



# progress report



*Stories from our partners around the world*

June 2020

AMPHIBIAN SURVIVAL ALLIANCE

NEWSLETTER



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## Instituto Curicaca and Synchronicity Earth partner to protect the Admirable Red-Belly Toad in the Brazilian Atlantic Forest

*By Alexandre Krob, Instituto Curicaca*

The creation of a protected area (PA) aiming for the conservation of endangered species depends on a range of factors, which are generally not under the governance of environmentalists and researchers. In Brazil, the creation of PAs is regulated by the National System of Conservation Units. Aiming to

contemplate multiple interests, it establishes several categories of PAs with different restrictions on the use of biodiversity and distinct requirements of land ownership. Even though, the ability to create a PA in Brazil is much more related to the existence of opportunities, which are usually scarce.

Currently, the Brazilian govern-

ment has embarked on a path of environmental regressions, a context that is already internationally known. Incredibly, the Ministry of the Environment has proposed to reduce the size of several already established PAs, or to change the category of PAs to less restrictive ones. The creation of new PAs is not among the current governments' short term goals, neither at fed-

eral nor at regional levels in most Brazilian regions. It is a very complicated moment. On the one hand, we must work to maintain what we have already achieved; on the other hand, we are at risk of losing further species and ecosystems.

The case of the Admirable Red-belly Toad (*Melanophryniscus admirabilis*) is a good example. The lack of a PA protecting the only known population of this Critically Endangered species almost led to its extinction a few years ago. If the Instituto Curicaca and its partners didn't have act in time, the implementation of a small hydroelectric power plant would have seriously threatened this microendemic species.

We know that conservation is not just one way. It is the result of a sum of complementary initiatives aiming to eliminate or reduce threats. The Instituto Curicaca has a well-established history of providing technical subsidies for the creation

of protected areas. We also promote sustainable economic activities for local communities living around PAs as a complementary conservation strategy. Parks and reserves cannot be islands in the landscape and, to prevent this from happening, it is necessary that the economic activities around PAs are harmonized with the conservation activities conducted inside them.

Unfortunately, given the current situation in Brazil, the creation of a PA to protect the Admirable Red-belly Toad can still take a while. But this must not prevent us from acting. In this context, a medium to long term partnership between ASA partners Instituto Curicaca and Synchronicity Earth has recently emerged. The Amphibian Survival Alliance helped to bring both organizations together and provided Instituto Curicaca with a seed grant to kick-start the project. The cooperation between both ASA partners will help to organize and support local families to implement

agroforestry systems. The project aims to conserve the toad's habitat while adding economic and ecological value to the production process of small farmers that live and work close to its area of occurrence. It is definitely a win-win opportunity for everyone!



## ASAP launches its first small grant scheme for Southeast Asian species on the brink of extinction

*By Asian Species Action Partnership*

The IUCN SSC Asian Species Action Partnership (ASAP), with support from Fondation Segré, has launched a Rapid Action Fund for tackling the extinction crisis in Southeast Asia. Small grants are now available for urgent conservation action that focuses on Critically Endangered land and freshwater vertebrate species found in Southeast Asia (ASAP species). These are the first grants to come from ASAP, marking a new stream of support for their Partners.

The grants of up to EUR 10,000 are targeting a region which has seen an unprecedented decline in wildlife over the last decades. Currently there are **227 ASAP species**, many of which are endemic to Southeast Asia. This number continues to rise

as more species are listed as Critically Endangered by the IUCN Red List of Threatened Species™. Many ASAP species lack the conservation attention they desperately need, and without immediate action, many of these species will likely become extinct.

A high demand for wildlife, both for international and local trade, makes unsustainable offtake a major threat for many ASAP species. At the same time, Southeast Asia has achieved rapid economic growth but also significant levels of deforestation, especially for agricultural expansion, further contributing to biodiversity loss.

Nerissa Chao, Director of the Asian Species Action Partnership said, "We are delighted to be launching

the ASAP Species Rapid Action Fund with support from Fondation Segré. As a Partnership, we understand the need to support our Partners in their efforts to conserve ASAP species and their habitats, and recognise that rapid interventions are often needed. This Fund will directly respond to urgent requests from the field, helping our Partners meet the ever changing conservation challenges they face".

Despite the dire state for ASAP species, funding opportunities for many remains scarce. One of ASAP's primary goals, as identified in **ASAP's five-year strategy** launched in 2019, is to leverage new financial resources to catalyse and support ASAP species conservation. The fund marks a significant first step towards delivering on this.





The ASAP Species Rapid Action Fund targets unexpected conservation emergencies, or activities that are critical to a project continuing. It will respond to emergency situations and urgent actions, for example, anti-poaching efforts, human-wild-life conflict mitigation, emergency

rescue or crucial veterinary interventions, providing immediate funding for rapid implementation on the ground (maximum duration 12 months).

“A large part of the most urgent conservation needs are at local scale

and often on very short time scales. The ASAP Species Rapid Action Fund is the most efficient and effective way to support local actors in counteracting the threats to the environment,” said Caterina Boitani from Fondation Segré.

Funding for the Rapid Action Fund comes from **Fondation Segré**. Qualifying projects by ASAP Partners can be submitted to the Rapid Action Fund now on **ASAP’s website**.



## First captive breeding milestone in Papua New Guinea frog program



By Chris Banks at Zoos Victoria, Australia; and Ryan Reuma at Port Moresby Nature Park, PNG

The December 2019 Froggress Report updated readers on progress with the *ex situ* component of the long-term strategy to mitigate the likely impacts of the Amphibian Chytrid Fungus on Papua New Guinean frogs, *i.e.*, opening of the country’s first public display for PNG frogs, at the Port Moresby Nature Park.

We can now report on the first breeding event in the captive facility, which is likely to represent the first captive breeding of frogs in a structured program in PNG.

A group of two female Green Tree Frogs, *Litoria caerulea*, was initially collected on the Park grounds as one of the species to initiate breeding programs and provide the platform to develop husbandry capability in the Park’s keepers.

The 60 x 60 x 95cm display enclosure was fitted with filtration and misting systems utilizing Park tap water, lighting from Eco tech to support live plants and meet the frogs’ UV requirements, and natural landscaping to highlight the frogs to Park visitors. The frogs were placed in the exhibit on 23 September 2019 and settled well, sitting in view of visitors and readily accepting insect food offered by keepers.

The first signs of breeding behavior occurred on 24 March 2020 when seven frogs were added to the collection (3 males and 2 females) and the males started calling. Breeding behavior was almost immediate and, although amplexus was not observed, eggs were laid in the enclosure’s pool on 25th March and hatched the next day. These were not counted fully, but approximately 95 % from the total egg mass were present. None of the tadpoles died, although about 5% of the eggs were laid on leaf surfaces and dried out.

The tadpoles were fed with fish flakes, frozen lettuce and turtle pellets, and started to metamorphose on 10 April – 15 days after hatch-

ing. A selection of tadpoles were measured as they started to metamorphose, and had an average body length of 4cm.

The metamorphosing frogs were transferred to 20 x 20 x 30cm terrarium tanks. Landscaping included gravel substrate and a mixture of moss, creeping Charlie (*Pilea nummulariifolia*) and rock weed (*Pilea microphylla*) as vegetation, some perching and dry barks for cover. Eighteen young frogs had emerged at the time of writing. The young frogs were fed with slaters, fruit flies and cricket nymphs bred at the Park. Grass flies are also being offered, but they are difficult to collect.

Most of the captive-bred frogs will be released around the Park once they reach maturity. A small number will be kept on display for breeding purpose, rotating and swapping older frogs with younger females, and also for public awareness.

The entire breeding and rearing event is on show to Park visitors, with the captive-bred frogs maintained behind the display breeding tank. This has been a very valuable learning experience for the Park's Life Science team and an important step in the long-term strategy to protect PNG's frogs.

Nature Park needs help: Like many organizations, the Port Moresby Nature Park has been severely impacted by the restrictions imposed in PNG as a result of the coronavirus. Even though the Park has remained open, visitation has declined by 90% and the loss of income has led to staff being sent home and a drastic shortage of funds to support quality animal care. Consequently the Park has launched a GoFundMe Port Moresby Nature Park Wildlife Appeal in conjunction with the Zoo & Aquarium (Australasia) Wildlife Conservation Fund :

<https://www.gofundme.com/f/port-moresby-nature-park039s-wildlife-appeal>

Froggress Report readers are encouraged to consider supporting this appeal, which will directly assist care of frogs at the Port Moresby Nature Park.



**ZOOS**  
**VICTORIA**  
*Fighting Extinction*

## 2020 Blue Planet Prize Winners Announced

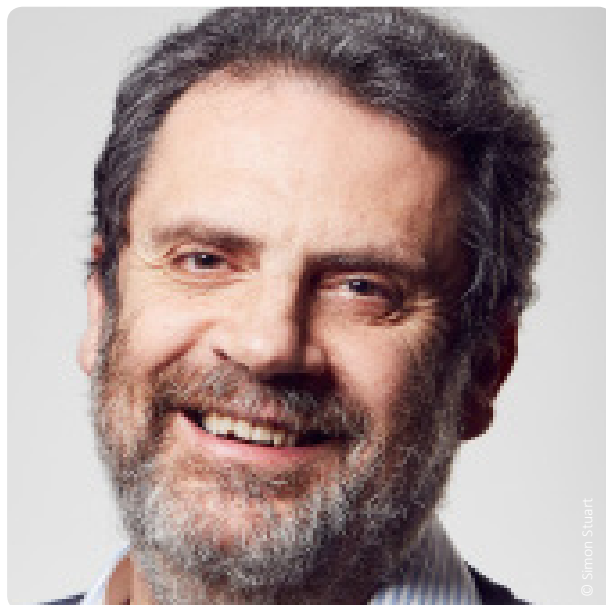
*By Asahi Glass Foundation*

This year marks the 29th anniversary of the Blue Planet Prize, the international environmental award sponsored by the Asahi Glass Foundation, chaired by Takuya Shimamura. Every year, the Foundation selects two winners, individuals or organizations who have made significant contributions to the resolution of global environmental problems. The Board of Directors have selected the following 2020 Blue Planet Prize recipients: Dr. Simon Stuart and Prof. David Tilman. Dr. Simon Stuart (UK) is the Acting Chair of the Amphibian Survival Alliance Global Council, Director of Strategic Conservation at Synchronicity Earth and the Former Chair of the IUCN Species Survival Commission. He led the development of the categories and quantitative criteria for the IUCN Red List of Threatened Species and contributed significantly to the expansion of the number of species assessed. This strong scientific

basis has established the Red List as the most reliable, widely used data on species extinction risk. Also, conceiving and leading the Global Amphibian Assessment, he warned that the decline in the number of amphibians indicates that not only their habitats but also the surrounding ecosystems are deteriorating.

"Receiving the 2020 Blue Planet Prize is the greatest honour of my life. I have been familiar with the work of the Asahi Glass Foundation since 1993 and have the utmost respect for its unwavering commitment to promoting rigorous science to help achieve a sustainable future for our precious planet. I have had the rare privilege to spend my entire working life following my passion to promote the conser-

vation of nature. I started with my doctoral work on highly threatened bird communities in Tanzania, and ended up working on the science-policy interface of biodiversity conservation. I helped to bring cutting-edge science into key information resources for conservation, especially the IUCN Red List of Threatened Species and Key Biodiversity Areas.



But I could have achieved nothing without the ongoing support of my family, mentors, collaborators and friends over many years. We stand at a critical moment in history – will we listen to the evidence and start living within the limits set by nature? I plan to use the profile gained from winning the Blue Planet Prize to promote a harmonious, sustainable future for people and nature.”

Prof. David Tilman (USA), Regents Professor, University of Minnesota and Distinguished Professor, University of California, Santa Barbara has studied health and environmental impacts of agriculture and of dietary choices and demonstrated that while plant-based foods are beneficial to human health and the environment, red meats negatively affect both human health and the environment. Recognizing the tightly-linked diet-environment-health trilemma as a global challenge, he has advocated shifts towards diets and agricultural practices that are better for human health and the global environment.

“I am deeply honored by the Blue Planet Prize because of its unique role in emphasizing the crucial

importance of global environmental sustainability for the future of humanity. It is doubly an honor because of my great respect for prior recipients of this award. They saw forces that threatened our planet, alerted us, and discovered solutions. I have but followed in their footsteps. My path was made possible by the teachers who challenged and guided me, and by the colleagues and students with whom I have been fortunate to collaborate. I am indebted to them all. As we approach a population of 11 billion people, our Blue Planet has become a Full Earth. The long-term habitability of our Full Earth, the fates of innumerable species and our health all depend on how we live, and especially on which foods we choose to eat and how we do agriculture. Our lives, and the lives of all who come after us, can be greatly enriched by acknowledging the interdependence of all of Earth’s life, and by continually discovering and following paths to ever greater sustainability.”

Each recipient is presented with a certificate of merit, a commemorative trophy, and 50 million Japanese yen in prize money.

Environmental conservation is one of the most pressing of the global issues humankind faces. Global warming, acid rain, ozone depletion, tropical rainforest destruction, and river and ocean pollution are just some of the results of human activity that is having an adverse effect on the Earth.

In 1992, the year of the Earth Summit, the Asahi Glass Foundation established the Blue Planet Prize, an award presented to individuals or organizations from around the world in recognition of outstanding achievements in scientific research and its application that have helped provide solutions to global environmental problems. The Prize is offered in the hope of encouraging efforts to bring about the healing of the Earth’s fragile environment.

The award’s name was inspired by the remark “the Earth is blue,” uttered by the first human in space, Russian cosmonaut Yuri Gagarin, upon viewing our planet. The Blue Planet Prize was so named in the hope that our blue planet will be a shared asset capable of sustaining human life far into the future.

## Ghana Online Amphibian Literacy (GOAL) program reloaded

By Sandra Owusu-Gyamfi, Save the Frogs! Ghana

**SAVE THE FROGS! Ghana** is proud to announce the re-launch of Ghana’s most loved interactive

social media competition, Ghana Online Amphibian Literacy (GOAL) Project. Starting from 29th June to 27th November 2020, GOAL will be used to throw spotlight and raise awareness about unique amphibian species and their habitats in south-western Ghana.

This re-launch should hopefully garner the needed public support for our calls to upgrade the protection status of vulnerable frogs’ habitats. Our goal is to at least, get Sui River Forest Reserve, last home of the critically endangered Giant Squeaker Frog (*Arthroleptis krokosua*) to a Globally Significant Biodiversity Area

status; and improve the management practices at Ankasa Conservation Area, to help reduce the risk of extinction of species such as the critically endangered Intermediate Puddle Frog (*Phrynobatrachus intermedius*).

### How to Participate

Unlike our previous GOAL competition, we will host this re-launch in group stages. Winners from each group will advance to the next round up to the final to compete for the grand prize of a 3-day all expenses paid field trip to join SAVE THE FROGS! Ghana on a Frogging Safari



f SAVE THE FROGS! Ghana Official @GhanaFrogs savethefrogs.com/ghana



to Sui River Forest Reserve. To compete, participants need to login to our e-learning centre dedicated to GOAL at [www.savethefrogsghana.org/blog-1](http://www.savethefrogsghana.org/blog-1). Then, read the articles authored by SAVE THE FROGS!

Then, read the articles authored by SAVE THE FROGS! Ghana's trained university student members and answer the follow-up questions. Participants will immediately be notified of their score with the highest score winners advancing to the next round of the competition. Those who reach the final will automatically be awarded consolation prizes including conservation paraphernalia, customized t-shirts, books, airtime, etcetera.

#### Terms and Conditions of Participation

The rules of engagement are simple.

- The competition is only open to residents in Ghana;
- Participants must be 18 years and above;
- There is no entry fee and no purchase necessary to enter

this competition; and

- The dates, time, and all other alerts for each round will be announced at <https://www.savethefrogsghana.org/blog-1> and our social media pages; SAVE THE FROGS Ghana Official Facebook, and Twitter @GhanaFrogs.

Social media statistics of Ghana indicate that the average Ghanaian youth spends approximately 105 mins daily interacting on various social media platforms with Facebook and Twitter being the most patronised. This statistics under COVID-19 is even higher thus, requiring that we engage the public to learn about nature. In 2016, we launched GOAL to share knowledge about amphibians and increase support for their conservation. GOAL's first run clocked over 500,000 interactions, principally among Ghanaians. This constituted the highest active social media competition singularly dedicated to wildlife in Ghana. Popularity of the competition and the increase in number of people staying at home due to COVID-19 has therefore, inspired this re-launch.

Follow us on our social media to receive alerts:

- Facebook: SAVE THE FROGS Ghana Official
- Twitter: @GhanaFrogs

#### Past GOAL Articles

- Meet Ghana's Beloved Lady: The Night Spirit Frog <https://savethefrogs.com/spirit-night-frog/>
- Why the Giant Squeaker Frog is "Giant" <https://savethefrogs.com/why-the-giant-squeaker-frog-is-giant/>



## Temple turtles win faith and conservation

*By Debobroto Sircar, Wildlife Trust of India*

Protecting India's wildlife has always been about making space and ensuring co-existence rather than just confining species to Protected Areas. Wildlife Trust of India (WTI) has been working in several wet landscapes outside Protected Areas to instill a community-based conservation model to protect both flagship and lesser known species and its habitat. One such intervention was reviving an isolated population of Indian Roofed Turtles (*Pangshura tecta*) which was carried out by WTI's outreach wing- Rapid Action Project (RAP). The species is distinguished by a distinct roofed carapace.

Though common across its distribution range, there was a rapid decline in the population of the turtle in the northern part of the Indian state of West Bengal. Only recorded case was from an old temple pond in Lota devi temple, situated near the Karala river. According to Hindu Mythology Turtles are incarnation of the God Vishnu –the preserver and protector of the universe, and are revered as Kurma Avatar (Incarnation in the form of a Turtle). Importantly, the temple pond serves as storehouse of representative aquatic fauna, including anurans and fishes of the area.

The cultural significance did help place turtles on the pedestal but people unknowingly choked the pond waters with refuse of worship-

ing materials such as oil, lamps, incense-sticks etc. Turtle eggs were poached by people and predated by dogs, adding pressure on this breeding population. To solve the problems, WTI collaborated with a local grassroots organization named SPOAR.

The temple pond was fenced with barbed wire fence to prevent turtle egg loss. A gap was maintained in the fence just above ground level to facilitate the natural movement of turtles between the pond and adjacent Karala river. Turtles were shifted to a make-shift pond and the main pond was dredged, deepened and supplemented with aquatic plants such as *Pistia* sps., *Lemna* sps., *Ipomea* raptans., *Spirulina* etc. and local fish to create a natural



healthy ambience. To provide an ideal nesting and basking ground, a sandy bank with sufficient shade was also ensured.

In order to substantiate the conservation efforts, religious belief was encompassed by installing a Kurma avatar idol altar just outside the fence where people could directly place their daily offerings rather than polluting the pond. The habitat

enrichment facilitated successful nesting and hatching. Regular sensitization of the community had also brought about change in attitude and the turtle habitat was nurtured.

The successful intervention continues to have a healthy recovery of the turtle population, keeping the people's sentiments intact. Controlling the stressors on the pond environment and reducing direct threats

on the turtles, has not only helped the roof turtles but also the amphibians using the revered area.



## Rapid Action Grants available for proposals responding to threats linked to COVID-19

*By SOS African Wildlife initiative*

As part of the **SOS African Wildlife initiative**, funded by the **European Union**, we are inviting proposals for Rapid Action Grants to respond to threats linked to the COVID-19 crisis and its consequences.

Rapid Action Grants are also available for conservation emergencies that respond to non-COVID-19

related threats.

Maximum grant size for the Rapid Action Grant is EUR 100,000 with no matching funds required. The maximum duration of the project should be 12 months.

Applications must be submitted in English or French and only through the **SOS Online Portal** where you can find additional information and

download the application templates.  
**APPLY NOW**

A range of conservation activities are eligible including, but not limited to, the following:

1. Investigation of sudden new threats to species in specific locations (diseases, pollution, stranding, oil spill, anarchic development);
2. Rapid support for specific actions



aiming at preserving highly threatened species (targeted support for protected areas, meeting to agree last chance emergency measures, purchase of crucial equipment to protect specific threatened species);

3. Urgent surveys and monitoring in the face of development;

4. Activities that respond to emergencies resulting from the COVID-19 pandemic and the restrictions put in

place to contain it, such as:

i. Maintaining and increasing the frequency and coverage of anti-poaching patrols in response to the risk of increased poaching incidents;

ii. Preventing the transmission of coronavirus from humans to wild animals, particularly great apes;

iii. Developing alternative livelihoods for local communities who have suffered income losses as a

result of the pandemic.

iv. Other conservation activities targeting threatened species, where there is a demonstrable loss of funding as a result of the pandemic.

## Fundación Atelopus has Joined the Amphibian Survival Alliance



By Jeferson Villalba Fuentes, Fundación Atelopus

Fundación Atelopus is a Colombian NGO formed in 2018 that works for the conservation of amphibians and reptiles in the Caribbean region. Our work is mainly focused on species of the Sierra Nevada de Santa Marta, also known as “the world’s most irreplaceable spot for biodiversity”. Together with the Universidad del Magdalena, under the supervision of our founding member Luis Alberto Rueda Solano, we are currently developing and consolidating the first monitoring pilot program of Harlequin Toads (*Atelopus*) in Colombia.

Among other activities, we are currently studying the population dynamics of the last high mountain Harlequin Toads. Using photo-identification techniques, we have already identified 242 individuals of the species *A. laetissimus*. Our

preliminary research efforts have also allowed the reevaluation of the conservation status of two species. Following the IUCN criteria, *A. laetissimus* and *A. nahumae* were recategorized from Critically Endangered to Endangered. In addition,





our work in the Sierra Nevada de Santa Marta has resulted in the rediscovery of two other species: *A. carrikeri*, which was considered extinct after 24 years without being seen; and *A. arsyecue*, which had not been recorded since its original description in 1994. Its rediscovery, published together with ASA partner Global Wildlife Conservation, had a worldwide media coverage.

The results of our work so far allowed us to infer that the Sierra

Nevada de Santa Marta has the last stable populations of high mountain Harlequin Toads. However, we still need to implement effective actions to keep them stable in locations with alarming population declines. Therefore, we have mapped the region's land use from direct observation, interviews, surveys and meetings with community leaders, farmers, indigenous people, and local traders with the aim to identify emerging threats and to develop effective conservation actions. In addi-

tion, we have been able to develop environmental education activities with the local community and to implement a community monitoring group to raise awareness about the conservation and biological importance of amphibians.



Fundación Atelopus  
por la conservación de Anfibios y Reptiles

## The ASG at the World Congress of Herpetology

By Phil Bishop and Ariadne Angulo,  
IUCN SSC Amphibian Specialist  
Group

The 9th World Congress of Herpetology (WCH) was held from 5–10 January 2020 at the University of Otago, in Dunedin, New Zealand, the home of ASG Co-Chair Professor Phil Bishop. WCH takes place every 3–4 years, with the aim of promoting herpetological research, education and conservation. Professor Bishop and his organizing team were the local hosts for this congress.

This WCH was characterized by having many amphibian-themed sessions, which was very encouraging given that they are the most threat-

ened terrestrial vertebrate class in the world. Attendance at the event was very impressive: there were 57 countries represented through 874 delegates, of which 242 were students. There was excellent gender balance and regional diversity at the congress, which was highlighted in the final keynote talk given by Dr. Ana Carnaval.

Feedback received was very positive; with many participants indicating that this was not only the best WCH that they had been to, but possibly also the best congress that they had attended. The success was such that Professor Bishop got voted in as Secretary General Elect of the WCH for the next 4 years, followed

by 4 years as Secretary General. The next WCH congress is scheduled to take place in Kuching, Malaysia, in 2024.

In the context of the congress ASG held two meetings: the first meeting was attended by about 30 participants and the second one by about a half dozen participants. Both meetings went very well, with ASG Secretariat members Sally Wren and Ruth Marcec-Greaves providing some context and ideas regarding the update of the Amphibian Conservation Action Plan (ACAP), giving a summary of what was found in an ACAP survey conducted late last year, and proceeding to explain the development of two separate prod-



ucts, a status review and an ACAP practitioner-focused document. This was a good opportunity for interaction and ASG members' feedback.

WCH closed with the Aotearoa Climate Change Declaration, where participants called for science-based solutions to the issues caused by carbon emissions.

It was extremely fortunate that WCH took place prior to the declaration of the global Covid-19 pandemic, which has already had enormous impacts across the world and will very likely lead to many profound and permanent changes in the world.



## Monitoring of *Mantidactylus pauliani*

By Nirhy Rabibisoa, *Sciences de la Vie et de l'Environnement, Faculty of Sciences, Mahajanga University*

During the last two years, between September 2018 and March 2019, we monitored *Mantidactylus pauliani* to collect new information on their abundance and distribution. This is a critically endangered species, and known one of the threatened species from Madagascar according Sahonagasy Action Plan, and home in the restricted area within the high altitude of the Ankaratra massif in the central highland of Madagascar.

This activity is a collaboration with the Vondrona Ivon'ny Fampandrosoana (VIF), the manager of this site in order to help its safeguards.

These surveys lasted 15 days per field observation. Six transect for a long monitoring along the streams were done (Anjababe, Ambitsika, Ambaniriana, Manontongana, Tsimiaradianadhy, Tivolotara, and Ambitsika). The methods used were direct observation and systematic examination of the microhabitats along a six 100 m fix-based transects between 1762 and 2378 m eleva-

tions. The specimens captured by hand without release, and when the monitoring is finished we laid all of the captured individuals in their habitats.

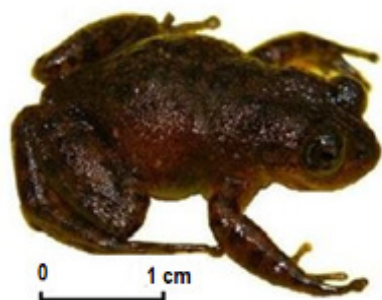
A total of 548 individuals were observed during the cold and dry season (September 2018), 305 individuals during the warm and wet season (December 2018), and 226 individuals during the end of the warm and wet season (March 2019). This species is more abundant between 1993 and 2202 m altitudes, however we have observed spot individuals below 1900 m and above 2300 m.

We noticed that these distributions and abundances can depend on the quality of habitats (presence of the rocks, depth and speed of the water), the temperature variation, the altitude and the seasons.



The preliminary studies will help us to understand the dynamic of this species along these two years as a tool to help the manager to guide the conservation activities and preserve Ankaratra montane and its biodiversity.

One student got his master's diploma on this study and now he continues for his PhD dealing about the relation between survival of this species and habitat change.



Femoral glands



# Two-Day Meeting on the Amphibian of the Year 2019, the Alpine Newt

By Claudia Koch, German Society for Herpetology and Herpetoculture (DGHT)

Since 2006, the German Society for Herpetology and Herpetoculture (DGHT) in collaboration with various partners, titles every year alternately the Reptile of the Year and the Amphibian of the Year. This campaign aims at gaining public attention to wild herps in Europe and is accompanied by various activities such as meetings and printing materials, *i.e.*, freely available brochures and posters.

2019 was the year of the Alpine Newt (*Ichthyosaura alpestris*) which prompted the workgroup “field herpetology and species conservation” of the DGHT to dedicate its annual meeting to this amphibian species. Invited by the Austrian Society for Herpetology (ÖGH), the conference took place in the Schlossmuseum Linz, Austria, in usual cooperation with the NABU Federal Committee for Field Herpetology & Ichthyofaunistics. It was obvious to hold the meeting in Austria, as the species has three links with this country. Firstly, by the Viennese zoologist Laurenti as describer of the species, secondly with Mount Ötztal in Lower Austria as *Terra typica* and thirdly, because of its central location in the distribution area of the Alpine Newt. About 70 persons attended the two-day meeting, which took place on November 23-24, 2019. Besides participants from Austria and Germany, guests and speakers from Switzerland, Belgium and Bulgaria were also present.

In an almost traditional way Axel Kwet, managing director of the DGHT, started with a general introductory lecture on the species and also talked about the campaign “Amphibian/Reptile of the Year”.

Afterwards Andreas Maletzky, president of the ÖGH, reported interesting facts about the Alpine Newt from Austria and presented older and newer research work and its results. Dirk Alfermann (DGHT) then gave an insight into the species in Bavaria mainly based on the species chapter of the distribution atlas “Amphibians and Reptiles in Bavaria” published shortly before, in mid-November 2019. Many interesting talks followed on: the Alpine newt in Denmark (Uffe Mikkelsen and Kåre Fog), the current distribution and ecology in Bulgaria (Yurii Kornilev), the distribution, range limits and habitat in the Northwest German lowlands (Richard Podlousky), the distribution in Saxony (Holger Lueg), habitat selection and spatial interference (Martin Schlüpmann), detailed studies of the populations in the Erzgebirge (Andreas and Claus Püwert), observations on the reproduction in temporary pioneer waters in the Tyrolean Lechauen (Florian Glaser), various examples of pigment and developmental anomalies of the Alpine Newt in Switzerland (Kurt Grossenbacher), behavioural aspects of mating and reproduction, in particular the males’ choice of partner (Katharina Foerster), the costly renaturation of an Alpine lake in Styria, which had lost its important function as a spawning ground for amphibians due to an established fish population (Robert Schabetsberger), the situation and spread of the salamander disease (Bsal) in North Rhine-Westphalia (Martin Schlüpmann) and Austria (Florian Glaser), the comprehensive environmental education activities around the Alpine Newt from the AURING Association (Ute Nüsken), and on



the first describer of the Alpine Newt, Josephus Nicolaus Laurenti (Günter Gollmann). A great plenary talk was given by Mathieu Denoël, president of the *Societas Europaea Herpetologica* (SEH), who works at the University of Liège in Belgium and has been particularly involved for many years in the developmental biology of newts. In another short presentation, Mathieu briefly introduced the SEH and its work.

The meeting came to a wonderful closure with a film about the Amphibian of the Year by Eric Egerer, who unfortunately could not be present in person. Consequently, Axel Kwet took over the commentary of the great pictures from the habitat as well as the biology, especially the complex mating behaviour and as well as hunting and feeding behaviour.



# Detroit Zoo's National Amphibian Conservation Center successfully breeds vulnerable salamander species

By Dr. Ruth Marcec-Greaves, Detroit Zoological Society

The Detroit Zoological Society (DZS) is excited to announce the successful breeding of the vulnerable Tokyo Salamander (*Hynobius tokyoensis*). The Detroit Zoo is one of the only zoos in the world that has successfully captive bred this vulnerable species.

The Tokyo Salamander is native to Japan, where a very limited population lives in temperate forests near freshwater springs; the water from the springs slowly oozes out onto the surface, keeping the ground moist. The number of Tokyo Salamanders has been rapidly decreasing in recent years due mostly to habitat loss from residential and commercial development.

This breakthrough at the Detroit Zoo marks the beginnings of a potential assurance colony, a captive population that will hopefully help this species avoid extinction. With these new salamanders, the DZS team hopes to successfully establish assurance colonies in zoos that can someday augment or replenish declining wild populations.

In order to encourage Tokyo Salamanders to breed, the environment has to be near perfect, and there's no playbook to follow as little is known about Tokyo Salamanders. The species is known to breed in temporary bodies of water, including paddy fields and ditches, which fluctuate in temperature and water level. DZS staff spent 2 years meticulously adapting indoor mesocosms in an attempt to replicate an environment prime for breeding. Adaptations included simulating dry and wet "seasons," natural temperature, light, humidity and water flow, which are parameters that can all



have impacts on breeding success. In the Tokyo Salamander, there is strong evidence that salamander sex ratios are also important for breeding success. By fine-tuning the environmental parameters, the DZS team was able to achieve success and looks forward to improving upon that success.

The Tokyo Salamander is now well on its way to becoming another story in a long history of amphibian conservation work for the DZS. The

DZS is committed to ensuring the survival of this species and many others. We will continue to learn about the Tokyo Salamander and share our knowledge with others to help ensure that these incredible animals don't become extinct.

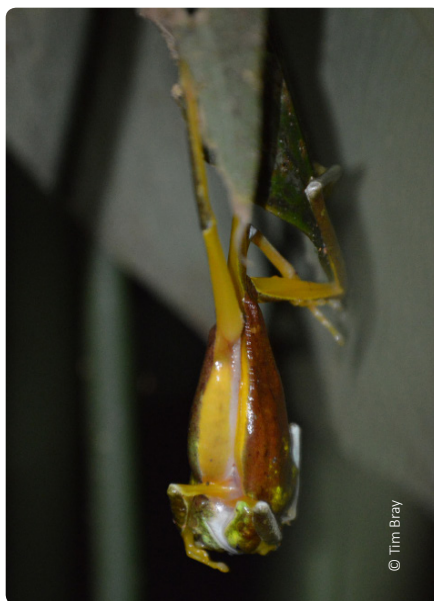




# Reinventing the field season for the Lemur Leaf Frog conservation project

By Tim Bray, Bristol Zoological Society

The Lemur Leaf Frog (*Agalychnis lemur*) field season has been radically reinvented due to unforeseen travel restrictions. In Costa Rica the national parks have now reopened so preparations are resuming. Our local field expert has taken charge of the field surveys and is beginning the first stage of the fieldwork for the year. It is likely that we will avoid community-based objectives this year and focus on surveying the wider range of this elusive species closer to its extant range in Panama.



**Bristol Zoological Society**  
Institute of Conservation  
Science & Learning

## Attempts to address species extinction in times of Corona

By Björn Encke, Frogs & Friends

Of course, Frogs & Friends did not get spared by the pandemic. We had to postpone our planned excursions to Cameroon and Guinea for an indefinite time, and our planned public launch of Citizen Conservation got hit hard.

In light of the International Day for Biological Diversity on May 22, 2020, Citizen Conservation was supposed to be presented to the general public in various zoos in Germany, Austria and Switzerland to call attention to the biodiversity crisis. This did not happen. But even if the pandemic is currently overshadowing all other issues, the massive extinction of species is not on lockdown. For that reason we decided to try out alternative measures and platforms to remind humanity of the challenge we're facing.

So we came up with two online formats. For one, colleagues from zoos along with private keepers sent us their lockdown video footage for our series "Du und Deine Art @ home"

("You and Your Species @ Home"); the other, our weekly "KreaturenPodcast" ("CreaturePodcast"), where prominent persons read our texts about threatened species, is an attempt to reach people who are less acquainted with animal keeping. It was notable, when famous German singer-songwriter Reinhard Mey consented in participating, reading a text about the Darwin's frog. He wrote to us, that he is generally critical about zoos, but when they engage in conservation, he'd gladly be in for it. This illustrates how much there is to be cleared up, and how much projects like CC can contribute to stimulating public discourse. Which is, especially when you look at the retrieved demands for general import bans on wildlife in course of the current pandemic, very much needed. Danger is at hand, that laws will be passed in a hurry, that are likely to impede meaningful conservational efforts. In terms of communication we ought to consequently cultivate and defend a science-based discourse that resists



the temptation to propagate easy-to-communicate solutions.

You can find the entire series on the [Citizen Conservation YouTube channel](#) - a joint conservation breeding project by Frogs & Friends, the Association of Zoos (VdZ), and the German Society for Herpetology and Herpetoculture (DGHT). For the moment these series are only available in German language. We'll be working on additional multi-language CC-formats in the near future.



# Ancient sedentary frogs move over 350kms in a day!

By Phil Bishop, Amphibian Survival Alliance & IUCN SSC Amphibian Specialist Group

It's been a long time coming, but finally, Orana Wildlife Park in Christchurch (New Zealand) have their *Leiopelma* captive breeding centre up and running. During the launch of the Year of Frog campaign in New Zealand I presented a talk on the global Amphibian Extinction Crisis to an eager audience in June 2008 at the annual Zoo and Aquarium Association (ZAA, Australasia) conference in Kerikeri, New Zealand (see [www.nzfrogs.org/Resources/Frog+Week/Year+of+the+Frog.html](http://www.nzfrogs.org/Resources/Frog+Week/Year+of+the+Frog.html)). During the conference I was approached by Lynn Anderson (Chief Executive, Orana Wildlife Trust) and she expressed her desire to help prevent New Zealand's endemic frog species from being further threatened or going extinct. Orana Wildlife Park (run by the Trust, [www.oranawildlifepark.co.nz](http://www.oranawildlifepark.co.nz)) is internationally renowned for its involvement in zoo-based breeding programmes for endangered exotic and native species. It is set within an 80-hectare park within a short drive of Christchurch Airport and is home to New Zealand's only gorillas. During the latter half of 2008 Lynn and I discussed various ways that Orana Wildlife Park could assist with amphibian conservation, and it was decided that the best way for them to help was to create a purpose-built amphibian facility that doubled as a native frog breeding centre as well as an attractive display of all amphibian species in New Zealand. And so, the planning began.

The first foundations of the facility were thrown late in 2010 and then unfortunately on 22 February 2011, a major earthquake hit Christchurch killing 185 people and the major focus for all construction workers was diverted to rebuilding the city. Just

as Orana were beginning to restart construction on the amphibian facility in 2013 they were struck by a massive gale force storm, the most damaging event in their entire history. The plans were mothballed once again and news that they had to build a gorilla facility to accept the gorillas from Taronga Zoo in 2015 further delayed its development.

While this was all going on, the frogs (*Leiopelma hamiltoni*, Vulnerable on IUCN Red List) were patiently sitting in my lab at the University of Otago (Dunedin), occasionally being disturbed for behavioural studies, or to take swabs for microbiome research, and more recently radio-transmitter trials. Some of these frogs were collected as adults on Maud Island in 2001 and most are likely to be at least 25 years old.

Once the gorillas had settled in it was time to concentrate on the amphibian facility once again, and this was perhaps the most technically challenging project ever undertaken at Orana Wildlife Park. Finally, the environmental controls had been fully installed and tested and the custom-made terraria were fully fitted with substrate, plants, sufficient UV lighting and simulated rainfall. We were ready to go, and the 18 frogs were put into their travel containers ready for the 350 km drive from Dunedin to Christchurch scheduled for 24 March 2020, almost 12 years after the initial discussions! What could possibly go wrong?

COVID19! New Zealand went into



COVID19 Level 4 Lockdown at midnight on 25 March 2020, so while it was technically possible to get the frogs to Orana Wildlife Park before Lockdown, I might not be able to return to my home town and it would be likely that Orana Wildlife Park would be on 'skeleton' staff during the Lockdown period, which would be unfair on the staff, and on the frogs, so it was again postponed. But we had waited 12 years, so what difference would another few months make?

Once New Zealand entered Level 2 of Lockdown the frogs were packaged up and finally made the move to Orana Wildlife Park on 26 May 2020. During Lockdown one of the frogs developed a small abdominal lesion and did not make the journey as it was placed in a quarantine hospital terrarium to recover and will be joining its 17 companions at a later date. The frogs are all enjoying exploring their new homes and we wait with anticipation to see if Orana Wildlife Park staff can successfully breed these unusual frogs in captivity and we look forward to the official opening of New Zealand's one and only amazing amphibian facility once the country settles into the new post-COVID19 normal.

Good things take time; Better things take more time!



# An interview with Jeanne Tarrant, winner of the 2020 Whitley Award

By Luis Fernando Marin da Fonte,  
Amphibian Survival Alliance

## Can you tell us a little bit about yourself, Jeanne?

I grew up in a small farming community, under the stunning mountains of the southern Drakensberg. My family are largely still based here and I spend as much time in the area as possible. At home I am mom to two busy boys, 7 and 10, and homeschooling during Covid lockdown is taking me to new levels of an already hectic life-work balancing act!

I manage the Threatened Amphibian Programme of the Endangered Wildlife Trust, currently with a team of nine people working across three provinces in South Africa. By using threatened frog and reptile species as flagships for habitat protection and management, we work to implement real conservation action on a group of animals that otherwise receives little attention.

**You have recently won the prestigious 2020 Whitley Award. Congratulations on it! Can you tell us more about your award-winning work on amphibian conservation?**

Thank you! Yes, I have been selected from an original 112 applicants as one of six winners for this year's Whitley Awards. It is the only winning project this year focused on amphibians, and one of three representing projects from Africa. This project is focused on 8 of South Af-



rica's threatened frogs across three provinces of South Africa, for which we will initiate habitat protection to secure a total of 20,000 hectares of important amphibian habitat. I will also led the revision of the next 10-year strategy for amphibian conservation and research in South Africa, and bring to completion several conservation action plans for threatened species. The Whitley Award is allowing us to expand our work more into the Western Cape, where most of the country's threatened and endemic species occur.

## What is your favourite amphibian species and why?

Of course there are many to choose from, and all species are fascinating given their incredible adaptations to each and every habitat niche that amphibians fill – from the frozen north to extreme deserts, but probably one my favourite species that we work on is the Endangered Kloof Frog, *Natalobatrachus bonebergi*. It occurs in forested ravines and is a handsome little frog superbly adapted to its forest-floor and stream life. The females lay eggs above quieter sections of the stream, in which the tadpoles develop and then drop

down into the water below to complete metamorphosis. We use these unique egg clumps to monitor the species through citizen science.

## What can we all do to help protect amphibians?

Learn more about them! There are so many great resources and knowledge of your local amphibians is the doorway to appreciation and changing behaviours towards conservation of species and their habitats.

Rewild your garden – use indigenous plants and if you can, install a pond.

Be conscious of your consumer choices – don't use harmful chemicals in your home and garden and think about how the food you eat was produced and the journey it took to get to your plate.



**ENDANGERED  
WILDLIFE TRUST**  
Protecting forever, together.

# ASA Partners and Others Celebrate First-Ever World Water Frog Day



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By Teresa Camacho-Badani, Sophia Barrón Lavayen and Ricardo Zurita. Museo de Historia Natural Alcide d'Orbigny, Centro K'ayra.

Water frogs and semi-aquatic frogs of the genus *Telmatobius* (Anura: Telmatobiidae), represent a characteristic component of anuran communities in the Andean and extra-Andean mountainous regions of western South America, from the Loja Basin in Ecuador to the province of San Juan in Argentina, through Peru, Bolivia and northern Chile. Although the genus has a wide distribution range, Water Frog species usually present restricted distributions. The Giant Water Frog (*T. gigas*), for instance, has only been observed in some rivers and streams in the Huayllamarca basin in Bolivia. The Critically Endangered Salta Water Frog (*T. atacamensis*), in its turn, is known only from 2 localities at 3800 m in Argentina.

According to the International Union for Conservation of Nature (IUCN), out of 63 Water Frog species described, 86% are currently threatened with extinction. Even worse, eight species may be already extinct in nature, such as the Vellard's Water Frog (*T. vellardi*) in Ecuador, which has not been seen since 1968.

Even though, bringing us hope, conservation efforts related to Water Frogs have been increased over the past few years. Worth mentioning are: the work of ASA partner Grupo RANA and the Denver Zoo on the Lake Junín Water Frog (*T. macrostomus*) in Peru; the rescue of the last individuals of the Critically Endangered Loa Water Frogs (*T. dankoi*) from their dried-up habitat in Chile, conducted in partnership with national and international wildlife organizations such as National Zoo of Chile, the Amphibian Survival Alliance, Amphibian Ark (AArk), the IUCN SSC Amphibian Specialist Group (ASG), and ASA partner Global Wildlife Conservation (GWC); and the development of the Conservation Action Plan for the worldwide famous Sehuencas Water Frog (*T. yuracare*), who has become a symbol for the amphibian conservation movement. The K'ayra Center of the Museo d'Orbigny in Bolivia conducts the largest ex situ conservation program for Water Frogs in the world, currently hosting more than 600 individuals belonging to five *Telmatobius* species.

## Why create a special day for *Telmatobius* Water Frogs?

It all started when more than ten

zoos in Europe received Titicaca Water Frogs (*T. culeus*) for the first time in 2019 and showed interest in supporting their *in situ* conservation in South America. The idea came from BCA Zoo (UK) and ASA partner Chester Zoo (UK), who were interested in creating a day to highlight and to encourage the conservation of Titicaca Water Frogs. Based on this first proposal, we decided to expand the idea to include all *Telmatobius* species, since these are one of the most threatened amphibians in the Neotropics.

Even though there are already several initiatives aiming for the conservation of Water Frogs, we believe research and joint efforts should be increased. That is why the Alcide d'Orbigny Natural History Museum in Bolivia, GWC and the ASA decided to create the "World Water Frog Day". The initiative was celebrated and joined by several institutions all around the world, such as the BCA Zoo (UK), Aark, ASG, Universidad Cayetano Heredia (Peru), Denver Zoo (USA), Natural Way (Peru), Balsa de los Sapos (Ecuador), Pro Fauna Ayacucho (Peru), Asociación Boliviana de Herpetología, Zoológico Nacional de Chile, Chester Zoo (UK), Kansas City Zoo (USA), Grupo RANA (Peru), Universidad Andrés Bello





(Chile), Museo de Calama (Chile), Centro Jambatu (Ecuador), Instituto de Ecorregiones Andinas (INECOA, Argentina), Asociación Red Chilena de Herpetología, and Joel Sartore Photo Ark of National Geographic among others.

#### Why April 1st?

We were looking for a representative date for the entire genus and found out that this was the day when the first Water Frog individual was recorded in history. On April 1st 1831, the Prussian naturalist F. J. F. Meyen was camping in a cave in Palca (Peru) when he heard the call of the first Water Frog collected in history. These first individuals were later used by A. F. A. Wiegmann to describe the genus *Telmatobius* and the species Peru Water Frog (*T. peruvianus*) in 1834 and 1835.

#### How did we celebrate the first Water Frogs Day in April 1st 2020?

Originally, we have planned several in-person activities in different parts of the world, such as the opening of the Titicaca Water Frog Exhibitions at the Museo de Historia Natural Alcide d'Orbigny in Cochabamba, Bolivia, and at the BCA Zoo in UK. Unfortunately, because of the COVID-19 pandemic, we had to cancel

these actions. However, this did not stop us from filling the social networks of more than 21 institutions, newspapers and TV shows with photographs, information and videos of *Telmatobius* to remind the general public of its importance. We have also recognized and highlighted the institutions and people around the world who are making great efforts to conserve the Water Frogs.

We hope that every year this will be a bigger event, that will help to spread the word about the importance of conserving this group of amphibians. By doing so, we aim to encourage research and collaborations, to strengthen relationships between institutions, and to bring the people closer to this highly threatened group of animals.



**GLOBAL  
WILDLIFE  
CONSERVATION**





## Fundação Kissama: conserving and unveiling Angola's fascinating wildlife

By Ninda Baptista, Vladimir Russo, Pedro Vaz Pinto

Fundação Kissama (FK – Kissama Foundation) is a non-profit nature conservation NGO that has studied and worked on the in situ protection of Angolan biodiversity for more than 20 years. Angola is one of the most diverse countries in Africa, but it is also among the most poorly studied, a consequence of several decades of civil war. Our work includes the preservation of charismatic and threatened species such as the Giant Sable Antelope (*Hippotragus niger variati*) – the most endangered antelope of the world and Angola's national symbol, the Leatherback Turtle (*Dermochelys coriacea*), and the elusive Forest Elephant (*Loxodonta cyclotis*), to name a few.

FK started by working in Quiçama National Park, a one-million hectare

park close to Angola's capital, Luanda. Animals brought from Botswana and South Africa were reintroduced in the park between 2000 and 2001, in a successful operation named "Noah's Ark", still effective twenty years later.

In 2003 FK expanded its activities to Cangandala National Park, starting by looking for the Giant Sable Antelope, previously thought to be extinct. After confirming that the sable had survived, several conservation measures were taken to protect it, namely the establishment of the "sable shepherds" (members of the local communities engaged in conservation activities) employed to patrol for poaching, and the creation of a sanctuary for protection and reproduction of the sable. Rooted in this success, FK expanded its scope to Luando Integral Reserve, a much larger and remote protected area where the sable is known to

be more abundant. In parallel, we have documented the biodiversity of these areas.

We share a holistic and comprehensive approach to conservation, and do not restrict our work to flagship species. During the last 10 years, we have organized and been part of several biodiversity surveys in remote areas of Angola, especially potential biodiversity hotspots, in which amphibians are recorded, as well as reptiles, birds and mammals. These inventories are a crucial step towards enriching the extremely poor knowledge about Angola's fauna. As a result, several scientific articles have been published, a herpetological collection is being developed, and research is ongoing.

It is our deep belief that conservation actions are not separate from society or from local communities, who depend heavily on natural re-



sources for their livelihoods. One of FK's main goals is to encourage the love for nature in the Angolan society by raising awareness. One of the ways to achieve this is by producing learning support materials, many of them aligned with the national curricula.

A collection of books for children about Angola's incredible fauna was started in 2012 and branded as "Stories to Preserve". These books illustrate some of the country's most appealing species, such as the Lowland Gorilla (*Gorilla gorilla gorilla*) occurring in the Maiombe rainforest, the country's national bird – the beautiful Red-crested Turaco (*Tauraco erythrolophus*) from the escarpment forests, and the Cheetah (*Acynonix jubatus*) from the Namibe desert. In this way, we not only highlight the species but also the particular and diverse habitats where they occur, as well as the impacts of human activities on them. Eight books have been published so far, with a few titles translated to English, and the next title will be about a very charismatic frog – more on this later!

We also produce board games, hobby books and brochures, hoping that they can be used at the school and community levels. We recently started to produce posters, the first being about the amphibians of Candonga National Park.

As the only Foundation fully dedicated to biodiversity issues in Angola, we implement a regular internship program that allows early career biologists to improve their skills and to be involved in our initiatives, hoping to establish a cadre of conservationists who will ensure better research and conservation practices for the country.

We consolidate our work through different forms of public outreach, such as storytelling in schools and kindergartens, and participating in fairs, radio and television interviews. By doing so, we hope to engage more and more citizens to share this fascination for the natural world and help protect Angola's amazing wildlife!

Want to know more? Visit us at:  
<https://www.fundacaokissama.co.ao>  
<https://www.facebook.com/fundacao.kissama/>



# FUNDAÇÃO KISSAMA



# ASA'S Future Leaders of Amphibian Conservation Updates

## Trinity Favazza, 13, Wins 2020 National Wetlands Award!

*By Environmental Law Institute /  
Trinity Favazza*

ASA's 2019 Future Leader of Amphibian Conservation Trinity Favazza, age 13, has recently won another environmental prize! She was the recipient of the 2020 National Wetlands Award in the Youth Leadership category. Trinity has been an amphibian and wetland conservationist since 2016 when she became the Mayor of Amphibiville for ASA partner Detroit Zoo. Soon after, Trinity began her "Action for Amphibians" project, which takes a social, political, and hands-on approach toward amphibian and wetland conservation.

Through her program, Trinity seeks to: 1) raise social awareness via social media and her "Amphibian Conservation Rocks" painted rocks campaign; 2) conduct field research, clean up local wetlands, educate and inspire her classmates, and collect valuable field-data as a citizen scientist for FrogWatch USA; and 3) raise political awareness for amphibian and wetland conservation statewide and nationally. This year, Trinity was able to expand her "Amphibian Conservation Rocks" campaign using funds from the Warner Brother's Scooby-Doo Doo Good Grant. Visit her amphibian conservation Instagram hub and conservation website [here](#).

This was Trinity's speech at the National Wetland Award Ceremony:  
**The Important Role of Education in Promoting Wetlands Protection**

Seed the earth by educating future generations, without focusing on

outdated curricula and a lack of hands-on experience. To reach kids, nowadays, to plant seeds that will grow, let them use their interactive, multimedia approach to lay down their own roots.

Growing environmental heroes today and in the coming generations is critical to the preservation of our wetlands. In the relatively short amount of time that I've been actively involved in amphibian and wetlands conservation and awareness, it has become apparent to me that reaching my generation with this message will be a challenge.

Human interaction has evolved, and family activities are influenced by technology, which draws a lot of kids away from outdoor activities. My inspiration comes from my personal experiences with my family, in the wetlands we visit and learn about regularly. I'm lucky to have this family-directed education as a fundamental part of my life. Today's children need someone or something to lead them to the crazy, ex-



treme, and cool things they can see, feel, and be a part of at the water's edge. They need to know about the wetlands and the responsibility that they have to them.

Education about wetlands protection, whether it be at school, online, or home, needs to draw us into or take place in wetland environments. It is far more influential to have physical experiences within the wetlands. It leaves long-lasting impressions in our memories. With this type of connection, exposure, and inspiration, we will be more likely to share our drive to protect them with



those around us. The youth of today, by sharing their passion, can influence adults around them and effect political change.

Educational fieldwork that includes contributing to the well-being of our wetlands, consistently, is imperative. Family members and teachers being involved in enrichment and environmental service projects are best suited to guide and influence upcoming generations.

Social media can also influence peer involvement, leading to social change. It becomes educational entertainment through peer interactions. It's a youthful approach to conservation education that positively connects with my generation.

With so many social media and on-line platforms available, it's inspiring to think about the possibilities when we all get involved!

As an ambassador for amphibian conservation and wetland protection, I've taken advantage of these resources through my website, Action for Amphibians, and my Instagram hub.

With greater wetland education involvement now, we can protect our wetlands for the future. I think that my generation has the drive and creativity, no matter how crazy it may seem, to influence and educate the public about wetland conservation by using a variety of platforms.

My generation will lead, with the knowledge we gain from our teachers, our families, and yes, even our peers. For us to be educated and inspired, we need to be immersed in the wonders of wetland conservation. Plant the seed and watch us trend.

## Description of the tadpoles of Murree Hills frogs (*Nanorana vicina*)

By Muhammad Rais, PMAS-Arid Agriculture University Rawalpindi

The Herpetology Lab, Wildlife Management, PMAS-Arid Agriculture University Rawalpindi in Pakistan has recently described the morphology of tadpoles of Murree Hills Frogs (*Nanorana vicina*). Prior to this, no detail of the species tadpole was available. The species is endemic to the highlands of Pakistan and India. The anteroventral oral disc, the dorsoventrally flattened body and the low tail fins exhibit typical characteristics of tadpoles of shallow and permanent lotic water bodies. The anteroventral placement of the oral disc and the keratinized mouthparts suggest a detritivorous and suspension-rasping feeding ecology. Muhammad Rais, one of ASA's 2020 Future Leaders of Amphibian Conservation, is co-author of the paper, which can be found [here](#).

Source: Gill, S., Rais, M., Saeed, M., Ahmed, W. and Akram, A. 2020. The tadpoles of Murree Hills Frog *Nanorana vicina* (Anura: Dicroglossidae). Zootaxa. 4759 (3): 440–442.

