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ATELOPUS SURVIVAL INITIATIVE

# THE HARLEQUIN

YOUR MAGAZINE FOR ATELOPUS NEWS

*Atelopus carrikeri, Colombia*
*(Photo by Jaime Culebras / Photo Wildlife Tours)*

## WELCOME TO THE HARLEQUIN!

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Welcome to the very first issue of **The Harlequin**, your magazine for *Atelopus* news!

**The Harlequin** is the official newsletter of the **Atelopus Survival Initiative** (ASI), a group of committed individuals and organizations working together to protect and conserve harlequin toads. One of the main goals of the ASI is to improve the communication and collaboration between ASI members and *Atelopus* champions by sharing the stories and work we do, while raising awareness and promoting harlequin toads as the jewels of the Neotropics.

**The Harlequin** is the ASI's channel to disseminae the messages, stories and successes of the *Atelopus* conservation network to other members of the initiative.

In this first edition, you will learn more about the official launch of the ASI and the publication of the **Harlequin Toad (*Atelopus*) Conservation Action Plan (HarleCAP)**, and will get to know some of the most exciting current conservation projects. We hope you like it! If you'd like to see your work and conservation actions around *Atelopus* published in an upcoming issue, feel free to send a message to **info@atelopus.org**.

Together we can make a difference for harlequin toads!

All photos by Jaime Culebras / Photo Wildlife Tours

# ATELOPUS SURVIVAL INITIATIVE LAUNCHES!

*Lindsay Renick Mayer (lrenickmayer@rewild.org)*

*Re:wild, U.S.*

With the formation of the **Atelopus Survival Initiative** (ASI)--a new alliance of more than 40 organizations from 13 countries--comes a new day for harlequin toads, the jewels of South and Central America's forests and creeks and a group of amphibians hardest hit by the deadly chytrid fungus *Batrachochytrium dendrobatidis* (*Bd*).

While amphibian researchers and conservationists have worked for many years to save harlequin toads (which make up the *Atelopus* genus) and groups of species in individual countries, the ASI is bringing them together for the first time to pool the resources, decades of experience and knowledge necessary to prevent the extinction of the entire genus of harlequin toads across the region where these species still survive.

"As an incredibly diverse group of amphibians facing a number of threats, harlequin toads require innovative solutions coming from a diverse group of individuals and organizations with different expertise, knowledge and capacities," said **Lina Valencia**, ASI founder, co-coordinator of the **IUCN SSC Amphibian Specialist Group Atelopus Task Force** and Andean countries coordinator for **Re:wild**, one of the primary ASI conveners.

**"More than ever before, we need a constellation of champions working together to bring harlequin toads back from the brink of extinction. The ASI underscores the vital need to implement on-the-ground conservation actions that will mitigate the main threats to this beautiful group of amphibians," Valencia added.**

Over the past few decades, many harlequin toad species have suffered severe population declines and extinctions throughout their range. Today, of the 94 harlequin toad species that have been assessed by the IUCN, 83 percent are threatened with extinction, while about 40% of *Atelopus* species have disappeared from their known homes and have not been seen since the early 2000s, despite great efforts to find them. Four harlequin toad species are already classified as extinct, according to the **IUCN Red List of Threatened Species**, but this number is likely higher.

The fungus *Batrachochytrium dendrobatidis* (*Bd*) causes the lethal disease chytridiomycosis, which has resulted in amphibian declines all around the world. Although *Bd* may likely be the primary driver of these declines, a number of other threats are exacerbating the precipitous drops in population numbers. This includes habit destruction and degradation (as the result of animal agriculture,

logging, mining and infrastructure development), the introduction of invasive species such as the rainbow trout that prey on harlequin toad tadpoles, pollution, illegal collection for the pet trade, and the effects of climate change.

The ASI and its members, including governments, local communities and Indigenous peoples, will collaboratively address each of these threats--and new ones as they arise--across the genus's full range, taking into account the social, political and cultural realities of each of the 11 countries where harlequin toads are found.

"With their beautiful songs and unique lifestyles, amphibians are among the most extraordinary animals on Earth, and among them, harlequin toads stand out for their amazing colors," said **Luis Fernando Marin da Fonte**, coordinator of the ASI and director of partnerships and communications for the **Amphibian Survival Alliance**.

**"But these colorful and delicate jewels are becoming increasingly rarer. Harlequin toads must be protected not only because of their beauty and uniqueness, but also because of their intrinsic value and biological, ecological and even cultural importance," Fonte added.**

The initiative's newly developed **Harlequin Toad (*Atelopus*) Conservation Action Plan (HarleCAP)** provides the roadmap for conserving and restoring harlequin toads as a genus and their habitat. The action plan's goals, which ASI aims to achieve by 2041 (the 200th anniversary of the description of the genus *Atelopus*), include:

*– developing and implementing innovative methods to mitigate chytrid's impacts on harlequin toad populations and better understanding why some species are less susceptible to the effects of chytrid;*

*– protecting and restoring harlequin toads' forests and watersheds;*

*– creating and maintaining conservation breeding programs;*

*– searching for species that are lost to science and filling in other gaps in scientific knowledge about harlequin toads;*

*– sharing stories that will transform harlequin toads into symbols of hope for the region and the world and a flagship for conservation success, and demonstrate a commitment to the conservation of harlequin toads;*

*– ensuring the Atelopus conservation network has the technical, logistical, and financial support to secure the long-term conservation of harlequin toads.*

"The genus *Atelopus* is among the most threatened groups of amphibians in the world," said **Ariadne Angulo**, chair of the **IUCN SSC Amphibian Specialist Group**.

**"By rallying behind a conservation strategy with collective input from key stakeholders, the Atelopus Survival Initiative is taking an essential step towards the conservation of these diverse and highly emblematic toads and the habitats that they live in," Angulo added.**

Harlequin toads are found from Costa Rica in the north to Bolivia in the south, and Ecuador in the west and French Guiana to the east. They are known as the jewels of South and Central America in part because of their beautiful and varied colors, which range from orange, green, yellow, brown, black, red, and sometimes even purple. They are celebrated in a number of Latin American cultures, including Indigenous cultures, and across entire countries, like in Panama, where the national animal is the Panamanian golden toad.

Like other amphibians, harlequin toads support healthy ecosystems. Their tadpoles depend on clean water and, because of this, the presence of harlequin toads indicates better quality water in an ecosystem, while their decline or absence is often the first sign of an ecosystem in trouble.

"Protecting and restoring harlequin toads and their habitats will also benefit the species that share the ecosystems in which they live and that provide water to tens of millions of people, and ultimately all life on Earth," Valencia said.

*Atelopus ignescens, Ecuador (Photo by Luis A. Coloma)*

# A SECOND CHANCE TO CONSERVE THE JAMBATO HARLEQUIN TOAD (*ATELOPUS IGNESCENS*) THROUGH THE INVOLVEMENT OF THE LOCAL COMMUNITY

*María del Carmen Vizcaíno Barba[1] (mcvizcainofl@flacso.edu.ec), Juan Manuel Guayasamín[2], Luis A. Coloma[3], David Parra Puente[1], and Andrea Terán Valdéz[3]*

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The main causes for amphibian population declines include infectious diseases, climate change, and habitat destruction. In the Neotropics, harlequin toads (genus *Atelopus*) have suffered the most alarming population crashes with more than 80% of the species classified as Endangered or Critically Endangered. The most dramatic example of amphibian declines in Ecuador is the Jambato Harlequin Toad (*Atelopus ignescens*), which was historically abundant, but suddenly disappeared in the late 1980s, when it was considered Possibly Extinct (last record in March 1988). In 2016, a small population was reported in a remote location by David Jailaca, a 10-year-old boy, a story that attracted a great deal of media attention.

**This emblematic species exemplifies the amphibian crisis in Ecuador, but also the hope for its recovery.**

Since then, **Centro Jambatu for Amphibian Research and Conservation** has led an emergency captive breeding program, but there are currently no *in situ* conservation efforts. Therefore, **FLACSO-Ecuador** is conducting research to identify potential socio-environmental conflicts and opportunities to develop effective conservation strategies. The team carried out a rapid ecological diagnosis and a series of interviews with the different stakeholders. We found that the area is strongly influenced by human activities and identified potential threats to the survival of the species, such as habitat fragmentation, reduction of breeding sites, and predation by introduced species.

However, we also identified important opportunities for the development of an integrated conservation plan to recognize the rural Andean landscape as a habitat for the Jambato and as a livelihood for human communities. These include the creation of ecological corridors, the rescue of traditional agroecological practices, nature tourism, and the implementation of instruments and public policies in close coordination with local authorities and grassroots community structures. Thus, we face the challenge of understanding the population dynamics of this surviving species, while implementing a community-based approach to establish a relationship of trust with the local community, through a transparent and collaborative effort for its conservation. To this end, as a first step, we have already established relationships with the local community, which will be a critical part of every component of the project.

Our intention is to work very closely with the people who live with the species so that they become our

best allies in the long term, as the social and cultural contexts are essential for the success of any initiative designed for sustainable biodiversity conservation.

**It is puzzling how the Jambato has survived in this Andean valley and gone extinct, as far as we know, from all other historic localities.**

Thus, we also need to focus on the ecology, diseases dynamics, and local adaptations of the species. With this information at hand, we aim to identify key strategic actions to ensure its conservation, such as habitat protection and restoration, reintroductions, or translocations. Our project also includes a first approach to incorporate economic alternatives, such as agroecology and nature tourism that will benefit the livelihoods of the people while protecting and improving the habitat of the Jambato.

This project will be executed with funding from the **Amphibian Survival Alliance**, through the **ASA 2021 Phil Bishop Amphibian Conservation Start-up Grants**, and the **Amphibian Conservation Fund** of the **Stiftung-Artenschutz**.

# HARLEQUIN TOAD (*ATELOPUS VARIUS*) CONSERVATION PROGRAM IN COSTA RICA

*Rocío Seisdedos-de-Vergara (rociro3@gmail.com), Diego A. Gómez-Hoyos, José F. González-Maya y Jan Schipper*

*ProCAT, Costa Rica*

The Variable Harlequin Toad (*Atelopus varius*) was considered extinct in Costa Rica in 1996 after suffering a major decline. In 2008 a population was rediscovered and since then populations have been recorded in different areas of the country. We have monitored the population discovered in 2008 in southeastern Costa Rica, estimating population parameters such as survival and population growth, as well as evaluated some threats such as habitat disturbance and the chytrid fungus (*Batrachochytrium dendrobatidis*). This fungus was reported to be responsible for the decline of this and many other amphibian species in the Neotropics.

*Atelopus varius, Costa Rica (Photo by Diego A. Gómez)*

We conducted the study in the Las Tablas Protected Area, which is part of the buffer zone of La Amistad International Park. The study population is restricted to a stretch of the Cotón River, crossing a heterogeneous zone of forest areas and areas with human intervention due to low-impact agricultural activities.

These results are used to monitor the status of the population, the effect of threats and the effectiveness of

management actions, which include biosecurity protocols, enclosures to prevent cattle from entering the river and reforestation in sections with little vegetation.

We have a strong participatory science component through which we empower local stakeholders to study and protect the remaining populations of the harlequin toad. We have elevated the species as a flagship of the Asada Gutiérrez Brawn community aqueduct, with whom we have built communication materials, as well as an educational program for the conservation of this and other threatened vertebrate species in Costa Rica.

**The rediscovery of this population is an opportunity for research and conservation.**

It allows us to understand the population dynamics of the species after suffering a decline. It is also the perfect flagship for the community aqueduct, which in addition to providing water resources to 25 communities, disseminates and promotes through environmental education the protection of water and rivers.

ProCAT
Proyecto de Conservación de Aguas y Tierras

# MANAUENSE HARLEQUIN TOAD (*ATELOPUS MANAUENSIS*): A CRY FOR HELP

*Rafael Filgueira Jorge (rafajorgebio@gmail.com)*

*Atelopus Survival Initiative, Brazil*

The Manauense Harlequin Toad (*Atelopus manauensis*) is a recently described species (2020) that occupies a small geographic region near the city of Manaus, the largest city in the Brazilian Amazon. The species' geographic restriction and discontinuous pattern of occurrence are determined by both historical and ecological factors. Its density is discontinuous in response to variations in characteristics of small upland streams, where the species' tadpoles develop, and of its banks, occupied by adults.

*Atelopus manauensis*, Brazil
Photo by Rafael F. Jorge

Among other factors, our studies show that open forest areas reduce gene flow between populations of *Atelopus manauensis*. Despite the small geographic area the species occupies, it is structured into six distinct genetic groups, considering both neutral and adaptive genetic variation.

**Therefore, all six should be considered priorities for conservation.**

The city of Manaus is growing outward over the habitats occupied by the species and also over portions of the landscape, which may cause the reproductive isolation of the species' populations and the loss of portions of the landscape that are essential for maintaining the species' adaptive potential in the face of environmental and climatic changes. Preliminary observations suggest the existence of different phenotypes along the geographic distribution of the species and we are investigating how much of this variation is related to environmental and genetic variations, to inform possible future management actions for the species. It is also necessary to use this information for effectively applied conservation purposes and to ensure that the Manauense Harlequin Toad and its environments are preserved.

*Atelopus laetissimus, Colombia*
*(Photo by Jaime Culebras / Photo Wildlife Tours)*

# SECURING THE CONSERVATION OF THE HARLEQUIN TOADS IN THE SIERRA NEVADA DE SANTA MARTA, COLOMBIA

*Fundación Atelopus (fundacionatelopus@gmail.com), Colombia*

**Fundación Atelopus** is a scientific NGO created to conserve the amphibians and reptiles of the Colombian Caribbean through research and local communities. We work for the conservation of endemic and threatened species of harlequin toads of the Sierra Nevada de Santa Marta (SNSM) in Colombia through scientific research, exploration for the discovery of new populations and species, community participation and outreach, implementation of timely conservation actions, mitigation of threats and habitat conservation.

*Fundación Atelopus, Colombia*
*(Photo by Jaime Culebras / Photo Wildlife Tours)*

We are currently implementing a long-term population monitoring program of *Atelopus* species in SNSM to collect information on population, physiological, reproductive, ecological and environmental parameters to better understand their population dynamics and the main threats to their survival to promote and support their conservation.

**Another of our objectives is to integrate scientific, traditional and cultural knowledge to generate structured plans that benefit local communities and ensure effective actions for biodiversity conservation.**

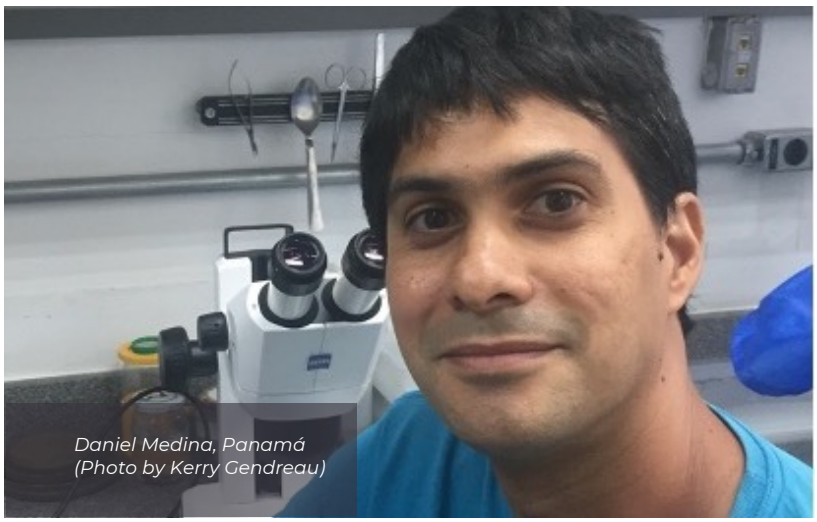
Likewise, we project ourselves as a regional reference in herpetofauna research and conservation of their ecosystems, evaluating threats and providing effective solutions to promote sustainable development in the territories.

Fundación Atelopus
por la conservación de Anfibios y Reptiles

# MEET DANIEL MEDINA

*Daniel Medina (medinald19@gmail.com)*

*Sistema Nacional de Investigación de la SENACYT de Panamá; Smithsonian Tropical Research Institute, Panamá*



*Daniel Medina, Panamá (Photo by Kerry Gendreau)*

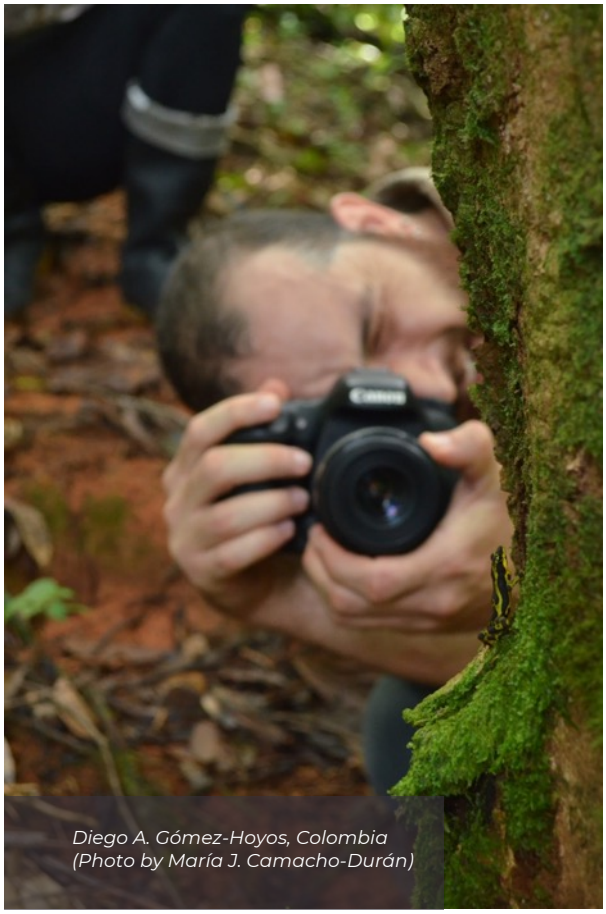
The work of **Daniel Medina** combines concepts and methods from community, microbial and disease ecology. His research has focused mainly on studying the ecology and potential protective role of amphibian skin microbial communities (microbiome), including *Atelopus* species, against the pathogenic fungus *Batrachochytrium dendrobatidis* (*Bd*). His work with *Atelopus* has focused on species from Panama, where he has participated in studies to characterize the bacterial communities associated with the skin of some species, such as *Atelopus certus* and *Atelopus limosus*. In terms of conservation, Daniel, together with collaborators, has conducted release trials of captive-bred individuals of the Limosa Harlequin Toad (*Atelopus limosus*) using the 'soft-release' method. Currently, as part of a collaborative project, Daniel is studying the ecology of the Variable Harlequin Toad (*Atelopus varius*), and its skin microbiome, in newly discovered populations coexisting with the fungus *Bd*.

# DOCUMENTATION OF NEOTROPICAL HARLEQUIN TOADS: LATIN AMERICA'S RETURN TO THE JEWELS OF THE NEOTROPICS

*Diego A. Gómez-Hoyos (biodiego88@gmail.com)*

*I'mage Conservation, Grupo de Investigación y Asesoría en Estadística de la Universidad del Quindío, ProCAT, Costa Rica*

Harlequin toads are striking amphibians that have suffered severe declines and extinctions in the Neotropics, and are one of the most threatened vertebrate groups in the world. Currently, conventional and local researchers, mainly in Latin America, have been studying and carrying out research, conservation and communication efforts on harlequin toads. Here, I showcase the documentation of conservation projects of four *Atelopus* species in the Neotropics that I have led.



*Diego A. Gómez-Hoyos, Colombia (Photo by María J. Camacho-Durán)*

In Colombia, in 2012 we conducted baseline studies for population monitoring of *Atelopus spurrelli* and *Atelopus elegans* in the Utría and Gorgona National Natural Parks (PNN), respectively. After this study, Utría NNP officials continued population monitoring and more recently through audiovisual tools we documented the conservation processes in the video "**Utría, La Más Bella**". Parallel to this process I have reported *Atelopus quimbaya* as Possibly Extinct, after considerable field effort in its typical locality. Meanwhile, in Costa Rica we have conducted comprehensive population and threat monitoring of *Atelopus varius* that has resulted, so far, in conservation actions for the species that have included a strong component of work with rural communities and environmental education, in which we collected audiovisual documentary material on natural history and innovative research.

**The challenge of harlequin toad conservation involves a comprehensive approach of conventional, participatory science, education and communication for conservation, but above all involvement of the rural communities surrounding the remnant populations of these species.**

Also, the role that Latin American researchers have played in the knowledge and conservation of these biodiversity jewels should be recognized, even before any organization or institution took up collective management efforts such as what we know as the **Atelopus Survival Initiative**.

*Atelopus tricolor, Bolivia (Photo by Gabriel Callapa)*

# OUR JEWEL OF THE BOLIVIAN FORESTS IS BACK! PAVING THE ROAD FOR THE CONSERVATION OF THE THREE-COLORED HARLEQUIN TOAD (*ATELOPUS TRICOLOR*) IN BOLIVIA

*Patricia Mendoza-Miranda (patty_bio09@yahoo.com), and Arturo Muñoz*

*Bolivian Amphibian Initiative, Bolivia*

Harlequin toads of the genus *Atelopus* are distributed in tropical forests, cloud forests and paramos from Central America to South America. Currently, about 99 species are known, however it is estimated that this number may increase. Of all known species, more than 75% of our Neotropical jewels are threatened with extinction due to several factors. Chytridiomycosis, degradation of forests for the expansion of agricultural and/or urban areas, contamination of water bodies where the species live,

climate change, as well as trafficking and trade are the main causes for the disappearance of *Atelopus* species.

The Three-colored Harlequin Toad (*Atelopus tricolor*) has the southernmost distribution of the genus. It was previously recorded from the Cusco Region in Perú and the departments of La Paz (Yungas) and Cochabamba (Chapare) in Bolivia, inhabiting montane forests between 600 and 2500 m asl. Although two decades ago *Atelopus tricolor* was a common species, in Bolivia there had been no records of the species since 2003. Several attempts were made to find it, but unfortunately they were unsuccessful. Thus, during the amphibian species assessment organized by the IUCN in 2019 it was categorized as Critically Endangered (CR).

**However, after 17 years, in January 2020, two individuals of *Atelopus tricolor* were found roosting in a locality of the Caranavi Province, La Paz Department, Bolivia.**

Since then, a group of national and international organizations have been working for the conservation of this unique representative of the genus in Bolivia. The progress made to date would not have been possible without the effective collaboration of **Re:Wild** and the **Atelopus Survival Initiative** (ASI).

Currently, we have recorded and monitored a small population of *Atelopus tricolor* in a small fragment of forest. This small population is allowing us to learn about its natural history and the main threats to *Atelopus tricolor*.

The second phase of the project will be supported by the **Amphibian Survival Alliance** (ASA) through its funding program **ASA 2021 Amphibian Conservation Start-up Grants**, which was obtained by the **Bolivian Amphibian Initiative** (BAI), who now has the task of continuing to coordinate and develop the project for the species.

In this project, we will work with the local communities that live close to the species to minimize or eliminate the threats to the Bolivian jewel, *Atelopus tricolor*.

# WORKING TOGETHER TO SAVE THE COLOMBIAN HARLEQUIN TOADS

*Lina M Valencia (lvalencia@rewild.org), and ReCRAC members*

**Re:wild, Colombia**

**ReCRAC**, or the **Harlequin Toad Conservation Network of Colombia**, is a group of individuals and organizations working collaboratively for the conservation of harlequin toads in Colombia. During 2020 and 2021, **ReCRAC** and its members have been coordinating on various research, conservation and education projects to ensure the survival of harlequin toads in the country. This includes the search for lost species such as *Atelopus mittermerei* and *Atelopus sernai* by the **Universidad Tecnológica y Pedagógica de Colombia** (**Juan Emiro Carvajal** and his students) and the **Universidad de Antioquia** (**Mauricio Rivera** and his students), as well as the monitoring of species that still have apparently stable populations and the definition of strategies to mitigate the threats faced by the species.

In the forests and moorlands of the Sierra Nevada de Santa Marta, **Fundación Atelopus** has been monitoring the population dynamics of *Atelopus arsyecue*, *Atelopus laettisimus*, *Atelopus nahumae*, and *Atelopus carrikeri*.

Towards the Pacific, in the humid forests of Chocó, **Diego Gómez**, together with the staff of the **Utria National Natural Park** and members of the local communities have been monitoring the beautiful *Atelopus spurelli*.

Similarly, **Andres Viuche** and his team (**Carlos Galindo**, **Johan Romero**) along with **WCS**, **Chingaza National Natural Park** staff and community members have been searching for the elusive *Atelopus lozanoi* in the Chingaza páramos. Andres and his team are also working with the recently discovered *Atelopus subornatus*, as well as searching for the still mysterious *Atelopus simulatus*.

**Mileidy Betancourth** and the **Fundación Ecológica Los Colibríes de Altaquer** (FELCA) have been tracking *Atelopus* aff. *elegans* for several years to determine the status of its populations.

**At ReCRAC, our work goes beyond monitoring and searching for species, as we are actively working with the communities to identify and mitigate the threats that these species face and that have pushed them to the brink of extinction.**

Mitigation activities include reforestation of areas surrounding the streams where these species are found, removal of invasive trout, and strengthening ecotourism in the area. Working together as a team, we have done an exercise to prioritize which species in the country need greater conservation efforts, which has guided our work, and we have developed--together with **Re:wild**, **Parque Explora** and **EAFIT University**--educational materials to raise awareness of these beautiful jewels of the forests and streams.

In addition, with this educational material, we hope that people will have a better understanding of both the harlequin toad and the conservation issues they face.


## ATELOPUS INFOGRAPHICS

On the next few pages you will find some beautiful infographics about *Atelopus* created by ASI members **Instituto Peruano de Herpetología** (IPH), **Bolivian Amphibian Initiative** (ASI), and **Rescue of Endangered Venezuelan Amphibians** (REVA).


SE BUSCA
Sapo arlequín peruano
(Atelopus peruensis)
PERDIDO MÁS DE 20 AÑOS
Vive únicamente en el Perú, en las quebradas de los pajonales de Cajamarca, La Libertad y Ancash, a más de 3,200 msnm*
*metros sobre el nivel del mar
Está desapareciendo por la destrucción de su hábitat y un hongo que infecta su piel y provoca su muerte.
Si bien el hongo no afecta a los humanos, éstos pueden transmitirlo a otras ranas al tocarlas.
Si encuentras a este sapo, solo tómale unas fotos y AVÍSANOS
Déjalo en el lugar dónde lo encontraste y escríbenos enviando unas fotos, indicando el día, la hora y el lugar donde lo viste:
iphperu.org@gmail.com
WhatsApp +965 350 892
¡AYÚDANOS A ENCONTRARLO Y
conviertete en parte de la historia de la conservación!
IPH


Sapito Arlequín Tricolor
Atelopus tricolor
Este hermoso anfibio, creído extinto en Bolivia, pertenece al grupo de los anuros (sapos y ranas) y es parte de la familia Bufonidae (comunmente conocidos como sapos) con 629 especies en todo el mundo, de todos ellos, sólo 99 son sapitos arlequines. Este Sapito Arlequín Tricolor habita los bosques montanos húmedos de la Cordillera Oriental en Bolivia y Perú.
4% EX
62% CR
14% EN
3% VU
17% Otros
Algunas especies redescubiertas ó
Lázaro
del género atelopus
Atelopus arsyecue
Atelopus varius
Atelopus cruciger
Beneficios
Posible portador de componentes susceptibles de investigación en el campo de la medicina, permitiendo encontrar y posteriormente crear medicamentos sintéticos que nos ayuden a curar diferentes enfermedades.
Investigación
Previenen Enfermedades
Pueden alimentarse de insectos causantes de enfermedades como la malaria, dengue y otros.
Su dieta a base de insectos y orthopteros los convierte en reguladores naturales de plagas. Estas plagas pueden dañar cultivos, causar pérdidas económicas y baja productividad agrícola.
Controlan plagas
Equilibran
Son parte de la cadena alimenticia natural, son presas y predadores, logrando así un equilibrio en el ecosistema donde habitan.
3600 msnm
¿Dónde Viven?
Solo se los encuentra en Bolivia y Perú, dentro de bosques tropicales montanos y esta ranita en particular es la especie del género Atelopus que llega más al sur.
Distribución Historica
En Bolivia solía encontrarse en las provincias Nor Yungas, Chapare y Carrasco en los departamentos de La Paz y Cochabamba.
Amenazas
La pérdida de hábitat es una de las principales amenazas debido a actividades agrícolas no sostenibles y posiblemente una enfermedad emergente que está afectando a los anfibios en general
36 mm.
20-27 mm.
Por lo general las hembras son más grandes que los machos debido a que son las que se encargan de producir y de depositar los huevos.
Renacuajos
Se destacan por tener una boca muy grande expandida y la presencia de una ventosa abdominal tan ancha como el cuerpo que le sirve para adherirse a los sustratos, ya que viven en corrientes rápidas.
Distribución Historica
Dieta
Se alimenta de pequeños invertebrados, como mosquitos, polillas, escarabajos entre otros
Adaptaciones
Al estar asociado a cuerpos de agua, ha desarrollado patas palmeadas, además tiene comportamiento trepador, por ello tiene extremidades más gráciles.
2500 msnm
Distribución Altitudinal
Habita en un rango altitudial desde los 600 a los 2500 msnm en el bosque montano primario húmedo de Yungas.
Distribución Actual
Actualmente está restringida a una población en los alrededores de la provincia Caranavi, Bolivia. En Perú no se tuvieron registros en los últimos años.
Descripción
Cuerpo y miembros gráciles. Dorsalmente de color marrón con manchitas amarillas. Bandas en los flancos y en la mandíbula del mismo color. Vientre color amarillo rojizo. Palmas y plantas de color naranja.
600 msnm
Reproducción
En la época de lluvia los sapitos con más chances de conseguir una pareja son los con mejor territorio cerca de los arroyos y coloración mas intensa.
0 msnm
Proyecto Atelopus Bolivia
Un conjunto de organizaciones nacionales e internacionales estamos reunidos con un objetivo en común, la protección de nuestro único representante del género Atelopus en Bolivia, el sapito arlequín Atelopus tricolor. Fue redescubierta el año 2020 y desde entonces el proyecto "The Three-colored Harlequin Toad conservation project" está trabajando por la conservación de esta especie.
CR
En Peligro Crítico de Extinción
Fue considerada como posiblemente extinta, hasta que despues de 17 años se volvió a encontrar una pequeña población. Por ello es considerada como Críticamente amenazada.
17 años
Desaparecido


Aty
El Atelopus
Te Presentamos a Aty:
Nuestro Sapito Arlequín Tricolor boliviano, quién nos contará diferentes aspectos sobre su especie. Por medio de él, aprenderemos sobre su historia natural, amenazas y el trabajo que venimos haciendo para proteger su especie y hábitat natural.
CR
Categorizada como Criticamente Amenazada (CR), debido a la desaparición total de muchas poblaciones de A. tricolor donde anteriormente habitaban.
Wow!!
¿Entonces somos los últimos de toda nuestra especie?
Acá dice que nos creían extintos. Ahora, después de 17 años volvieron a encontrarnos en los yungas bolivianos.
Animales Extintos
#ProyectoAtelopus
Una pequeña población de la especie Atelopus tricolor fue re encontrada recientemente y se cree que es la última de su especie. Este hallazgo reunió a un conjunto de Instituciones nacionales e internacionales para tomar acciones de conservación en favor de Atelopus tricolor y su hábitat natural y con tu ayuda podremos cuidar y proteger a esta especie.
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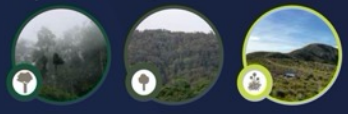
# Ranas Arlequines (Atelopus) de Venezuela

De Venezuela se conocen **10 especies de Atelopus**, unos pequeños anfibios de la familia Bufonidae **en peligro de extinción**. Son de hábitos diurnos y terrestres. Poseen movimientos lentos y prefieren caminar a saltar. Depositan ristras de huevos y tienen renacuajos con un aparato oral en forma de ventosa que les ayuda a sujetarse a las rocas en aguas torrentosas. Se localizan en la Cordillera de Mérida y el tramo central de la Cordillera de la Costa.

**Ambientes:**





**CR**

***Atelopus cruciger*** *(Lichtenstein et Martens)*
*Sapito Rayado*

**Coloración:** Amarillo limón, con reticulo negra. Banda lateral oscura

**Amenazas:** Deforestación, hongo quitridio Bd, incendios forestales.

Último reporte: **2020**

**22 a 50 mm**

**Distribución:** Cordillera de la Costa, 30 a 2200 msnm

***Atelopus sp.*** *(en descripción, La Marca et al.)*
*Ranita Arlequin de Guaramacal*

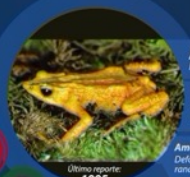
**Coloración:** Crema amarillento, con flancos y vientre rojos

**Amenazas:** Deforestación, cambio climdtico

Último reporte: **2019**

**37 a 45 mm**

**Distribución:** Macizo de Guaramacal, estado Trujillo



***Atelopus carbonerensis*** *Rivero*
*Ranita Amarilla de La Carbonera*

**Coloración:** Amarillo, ocasionalmente con alguna mancha oscura.

**Amenazas:** Deforestación, hongo quitridio Bd, rana toro introducida, agroquímicos .

Último reporte: **1995**

**40 a 46 mm**

**Distribución:** Región de La Carbonera, Sierra del Norte, estado Mérida, entre 2010 y 2600 msnm.

***Atelopus mucubajiensis*** *Rivero*
*Ranita Amarilla de Mucubají*

**Coloración:** Amarillo o pardo amarillento con manchas oscuras. Bajo vientre rojo escarlata

**Amenazas:** Hongo quitridio Bd, truchas introducidas, incendios, agroquímicos, cambio climático

Último reporte: **2004**

**30 a 44 mm**

**Distribución:** Sierra de Santo Domingo, 2250 a 3500 m snm

***Atelopus pinangoi*** *Rivero*
*Ranita Arlequín de Piñango*

**Coloración:** Verde a pardo verdosa, con manchas oscuras. Vientre rojo escarlata

**Amenazas:** Deforestación, truchas introducidas, agroquímicos, cambio climático

Último reporte: **1992**

**31 a 41mm**

**Distribución:** Sierra de La Culata, cerca de Piñango, estado Mérida, 2300 a 2920 m snm

***Atelopus oxyrhynchus*** *Boulenger*
*Ranita Amarilla de Mérida*

**Coloración:** Pardo-amarillento con numerosas manchas. Labios crema. Banda lateral color café en cabeza y costados

**Amenazas:** Cambio climático, hongo quitridio Bd, deforestación, agricultura y ganadería de altura

Último reporte: **1994**

**39 a 50 mm**

**Distribución:** Sierra de La Culata y Sierra Nevada de Mérida, estado Mérida, 2100 a 3350 m snm

***Atelopus chrysocorallus*** *La Marca*
*Ranita Arlequín de Niquitao*

**Coloración:** Dorso anaranjado, superficies ventrales rojo rubí

**Amenazas:** Deforestación, posiblemente hongo quitridio Bd, cambio climático

Último reporte: **1988**

**40 a 50 mm**

**Distribución:** Ramal montañoso de Calderas, estado Trujillo, 2200 a 2700 msnm

***Atelopus sorianoi*** *La Marca*
*Ranita Escarlata*

**Coloración:** Anaranjado a escarlata, sin manchas

**Amenazas:** Deforestación, hongo quitrido, agroquímicos, contaminación por manufactura de Chimó

Último reporte: **1990**

**38 a 50 mm**

**Distribución:** Sierra de Pueblito del Sur, estado Mérida, 2400 a 2700 m snm

***Atelopus tamaense*** *La Marca et al.*
*Ranita Arlequín de Tamá*

**Coloración:** chocolate oscuro, negro, o pardo-grisáceo. Bajo vientre amarillo a rojo claro

**Amenazas:** Posiblemente hongo quitridio Bd, cambio climático

Último reporte: **1987**

**37 a 45 mm**

**Distribución:** páramo de Tamá, 2950 a 3200 m snm

**EX**

***Atelopus vogli*** **Müller**
*Ranita Amarilla de Maracay*

**Coloración:** Amarillo

**Amenazas:** Deforestación y destrucción de hábitat

Último reporte: **1957**

**21 a 39 mm**

**Distribución:** Cordillera de La Costa, al norte de Maracay, 700 m snm

**Estatus de conservación:**

**CR** — *Peligro Crítico*

**EX** — *Extincto*

**Créditos**
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