



FROGLOG

Newsletter of the Declining Amphibian Populations Task Force

October 2002, Number 53.



DAPTF SEED GRANTS 2003

We are pleased to announce a new round of Seed Grants for 2003. 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 two categories in this year's round, thanks partly to generous support from the US Department of the Interior's Amphibian Research and Monitoring Initiative (ARMI). 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://www.mp2-pwrc.usgs.gov/armi/index.cfm>

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 category 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 on the back of this *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, (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 15th December, 2002.



RANA: The Research & Analysis Network for Neotropical Amphibians

By Bruce E. Young & Karen R. Lips

Declines in amphibian populations worldwide are not only research challenges but also chilling headlines in our newspapers. The neotropics have suffered not only population declines but also apparent disappearances of many species. Over 40% of the amphibian fauna has disappeared at four well-studied Central American sites (Monteverde [Pounds et al 1997], Las Alturas and Las Tablas, Costa Rica, and Fortuna, Panama [Lips et al. in revision]). Three species in Puerto Rico have disappeared (Joglar and Burrowes 1996). Seven of the eight known *Atelopus* species in Venezuela have disappeared (La Marca 1995; La Marca and Lötters 1997). Fifteen anurans from Ecuador are known to have declined (Coloma 1995; Coloma et al. 2000; Ron et al. in press). The list of documented problems is alarming (Young et al. 2001), but the final accounting will likely show widespread geographic and taxonomic losses throughout Latin America.

The neotropics are home to half of the world's amphibian diversity

and to a range of habitats ranging from deserts to rainforests, from sea level to high Andean passes to isolated Caribbean islands (Duellman 1999). With such taxonomic and geographic diversity in which to test hypotheses, the neotropics is a logical candidate to be a center for field research on causes of amphibian population declines. To date, this potential is largely unfulfilled partly because of a variety of logistic, financial and institutional factors that limit scientific research and collaboration in this region. Scientists have limited access to technologies and analyses that allow investigation of causes of declines. Consequently, more effort has focused on describing declines and disappearances than on understanding the underlying causes.

In a series of workshops held in 1999 with many leading scientists in the field, we discovered that there was great interest in enhanced collaboration to tackle the problem (Lips et al. 2000). We responded to this interest by launching the Research and Analysis Network for Neotropical Amphibians (RANA, known in Spanish as the *Red de Análisis sobre Anfíbios Neotropicales Amenazados*). RANA is collaborating with the DAPTF, and serves as a major link between that entity and Latin American researchers; in fact, many of the founding members of RANA are members of the DAPTF's Regional Working Groups. The goals of this network are to:

- Coordinate research on the causes of amphibian population declines in the neotropics.
 - Synthesize data collected at multiple sites.
 - Promote surveys and inventories in understudied geographical areas.
- Develop and disseminate a database on the current status of neotropical amphibians.
- Synthesize and disseminate information related to amphibian population declines.

We invited scientists representing broad geographic and thematic areas of research to serve as the founding members of RANA.

Some of these researchers specialize in collecting field data while others provide expertise in techniques used for testing particular decline hypotheses. We hope to recruit more members to enhance geographic and thematic coverage.

RANA began with a meeting hosted by the University of Costa Rica in May, 2002. Members presented results of their research in an opening symposium that attracted a large attendance of local students, scientists, and media representatives. Then, in a retreat setting, participants discussed focal areas of research, set up initial collaborations, adopted a charter for the governance of the network, and elected a management team. Initial research focus will be on amphibian population biology, diseases, climatic change, and introduced species. In addition, Dr. Enrique La Marca is leading a group to assess the status of all members of the genus *Atelopus*, a species-rich neotropical taxon widely affected by declines and disappearances.

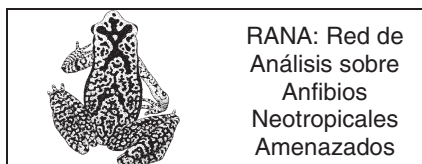
Many RANA members are participating in the Americas portion of the Global Amphibian Assessment, an effort by the Species Survival Commission of the IUCN, NatureServe, the Center for Applied Biodiversity Science at Conservation International and AmphibiaWeb to assess the conservation status of the world's amphibians (e.g., Hero 2001, Molur 2002). This project will result in an online database that will allow users to search species' population status, geographic distribution, and relevant scientific literature.

To its members, RANA offers lines of communication to other scientists who can help in experimental design, share data to produce syntheses, provide leads on relevant literature and teach lab analysis techniques. For example, RANA shares several members with the amphibian-disease research group headed by Jim Collins. RANA has a small amount of funds to promote exchange visits to labs and study sites, computer software, and publications by its members. All members are expected to contribute actively to RANA's objectives, including attending retreats, participating in collaborative research activities and publishing and disseminating results.

Through RANA, we hope to carry out many of the DAPTF's objectives in the neotropics. We plan annual meetings and symposia in a variety of Latin American countries, a multilingual website, a synthesis book after five years and a steady stream of

research reports. Our aim is that the collaborations fostered by RANA will lead us more quickly to a comprehensive understanding of declines and disappearances of amphibians at the center of their diversity. Members of RANA are planning an informational meeting for those interested in learning more, at the herpetology meetings in Manaus, Brazil (26 June – 2 July 2003).

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Por Bruce E. Young y Karen R. Lips

La disminución de las poblaciones anfibias en el mundo entero no sólo es un desafío para la investigación, sino también escalofrantes titulares en nuestros periódicos. No sólo ha habido disminuciones en poblaciones de la zona neotropical, sino también muchas especies han aparentemente desaparecido. Más del cuarenta por ciento de la fauna anfibia ha desaparecido en cuatro sitios profundamente estudiados de América Central (Monteverde [Pounds et al. 1997], Las Alturas, y Las Tablas, Costa Rica, y Fortuna, Panamá [Lips et al. en revisión]). En Puerto Rico han desaparecido tres especies (Joglar y Burrowes 1996). Siete de las ocho especies conocidas de *Atelopus*, en Venezuela han desaparecido (La Marca 1995; La Marca y Lötters 1997). Se sabe que quince anuros de Ecuador también han disminuido (Coloma 1995; Coloma et al. 2000; Ron et al. en prensa). La lista de problemas documentados es alarmante (Young et al. 2001), pero es probable que el conteo final muestre inmensas pérdidas geográficas y taxonómicas en toda América Latina.

Las zonas neotropicales son el hogar de la mitad de la diversidad anfibia y de un amplio espectro de hábitats que van desde los desiertos hasta los bosques tropicales, y desde el nivel del mar hasta las alturas andinas, pasando por las solitarias islas del Caribe (Duellman, 1999). Con tal diversidad taxonómica y geográfica donde poner a prueba hipótesis, el neotrópico es el candidato lógico para ser el centro de las investigaciones de campo sobre las causas de las disminuciones de las poblaciones anfibias. Hasta la fecha, este potencial, en gran medida,

no es explotado, en parte debido a una variedad de factores logísticos, financieros e institucionales que limitan la colaboración e investigación científica en esta región. Los científicos tienen un limitado acceso a la tecnología y a análisis que permitirían la investigación de las causas de las disminuciones. En consecuencia, la mayoría de los esfuerzos se han concentrado más en describir las disminuciones y las desapariciones que en comprender las causas subyacentes.

En una serie de talleres realizados en 1999 con numerosos científicos destacados en el campo, descubrimos que había un gran interés en intensificar el trabajo en colaboración para abordar el problema (Lips et al. 2000). Respondimos a este interés lanzando la *Red de Análisis sobre Anfibios Neotropicales Amenazados* (RANA, conocida en inglés como *Research and Analysis Network for Neotropical Amphibians*). RANA colabora con la DAPTF, y sirve de importante vínculo entre esa entidad y los investigadores de América Latina; en realidad, muchos de los miembros fundadores de RANA son miembros de los Grupos de Trabajo Regionales de la DAPTF. Las metas de esta Red son:

- Coordinar la investigación de las causas de la disminución de las poblaciones anfibias en las zonas neotropicales.
 - Sintetizar los datos recolectados en múltiples sitios.
 - Promover los inventarios en las áreas geográficas no estudiadas suficientemente.
- Desarrollar y difundir una base de datos sobre en estado actual de los anfibios neotropicales.
- Sintetizar y difundir la información relacionada con la disminución de las poblaciones anfibias.

Invitamos a científicos que representaran amplias áreas geográficas y temáticas de investigación para que participaran como miembros fundadores de RANA. Algunos de estos investigadores se especializan en la recolección de datos de campo, mientras otros proporcionan experiencia y pericia en las técnicas utilizadas para poner a prueba hipótesis particulares sobre la disminución. Esperamos reclutar más miembros para intensificar la cobertura geográfica y temática.

RANA comenzó con un encuentro organizado por la Universidad de Costa Rica en mayo de 2002. Los miembros presentaron resultados de sus investigaciones en un simposio de apertura que atrajo una gran audiencia formada por

estudiantes locales, científicos y representantes de los medios de comunicación. Luego, en el marco de un retiro, los participantes discutieron áreas focales de investigación, establecieron colaboraciones iniciales, adoptaron un estatuto para el gobierno de la red, y eligieron al equipo de dirección. El foco inicial para la investigación será la biología de las poblaciones anfibias, las enfermedades, el cambio climático y las especies introducidas. Además, el Dr. Enrique La Marca está dirigiendo un grupo para evaluar el estado de todos los miembros del género *Atelopus*, un taxón neotropical de muchas especies y ampliamente afectado por disminuciones y desapariciones.

Muchos de los miembros de RANA participan en la porción americana de la Evaluación Global de los Anfibios (*Global Amphibian Assessment*), un esfuerzo de la Comisión para la Supervivencia de las Especies de la UICN, *NatureServe*, el Centro para la Ciencia Aplicada a la Biodiversidad de Conservation International, y la *Amphibiaweb* para evaluar el estado de conservación de los anfibios del mundo (por ejemplo, Hero 2001; Molur 2002). Este proyecto dará como resultado una base de datos *on-line* que le permitirá a los usuarios buscar sobre el estado poblacional, la distribución geográfica y la literatura científica de especies particulares.

RANA les ofrece a sus miembros líneas de comunicación con otros científicos que pueden ayudar en diseños experimentales, compartir datos para producir análisis sintéticos, proporcionar indicios sobre bibliografía relevante, y enseñar técnicas de análisis de laboratorio. Por ejemplo, RANA comparte varios miembros con el grupo de investigación de las enfermedades de los anfibios que dirige Jim Collins. La Red tiene una pequeña cantidad de fondos para promover visitas de intercambio a laboratorios y sitios de estudio, software de computación, y publicaciones de sus miembros. Se espera que todos los miembros contribuyan activamente a los objetivos de RANA, asistiendo a los retiros, participando en actividades de investigación en colaboración, y publicando y difundiendo resultados.

A través de RANA esperamos cumplir con muchos de los objetivos de la DAPTF en las zonas neotropicales. Planificamos encuentros anuales y simposios en una variedad de países de Latinoamérica, un sitio web multilingüe, un libro de síntesis luego

de cinco años de trabajo, y un constante flujo de informes de investigación. Nuestro objetivo es que las colaboraciones fomentadas por RANA nos conduzcan a una comprensión integral más rápida de las disminuciones y desapariciones de los anfibios en el centro de su diversidad. Los miembros de RANA están planificando un encuentro informativo para quienes estén interesados en obtener más datos, en el encuentro de herpetólogos en Manaos, Brasil (26 de junio-2 de julio de 2003).

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Global Amphibian Specialist Group (GASG): Mission and Functions

The serious decline of amphibians worldwide has prompted the Species Survival Commission of IUCN to create a Global Amphibian Specialist Group (GASG) to attempt to address this global conservation concern. The mission of the GASG is to develop and implement a global conservation strategy for amphibians, based on cutting-edge research and science, the monitoring of the conservation status of all amphibian species through Red Listing, the development and implementation of conservation strategies and the training of conservation professionals to implement these strategies, respond to threats to amphibians and to the causes of population declines. In order for this ambitious agenda to work, we must also be extremely proactive in our communication and fundraising efforts. The GASG is still in its first steps of organizing itself, but here is a little more detail of the main functions that are needed and which should form the core work of the group:

1. Science and research.

The GASG recognizes that the best science has to lead all of our conservation efforts. The most active group at the forefront of amphibian decline research has been the Declining Amphibian Populations Task Force (DAPTF). The GASG and the DAPTF are investigating how to build strong collaborative links between the two groups to make their efforts synergistic. It is likely that the DAPTF will become the research arm of the

GASG, at least on research relating to amphibian declines.

2. Red List. The Global Amphibian Assessment (GAA), coordinated by the Center for Applied Biodiversity Science at Conservation International (CI/CABS) and the IUCN-SSC, is the major project assessing the status of all of the world's described amphibian species. The GAA can be seen as the first project of the GASG, through which much of the GASG network (other than that which already exists through the DAPTF) is being built. The Assessment is developing a database that contains the following information for each species: systematics, geographic range (including a distribution map), population information, habitat preferences, major threats, conservation measures, species utilization and Red List assessment. The GAA operates in 33 geographic regions to cover the global distribution of amphibians. The results obtained by the Assessment will be fully integrated into the official IUCN Red List of Threatened Species. The GAA will also start a process to implement the long-term monitoring of amphibians worldwide. More information on the GAA will be provided in another *Froglog* article soon.

3. Training and capacity building. The sustainability of our conservation efforts has to rely on capacity-building investments today to ensure a cadre of highly trained professionals in a variety of technical areas relevant to amphibian conservation. The GASG will work closely with the DAPTF and GAA to build capacity and encourage fieldwork, especially in high priority tropical countries where existing capacity is limited.

4. Information management. Information online about amphibian biology and conservation is well developed and disseminated through AmphibiaWeb (<http://dlp.cs.berkeley.edu/aw/>) at the University of California at Berkeley. AmphibiaWeb's goal is to establish a "home page" for all the species of amphibians in the world. The goal will be met in part by making the results of the Global Amphibian Assessment accessible through AmphibiaWeb. This will require the development of close linkages between the IUCN Red List web site and AmphibiaWeb, and these linkages are in the process of being implemented.

5. Fundraising. Funding for global amphibian conservation is essential. The objective for an active fundraising function will be to obtain funds for research on amphibian

declines and extinctions, and conservation and implementation of conservation activities. The Global Amphibian Assessment and the DAPTF Declining Amphibians Database (dad) will play a key role in identifying the funding priorities for both research and conservation actions.

6. Conservation strategy development and implementation. In the near future, the GASG plans to focus on developing an Amphibian Conservation Strategy for the Caribbean region. The Insular Caribbean is probably the region with the worst overall amphibian conservation situation globally. A summary of the Red List status (pers. comm. Janice Long, Simon Stuart) lists 5 extinct species (EX), 39 Critically Endangered (CR), 62 Endangered (EN), 34 Vulnerable (VU), 5 Near threatened (NT), 31 Least Concern (LC), 1 Data Deficient (DD). In summary, 135 species are threatened (CR+EN+VU) and 5 are extinct. A very high proportion of the species in this region is also endemic.

7. Global network of amphibian experts. The GASG hopes to build a global network of experts through regional groups, naming chairs in each region, and through topic/function-based groups, also naming chairs.

This strategy will build on existing groups from the DAPTF and the GAA, thus avoiding duplication. In addition, the GASG proposes to provide a cyber space where the amphibian experts located anywhere in the world can communicate with their counterparts.

For more information, please contact: Dr. Claude Gascon, Chair GASG, Conservation International, 1919 M St. NW, Suite 600, Washington DC 20036, USA.

Publications of Interest

Now available, a DAPTF-sponsored, full-coloured, full-sized brochure entitled *Midwestern Ephemeral Wetlands* that presents a definition of these habitats, describes their seasonal changes, ties in surrounding upland habitats, and details reasons for concern. It includes a strong emphasis on amphibian conservation. *For copies contact:* Edward J. Hammer, WQ-16J, USEPA Region 5, 77 West Jackson Boulevard Chicago, IL 60604-3507, 312-886-3019, USA.

hammer.edward@epa.gov

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Froglog Shorts

For details of grants for and loans of field equipment (videos, cameras, etc.) for the 2003 field season (for students from the US and Canada), please contact: Ann Christensen, Sandpiper Technologies Inc., 535 W. Yosemite Ave. Manteca, CA 95337. Ann@Sandpipertech.com

Sixth Latin American Congress of Herpetology (VICLAH). 19-23 January 2003, Lima, Peru. Details are available at: <http://barrioperu.terra.com.pe/VICLAH/> or from Lily Rodríguez: lilyrodriguez2@terra.com.pe or the VICLAH secretariat at: VICLAH@terra.com.pe

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Articles on any subject relevant to the understanding of amphibian declines should be sent to:

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