th to 30th August, 2000, for a conference and workshop entitled ***Getting the Jump! on Amphibian Disease***. Participants, drawn from a number of disciplines, shared their knowledge of amphibian diseases, particularly Chytridiomycosis and Ranaviruses, and examined ways in which the herpetological community can obtain a better understanding of these diseases. We also discussed in some detail practical measures that can be taken to limit their spread.

It was agreed that the DAPTF should (1) set up a global network to determine the geographical distribution of disease outbreaks and to provide diagnostic expertise, and (2) distribute a policy paper on the transport of amphibians within and between countries.

A report on the conference, with a detailed set of recommendations, will be published shortly by the conference organiser, Rick Speare, at the Amphibian Disease web site: **http://www.jcu.edu.au/school/phtm/PHTM/frogs/ampdis.htm** For abstracts and some complete presentaions visit: **.../gjoad.htm** For an overview of what we know about chytridiomycosis and ranaviral disease visit: **.../fidamp.htm**
Tim Halliday

Conservation News (from GREENLines, newsletter of the Endangered Species Coalition)
-The Mississippi dusky gopher frog (*Rana areolata sevosa*), known from only a single locality, has not bred for two years because of dry winters.
-The red-bellied Oregon spotted frog (*Rana pretiosa*), which has disappeared from 70% of its range, has been made the subject of a conservation agreement between the US Fish & Wildlife Service and the Oregon Dept. of Fish & Wildlife.
-The cause of mass mortalities among tiger salamanders (*Ambystoma tigrinum*) in North Dakota has been identified as an iridiovirus.

Publications of Interest

Publication Announcement Investigating Amphibian Declines: Proceedings of the 1998 Midwest Declining Amphibians Conference, Hinrich Kaiser, Gary S. Casper and Neil Bernstein (Editors). 2000. Iowa Academy of Science.

This publication collects 27 papers resulting from the March 21, 1998, Midwest Declining Amphibians Conference at the Milwaukee Public Museum. The collected papers address three themes: amphibian malformations, amphibian declines, and amphibian natural history. Available September 2000.

Copies can be ordered from: Jane Vanderlinden, Iowa Academy of Science, 175 Baker Hall, University of Northern Iowa, Cedar Falls, IA 50614, USA. Credit card or phone orders: 319-273-2021. Checks should be made to "The Iowa Academy of Science". The price is $29.95, plus $1.50 shipping.

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FROGLOG is the bi-monthy newsletter of the Declining Amphibian Populations Task Force. John W. Wilkinson, Editor, Department of Biological Sciences, The Open University, Walton Hall, Milton Keynes, MK7 6AA, U.K.
Tel: +44 (0) 1908 - 652274.
Fax: +44 (0) 1908 - 654167
E-mail: **daptf@open.ac.uk**

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