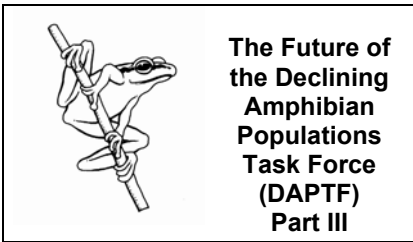


FROGLOG

Newsletter of the Declining Amphibian Populations Task Force

October 2005, Number 71



DAPTF at the Amphibian Conservation Summit, Washington, D.C., USA

During 17-19 September 2005, the DAPTF participated in the Amphibian Conservation Summit in Washington, D.C. The Summit was convened by the Center for Applied Biodiversity Science and Conservation International (CI), the Species Survival Commission (SSC) of the World Conservation Union (IUCN) and the DAPTF. Due to the strict dress code of the meeting venue, it may well have been the largest congregation of well-dressed herpetologists ever witnessed.

The Summit opened with an introduction by Holly Dublin, the Chair of the SSC, followed by an overview of the Global Amphibian Assessment (GAA) by Simon Stuart of the IUCN. This was followed by thematic presentations of Action Plan White Papers by leaders in specific fields. Topics included Disease, Climate Change, Ecotoxicology, Systematics, Captive Breeding, Reintroduction, Site and Landscape Planning and Over-harvesting.

During the following two days, the attendees formed working groups representing each of these themes in order to further define and prioritize actions and a budget. The results of these sessions culminated in the drafting of a comprehensive strategic action plan known as the ACAP – the Amphibian Conservation Action Plan. This Action Plan will be used to prioritize amphibian research and

conservation priorities including a final overall budget and fund-raising strategy for their immediate implementation. For further information please see: <http://www.iucn.org/themes/ssc>.

The future of the DAPTF was also discussed. It was agreed that we will continue with our ongoing activities until June 2006, such as providing our free, bimonthly newsletter, Froglog (which receives over 16,000 hits per month), supporting our global working groups and administering our Seed Grant and Rapid Response programs. After June, the DAPTF will join the Global Amphibian Specialist Group (GASG) and the Global Amphibian Assessment (GAA) to form the Amphibian Specialist Group (ASG). The DAPTF will become the research division of a three-pronged approach, also including a conservation division and an assessment division. This newly created group will be managed under the auspices of the SSC and was formally introduced by Holly Dublin on the last day of the Summit.

We hope to continue and expand our Working Group network, Seed Grant and Rapid Response programs and the production of *Froglog*, to become the newsletter of the entire partnership. For further information please contact Jeanne McKay at daptf@open.ac.uk

Jeanne McKay and Tim Halliday

DAPTF SEED GRANTS 2006

We are pleased to announce a new round of Seed Grants for 2006. These are intended as one-time awards of between \$500 and \$2000 for the support or initiation of research that furthers the DAPTF's mission to determine the nature, extent and causes of amphibian population declines. There are

three categories in this year's round, thanks to generous support from the US Department of the Interior's Amphibian Research and Monitoring Initiative (ARMI), and from the North of England Zoological Society-Chester Zoo in the UK. We will accept applications in Spanish, Portuguese and French, as well as in English.

ARMI AWARDS. The criterion for these awards is that the proposed work should be done on species or issues of concern in the USA. ARMI is particularly interested in funding research on potential stressors of amphibian populations. For more information about ARMI, go to: <http://armi.usgs.gov/>

CHESTER ZOO AWARDS. Grants are available to support specific amphibian conservation action for new or existing initiatives. This action may be captive breeding, local community initiatives, habitat protection or population monitoring. Preference will be given to applicants from Asia, Africa and Central and South America.

UNRESTRICTED AWARDS. The DAPTF welcomes applications that address any aspect of amphibian declines, but favours joint applications that involve a partnership between herpetologists in developed and developing countries. We are also prioritising research that investigates synergistic effects between two or more factors that have been identified as actual or potential causes of amphibian population declines.

Applicants should indicate which of the above categories they have in mind, but we will consider applications in the ARMI and Chester Zoo categories also in the Unrestricted category. Do not hesitate to contact Tim Halliday if you need clarification or advice.

Proposals of no more than 4 pages should be addressed to: Tim Halliday, DAPTF International Director, at the address at the back of *Froglog*, or by e-mail at 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 and/or ACAP priorities, (6) Budget breakdown, including details of additional funding obtained or sought from elsewhere (note that we do not provide funds to support salaries), (7) References, if appropriate, and (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 Friday, 16th December, 2005.

Major Funds available from the DAPTF

As announced in *Froglogs* 65 and 66, the DAPTF, in partnership with the Global Amphibian Specialist Group (GASG), has been awarded a substantial grant by the Critical Ecosystem Partnership Fund (CEPF) to fund projects in seven 'biodiversity hotspots'. This project will run over three years and will support projects directed at the conservation of amphibians. For 2005 we are funding projects in Southern and Northern Mesoamerica, and the Guinean forests of West Africa. (The previously announced funding for the Chocó of Colombia and Ecuador has, unfortunately, been withdrawn).

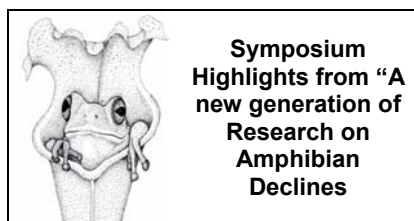
In 2006, we will be targeting the Eastern Arc Mountains of Tanzania and the mountains of Southwest China; in 2007 our focus will be the Succulent Karoo and the Caucasus. Our priority is to fund projects for which there is a high degree of urgency and so we will consider applications for any of the regions listed at any time. Preference will be given to projects that seek to conserve 'red-listed'

species, as listed in the Global Amphibian Assessment (GAA).

Grants will be available from \$1K up to \$10K. Projects seeking smaller grants should conform to the format of DAPTF Seed Grants, as set out above in this issue. Individuals seeking larger grants should develop their proposals in consultation with Tim Halliday (t.r.halliday@open.ac.uk) and Claude Gascon (c.gascon@conservation.org). The application process will be iterative; i.e: we aim to help researchers to develop their proposals. It is important, therefore, that potential applicants send their initial ideas to us at an early stage.

Details of these and other biodiversity hotspots can be found under 'where we work' at the CEPF web site (www.cepf.net/xp/cepf). Results of the GAA can be found at www.globalamphibians.org. Final applications, which may be in Spanish, Portuguese or French, as well as English, should be sent to Tim Halliday by **1st March, 2006**.

Tim Halliday & Claude Gascon



Symposium Highlights from "A new generation of Research on Amphibian Declines"

By Ariadne Angulo, Ana Carolina O. Q. Carnaval and Stephen C. Richter

Since the late 1980s, the urgency to address the issue of amphibian declines and extinctions worldwide has brought about a surge of interest and efforts towards this purpose. While part of such efforts focused on applied research and data dissemination, attention has also been given to capacity building and training to prepare future generations of scientists.

It is in this light that the Pan-American Advanced Studies Institute (PASI) course "Advanced Training in Amphibian Declines Research" was held on 4–13 January 2004 at La Selva Biological Station and Escuela de Biología, Universidad de Costa Rica. This event was organized by the Research Analysis Network for Neotropical Amphibians (RANA) and the Integrated Research Challenges in Environmental Biology group

studying host-pathogen biology and the global decline of amphibians (IRCEB), with the support of the National Science Foundation (NSF) and the US Department of Energy. The course hosted a total of 30 participants from 12 countries, mostly postgraduate students, with equal numbers of participants from Latin America and the United States. It covered an array of cutting-edge research on amphibian declines and informed participants about top-notch research advances and techniques, providing a fertile ground for multidisciplinary and international interactions, both professional and personal. The impact of the course was such that students thought it necessary to follow up on research developments and explore further international multidisciplinary collaborations.

Following months of discussion among alumni of the course, two alumni, A. Carnaval and S. Richter, submitted a proposal to the American Society of Ichthyologists and Herpetologists (ASIH) to co-chair a symposium during the 2005 Joint Meeting of Ichthyologists and Herpetologists in Tampa, Florida, USA. The symposium proposed to host talks by PASI alumni only, with the following goals: 1) provide updates and introduce innovative research approaches addressing declines, 2) comprise a forum to help define future areas of research, and 3) promote multidisciplinary, integrative and international research. The symposium proposal was accepted by the ASIH. In addition to the travel funds provided by the proposal to ASIH, Carnaval and Richter also successfully submitted a workshop grant proposal to NSF, which funded all travel costs of international participants and partial costs of domestic speakers. On 11 July 2005, Carnaval and Richter co-chaired the day-long symposium "A New Generation of Research on Amphibian Declines".

The event was composed of 11 Latin American and 12 US speakers, representing ten nationalities (Bolivia, Brazil, Colombia, Costa Rica, Ecuador, Honduras, Mexico, Peru, Puerto Rico and the United States). Research presented at the symposium was conducted in 15 countries spanning South, Central and North America, Africa and

Australia. The symposium was opened with an exposition of the value and the need for collaborative international research efforts on amphibian declines. Symposium presentations were divided into five broad categories addressing 1) new field data on amphibian declines in Latin American and Africa, 2) new approaches on pathogen research, 3) genetic structure and conservation genetics of amphibian populations, 4) habitat change and population persistence, and 5) new approaches in ecological work, monitoring and biodiversity assessment. An open discussion by presenters and other attending research scientists followed in order to explore ways to further enhance international research and integration as well as potential sources of funding.

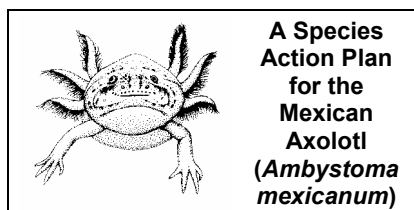
This symposium should be encouraging to many, including funding agencies. Not only did it demonstrate that international training is a worthwhile, invaluable investment when addressing amphibian declines, but it also gave promising, young Latin American researchers the international exposure that they rightly deserve. Through the dissemination of collaborative work among speakers and symposium attendees, initiatives such as this will help to bridge scientific programs and intellectual advances across countries throughout the world and facilitate multidisciplinary and intercontinental research.

Acknowledgements

We would like to thank the symposium speakers and their home institutions. James Collins, Bruce Young, Karen Lips, Samuel Scheiner, Mary Johnson, Deborah Beken, and Margareth Neighbors provided invaluable help at various stages of grant submission and administration. Sharon Brookshire, Deanna Stouder, and Rebecca Frakes assisted with meeting registration. Robert Puschendorf and Luis Villanueva-Rivera helped with translations. This Symposium was funded by a symposium grant from the American Society of Ichthyologists and Herpetologists and by NSF Award DEB 0508224 to Ana Carolina Carnaval and Stephen Richter.

For symposium details and abstracts please visit the following URL:

<http://www.dce.ksu.edu/jointmeeting/index.shtml>. For further information please contact Ariadne Angulo at ariadne.angulo@utoronto.ca, Ana Carolina Carnaval at carnaval@berkeley.edu, or Stephen Richter at stephen.richter@eku.edu.



By Ian Bride and Richard Griffiths

This publication is one outcome of a 3-year UK Government Darwin Initiative project entitled "Aztecs and Axolotls: Integrating Tourism and Conservation at Xochimilco, Mexico City", which began in April 2002, and whose principal partners were CIBAC (Centro de Investigaciones Biológicas y Acuícolas de Cuernavaca, Universidad Autónoma Metropolitana, Unidad Xochimilco, México) and DICE (The Durrell Institute of Conservation and Ecology, University of Kent, Canterbury, UK). From 6-9 December 2004, the project team ran an Axolotl Species/Habitat Action Plan formulation workshop at UAM-X/CIBAC, in which representatives of most of the key, Governmental, NGO and local stakeholder organizations participated alongside representatives of UK-based partners.

Two days of scene-setting presentations were followed by two days of collective and group-based workshop activities in which key elements affecting the conservation of the species were identified and categorised into broad subject areas: the biology of the species; ecological interactions; environmental factors; use and exploitation; legislation; social factors; political factors; and, education. Together these formed a framework within which specific goals were identified and appropriate actions designated, with each action being accorded a level of priority and timeframe. Lead agencies were then allocated to each action and consideration given to the issues surrounding funding and partnerships.

This document summarises key background information, explains the design and conduct of the workshop, and presents the plan

itself. It is intended to provide a useful starting point and tool for those involved in the management and conservation of the Xochimilco wetland system and its wildlife, most particularly in relation to activities focused around the axolotl.

It is available as a pdf file (in a black and white or a colour version) from r.a.griffiths@kent.ac.uk or Jeanne McKay at daptf@open.ac.uk.

Skin ulcers in *Bufo xeros* from the Central Sahara

By José Carlos Brito, Hugo Rebelo, Ché Weldon and Claudia Soares

The Aïr and Ténéré Natural Reserve, located in Niger, is the largest protected area in Africa, covering 7,736,000ha. It was inscribed in the Unesco's World Heritage List in 1991 as it contains significant natural habitats for conservation of biological diversity and areas of exceptional natural beauty and aesthetic importance (UNEP-WCMC, 2005). The volcanic rock massif of the Aïr reaches 2022m, but this remote region experiences a hot arid desert climate. Consequently, there is no permanent water in the Aïr. The drainage system consists of seasonal water courses or *wadis*, which flow for only a few hours after heavy rainfall. The exceptions are a few small rivulets and *gueltas* or rock pools, in the massifs which can store water for longer periods. In Timia (N18° 5.7' E8° 45.7', 1000m alt.) there is a rock pool of approximately 30x20m, half-way surrounded by 20m high stone walls and fed by a cascade. In the Aïr massif, *Bufo xeros* is a Sahelian relict and occurs in isolated populations, probably with small population size, and displays a decreasing population trend (Joger, 1981; IUCN 2004).

On October 17, 2004, several active *Bufo xeros* were observed in the Timia waterfall after sunset, and 14 toads were collected by hand in the sandy margins of the pool. Four of these toads (29%) displayed one to two skin ulcers on the dorsum, and three of them were collected (ethanol 96%) for post-mortem analyses. The skin ulcers formed perfect spheres with a radius of about 2.5mm or less and presented, to some extent, a pale aspect above the muscle as well as pale borders. Smaller lesions were also observed

in a further five toads (36%). No behavioural abnormalities were detected in these specimens and no dead toads were recorded near the periphery of the pool. Until now, no documented mass mortality episodes or diseased amphibians have been reported for Niger (Stuart *et al.*, 2004; Amphibian Diseases Research Group, 2005), but there is a paucity of studies in this African region. Moreover, there are several studies reporting amphibian diseases and also mass mortality episodes in the continent, especially in South Africa (e.g. Alves de Matos & Paperna, 1993; Cohen *et al.*, 1984; Hopkins & Channing, 2002; Weldon *et al.*, 2004).

Possible causes for the lesions include parasitic, as well as fungal or viral infections (Rollins-Smith, 2001). Secondary opportunistic infections, caused by fungi or bacteria, could also be responsible for the damage to the cutaneous tissue, especially if chytrid or iridovirus are involved (Rollins-Smith, 2001). Predation is not considered as a plausible cause due to the different sizes of the ulcers found and the number of toads affected in the sample (65% of 14 specimens).

We are uncertain as to the origin of the disease. Nevertheless, a nearby village drains to the *guelta*, where some pathogen agents can be found. These include mainly parasites which could be contaminating the water (www.lesamisdetimia.org). Moreover, there are no fishes in the pool (Newby *et al.*, 1982), which excludes this group as a possible vector for amphibian diseases at the site.

The findings from our study are intriguing and require further analysis. Fungal and viral analyses will be performed in the collected specimens. Researchers planning to work in this remote region should be aware of this condition, as well as its possible presence in other populations.

Acknowledgments

Fieldwork was supported by a grant from National Geographic Society (7629-04) and J.C.B. was supported by a Post-doctoral grant by Fundação para a Ciência e Tecnologia (SFRH / BPD / 11542 / 2002). Logistic support for the expeditions was given by Equiaventur, Satsignal and Probitas.

For further information please contact Claudia Soares at csoares@mail.icav.up.pt

References

- Alves de Matos, A.P. & Paperna, I. (1993) Ultrastructure of erythrocytic virus of the South African anuran *Ptychadena enchietae*. *Diseases of Aquatic Organisms* **16**: 105-10.
- Amphibian Diseases Research Group (2005) Amphibian Diseases Home Page. <http://www.jcu.edu.au/school/phtm/PHTM/frogs/ampdis.htm>. Accessed on 27 June 2005.
- Cohen, N., Effrige, N.J., Parsons, S.C., Rollins-Smith, L.A., Nagata, S. & Albright, D. (1984) Identification and treatment of lethal nematode *Capillaria xenopodis* infection in the South African frog, *Xenopus laevis*. *Developmental and Comparative Immunology* **8**: 739-741.
- Hopkins, S. & Channing, A. (2002) Chytridiomycosis in Northern and Western Cape. *Froglog* **54**: 2.
- IUCN, Conservation International, and NatureServe (2004) Global Amphibian Assessment. <http://www.globalamphibians.org>. Accessed on 27 June 2005.
- Joger, U. (1981) Zur herpetofaunistik Westafrikas. *Bonn. Zool. Beitr.* **32**: 297-340.
- UNEP-WCMC (2005) World Heritage Sites: Aïr and Ténéré Natural Reserve, Niger. <http://www.unep-cmc.org/index.html> <http://www.unep-cmc.org/sites/wh/atnrr.html~main>. Accessed on 27 June 2005.
- Newby, J.E., Dulieu, D. & Lebrun, J-P. (1982) Avant-Projet de Classement d'une Aire Protégée dans l'Aïr et le Ténéré (République du Niger). IUCN, Gland, Switzerland.
- Rollins-Smith, L.A. (2001) Neuroendocrine-immune system interactions in amphibians. *Immunologic Research* **23(2/3)**: 273-280.
- Stuart, S.N., Chanson, J.C., Cox, N.A., Young, B.E., Rodrigues, A.S., Fischman, D.L. & Waller, R.W. 2004 Status and trends of amphibian declines and extinctions worldwide. *Science* **306(5702)**: 1783-1786.
- Weldon, C., du Preez, L.H., Hyatt, A.D., Muller, R. & Speare, R. (2004) Origin of the amphibian chytrid fungus. *Emerging Infectious Diseases* **10(12)**: 2100-2105.

Books received

Lannoo, M. (Ed.) (2005) *Amphibian Declines. The Conservation Status of United States Species*. University of California Press, Berkeley. (1094 pp.)

A truly stupendous editorial achievement achieved by Mike Lannoo, this book consists primarily of detailed accounts of all amphibian species found in the USA. The opening sections of the book will, however, be of interest to a global audience, as they cover all aspects of amphibian declines and their causes.

Tim Halliday

DVD received

Alfredo Salazar & Juan Diego Pérez. (2005) *Animales que Cantan y Cantan (Chanting and Enchanting Animals)*. DVD.

This DVD presents the amphibians of Ecuador with outstanding photography and excellent narration. www.puce.edu.ec/zoologia

Tim Halliday



Froglog Shorts

DONATIONS:

We gratefully acknowledge receipt of the following donations received prior to September 30, 2005: David C. Cannatella, Steve Smith and Moira Hope.

RANA and the US National Science Foundation grant DEB-0130273 helped support the publication of this issue.

FROGLOG is the bi-monthly newsletter of the Declining Amphibian Populations Task Force. Articles on any subject relevant to the understanding of amphibian declines should be sent to: Jeanne McKay, 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

Funding for FROGLOG is underwritten by the Detroit Zoological Institute, P.O. Box 39, Royal Oak, MI 48068-0039, USA

