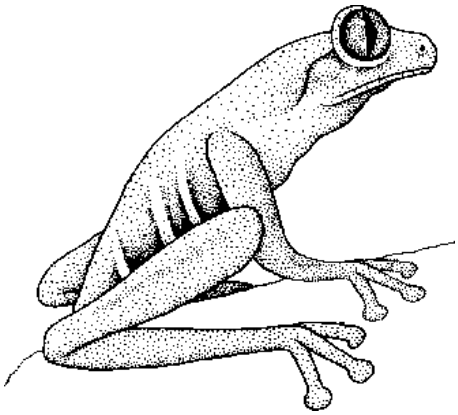
ISSN 1026-0269



FROGLOG

Newsletter of the IUCN/SSC Declining Amphibian Populations Task Force

January 1998 Number 25

Mesoamerican Decline Symposium

By Erik D. Lindquist

The First Symposium on Mesoamerican Amphibian Population Declines was held at the First Congress and Second General Assembly of La Sociedad Mesoamericana para la Biología y Conservación (Mesoamerican Society for Biology and Conservation) on June 24, 1997 at La Universidad Autonoma de Honduras in Tegucigalpa, Honduras. The symposium goals were to encourage amphibian population monitoring and survey by Central American biologists in their native countries, and to generate interest in amphibian study in Central American biologists. Most presentations were given in Spanish.

Deforestation and poor land practices in highly human-populated areas were attributed as causes for most widespread amphibian losses. However, reports of mysterious, large-scale amphibian disappearances in relatively pristine regions of Costa Rica, Panama and Honduras dominated the tone of the meeting. Dr. Karen Lips from St. Lawrence University gave the keynote address on mass mortality of riverine amphibian communities in low human-populated sites in Costa Rica and Panama. A talk on cultural influences on the declining populations of the Panamanian golden frog, *Atelopus zeteki*, was presented by the author of this report. Reports on the status of amphibians from El Salvador, Guatemala and Southeastern Mexico were given by biologists Celina Dueñas (Servicio de Parques Nacionales y Vida Silvestre, El Salvador), Eric Smith (University of Texas - Arlington) and Jerry Johnson (El Paso Community College / University of Texas - El Paso) respectively. An evening field trip to Zamorano, Honduras yielded few amphibian species and underscored the concerns discussed during the symposium. The symposium initiated considerable interest in amphibian biology and monitoring programs from students in Honduras, El Salvador, Nicaragua and Guatemala. It is hoped that DAPTF representatives from El Salvador and Nicaragua will be determined as a result of the symposium.

For further information contact: Erik D. Lindquist, Dept. of Biology, Indiana University, Bloomington, IN 47405, USA.
elindquist@bio.indiana.edu

Amphibian Population Decline in a Honduran National Park

by Larry David Wilson and James R. McCranie DAPTF Honduras

The Central American nation of Honduras currently has an extensive system of national parks and other protected areas. Most are located in mountainous areas, but the largest ones are found in lowland areas (Wilson *et al*., in press). Nonetheless, most of these protected areas receive scant, if any, real protection. Very few have research and management facilities and/or resident personnel (Wilson *et al*., in press). Even if facilities and personnel do exist, one of the significant problems in such areas is the lack of sufficient personnel to regularly survey the extent of the areas, especially in their more remote periphery. Such is the case in the Parque Nacional Pico Bonito, located in the central portion of the Cordillera Nombre de Dios in the Departamento de Atlántida in northern Honduras.

Parque Nacional Pico Bonito was established in 1987, and encompasses 564 km^2 in total, with a nuclear zone of 56 km^2 (Wilson *et al*., in press). Representatives of the Lower Moist Forest, Premontane Wet Forest, and Lower Montane Wet Forest formations of Holdridge (1967) are found within the park. A visitor's center sits at 120 m on the windward side of the mountain range, and is reached by a very difficult road branching south from the highway from La Ceiba to Tela. The highest elevation in the park is that of Montaña de Corozal at 2480 m.

Over the last 17 years, we have made 7 trips (in 1980, 1982, 1984, 1988, 1989, 1995 and 1996) into the park (beginning 7 years before the area was designated a national park), working primarily on the leeward side of the mountain range at a locality named Quebrada de Oro (for the stream and its tributaries that flow through a section of premontane wet and lower montane wet forest). The Quebrada de Oro flows into the Río Viejo, which in turn flows into the Río Cangrejal. The Río Cangrejal empties into the Caribbean Sea on the eastern end of La Ceiba, a prominent port city. In addition, we have collected in the vicinity of Cerro Búfalo, the highest point in the Cordillera Nombre de Dios in the vicinity of Quebrada de Oro, and we spent one day collecting along the Río Cangrejal on the eastern periphery of the park. The second author, however, has also worked in the vicinity of the visitor's center, as has our colleague Gunther Köhler. Thus, some fieldwork has been carried out by us in all three of the forest formations found within the park.

It is in the Quebrada de Oro-Cerro Búfalo region that we have witnessed significant declines in populations of several species of anurans. The amphibian fauna in this area is currently known to consist of 21 species, including 5 species of

salamanders, 3 species of bufonids, 8 species of leptodactylids (all of the genus *Eleutherodactylus*), 4 species of hylids and one species of ranid.

Of the 16 species of anurans known from the Quebrada de Oro-Cerro Búfalo region, 9 species (56%) appear to have populations adversely affected. Of these 9 species, 4 are apparently gone (at least extirpated, if not extinct). These four species are all members of the genus *Eleutherodactylus*, including *E. aurilegulus, E. chrysozetetes, E. cruzi* and *E. fecundus*. The last three are endemic to the Cordillera Nombre de Dios (*E. chrysozetetes* and *E. cruzi* are known only from the Quebrada de Oro-Cerro Búfalo area and *E. fecundus* from the central and eastern parts of the Cordillera Nombre de Dios). An additional 3 species have declining populations, including *Atelophryniscus chrysophorus, Eleutherodactylus saltuarius*, and *Duellmanohyla salvavida*. *Atelophryniscus chrysophorus* is endemic to the Quebrada de Oro area, and *E. saltuarius* is restricted to the central and eastern portions of the Cordillera Nombre de Dios. *Atelophryniscus chrysophorus* is also a member of a monotypic genus. The Quebrada de Oro-Cerro Búfalo endemic *Plectrohyla chrysopleura* is still relatively common, although for how long is unclear in as much as some of their tadpoles collected in 1996 have malformed mouthparts. The status of 3 species (*Bufo valliceps, Eleutherodactylus chac*, and *Eleutherodactylus laticeps*) is unclear, as all have always been uncommon in the Quebrada de Oro-Cerro Búfalo region. One species (*Rana maculata*) was not seen on the last two trips, although they have been common in past years. Only 2 species, *Eleutherodactylus ridens* (north-central Honduras to western Colombia) and *Ptychohyla spinipollex* (endemic to the Cordillera Nombre de Dios) are still common. Finally, 2 species, the common and widespread *Bufo marinus* and *Smilisca baudinii*, have entered the Quebrada de Oro area, apparently due to habitat destruction caused by deforestation and shifting agriculture.

The population declines are apparently related, in part, to significant environmental modification of the Quebrada de Oro and its vicinity. In November, 1988, a major landslide occurred, which vastly changed the stream and the streamside environment below 940 m. The landslide followed in the wake of major forest destruction due to lightning-caused fire that occurred sometime prior to 1980. The fire opened the precipitous slopes below Cerro Búfalo to erosion and eventual landslide. What had been a mountain stream providing abundant habitat for streamside anurans became a jumble of mud and rock, with all vegetation levelled in a swathe ca. 10 to 20 m wide on either side down to 800 m. The water was initially extremely silty following each rainfall. However, by February, 1995, the damaged area had sufficiently recovered so that siltation of the stream did not occur even after a rise in the stream of ca. 0.5 m caused by a very heavy rainfall lasting for several hours on 21 February 1995. Another landslide took place in November, 1995, resulting from further collapse of the same ridge as involved in the first landslide, further exacerbating the damage. In addition to the second landslide, again damaging the Quebrada de Oro below 940 m, the ridges above this portion of the stream have been cleared for cultivation since February 1995. Only a narrow strip of gallery forest has been left intact.

Landslides and anthropogenic deforestation, however, do not suffice to explain all population perturbations. Above 940 m, the Quebrada de Oro and its surrounding forest is still pristine, but recent survey of this area has not turned up any specimens of the four species of *Eleutherodactylus* mentioned above, thought to be extirpated or extinct. Additionally, population declines of *Atelophryniscus chrysophorus* and *Duellmanohyla salvavida* appear to have occurred in this still pristine stretch of the stream. Regardless of the causes, however, the character of the distinctive anuran fauna of the Quebrada de Oro-Cerro Búfalo area has been changed drastically, perhaps forever.

References

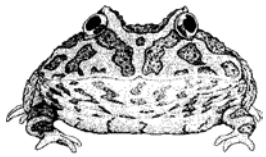
Holdridge, L.R. (1967) *Life zone ecology. Revised edition.* Tropical Science Center, San José, Costa Rica.

Wilson, L.D., McCranie, J.R., & Espinal, M.R. (in press) The ecogeography of the amphibians and reptiles of Honduras and the design of herpetofaunal reserves. In: J.D. Johnson, R. G. Webb, and O. Flores-Villela (eds.) *Middle American Herpetology: Systematics, Natural History, and Conservation.* Texas Western Press, El Paso, Texas, USA.

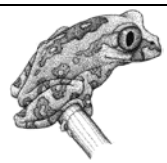
For more information contact:

Larry David Wilson, Department of Biology, Miami-Dade Community College, Kendall Campus, Miami, Florida, 33176 USA.

James R. McCranie, 10770 SW 164th Street, Miami, Florida, 33157 USA.



Recent donations to the DAPTF will be acknowledged in *Froglog* 26.



Climate Change Workshop Report

From Cynthia Carey, DAPTF Climate & Atmospheric Change Working Group

A workshop, sponsored by the World Wildlife Fund and Bird Life International and entitled Impacts of Climate Change on Flora and Fauna, was held September 19-22, 1997 at the National Center for Atmospheric Research, Boulder, CO. The purpose of the workshop was to gather information and prepare a report on the current state of knowledge about effects of climate change. This report will be presented at the next world-wide environmental conference at Kyoto, Japan, this winter.

Most of the papers were on birds, but butterflies, plants, intertidal invertebrates, amphibians and reptiles were also featured. Correlations exist between local temperature changes and life history phenology. Some birds are migrating up to 3 weeks earlier in the spring than previously, plants and birds are moving uphill in mountanous regions, and the distributions of some temperate butterfiles, amphibians, reptiles and intertidal invertebrates are moving gradually north.

One striking feature of the workshop was the paucity of data concerning effects of climate change on amphibians. Alan Pounds, Monteverde Cloudforest Preserve, presented his data on climate change in Costa Rica and how these changes are correlated with extinctions and declines of Costa Rican amphibians. Russ Burke, of Hofstra University, presented his analysis of how new county records in the US illustrate that some amphibians are moving northward. Trevor Beebe, University of Sussex, indicated that higher springtime temperatures are correlated with earlier spawning in some, but not all, amphibians in England. C. Carey, Univ. of Colorado, provided a general overview of the role of disease in amphibian die-offs

and the lack of information about how or if these die-offs are climatologically related.

Conferees agreed that almost all data sets indicating a correlation between global warming/climate change and phenological differences badly need evidence of a causative relationship. Furthermore, evidence is needed concerning how these shifts in breeding biology and population dynamics affect fitness of the individuals and populations in question.

The Status of Amphibians in Wawushan Mountain National Forest Park

From Jiang Jian-Ping and Zheng Ming-Quan

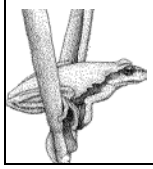
Wawushan Mountain National Forest Park, named because the center of mount Wawushan looks like the roof of one of the local tile houses, is located between 102°51' - 103°20'E and 29°31' - 29°51'N, and is about 40km from Mt. Emei. The natural conditions of a temperate climate (mean 10.7 °C per year), humid air (86-93%) and abundant rainfall (about 2397.4mm per year) are very suitable for amphibians.

Through a three-year survey (from 1993 to 1996), we have found 31 species of amphibians in the park, belonging to eight families: Hynobidae (1 spp.); Cryptobranchidae (1 spp.); Bufonidae (1 spp.); Hylidae (1 spp.); Pelobatidae (12sp); Ranidae (10 spp.); Rhacophoridae (4 spp.) and Microhylidae (1 spp.). Of these, 11 are new records for the Park and 2 are new species. More surveys are expected to reveal further species.

Though most of these species are faring well, attention should be paid to species such as *Scutiger chintingensis*, first found on Mt. Emei at an elevation of 3000m or so in 1950 by Liu, C.C.. Since then, the population has been getting smaller and smaller. The species is currently very difficult to find at this location, possibly due to tourism pressures. Fortunately, it was also discovered at Mt. Wawushan at an elevation of 2500m, and this population is thought to be large and quite stable. It is necessary and important to monitor the variation in this population and analyse the related factors.

Another case is that of *Batrachuperus pinchonii*, which is found in a dry stream at the foot of Mt. Wawushan. Most of them have been found at Yuanxi, Yangxi and Lanxi. The population at Yangxi has declined dramatically. It is believed that the major factor in this decline is commercial exploitation, but according to our observations, other factors such as climate and forest changes cannot be ignored. In order to clarify the resons for the declines of these species, further observation and analysis is required.

Contact: Jiang Jian-Ping, Chengdu Institute of Biology, Chinese Academy of Sciences, Chengdu 610041, PEOPLE'S REPUBLIC OF CHINA *and* Zheng Ming-Quan, Wawushan Mountain National Forest Park, Hongya, Sichuan 612364, PEOPLE'S REPUBLIC OF CHINA.



The Status of Amphibians in Xiaman National Conservation

From Ling Qang, Liu Shaoyin & Ran Jianhong

Xiaman National Conservation Region, Roergai County, Sichuan Province is located between 102°29' - 102°59'E and 33°25' - 34°N. This area is part of the north-east Qinghai-Xizang plateau. Its average altitude is about 3,400m and the annual temperature is between about 0 - 3 °C.

There are two rivers (the Hei [dark] and Bai [white] rivers) crossing this area, so the region consists of marshland with many lentic ponds and small lakes. Because of its unique high plateau environment, it is one of the most famous plateau wetlands in the world.

In recent years we have made three expeditions to this area, finding three species of amphibian: *Narorana hleskei*, *Rana chensiensis* and *Bufo minshanicus*. Although there are just these few species in the area, they are presently abundant and we hope that the plateau will prove useful for amphibian monitoring and sampling.

In the 1950s and 1960s, Xiaman National Conservation Region was almost completely marshland, but from the 1980s, and especially in recent years this area has become much drier. Some areas have even become sand dunes. Following this change, amphibian distribution has altered and numbers have declined. Local people were able to find amphibians everywhere twenty years ago, but in recent years they have become very hard to find in some areas. The number of amphibians has also declined sharply even in the wetlands. We hope to conduct more amphibian monitoring in this region in the future.

Contact: Ling Qang, Liu Shaoyin *and* Ran Jianhong, Institute of Protection, Sichuan Academy of Foresty, Sichuan Province, PEOPLE'S REPUBLIC OF CHINA.

Call for International Cooperation

The Working Group Chair for the DAPTF Chinese group welcomes international cooperation with other individuals and institutions, especially in the training of Chinese DAPTF members in standardized monitoring techniques, for fieldwork projects and in setting up surveys and monitoring projects in locations such as the Qinghai-Xizang Plateau. *If you or your institution might be interested in helping, please contact:* Wang Yuezhao, Chengdu Institute of Biology, Academia Sinica, Chengdu, Sichuan, PO Box 416, PEOPLE'S REPUBLIC OF CHINA.
biowyz@.ntr.cdb.ac.cn

Froglog Shorts

The BP Conservation Programme provides £54,000 per year for student teams undertaking projects which address a global conservation priority and involve local people. We fund projects from all around the world.

For more information about the Programme, contact: Yvonne Buckley, BP Conservation Programme, BirdLife International, Wellbrook Court, Girton Road, Cambridge CB3 0NA, UK.
Tel: (UK) 01223 - 277318
Fax: (UK) 01223 - 277200
http://www.bp.com/conservation/

European Conference of The Pond *Life* Project: *Ponds and Pond Landscapes of Europe - appreciation, conservation, management.* To be held 30th August - 3rd Septmber, 1998 at Vaeshartelt Castle Conference Centre, Maastricht, The Netherlands. Papers and posters are invited. *For more information on conference themes, and to be kept informed of details, please contact:* Dr. John Boothby, Pond Life Project, Liverpool John Moores University, 15-21 Webster Street, Liverpool, L3 2ET, UK.
j.boothby@livjm.ac.uk

US Midwest Declining Amphibians Conference: A joint meeting of the Great Lakes and Central Division Working Groups of the Declining Amphibian Populations Task Force,

covering the states of Minnesota, Wisconsin, Michigan, Iowa, Missouri, Illinois, Indiana, and Ohio. To be held Friday and Saturday, March 20th & 21st, 1998 at the Milwaukee Public Museum, Milwaukee, Wisconsin. The focus is on amphibian biology and conservation in the Midwest. *For full details contact:* Gary S. Casper, Vertebrate Zoology Section, Milwaukee Public Museum, 800 W. Wells St., Milwaukee, WI 53233, USA.
Tel: (414)278-2766
Fax: (414)278-6100
gsc@uwm.edu
Web Site: **http://www.mpm.edu/collect/vertzo/herp/Daptf/Midwest.html**

The Wyoming Toad: A recent report describes how *Bufo hemiophrys baxteri* maintains a precarious existence within a greatly reduced geographical range. Subject of a successful captive-breeding and release programme since 1988, there is optimism about the future of this toad, provided effective management can be sustained.

Jennings, M. & Anderson, A. (1997) The Wyoming toad. *Endangered Species Bulletin* **22(4):** 16-17. (Published by the US Dept. of the Interior, Fish & Wildlife Service).

The government of the State of Amazonas in Brazil has announced the creation of the Amana Reserve, the largest protected area of tropical rainforest in South America. The Amana Reserve covers 2,350,000 ha (9,180 square miles), an area about the size of Belgium. This area is located in the central Amazon basin, between the Negro and Japura Rivers, two major tributaries of the Amazon River. The Amana Reserve joins the Mamiraua Flooded Forest Reserve and the Jau National Park, thus forming a rainforest corridor of more than 5,766,000 ha (22,523 square miles), an area larger than the entire countries of Switzerland or Costa Rica, and the largest protected forest area on the planet.

The human population of the new Amana Reserve is approximately 2,000 people, who live off the area's rich natural resources. This represents one person in 1000 ha of forest. The reserve will be managed under a new legal category in Brazil, the Sustainable Development Reserve, which permits residence in the reserve, and encourages local participation in its protection.

The Amana Reserve contains spectacular and untouched biodiversity, including endangered Amazonian manatees, black caimans, river dolphins, anacondas, jaguars, black uakari monkeys, harpy eagles and a wealth of plants and aquatic life.

The announcement was made at the annual meeting of the Pilot Programme for the Protection of the Rainforest, a programme funded by the G7 nations. The PPG7, as it is called, is an ambitious programme to protect Brazilian rainforest by creating a series of protected area corridors that link key biodiversity areas of the country.

A New Working Group Chair has been appointed for Switzerland. *Please contact:* Silvia Zumbach, Swiss Amphibian & Reptile Conservation Programme, Natural History Museum, Bernastrasse 15, CH-3005, SWITZERLAND.
silvia.zumbach@cscf.unine.ch

Details of the next round of DAPTF Seed Grants will be announced in *Froglog* 26, which is due out during April 1998.

The Center for Field Research invites proposals for 1998-99 field grants funded by its affiliate Earthwatch, an international, non-profit organization dedicated to sponsoring field research and promoting public education in the sciences and humanities. Past projects have been successfully fielded in, but are not limited to, the following disciplines: animal behaviour, biodiversity, ecology, ornithology, endangered species, entomology, marine mammalogy, icthyology, herpetology, marine ecology, and resource and wildlife management. Interdisciplinary projects are especially encouraged as is multinational collaboration. *Information can be found at* **http://www.earthwatch.org/cfr/cfr.html** *or contact:* The Center for Field Research, 680 Mt. Auburn Street, Watertown, MA 02272,.USA.
Tel: (617) 926-8200
Fax: (617) 926-8532
cfr@earthwatch.org

The DAPTF Costa Rica & Panama Working Group is now jointly co-chaired by: Roberto Ibáñez D., Instituto Smithsonian de Investigaciones Tropicales, Apartado 2072, Balboa, REPUBLICA DE PANAMA *and* Jay M. Savage, Department of Biology, University of Miami, P.O. Box 249118, Coral Gables, FL 33124, USA.

The US - Mississippi Delta Region Working Group has two new co-chairs. This group covers Arkansas, Louisiana and Mississippi. *For more information contact:* Ben Cash, Dept. of Biology, University of Mississippi, University, MS 38677, USA.
wbcash@olemiss.edu
Or: R. Brent Thomas, Dept. of Biological Sciences, PO Drawer GY, Mississippi State University, Mississippi State, MS 39762, USA.
rbt2@Ra.MsState.edu

Three 2nd year biology undergraduates from King's College, London seek participation in conservation or research projects between the end of June and mid-September 1998. They offer their services in exchange for food and/or accommodation plus the opportunity to improve their knowledge of fieldwork and research techniques. They are willing to pay for their travel and incidental costs. *If you can help, contact them c/o:* Jessica Myers, 13 Aberdare Gardens, London NW6 3AJ.
Tel/fax: (UK) 0171 - 372 3543

Contact John Wilkinson at the UK central office for:

DAPTF bumper stickers: **£1 / $2**

DAPTF window stickers: **£1 / $2**

DAPTF sew-on patches: **£3 / $5**

DAPTF Report No. 3: 1996-97 Collected DAPTF Working Group Reports. (Free on request. Limited number available. All Working Group Chairs have already been sent a copy.)

Prices include postage worldwide. Cheques (payable to "DAPTF") in British pounds or US dollars please.

Publications of Interest

Arntzen, J.W., Bugter, R.J.F., Cogalniceanu, D & Wallis, G.P. (1997) The distribution and status of the Danube crested newt, *Triturus dobrogicus*. *Amphibia-Reptilia* **18:** 133-142.

Boothby, J. (ed.) (1997) *British Pond Landscapes.* Proceedings of the 1997 Pond *Life* Project UK Conference, University College, Chester, 7th-9th September 1997. Pbk, 178 pp. ISBN: 0-9531291-0-1. (*This volume comprises more than twenty contributions from leading workers concerned with ponds and pond environments, drawing upon experience in consultancy, research, development control, ecological management, environmental planning and conservation projects. It is available for £10.00 (discount for 5+ copies) including UK postage from:* Pond *Life* Project, Trueman Building, 15-21 Webster Street, Liverpool, L3 2ET, UK. Fax: (UK) 0151 - 258 - 1224)

Gasc, J.-P. *et al* (1997) *Atlas of Amphibians and Reptiles in Europe.* Societas Europea Herpetologica & Muséum National d'Histoire Naturelle, Paris. Pbk, 496 pp. ISBN: 2-86515-103-4.

Licht, L.E. & Grant, K.P. (1997) The effects of ultraviolet radiation on the biology of amphibians. *Amer. Zool.* **37:** 137-145.

FROGLOG is the newsletter of the Declining Amphibian Populations Task Force. Partial funding for FROGLOG is provided by donation from: Frog's Leap Winery, P.O. Box 189, Rutherford, CA 94573, USA.

Edited by: John W. Wilkinson, Department of Biology, The Open University, Walton Hall, Milton Keynes, MK7 6AA, United Kingdom.
Phone: +44 (0) 1908 - 652274.
Fax: +44 (0) 1908 - 654167
E-mail: **daptf@open.ac.uk**

FROGLOG is available on the **World Wide Web** at: http://acs-info.open.ac.uk/info/newsletters/FROGLOG.html

Anyone who prefers to receive FROGLOG via www (or via the AmphibianDecline list) and wishes to cancel hard copy mailing should inform John Wilkinson as above.