

## Joint amphibian assessment workshop in Honduras

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Amphibians are the most threatened group of vertebrates globally, with 41% of species at risk of extinction. Most of these species are threatened by human activities and can be effectively protected through well-informed strategic conservation. It is therefore of the utmost importance to continue identifying the most highly threatened amphibian species through the **IUCN Red List of Threatened Species** and prioritizing the conservation actions critical to their survival.

### The Amphibian Red List Authority

The **International Union for Conservation of Nature (IUCN)** is the world's oldest and largest global environmental organisation, with more than 1,300 government and NGO members worldwide. The **Species Survival Commission (SSC)** is the largest of IUCN's commissions with a global membership of over 8,000 voluntary experts. Under the guidance of the IUCN SSC, the **Amphibian Specialist Group (ASG)** is the world's leading body of scientific and practical management expertise on the status and conservation of all amphibian species. The ASG Amphibian Red List Authority (ARLA) is the group responsible for maintaining the amphibian data on the IUCN Red List.

The overall aim of the ASG is to promote the long-term conservation of these species and their environments worldwide, and the recovery or restoration of populations and ecosystems where feasible. Our mission is to provide the scientific foundation for effective conservation action worldwide.

### The IUCN Red List

The IUCN Red List of Threatened Species is the global authority on the conservation status of species and is critical to a wide range of conservation applications. For example, its data are used to identify Key Biodiversity Areas (KBAs) for conservation and to inform policies and international agreements, such as the Convention on International Trade in Endangered Species (CITES). It is also used to guide scientific research priorities and track the impact of conservation action.

The Global Amphibian Assessment (GAA), completed in 2004, was the first comprehensive study of the conservation status of all known amphibian species in the world. The second Global Am-

phibian Assessment is now underway and the ARLA is working to ensure all 8,000+ species of amphibians have an up-to-date extinction risk assessment on the IUCN Red List.

### The Amphibian Ark

The **Amphibian Ark (AArk)** is a joint effort of three principal partners: the World Association of Zoos and Aquariums (WAZA), the IUCN SSC Conservation Planning Specialist Group (CPSG), and the ASG. AArk is a partner in the Amphibian Survival Alliance (ASA), and we were formed to address the *ex situ* (captive) components of the Amphibian Conservation Action Plan.

Our vision is *the world's amphibians safe in nature*, and our mission is *ensuring the survival and diversity of amphibian species focusing on those that cannot currently be safe-guarded in their natural environments*.

### Conservation Needs Assessments

With limited conservation resources and thousands of threatened species in need of help, the **Conservation Needs Assessment (CNA)** process, managed by the AArk, seeks to objectively and consistently identify priority species and their immediate conservation needs.

Using 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 provide a foundation for the development of holistic conservation action plans that combine *in situ* and *ex situ* actions, as appropriate. Conservation Needs Assessments generate national prioritized lists of species recommended for one or more conservation action. 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.

The subsequent assessments and recommendations for conservation actions can then be used as the basis for the development of a national amphibian action plan. Assessors from a wide variety of backgrounds are identified, and may include ASG members, academics, field biologists and researchers, university students, animal husbandry experts, and members of national, local, or regional wildlife agencies.

### Joint Red List and Conservation Needs Assessments

Most often, national or regional ASG Chairs help to coordinate both the Red List and Conservation Needs Assessments for all amphibian species in their country,

A very successful amphibian symposium was held at the Universidad Nacional Autónoma de Honduras prior to the assessment workshop, with speakers giving a range of excellent presentations relating to amphibian conservation in Honduras.

Photo: Franklin Castañeda.







and historically, these two independent assessment processes have been managed separately, and at different times, despite the same expertise generally being required to complete the assessments. Over the past two years, in an effort to reduce the duplication of effort, workshop costs, and the time required by experts to complete the assessments, the ARLA and AArk have joined forces by assembling experts of overlapping priority countries for a single workshop to complete both sets of assessments in parallel. The first joint assessment workshop using this method was held in Malaysia in early 2018, with the recent workshop in Honduras using a similar approach.

### Honduras

The results of the 2004 Global Amphibian Assessment highlighted that, of all the countries in the Neotropics, the situation facing Honduran amphibians was dire, with approximately half of its species at risk of extinction (Stuart et al. 2004). This realization spawned a number of conservation and research initiatives, which resulted in large amounts of new data and more than fifteen species descriptions, thereby raising the number of known species in

Twelve experts were split into two working groups to complete 146 Red List and 89 Conservation Needs Assessments, over a three and a half-day period. Photo: Kevin Johnson.

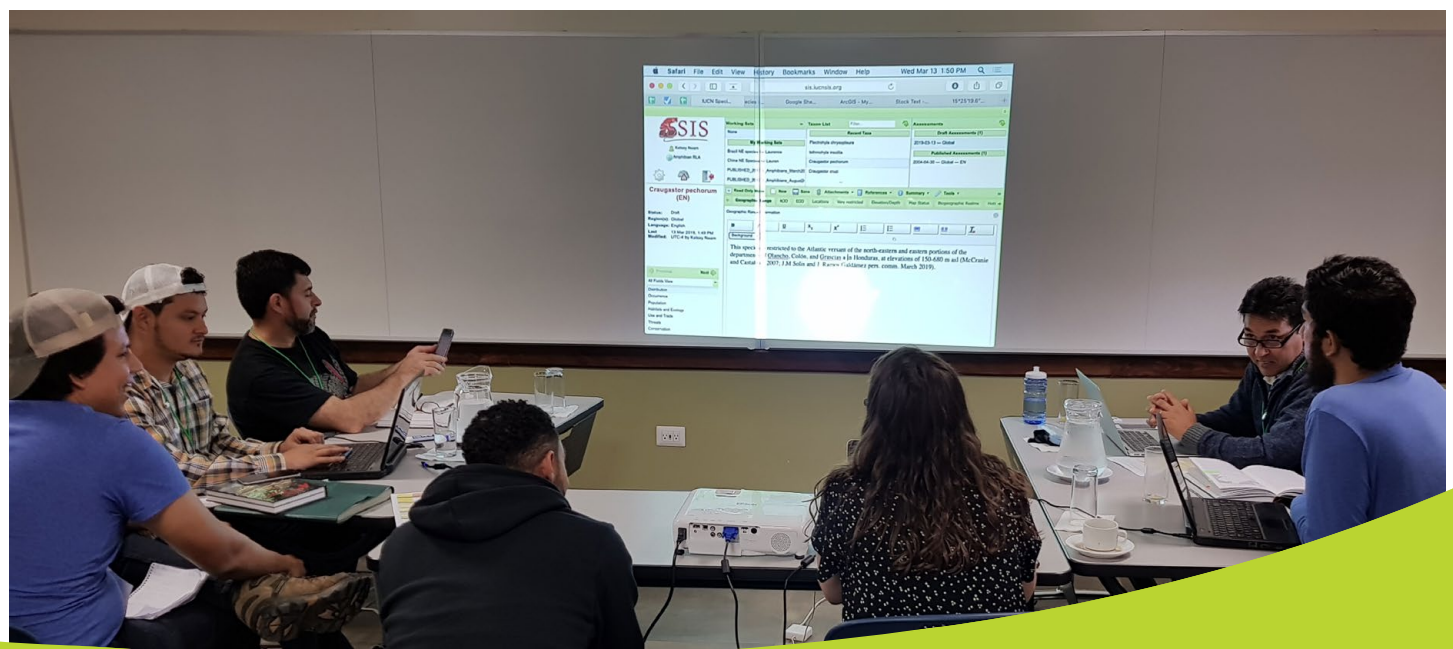
On the first day of the workshop participants were introduced to the two different assessment processes, and how they would be integrated during the workshop. Photo: Kevin Johnson.

Honduras to nearly 150. The extinction risk of the newly described species has never been assessed for the IUCN Red List, and the original GAA data are now more than a decade old and in need of update.

With a relatively high proportion of endemic (39%) and threatened (~50%) amphibian species, Honduras was considered to be a high priority country by the AArk to complete CNAs.

### Amphibian symposium

Immediately preceding the assessment workshop, a very successful amphibian symposium was held at the Universidad Nacional Autónoma de Honduras (National Autonomous University of Honduras), in Tegucigalpa. The symposium, entitled *Conservation of the Amphibians of Honduras: the last decade*, attracted a very large audience, and included a range of excellent presenta-





tions relating to amphibian conservation in Honduras:

- Assess, plan, act! The role of the IUCN Red List in the conservation cycle. Jennifer Luedtke, IUCN Amphibian Specialist Group / Global Wildlife Conservation
- An overview of the amphibians of Honduras. Mario Solis, Universidad Nacional Autónoma de Honduras
- Informing *ex situ* conservation: Amphibian Ark's Conservation Needs Assessment program. Luis Carrillo and Kevin Johnson, Amphibian Ark
- Rescuing the amphibians of Cusuco National Park. Jonathan Kolby, IUCN Amphibian Specialist Group / Honduras Amphibian Rescue and Conservation Center
- Endemic amphibians receiving protection through Jaguar corridors. Franklin Castañeda, Panthera
- Amphibian diversity and climate change at Sierra Lenca and Cordillera Nombre de Dios. Joe Townsend, Indiana University of Pennsylvania
- When the world falls in love: case study of one small frog going global. Chris Jordan, Global Wildlife Conservation

These inspiring presentations provided an excellent background to the issues facing amphibian populations, both in Honduras, and globally, and also informed the audience about what actions are being taken, both inside and outside the country, to save amphibians. Several representatives of the Honduran government were present, some of who shared their perspectives and priorities related to amphibian and habitat conservation.

Workshop facilitators, Honduran amphibian experts, and representatives from various government wildlife departments, NGOs and local academics all participated in a five-day assessment and conservation planning workshop in Honduras in March. Photo: Franklin Castañeda.

### The assessments

The primary aim of the workshop was to update the existing 116 species assessments on the IUCN Red List and conduct first-time assessments for the approximately twenty-five species that have been described since the 2004 GAA.

Twelve experts, from a range of institutions both within Honduras and from overseas contributed to the assessments, along with three facilitators from the ARLA and two facilitators from the AArk. On the first day, participants were introduced to the two different assessment processes, and how they would be integrated during the workshop. Several species were assessed during a plenary session during the first day, then the participants were split into two groups for the subsequent workshop days.

During the workshop, a great amount of unpublished data were readily shared and recorded within the assessments. The level of cooperation and camaraderie between participants was admirable and showed a true and genuine concern for the future of amphibian conservation in Honduras. It was also inspiring to see an excellent representation of local university students, well on their way to becoming the next generation of Honduran herpetologists. Most, if not all of these experts will play a crucial role in implementing the conservation actions arising from the workshop and helping to protect amphibian habitats throughout the country.

All 146 species occurring in Honduras, including those both previously assessed and all newly described species to date, were assessed for the IUCN Red List. While some assessments still need to go through the external review process prior to being published on the Red List, preliminary results indicate that Honduras continues to have a high proportion of threatened endemic species, with



nearly 90% of species assessed as Vulnerable (VU) (2), Endangered (EN) (15) and Critically Endangered (CR) (34). As for the other 10% of endemics, one species has been assessed as Near Threatened (NT), one as Least Concern (LC), and two as Data Deficient (DD). Unfortunately, two species (*Craugastor anciano* and *Craugastor omoaensis*) were declared Extinct (EX), most likely due to the combined effects of chytridiomycosis and habitat loss. While these assessments are tragic and alarming, we must commemorate the tireless efforts and dedication of the researchers who exhaustively searched for these species. All non-endemic species still require input from other regional groups before final categories can be assigned, which is set to take place later this year. Finally, several species were removed from the country list, as a result of taxonomic changes, with Honduran records being assigned to other species.

During the workshop, eighty-nine species were assessed using the CNA process. To expedite the assessment process, it is usual not to assess species listed as Least Concern on the Red List, unless those species have been recommended as potential husbandry analog species for more threatened, related species. The summary numbers of recommended conservation actions for the assessments are:

- *In situ* conservation – 71 species
- *In situ* research – 62 species
- *Ex situ* rescue – 18 species
- *Ex situ* research / analog – 15 species
- Conservation education – 28 species
- Supplementation – 1 species
- Biobanking – 18 species
- No conservation actions required – 2 species

It should be noted that each species can be recommended for one or more different conservation actions, hence the total number of actions recommended above is higher than the 89 species assessed. Definitions of the conservation actions above can be found in the [help pages](#) on the Conservation Needs Assessment web site.

The highest priority species recommended for *ex situ* rescue are *Craugastor anciano*, *Bolitoglossa cataguana*, *Nototriton mime*, *Craugastor chrysozetetes*, *Duellmanohyla salvavida*, *Craugastor fecundus* and *Craugastor coffeus*. Of these, three species (*Nototriton mime*, *Craugastor chrysozetetes* and *Craugastor fecundus*) are probably or possibly extinct, and *Craugastor anciano* was assessed as Extinct. The remainder continue to be threatened by habitat loss due to logging, small-scale agriculture, landslides, small-scale palm oil plantations and human settlements. The experts who contributed to these assessments consider that if these species have not yet become extinct, it is likely that they will face extinction before the threats they face can be mitigated, and that *ex situ* rescue programs are required to ensure their persistence.

### Planning session

On the last day of the assessment workshop, a conservation planning session took place involving the Honduran amphibian experts, representatives from various government wildlife departments, NGOs and local academics, including key organizations, such as Detroit Zoological Society, Global Wildlife Conservation, the Honduras Amphibian Rescue & Conservation Center, Instituto de Conservación Forestal, and Universidad Nacional Autónoma de Honduras. The purpose of this session was to identify and prioritize the research and conservation actions necessary to safeguard Honduran amphibians and define some critical next steps that the workshop participants and the wider conservation community can take to achieve these actions. This planning exercise was therefore a natural extension of the prior days of the symposium and workshop.

After a summary of both the Red List and CNA results, an open discussion forum took place, expertly facilitated by Franklin Castañeda from Panthera - Honduras. The discussion covered topics, such as the development of a national amphibian conservation action plan, including identifying an individual to lead the action planning process; reviewing existing national legislation affecting wildlife and environmental protection; and widespread dissemination of additional scientific publications. All participants were completely engaged with the discussions and eager to participate in future actions.

A timetable of activities over the coming year was developed, with various individuals identified to lead the development of those activities, including scientific publications, a national action plan, and fundraising for specific conservation and research priorities that emerged during the assessment workshop.

### Sponsors

The joint assessment and amphibian conservation planning workshop was made possible by the generous support of the Detroit Zoological Society, Global Wildlife Conservation, Synchronicity Earth, Amphibian Ark, Panthera and Escuela de Biología de la Universidad Nacional Autónoma de Honduras.

### References

Stuart, S.N., Hoffman, M., Chanson, J., Cox, N., Berridge, R., Ramani, P. and Young, B. 2008. *Threatened Amphibians of the World*. Lynx Edicions, Barcelona. 776 pp.