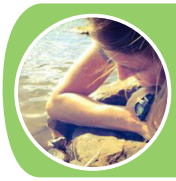
progress report

October 2020
AMPHIBIAN SURVIVAL ALLIANCE
NEWSLETTER

Stories from our partners around the world



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cmhansen@amphibians.org

Protecting the unique and threatened frogs of the Western Cape, South Africa

By Jeanne Tarrant, Endangered Wildlife Trust

In July 2020, with the support of ASA's small grant through Global Wildlife Conservation, the Endangered Wildlife Trust (EWT) commenced a new project focused on some of the most threatened and endemic frogs species restricted to very limited ranges in the Western Cape province of South Africa. Here is where the highest concentrations of threatened amphibians can be found in the country.

Based on a prioritization exercise we conducted in 2018, we identified three species in the Western Cape for which targeted habitat protection and habitat management interventions would have particularly significant conservation benefits. These species are the Critically Endangered Rough Moss Frog (*Arthroleptella rugosa*) and Micro Frog (*Microbatrachella capensis*); and the Data Deficient Moonlight Mountain Toadlet (*Capensibufo selenophos*) (IUCN, 2017). The population trend of

each of these species is decreasing, or unknown, and as such research is needed on their distributions, population sizes, life histories, and threats. While the distributions of these species may not be extensive, they represent important habitat types, often themselves threatened, comprising lowland wetland areas to montane fynbos and renosterveld habitats. Very little is known about the Moonlight Mountain Toadlet, having been described as recently as 2017 (Channing *et. al.* 2017) and more knowledge about this species is crucial to assess its conservation status and guide habitat protection and management efforts. The Rough Moss Frog (IUCN, 2016) does not occur in any formally protected areas and is threatened by massive encroachment of alien vegetation at its known site. The distribution of the Micro Frog – occurring at just four localities across a total of 7 km^2 – is highly fragmented and impacted by urbanization, agricultural expansion, the spread of alien vegetation, and drainage of breeding habitats. These species also represent umbrella species for other threatened frogs, such as the Endangered Cape Platanna (*Xenopus gilli*), and Western Leopard Toad (*Sclerophrys pantherina*). As such, the fundamental goal of securing habitat for these species is critical.

In July we begun with field surveys in the Overberg for these range-limited species, threat assessments, and engaging with landowners to assess willingness to participate in securing areas for conservation. The latter is a crucial aspect of the process and good relationships with these landowners are critical to long-term project success. We have had great success so far in that already eight new localities have been confirmed for two target species (six for *Capensibufo selenophos* and two for *Xenopus gilli*) and three landowners have already expressed interest in taking part in Biodiversity Stewardship processes to formally protect habitat on their properties, representing a total of 1,775 hectares – one site (in Kleinrivierberg, comprising 780 hectares) is already committed to proclamation and this site is under review.

Formalizing protection of these incredibly beautiful landscapes will go a long way to conserving these unique species and their associated threatened habitats into the future.

ENDANGERED WILDLIFE TRUST
Protecting forever, together.

Editorial

By Candace Hansen-Hendrikx, Amphibian Survival Alliance

As the world continues to struggle with the ongoing pandemic it is inspiring to see that amphibian conservation efforts have not ground to a halt. That is not to say that there have not been significant struggles along the way, nor are the struggles over quite yet. Fieldwork and many community programs have had to be put on hold because of the lockdowns. Funding opportunities for organizations and projects have noticeably decreased. Loved ones have fallen ill or have been taken from us by this virus. The impacts are farther reaching than we could have ever expected when all of our lives changed at the beginning of this year.

But despite the enormous struggles that we as a community have been facing as a result of the pandemic, we are all pivoting and adapting to the new normal, with what almost seems to be a renewed sense of purpose and enthusiasm. We are finding new ways to connect with and support each other. We are finding new ways to approach old problems. And ASA partners, such as yourselves, are the embodiment of this!

And as the amphibian community in general adapts, so does the ASA. We are entering a new and exciting phase in the evolution of the ASA, and working hard to provide the direction and support that the partnership has asked for. As you may recall from previous communications from us, we began our strategic planning process last month by sending out a survey to the entire partnership. This survey was designed to give us a better understanding of the makeup of the partnership and how best we can support your work. The survey period has now ended, and we are currently analyzing and compiling the results. You provided us with extremely helpful insights and suggestions, and you will start to see many of these ideas rolling out in the upcoming months! We will also be in touch shortly with those that have expressed an interest in being involved with the development of the strategic plan, ACAP, and GAA3.

You, the partners, are the ASA. And this edition of Frogress Report is yet another opportunity to showcase the incredible work of ASA partners. Everything each partner does, and every hurdle that each partner overcomes, is a true testament to the dedication and passion that is unmatched outside of the amphibian conservation community!

Bolivia and Peru working together to conserve the Titicaca Water Frog

By Eliana Lizarraga Heredia, Museo de Historia Natural Alcide d'Orbginy

In a coordinated effort, the Governments of Bolivia and Peru, with the support of the United Nations Development Programme (UNDP) and with funding from the Global Environment Facility (GEF), have constituted a transnational team for the conservation of the emblematic Titicaca Water Frog (*Telmatobius culeus*).

The working group is made up of institutions from various countries including ASA partner Museo de Historia Natural Alcide d'Orbigny, and others such as Fundación para as Ciencias, Universidad Peruana Cayetano Heredia, Denver Zoo, Natural Way-Peru, and Museo de Zoología de la Pontificia Universidad Católica del Ecuador. With the vision of long-term survival for the species, these institutions will work together to fill in the gaps in the knowledge about this emblematic frog.

The research efforts include two studies within the framework of the project "Gestión Integrada de los Recursos Hídricos en el sistema Titicaca-Desaguadero-Poopó-Salar de Coipasa (GIRH TDPS)". The first is oriented towards the characterization of the underwater habitat types used by *T. culeus* and the identification of the threats to these habitats to prioritize conservation areas. The second study is aimed at evaluating the population status of the Titicaca Giant Frog using snorkel transect techniques.

The results obtained will provide relevant ecological information on the species for Peru and Bolivia, countries that share the ecosystem of Lake Titicaca, where *T. culeus* occur. This will allow researchers to understand the reality of the species and its state in the face of high pressures from natural and anthropic factors. In the same way, the information generated will be used to make decisions and take future joint conservation actions, which will ensure the continuity of the species over time. This transnational collaboration is a great achievement that shows the complete union of efforts by several institutions with the same goal: to promote the conservation of the Titicaca Water Frog!

MUSEO DE HISTORIA NATURAL ALCIDE d'ORBIGNY

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A flying leap: Conservation of the Anamalai flying frog

By Snehaa Sundaram and Amrit Menon, Wildlife Trust of India

The Western Ghats in India, a global biodiversity hotspot and UNESCO World Heritage site, is home to a miscellany of taxa including about 170 amphibian species. New species continue to be discovered every year. However, the rich biodiversity of the Western Ghats is facing threats of habitat fragmentation.

Wildlife Trust of India (WTI), a leading Indian nature conservation non-profit organization, adopts a comprehensive approach to conserving biodiversity through long and short-term measures including on-ground action to address emergent conservation needs through its Rapid Action Projects. People and nature go hand in hand. Unquestionably, several studies point to the success stories of community-based conservation models in a habitat. With the realization that wildlife in India is afflicted by a gamut of threats, the concept of Rapid Action projects was introduced to promote partnerships with committed individuals and grassroots agencies. They are provided with a multitude of resources to create synergies for conservation at the local level.

WTI has been working with communities in the Western Ghats to secure wildlife corridors for Asian Elephants (*Elephas maximus)*, protect flora such as *Strobilanthes kunthiana*, and to equip people to tackle natural disasters such as forest fires, landslides, etc. In addition to our work in the landscape, WTI's expertise in Species Recovery in a wide range of taxa has paved the way to a project with the local community of Munnar, Kerala state, in an attempt to revive the declining population of the Anamalai Flying frog or also known as False Malabar Gliding Frog (*Rhacophorus pseudomalabaricus*).

Anuran Taxa often referred to as 'indicator' species signifies their sensitive nature to habitat alterations owing to a rapid decline in their population. This Critically Endangered species found in the tropical evergreen forests of the Southern Western Ghats in South India had taken an unusual liking to the cardamom plantations of Kerala, bringing them closer than ever to human presence. The myth behind the species consuming cardamom coupled with the use of pesticides in the plantation was seen to reflect upon the low tolerance levels in the community and the species existence. The frog being highly range-restricted, both within and outside Protected area networks there was a need to identify key areas of a breeding population and introduce conservation measures.

Through this project, the team has identified current nesting sites to monitor the species and two alternative sites, where makeshift waterholes in a natural setup have been designed to promote their population growth. Using a multi-stakeholder approach by involving plantation owners and Forest department authorities we plan to address the threat of pesticide use and promote organic farming methods in the landscape. Through close monitoring and community involvement, we hope to witness a recovery in the Anamalai Flying Frog population.

Wildlife Trust of India

www.wti.org.in

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When a tiny tadpole turns out to be a (different) lost frog

By Lindsay Renick Mayer, Global Wildlife Conservation

From getting the right permits, to determining the right time of year, to traversing rough terrain in treacherous weather, to figuring out where to look, the search for lost species can, at times, present an impossible challenge. And sometimes when an animal is found, determining with 100 percent certainty that it's the lost species in question can require some patience. That is especially true when the species in question is still a tiny tadpole.

Wildlife biologist Enrique La Marca and team have been monitoring amphibians in the Venezuelan Andes since the 1990s, soon after a number of frog species started mysteriously vanishing. This January, a team that had set out to do routine amphibian monitoring unearthed a few dozen tadpoles that turned out to belong to Jahn's Tree Frog (*Hyloscirtus jahni*), a species that was last scientifically documented in March of 1991. "The finding of Jahn's Tree Frog is a major discovery for conservation science, since this is the first time in decades that the species has been seen," says La Marca, who is executive director at ASA partner Rescue of Endangered Venezuelan Amphibians (REVA).

Although La Marca and team are thrilled to have confirmed that Jahn's Tree Frog is still around, their celebration has been tempered a bit by the winding path that took them from the discovery of the tadpoles to watching the 30 tadpoles they had collected for a REVA conservation breeding program morph into Jahn's Tree Frogs. When the team originally discovered the tadpoles, they had very little morphological information to determine which species the tadpoles belonged to. They knew, however, that the tadpoles lived in a location once home to the long-lost Mérida Harlequin Toad (*Atelopus oxyrhynchus*), a species that has been lost for the past 26 years. Even though the range of the Jahn's Tree Frog and Mérida Harlequin Toad overlap, given that the color, size and shape of the tadpoles more closely resembled the little that we know about the morphology of Mérida Harlequin Toads, the researchers were optimistic that the tadpoles in hand marked the rediscovery of the first of Venezuela's seven lost harlequin toads.

But as the tadpoles began to grow back legs, they started to change color and grow surprisingly big, signaling to La Marca that the tadpoles belonged to Jahn's Tree Frog, instead of the Mérida Harlequin Toad. This finding adds significant new information to our understanding of both Jahn's Tree Frog and Mérida Harlequin Toad development.

"Even though we didn't find the Mérida Harlequin Toad at this time, at REVA we are not dismayed. In all of these years that we've been monitoring populations of amphibians, we haven't given up hope, and we don't intend to do so now," La Marca says. "Now we have a twofold challenge: to find the still-missing Mérida Harlequin Frog, and to rescue the now-found Jahn's Tree Frog. We will continue to fight against the odds to find and conserve these animals, which are an important part of Venezuela's incredible natural heritage."

Read the full story here.

GLOBAL WILDLIFE CONSERVATION

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Description of the tadpole of *Telmatobius brachydactylus* (Anura: Telmatobiidae)

By Luis Castillo and César Aguilar, Grupo RANA and Universidad Nacional Mayor de San Marcos

The Amable Maria Frog (*Telmatobius brachydactylus*) is a semiaquatic amphibian species endemic to the high Andes of the central region in Peru, occurring at altitudes between 4000 and 4600 m. According to the IUCN, the species is currently categorized as globally Endangered (EN) due to habitat reduction and loss, and its use in traditional medicine.

In August 2017, a Bioblitz was carried out in the Junin National Reserve in Peru by ASA partner Grupo RANA. On that occasion, a tadpole of *T. brachydactylus* was found in a gravel stream of shallow depth and low water flow with abundant aquatic vegetation. Curiously, the tadpole was reported for the first time in syntropy with tadpoles of the Lake Junin Giant Frog (*T. macrostomus*).

Motivated by that encounter, we decided to describe the tadpole of *T. brachydactylus*. Since we did not collect the individual that we found in the wild, we used museum specimens collected in 1988. The description of the tadpole was published by Luis Castillo (Grupo RANA) and César Aguilar (Universidad Nacional Mayor de San Marcos) in the Revista Peruana de Biología. You can find the publication here.

ONG - Grupo rana

First population estimates for two CR frogs from Madagascar

By Izabela Barata and Jeff Dawson, Durrell Wildlife Conservation Trust

Anodonthyla vallani and *Anilany helenae* are microhylid frogs only known from the vicinity of their type localities, in Ambohitantely Special Reserve, Madagascar, where they occur at high-altitude forests at around 1500 m elevation. Anodonthyla vallani is found on tree trunks several meters above the ground and it is presumed to use tree holes as breeding sites. *Anilany helenae* is a terrestrial species and occupies the leaf litter, breeding is unknown and possibly involve terrestrial nests. Both species are assessed as Critically Endangered and listed as priority EDGE species. They are endemic to Ambohitantely and the reason for its designation as an Alliance for Zero Extinction site. Ambohitantely itself is important as it is the only protected area of humid forest situated on the central plateau to the north of Antananarivo. It forms part of the Southern Africa: Central Madagascar ecoregion and is classified as Critically Endangered by WWF. A study looking at the effects of fragmentation on amphibian populations at Ambohitantely was undertaken in 1996 and 1997, which resulted in *A. helenae* being discovered and formally identified, and *A. vallani* described later in 2010 from collected specimens. Since this study no further amphibian surveys were undertaken and, although isolated populations of both species persisted in the fragmented forest of Ambohitantely, little information was available to inform their management and conservation interventions. In 2018, Durrell initiated the first dedicated amphibian surveys looking at these endangered species in Ambohitantely in 20-years. This work has resulted in the first ever population estimates for these two endemic and Critically Endangered

frogs from Ambohitantely Special Reserve. Our findings support previous observations related to habitat use, showing that species are indeed influenced by vegetation structure, such as bamboo numbers and canopy cover. Despite having moderate to high occupancies, we had relatively low population estimates for our sampled population (paper currently in press). Given the small population sizes and close relationship with vegetation

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structure, continuous habitat loss may have drastic consequences for their populations in the long-term. Since 2005, the annual deforestation rate has progressively increased in Madagascar. Ambohitantely remains as one of the last refuges of humid forests in the central plateau and, despite being a Special Reserve and having management plans in place, it is highly fragmented and still suffering forest loss. Our results serve as baseline information to describe future population trends and further understand the impacts of forest fragmentation on these species. Aligned with Durrell's SAFE (Saving Amphibians from Extinction) strategy, we are committed to implement a long-term monitoring programme for threatened amphibians in Ambohitantely and further develop local capacity that can contribute to effectively deliver our long-term plans.

DURRELL

Mitsinjo's captive breeding program

By RAKOTOARISOA Justin Claude, Mitsinjo

Between the months of August and September, 2020 substantial progress was made towards the objectives of the captive breeding at Mitsinjo research center. In total, 106 terraria are occupied with 11 common species and one critically endangered species.

As counted by the end of this month, the Mitsinjo center now has approximately 1,200 individuals of amphibians. Using multiple husbandry technics, most of the species still alive are in great health.

Facing the winter season, they are all less active, hibernate and there are no breedings recorded during those couple of months.


© RAKOTOARISOA Justin Claude

Species monitored in captivity (including the number of specimens):

- *Mantidactylus betsileanus* (53)
- *Blommersia blommersae* (50)
- *Boophis pyrrhus* (12)
- *Boophis bottae* (16)
- *Heterixalus betsileo* (4)
- *Guibementis albolineatus* (6)
- *Guibementis pulcher* (8)
- *Platypelis barbouri* (7)
- *Anodontohyla policaris* (5)
- *Pletodontohyla mihanika* (30)
- *Gephyromantis boulengeri* (10)
- *Mantella aurantiaca* (812)

90% of those wild-caught are old and need to be changed in the next few years to prevent mortality. Even though the next breeding season is coming up soon, all of the captive species have been selected by using/improving new technics based on tree frog and the top hill species. In addition, *Mantella aurantiaca* has been readied for the next release, for both F2 and F3 generations.

The success of captive breeding depends on their live food cultures, and insect production plays important roles for those 12 species of frogs. We produce 150 new fruit fly cultures every week and use approximately 50 cultures for food. The breeding of other insect species was conducted but we need a specialist to identify them. They are listed here: Collembolans or springtails, large black crickets, Cave cricket, tropical house crickets, field crickets, and large field crickets.

As expected, termites and ants are also a great diet for the *Mantella aurantiaca*, but they require space and time to breed. According to Shan Sutor, a volunteer from the UK who spent one month in Mitsinjo center in 2015, he could help Mitsinjo again but because of the pandemic, he could not come this year.

Mitsinjo staff would appreciate exchanges with experts to expand our knowledge of captive breeding as this is the first of its kind in Madagascar.

Association Mitsinjo
Andasibe, Madagascar

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Conservation Needs Assessment of threatened amphibians in Brazil

By Luis F. Marin da Fonte and Luis Carrillo, IUCN ASG Brazil and Amphibian Ark

The Amphibian Ark (AArk) and the Brazilian regional branch of the IUCN Amphibian Specialist Group (ASG Brazil) have recently conducted the Conservation Needs Assessment (CNA) of all threatened amphibian species and other species of conservation interest in the country. The CNA process, developed and managed by the AArk, seeks to objectively and consistently identify priority species and their immediate conservation needs. Through a transparent, logical and objective method, the CNA process uses current knowledge of species in the wild to determine those with the most pressing conservation needs and provides a foundation for the development of holistic conservation action plans that combine *in situ* and *ex situ* actions, as appropriate. CNAs generate national prioritized lists of species recommended for one or more conservation action, and these can subsequently be used to assist in the development of species recovery plans and national action plans, or to better inform national conservation priorities, identifying priority taxa for both *in situ* or *ex situ* conservation work. Between 2007 and the end of 2018, AArk staff have facilitated workshops to assess the conservation needs of around 2,700 (~33%) of the world's amphibian species at 41 national or regional workshops. To learn more about the CNA, please access its official website. If you are interested in conducting assessments in your country, please contact the AArk (kevinj@amphibianark.org).

Usually, CNAs are carried out in in-person workshops, but due to the COVID-19 pandemic, this time assessments were entirely made in 5 online workshops held between August 17-21, 2020. The primary aim of the assessment was to update and in some cases conduct first-time assessments for approximately 75 amphibian species threatened with extinction in Brazil. More than 50 local assessors were identified by ASG Brazil members from a wide variety of backgrounds, including academics, researchers, students, and members of governmental agencies. The assessments were facilitated by AArk's Training Officer Luis Carrillo, by ASG Brazil members Cybele Lisboa, Iberê Machado, Luis F. Marin da Fonte and Débora Silvano, and Luis F. Toledo (UNICAMP). The results of the assessments are currently being reviewed and will be soon published on the CNA website.

amphibian ark
Keeping threatened amphibian species afloat

ASG
IUCN SSC
Amphibian
Specialist Group

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Atewa forest in Ghana is threatened by bauxite mining but ASA partner Herp-Ghana is not giving up on its amphibians

By Michael Gyapong Akrasi, Charles Kojo Amponsah, Francis Osei-Gyan, Caleb Ofori-Boateng, Herp-Ghana

The Atewa Hills Forest Reserve in eastern Ghana is undoubtedly the most species-rich site in the country. In terms of species richness, the Atewa forest compares to very few in Africa. It is the only intact upland forest in Ghana and home to 100 globally threatened species and over 30 amphibian species of which two are Critically Endangered and endemic to the reserve (Atewa Slippery Frog and Afia's Puddle Frog).

Many more remain to be discovered with an increase in research. Unfortunately, the Atewa forest is at severe risk of being destroyed by a planned bauxite mining. Last year, old mining roads were reopened signaling the government's resolve to soon move ahead with this controversial mining project. The planned mining overlaps with the tiny distribution of the Atewa slippery frog which is already considered by most scientists to be a distinct species (Blackburn *et al.*, in review). Many endemic and endangered amphibians are likely to be extirpated should mining proceed. Sadly, many of these may never be discovered and named as knowledge of amphibians in the Atewa Hills is based on only two major surveys (Kouame *et al.*, 2007; Leaché & Ofori-Boateng 2011).

A long-term study aimed at adequately cataloging the unique amphibian diversity at different sites in the Atewa Hills seems to be a plausible course of action towards their conservation. While the fight to save Atewa Forest is far from over, ASA partner Herp-Ghana and Synchronicity Earth re working with local communities to carry out an amphibian monitoring programme in Atewa to uncover and document the amphibian species of this threatened forest. This is extremely important given the likelihood that other undiscovered frog species could occur there.

Herp-Ghana initiated our amphibian monitoring programme in June 2020 as we have trained five local volunteers in amphibian survey techniques and identification. This is to mobilize community support for amphibian conservation, build their capacity in amphibian survey techniques, and also to ensure the longevity of the monitoring programme. In all, four monitoring surveys have been embarked on by our trained hunters from June to August 2020. These have proven to show good prospects as they have discovered some potential new species. Herp-Ghana remains hopeful that this monitoring exercise will lead to the discovery of new species and that the results of this exercise will help strengthen our fight to save the Atewa Hills Forest Reserve.

HERP – Ghana
Amphibian and Reptile Conservation Society

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Amphibian conservation at REVA during the coronavirus pandemic

By Enrique La Marca, REVA Conservation Center

The COVID-19 pandemic is affecting activities and the welfare of human populations, but also posing problems to conservation efforts worldwide. Since REVA conservation programs imply *in situ*, *ex situ*, and community outreach projects, the collateral adverse effects of the virus are also multifold. REVA fieldwork, lab, and teaching activities have been affected, because of having this multi-component conservation approach.

Controlling measures to avoid the spreading of coronavirus imply human mobility restrictions and confinement. In this regard, human presence at activities in the *ex situ* REVA facilities has been drastically reduced. Due to space limitations, only one person is allowed at the confined facilities each time. This is affecting the time expended in attending the terraria, although it is counteracted by having different working shifts. Nonetheless, since most of the attendants are university students, their availability has also diminished.

Field expeditions and species monitoring have also been curtailed in response to adhering to measures aimed to avoid the virus spreading among human populations, like restrictions of movement between localities to staying-at-home and social distancing. Field data gathering is compromised by mobility restrictions and the number of participants in the field parties (now reduced to no more than three people at a single locality each time, and wearing as much as possible facial masks and following biosecurity protocols). We have implemented alternative activities at long-distance localities by making alliances with local trained-personnel who is taking charge of the field activities while reporting to a faraway coordinator.

In the middle of a REVA training course in amphibian conservation, we stopped the practical activities a few days before the national government issued the official lockdown announcement, at the very start of the pandemic. The course later shifted to an online-based second phase. The community work agenda completely stopped, as those activities involving a conservation multi-approach with the participation (both in group meetings and practical activities) of local communities became unpractical and unsafe.

The pandemic has also brought problems to local amphibians, for instance, the deforestation of mountain stream banks by local residents in the provision wood in a country that is facing an increasing problem in the provision of domestic gas. The absence of vigilance in those places exacerbates the problem.

Depending on their programs, people, and equipment involved, the conservation centers may have had different degrees of impact by the pandemic. Lack of funding, either because of the lack of availability of external funding or difficulties in obtaining income through sales of visitors, appears to be one of the main ones. The uncertainty remains in the future about the possibility of external support in post-pandemic times, when other priorities may take more relevance. Another current issue is that government agencies are working at a slow pace, if any, affecting the issuing of permits and other matters related to environmental regulation. Under this new scenario, most projects will need to be re-scheduled. The real consequences are still to be revealed, once the pandemic is over. Meanwhile, we should not stop protecting endangered wildlife.

REVA

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Describing the tadpoles of five horned frogs from Vietnam

By Benjamin Tapley, Luan Thanh Nguyen, Christopher Portway, Timothy Cutajar, Chung Thanh Nguyen, Manh Van Le, Hao Van Luong, and Jodi J. L. Rowley (Zoological Society of London, Asian Turtle Program, Indo-Myanmar Conservation, Australian Museum, Danang University of Education and Hoang Lien National Park)

The megophryid frog genus *Megophrys* is comprised of 107 described species within seven subgenera and the genus is known to harbour cryptic species diversity. These frogs are usually associated with streams in montane forest and their distinctive larvae have umbelliform oral discs. The few Asian horned frog tadpoles that have been described have often dubiously allocated to species by association with post metamorphic specimens at collection sites and without supportive molecular data. Our international team published detailed descriptions of the larvae of six species of Asian horned frogs Vietnam: *Megophrys fansipanensis*, *M. gigantica*, *M. hoanglienensis*, *M. intermedia*, *M. jingdongensis* and *M. maosonensis*. Tadpoles from different subgenera differ from each other via a combination of patternation in life, oral disc shape and tail morphology but as we only had few specimens from relatively few species to work with, further research is needed to verify whether or not these differences can be applied more widely to delineate subgenera. Detailed descriptions of tadpoles are important when undertaking rapid biodiversity inventories. Furthermore, a thorough understanding of both the microhabitat for both larvae and post metamorphic amphibians is essential for informing amphibian conservation strategies, such as which habitat to protect and optimal periods in which to monitor populations of a species.

Tapley, B., Nguyen, L.T., Cutajar, T., Nguyen, C.T., Portway, C., Luong, H.V. & Rowley, J.J.L. (I2020) The tadpoles of five *Megophrys* Horned frogs (Amphibia: Megophryidae) from the Hoang Lien Range, Vietnam. *Zootaxa*, 4845 (1), 35–52.

Tapley, B., Nguyen, L.T. & Le. M.V. (2020) A description of the tadpole of *Megophrys* "*Brachytarsophrys*" intermedia (Smith,1921), *Zootaxa*, 4845 (1), 26–34.

ZSL LET'S WORK FOR WILDLIFE

AUSTRALIAN MUSEUM

Indo-Myanmar Conservation

asian turtle program

HOANG LIEN NATIONAL PARK

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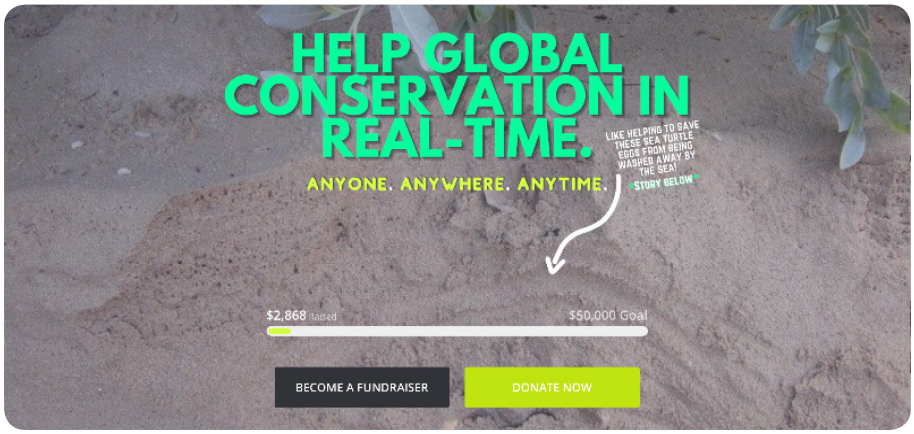
Someone can't care about what they don't know or see

By Megan Cromp, Key Conservation



I started Key Conservation because I wanted a way for conservationists to be able to reach out to the world when the unexpected happened. You can't plan for a lioness getting stuck in a snare or a GPS unit malfunctioning but they happen. For smaller conservation organizations moments like these can put them in survival mode because they already don't have enough funding or bandwidth to take on something unexpected. When funds are tight and you are facing problems from all sides it can feel like you're alone out there in the field. Sometimes it even feels like no cares if the species you are working to save goes extinct or not. Here's the issue, it's not that no one cares they just don't know what is even going on.

I knew for this gap to be filled I had to create a way for people to be able to be on the front lines with conservationists so they would not only know what was happening but they could truly understand how it felt to be out there facing these challenges. If they could understand I knew they would want to do something. A way for the world to have the back of conservationists during their darkest moments. Conservation doesn't have time to wait, it changes every day and we need the solutions to tackle the problems to be just as fluid. Providing actionable steps that someone could take to make a difference in real-time was necessary and on top of that, we needed a way for an individual from across the world to be able to make just as big of an impact from their couch as someone who is in the same area as an organization.

The idea evolved and now anyone can help by giving their skills, their funds, or by helping in person. Instead of building a platform to just send help, we are now building a community where anyone from anywhere can work together to tackle the problems facing conservation from the small to the seemingly impossible.

Now over 70 conservation organizations have signed up with us because they believe in our mission and need this kind of support.

Over the past year, we have gone through a rollercoaster of challenges and triumphs which have seen us go from 0 to 65% of the app being complete. We have built strong partnerships and are envisioning a future for Key that goes beyond the day to day to now building the world's first centralized platform for conservation. We are officially moving into our final stage of development and we are once again doing what is needed to finalize development once and for all.

That's why I am excited to announce that today we are kicking off our crowdfunding campaign to raise the remaining funds needed to build the Key app. Now more than ever conservation organizations need our help, our natural world needs our help. We need a way to empower the world to step up when all other sources of funding and support fall away. I truly believe that one person can make a difference and if we compound that there are endless possibilities for the impact that could have on our world. If we reach our fundraising target we can have the app complete in the next four months but we can't do it without you. Will you help us build a lifeline for nature by supporting the development of the Key Conservation app?

A big part of us getting the app built is spreading the word about the campaign as far and wide as possible. We could really use your help with this. If you are willing to share the campaign with your friends and family it would really help us out.

We tried to make it super easy to share the campaign by providing this link to where you will find social media graphics and captions that you can use. Please feel free to make your posts personal to you and to tag us in them. We want to hear why you're excited about Key! We can't do this without you so thank you for any support you can give us!

KEY

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ASA'S Future Leaders of Amphibian Conservation Updates

The Future Leaders of Amphibian Conservation program is an award to a number of early-career conservationists from around the world that have been identified by the Amphibian Survival Alliance as the next generation of amphibian conservationists. So far we have awarded 19 Future Leaders from 12 countries (Bolivia, Brazil, Peru, Mexico, Ghana, South Africa, Uganda, India, Nepal, Pakistan, Australia and United States). You can learn more about some of the Future Leaders of Amphibian Conservation here.

Getting to know Kaya Klop-Toker

Can you tell us a little bit about yourself, Kaya?

Like most of you, I've been a nature lover since birth. At university, I stumbled into an opportunity to do some frog surveys, and that was it – I've been hopping mad about frogs ever since! I was lucky enough to secure both an honours and PhD position studying frog ecology and threatening processes, as well as a position using photo-recapture methods to monitor frogs for the New Zealand Department of Conservation. I now work as a post-doc at the University of Newcastle, studying the impacts of mining, chytrid, and fire on vulnerable stream frogs.

What projects have you been involved in to promote amphibian conservation?

A lot of my research has been based on industrial land, which makes it difficult to promote our projects. Instead, I try to promote the need for amphibian conservation in general. To do this, I have given local community presentations and radio interviews, and written for the Australian Wildlife magazine. Recently, our lab has launched a citizen science project that engages locals to "adopt" a sound recorder for remote acoustic monitoring. We've also developed "have you seen me?" style brochures to encourage citizens to help us find rare frogs. And this September, we released "Biomes", an interactive website with a virtual gallery to engage and educate the public on biodiversity. Of course, I made the frog diversity posters! Please check

it out at www.biomes.art

What is your favourite amphibian species and why?

With such diversity, it really is impossible for me to choose just one favourite amphibian – so here are my top three in no particular order; (1) Archie's frog, *Leiopelma archeyi*, is on the list because it is one of the first amphibians I worked with, they're super fascinating being one of the oldest frog species and a non-verbal terrestrial breeder. *L. archeyi* have stunning green, black, and orange colouring which hides them perfectly among the moss and ferns of a New Zealand rain forest floor. They're so beautiful, I've kept a photo of one in my wallet for the past ten years! (2) The giant burrowing frog, *Heleioporus australiacus*, is a boss of a frog – they're big, they're chunky, they know what's up. Giant burrowing frogs are purple with bright yellow dots and loads of hard black spines used for amplexus, and they are one of the few ground frogs that always look, if not happy, then at least mildly amused. (3) Peron's tree frog, *Litora peroni*, is a frog I love because it looks even happier than giant burrowing frogs. With their cackling, laugh-like call, their adorably large, sticky toe pads, and stunning cross pupils, they are a common frog in my area that I never get tired of seeing.

Has being recognized as a Future Leader of Amphibian Conservation by ASA made a difference in your career so far?

Becoming an ASA Future Leader for Amphibian Conservation has changed how I see amphibian conservation. It has opened my world view to the myriad of challenges facing amphibians globally, and to the different approaches passionate, young people are making to meet those challenges. The Future Leader program has made me feel connected to something larger than just the species I'm working on, and I'm really glad to be a part of it.

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