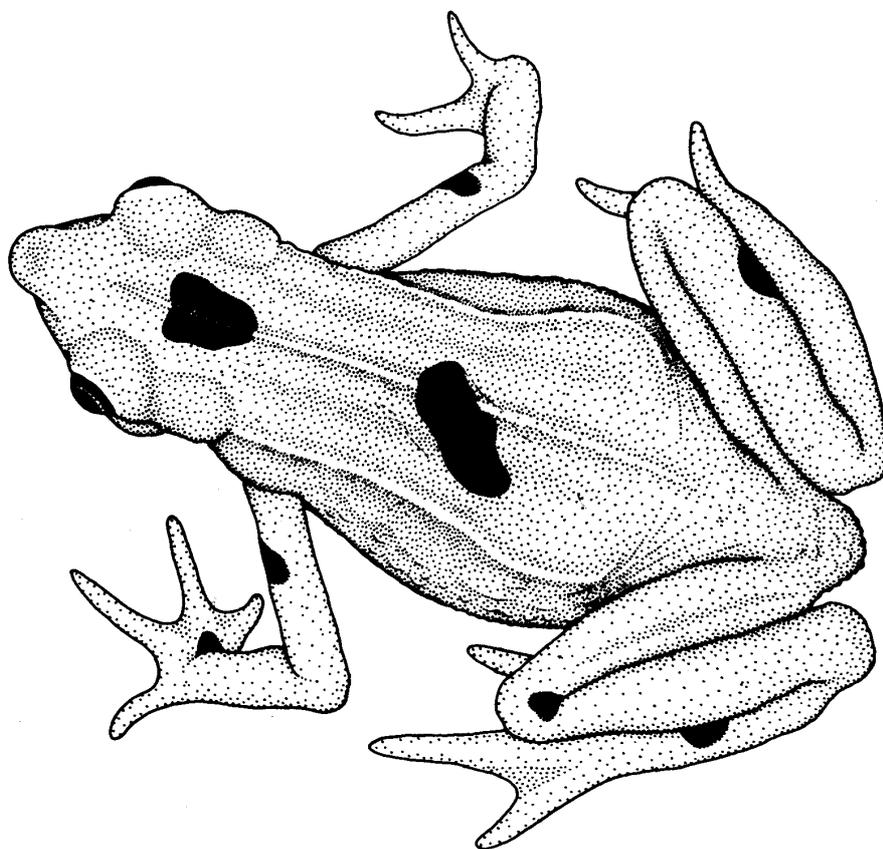


FROGLOG

Newsletter of the Declining Amphibian
Populations Task Force

April 2002, Number 50.



Celebrating Froglog's Golden Jubilee!

The golden frog, *Atelopus zeteki*, by Tim Halliday

A Message from DAPTF's Co-Founder

Froglog was conceived at a time of confusion and concern. Biologists were uncertain as to whether there was anything to be concerned about in the mainly anecdotal reports of amphibian declines. It took about five years for a kind of consensus to be reached that there was indeed a serious amphibian decline problem. I did not anticipate that *Froglog* would continue for so long, and I certainly hoped that it would not be necessary, but in fact it is now more necessary than ever. *Froglog* has proven its value, and now is the primary means of rapid communication among amphibian biologists around the world. We need a communication system outside of standard, peer-reviewed journals to present news and information, fresh ideas, fragments of useful data, updates on ongoing research projects and perspectives on the status of amphibians in diverse parts of the world. As we celebrate its 50th issue, we have every reason to believe that *Froglog* will remain a significant factor in our mutual efforts to protect amphibian biodiversity worldwide.

David Wake



DAPTF Seed Grants 2002

From Tim Halliday, DAPTF International Director

We have just completed our allocation of DAPTF Seed Grants for 2002. This year, we received 57 applications from 30 countries, and we are funding 37 projects, an outlay of about \$65,000. Our budget this year has been enhanced by generous contributions from Conservation International (C.I.), the U.S. Department of the Interior's Amphibian Research and Monitoring Initiative (ARMI), and the Critical Ecosystem Partnership Fund (CEPF), a joint initiative of C.I., the Global Environment Facility, the MacArthur Foundation and the World Bank.

In the period 1992 to 2001, the DAPTF has funded 78 projects through its Seed Grant programme, an outlay of \$139,074; these projects are distributed across 34 different countries. In this year's round, we will be adding seven new countries to our list. Notable 'firsts' among the projects we are funding this year are projects in Iran and Madagascar, and two projects on caecilians.

Our feedback from completed

Seed Grant projects indicates that, on average, each project yields two papers in refereed journals. More importantly, our grant holders have, on average, been able to raise a further \$20 in funding for every \$1 that we have awarded them.

Breeding Pond Survey in Hungary: an Example of Successful Cooperation



From Tibor Kovacs & Miklos Papp

The Pilis-Visegrád Hills (Pilis) are situated in the centre of the Carpathian Basin. The highest peaks do not exceed 700 m. The climate is fairly wet and the most characteristic vegetation type is dry oak forest. Pilis is unique among the region's mountains in its relatively high number of forest ponds. This higher pond density is due to its special geo-cultural position in the country. Both the town of Visegrád and the town of Buda were royal residences in medieval times. The woods of Pilis became important hunting areas for consecutive royal families long ago. The forest management of the time included the creation of artificial ponds for watering large game. Over the centuries, the artificial ponds have become integral elements of the forest and today it is hard to distinguish them from natural ones.

The Amphibian-Reptile Conservation Group of Birdlife Hungary initiated a survey of the forest ponds with the aim of establishing a comprehensive dataset covering their number, location and condition mainly from a herpetological point of view. The large number of breeding sites supports a considerable amphibian community in the Pilis. The most common species are *Triturus vulgaris*, *Bufo bufo*, *Rana dalmatina* and *R. temporaria*, while *Bombina bombina*, *Hyla arborea* and *Pelobates fuscus* are a less common.

Despite the good number of ponds, some unexpected and undesirable influences have lately affected them. The most important of these is that the climate has dried over the last five years. Most of the water bodies are temporary and enhanced desiccation has had a dramatic influence on new amphibian generations. The other problem is more complex and is related to the forest management, including hunting. Because of obvious economical reasons, the local forestry company tries to maintain the game numbers in

Pilis as high as possible. Roe deer, red deer and wild boar all use the ponds for both drinking and wallowing. Repeated and long-term wallowing can damage the resident tadpole communities. Also, it is likely that the large number of game animals has promoted an increase in leeches, which also feed on the blood of amphibians and so probably transmit parasites. Increased logging has damaged the ponds in several localities. Logging is often done in winter and the temporarily employed woodmen do not notice that they are working around a pond. In several cases we have found ponds almost completely filled up with logging waste (branches and leaves).

Birdlife Hungary has found a co-operative partner in the Duna-Ipoly National Park for this work. The National Park had intended to begin restoration of those ponds in poor condition and our breeding amphibian population survey proved useful in this work. The forestry company also became involved. They will promote the restoration of ponds and consider conservation needs alongside economic interest when establishing a new management plan.

Altogether 105 forest ponds were recorded in 2001, ranging from 25 m² up to 0.75 ha. We collected characteristic parameters, i.e. the size, depth, vegetation cover, transparency, disturbance by game and the species composition and number of breeding amphibians. Two main types of ponds were distinguished: shadowed, usually small ponds with poorly developed macrophyte vegetation providing breeding sites for a maximum of four species (*T. vulgaris*, *B. bufo*, *R. dalmatina*, *R. temporaria*) ('Type A') and more complex, usually larger ponds where all species occur ('Type B'). At type B ponds, the macrophyte vegetation (such as reed, tussock, bulrush, etc.) forms a wide range of microhabitats sufficient for a variety of spawning preferences.

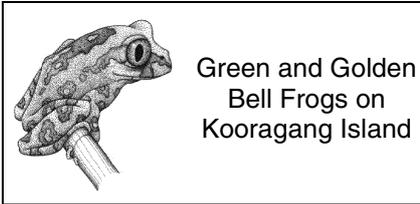
Together with the National Park, a proposal for intervention was prepared. We summarized all work needed to stop the decrease in quality of the forest ponds. At least 30% of the surveyed sites need urgent intervention including dredging or water retention using small dykes. Another 50% would benefit from such restoration but with less urgency.

The report received the appreciation of the Ministry of Environment and we hope there will be future work on these ponds. The Amphibian-Reptile Conservation Group carried out this survey as a part of a countrywide census to which a

DAPTF Seed Grant contributed significantly.

Contact: Tibor Kovacs, MMTE-Birdlife Hungary, Budapest 1121, Kolto u. 21., HUNGARY

Miklos Papp, Duna-Ipoly National Park, Visegrad 2025, Matyas kiraly u. 4., HUNGARY.



Green and Golden Bell Frogs on Kooragang Island

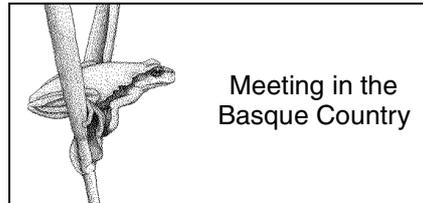
**From Robert Browne
Chairperson, Friends of the
Hunter Bell Frogs**

The Green and Golden Bell Frog (*Litoria aurea*) was previously widely distributed throughout eastern New South Wales, Australia, but suffered a massive decline between 1975-1980. It is now an endangered species and by law should receive the highest degree of protection. Unfortunately, one of the largest surviving populations, found on Kooragang Island in the Hunter Estuary, is under immediate threat of extinction. A government funded project, the Hunter Catchment Management Trust, has a goal of flooding many square kilometres of freshwater wetlands in the Estuary with salt water. This authority has already overseen the destruction of one bell frog population in the area and now directly threatens the main population with saltwater flooding. Consequently, the protection of this population has become symbolic of public protest against the destruction of freshwater wetlands for fisheries enhancement in the Hunter Estuary.

Over the past four years, attempts to destroy the habitat of this population by uncontrolled saltwater flooding has been resisted by community protest. Over Christmas 2001, however, half the colony was destroyed through the placement of an inadequate gate at the mouth of a tidal creek. Even though this flooding breached approval guidelines which stated "...no increase in tidal footprint...", it was allowed to continue for over two months. A series of letters to conservation authorities and the establishment of a web page has temporarily stopped further habitat loss.

The New South Wales National Parks and Wildlife Service has offered clear support for the survival of the colony, and a dedicated society, Friends of the Hunter Bell Frogs, has

been established to support efforts to save the Hunter freshwater wetlands. Even after this tragic history of habitat loss, however, political pressure is needed, as supporters of the policy of salt water flooding include powerful government departments and other lobby groups. We would like you to visit our web page at www.bioteck.org/conserv/conserv.htm and review the situation. The web page will be updated monthly. Any suggestions on strategies that have succeeded in other similar situations would be appreciated.



Meeting in the Basque Country

**From Tim Halliday, DAPTF
International Director**

An international workshop was held in San Sebastian, Spain, on February 15th and 16th, 2002. In addition to many of Spain's leading amphibian biologists, the meeting was attended by Claude Miaud (France), Eduardo Crespo (Portugal), and myself, representing the DAPTF. It was hosted by Aranzadi Zientzi Elkarte (Sociedad de Ciencias Aranzadi).

Much of the meeting was concerned with an ongoing project to conserve the last remaining population of the stripeless treefrog (*Hyla meridionalis*) in the Basque Country of Spain, which is threatened by housing and industrial development close to San Sebastian. A number of new ponds have been created close by and treefrogs, of all life stages, have been translocated to these new ponds, apparently successfully. As is often the case with projects of this kind, external events are driving the process faster than the ecologists involved would like; as a result, the translocation procedures could not be fully tested in advance.

The workshop also reviewed current knowledge of global issues in amphibian declines, such as disease, UV-B radiation, and climate change. In addition, a number of speakers reported on new developments in the taxonomy and biogeography of Iberian amphibians. The most disturbing development to be reported concerns widespread declines of the fire salamander (*Salamandra salamandra*) over large areas of northern Spain. The cause(s) of this decline are unknown.

More information about the stripeless treefrog project can be

obtained from Xabier Rubio:
oxabi@euskalnet.net.es

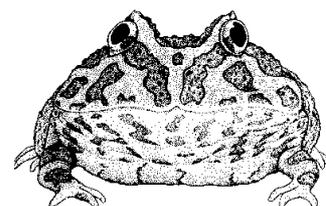
Se han celebrado las Jornadas Internacionales sobre Conservación de Anfibios en Donostia-San Sebastián, España, durante el 15 y 16 de febrero del 2002. Además de la presencia de muchos de los batracólogos españoles más destacados, asistieron a las Jornadas Claude Miaud (Francia), Eduardo Crespo (Portugal), y el autor de este informe, en representación del DAPTF. Las jornadas se celebraron bajo el patrocinio de Aranzadi Zientzi Elkarte (Sociedad de Ciencias Aranzadi).

Gran parte de las Jornadas se centraron en un proyecto en curso para la conservación de la última población conocida de ranita meridional (*Hyla meridionalis*) en el País Vasco español. Esta población se encuentra amenazada por la urbanización y el desarrollo industrial en áreas cercanas a San Sebastián. Se han creado una serie de charcas de nueva construcción en las zonas próximas y se han traslocado ranitas, renacuajos de varias edades y puestas a estas charcas nuevas. La traslocación parece haber tenido éxito, pero como ocurre a menudo en proyectos de esta índole, los agentes externos hacen que el proceso vaya mucho más rápido de lo que a los técnicos y ecólogos implicados les gustaría; y como resultado los procedimientos de traslocación no pueden ser ensayados con antelación.

En las Jornadas también se revisó el estado actual de conocimiento en aspectos globales implicados en el declive de los anfibios, incluyendo enfermedades, radiación UV-B y cambio climático. Además algunos participantes informaron sobre la situación actual en taxonomía y biogeografía de los anfibios ibéricos. El informe más preocupante se refirió a la existencia de declives poblacionales extensos que afectan a la salamandra común (*Salamandra salamandra*) en amplias áreas del norte de España. La causa o causas de este declive se desconocen.

Se puede obtener más información sobre el proyecto de conservación de la ranita meridional de Xabier Rubio:

oxabi@euskalnet.net.es





California-Nevada Working Group Meeting Report

**By David Bradford,
Working Group Chair**

The CA/NV Working Group of DAPTF met at a scenic marina hotel in San Diego, California on January 10-11, 2002. The meeting was attended by 60 people representing government agencies, academia, non-governmental organizations and private parties. In contrast to our previous symposium-style session at a professional meeting, with several hundred attendees, this one was designed to allow for discussion. Some highlights:

- The California Department of Fish and Game described a new perspective for managing high mountain lakes. This program, which recognizes the well-documented impacts that introduced game fish have had on native amphibians, focuses on maintaining aquatic biodiversity at the watershed scale. This approach includes a large reduction in the extent of aerial stocking of fish, restoration of historic fishless conditions in selected areas, and fishery improvement in some areas.

- The status of amphibian populations in Nevada is poorly known in comparison to other western states, although several projects on specific species or geographic areas have contributed significant information. At least seven of the 13 native amphibians have suffered substantial population declines (*Rana fisheri*, *R. onca*, *R. luteiventris*, *R. muscosa*, *R. pipiens*, *Bufo microscaphus*, *B. nelsoni*).

- Two non-governmental organizations (Pacific Rivers Council and Center for Biological Diversity) provided a perspective not previously represented at our meetings. They elaborated on the status of a number of recent or pending legal actions directed at seven amphibian species, and generated a somewhat contentious, but enlightening, discussion of the merits for listing versus not listing a species as endangered. They reported that the 12-month findings on petitions to list two species as endangered (*Rana muscosa* and *Bufo canorus*) are overdue by the US Fish and Wildlife Service. Petitions to list two additional species, *Rana boylei* and *R. onca*, are

in preparation.

- Observations continue for die-offs associated with disease, including both chytrid fungus and ranavirus. Enigmas continue, however, because some populations infected by chytrid succumb whereas others do not, and one species with symptoms of chytrid infection among tadpoles in the field did not show infection upon histological examination. Nevertheless, evidence to date indicates that tadpoles showing symptoms of chytrid infection should be considered infected unless demonstrated otherwise.

- Evidence is increasing that airborne contaminants from agricultural areas have adversely affected populations of several amphibians, particularly in the Sierra Nevada. A "Notice of Intent to Sue" has been filed against the US Environmental Protection Agency and Department of Interior concerning such effects on the federally threatened *Rana aurora draytonii*. An eco-epidemiological framework was presented at the meeting to evaluate the state of knowledge for cause and effect.

- Plans for two major amphibian monitoring projects are being finalized: a US Forest Service project to monitor populations and habitat for *Rana muscosa* throughout the Sierra Nevada, and the USGS Amphibian Research and Monitoring Initiative throughout the US. The trade-offs in monitoring to detect status versus trend was a topic of discussion.

- Recent efforts to re-establish ranid frog populations by translocation (*Rana muscosa*, *R. onca*, *R. aurora draytonii*; *R. subaquavocalis* in Arizona), and eradication of invasive species where present, have shown considerable promise. However, one project to return *R. muscosa* to an area of extinction in the 1970s-1980s suggests that adverse factors are still present. A conceptual model was presented to determine the feasibility of population re-establishment by translocation.

- Conservation strategies and interagency conservation agreements have been completed for one species (*Bufo nelsoni*), and are under development for at least seven other non-listed frog species. In some cases, such pro-active agreements may obviate the need to list a species as endangered. Moreover, conservation agreements are more flexible than the recovery plans that result from listing.

- The second day of the meeting consisted of a demonstration by the U.S. Geological Survey, Biological Resources Division, of their paperless data collection system using hand-held devices, and the national database management system to be used in conjunction with the national Amphibian Research and Monitoring Initiative (ARMI). In comparison to paper systems, theirs saves time, reduces errors and renders data quickly available. The system utilizes commonly available and relatively inexpensive hardware and software.

Our next meeting will be held in January 2003.

A Comparative Study of the Amphibian Community at Three Sites in Penang State, Malaysia

**By Ibrahim Jaafar, Ali Ektella,
Mashhor Mansor & Shariza
Shahrudin**

Peninsular Malaysia harbours about 86 species of amphibians from six families (Berry, 1975). Few studies, however, have been carried out on the population and community structure and other ecological aspects of our frogs and toads (Jaafar et al., 1999). Malaysian forest frogs are under threat from logging and development and Kiew (1984) reported that 71 % of the Malaysian anurofauna is endangered by the destruction of lowland forests. Different frog communities are known to inhabit different habitats (Dash & Mahanta, 1993) but again no data on this exists for Peninsular Malaysian species. This study sought to investigate the frog community structure in three different habitats by the use of comparative indices.

The three sites chosen were the Pantai Aheh Forest Reserve (PAFR), a relatively undisturbed coastal hill forest on the northwestern part of Penang Island, the Jugong River Recreational Forest (JRRF), a partially disturbed lowland forest on the mainland and the Universiti Sains Malaysia campus (USM), a grossly disturbed human habitation at present accommodating about 8,000 students. PAFR (5° 28' N, 100° 12' E) is 1,200 ha. in size and contains mainly large dipterocarp trees (*Shorea spp.*), whilst the undergrowth is made up of saplings, lianas and palms, especially *Eugenia spp.* The collection site is a small, boulder-filled hill stream about 4 km in length. JRRF (5° 16' N, 100° 35' E) consists of 500 ha. of lowland forest surrounded by agriculture (rubber trees, *Hevea brasiliensis*, oil palm, *Eleias guineensis* and fruit

orchards, *Durio zebethinus*, *Artrocarpus spp.*, *Nephelium lapaecium* and *Mangifera indica*). A small, 5 m wide river (sandy upstream and rocky downstream) is visited by picnickers, mostly at weekends. USM is a modern, garden-like campus of 240 ha. planted with numerous shade and flowering trees. The 8,000 resident students are added to during weekdays by a further 3,000 students and 2,700 staff. A 3 m wide, concrete-lined and weed-choked stream with a mud and sand substrate runs through the north edge of the campus.

This study was carried out between March 1998 and December 1999. A 200 m by 50 m corridor along each of the three streams was visited monthly and the collection of anurans was carried out with the aid of flashlights and nets. This involved 3-4 persons wading upriver whilst attempting to capture as many frogs as were encountered. Collection was normally carried out between 20:00 and 23:00 hrs. Animals were identified according to Berry (1975) and Stuebing (1989), and were sexed and measured before being released.

PAFR supported the most species of amphibians (15) followed by JRRF (12) and lastly USM (5). This order is also followed in terms of species richness at each site. Amphibian density is highest at USM, with up to 14 anurans per ha., followed by PAFR and JRRF with up to 10 and 8 individuals per ha. respectively. The dominant species in PAFR were *Bufo parvus* and *Rana cancrivora* whilst at JRRF these were *R. chalconota*, *Microhyala butleri* and *M. heymonsi*. At USM, *Bufo melanostictus* and *M. heymonsi* were dominant. Several species were found only at one site: *Megophrys monticola nasuta*, *B. parvus*, *Rana signata* and *R. luctosa* at PAFR; *Rana nicobarensis*, *Leptobranchium hendricksoni* and *Bufo asper* at JRRF; and *Kaloula pulchra* at USM. Two species in this study (*Polypedates leucomystax* and *M. heymonsi*) were present at all three sites.

Margalef's Evenness Index indicated that the amphibian community at JRRF is more even than that at USM, which in turn is more even than PAFR. Levin's Niche Breadth scores indicated that *P. leucomystax* and *M. heymonsi* are habitat generalists showing adaptations to different habitat types and high tolerance to environmental gradients whilst four other species (*R. luctosa*, *R. signata*, *Me. monticola nasuta* and *B. parvus*) are considered specialists which are limited to pristine forest conditions.

This study has indicated that amphibian community structure in Peninsular Malaysia is altered by the addition of human influences. Significantly, though individual anuran density was highest at USM (the most disturbed site), the four most specialized species were found only at PAFR forest reserve and a further three were found only at JRRF (moderately disturbed). It is hoped that this study will lay the groundwork for future and more comprehensive studies of Peninsular Malaysian amphibian communities with a view to obtaining greater understanding of their ecological needs.

Contact: Ibrahim Jaafar, School of Distance Education, Universiti Sains Malaysia, 11800 Penang, Malaysia.

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Froglog Shorts

The DAPTF Returns to its Roots

The 2002 Meeting of the Society for Conservation Biology (SCB) will be held at the University of Kent, Canterbury, UK from 14th to 19th July. It was during the First World Congress of Herpetology in Canterbury that the amphibian population declines phenomenon was first identified, in 1989. We are marking this anniversary with a Symposium, *Global Amphibian Declines: is Current Research Meeting Conservation Needs?* organized by Richard Griffiths and Tim Halliday. Speakers will include Trevor Beebee, Jim Collins, Peter Daszak, Jim Foster, Tim Halliday, Jean-Marc Hero, Benedikt Schmidt and Per Sjögren-Gulve. The SCB Conference web site is: www.ukc.ac.uk/anthropology/dic/e/scb2002/

A special Biogeosciences session is to be held at the Spring AGU meeting, May 28-31 in Washington, D.C. The topic is "Biological indicators and relationships to water quality." For

details, contact: William A. Battaglin, U.S. Geological Survey, Box 25046 Denver Federal Center, Denver, CO 80225 USA.

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www.egu.org/meetings

CEPF The Critical Ecosystem Partnership Fund is a joint initiative of Conservation International, the Global Environment Facility, the MacArthur Foundation and the World Bank. Funding is currently available to support conservation research in nine biodiversity 'hotspots' around the world. CEPF's web site is at: <http://www.cepf.net>

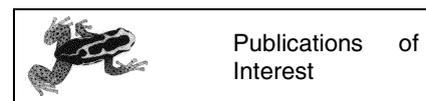
The Indian CBSE (Central Board of Secondary Education) banned animal dissection in Indian secondary schools last year in favour of alternative methods such as video dissections, films and models. The move has been widely welcomed by animal lovers but has met with mixed reactions from the scientific community. The implications of this move, of course, have especial relevance to rapid frog populations.

From Down to Earth, June 2001.

DONATIONS We gratefully acknowledge receipt of these donations, received 1 February – 20 March 2002.

Individuals: Aaron Bauer, Randy Blasus, Heather Brooke Taylor, Char Corkran, Evan C. Evans, Nadine Foley, Craig Guyer, Benjamin C. Hammett, Moira Hope, Jerry D. Johnson, Andy Kouba, John Larsen, Roy McDiarmid, Karen Menczer, Gale K. Nord, Suzanne Fowle Schroeder, Andrew Sheldon, Ed Styskel, Mills Tandy, Elliot Tramer, Kelly Ulrich, Greg Vigle, Doug Warmolts, Stevie Whitman, Brian Windmiller.

Organizations: The Wallis Foundation.



Publications of Interest

Special Offer!

Berninghausen, O. & Berninghausen, F. (2001) *Whose tadpole is it? The waterproof field guide to Central European amphibians*. NABU, Germany. ISBN 3-925815-26-0 (in English). *This extremely useful book is available from the Cornwall Wildlife Trust, the twin organization of the German Association for the Protection of Nature (NABU). The Cost is £2.50 + £0.70 UK p&p. To order, or for other information, contact: Mark Nicholson, Cornwall Wildlife Trust, Five Acres, Allet, Truro, Cornwall, TR4 9DJ, UK.*

mark@cornwt.demon.co.uk

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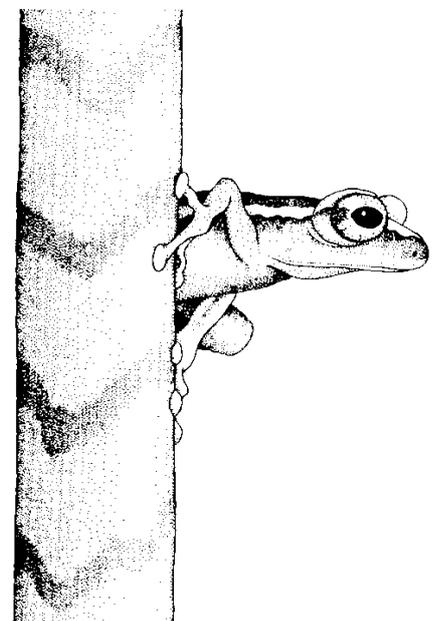
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John W. Wilkinson, Editor.

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