

universities, museums, privately-managed conservation organizations etc. (e.g., <https://progress.amphibianark.org/progress-of-programs>). This is particularly true in Central and South America, where these programs partly counterbalance the low representation of amphibians in local zoos. These include many species which have been recommended for *ex situ* rescue via Conservation Needs Assessments, which are being maintained, bred, and in some cases reintroduced back to the wild.

The aim of the recently published approach was to encourage zoos to reconsider the application of their facilities, time and commitment beyond show exhibits and environmental education. Zoos can certainly play a key role in amphibian conservation by providing their expertise, capacity and specialized facilities for

research and conservation breeding of threatened amphibians in terms of the One Plan Approach supported by the IUCN, as some zoos are already doing. But this is a great chance for more zoos to join in because now is the time for action to face the global amphibian crisis.

### Reference

Jacken, A., Rödder, D. & Ziegler, T. 2020. Amphibians in zoos: a global approach on distribution patterns of threatened amphibians in zoological collections. *International Zoo Yearbook* 54: 1–19, DOI:10.1111/izy.12272.

## Editorial note:

From its beginning the Amphibian Ark has been committed to the concept that amphibian assurance colonies should be established in the country or countries in which the species is found. These ideals are also recommended in the Amphibian Conservation Action Plan (ACAP, [www.iucn-amphibians.org/wp-content/uploads/2018/12/ACAP\\_2007.pdf](http://www.iucn-amphibians.org/wp-content/uploads/2018/12/ACAP_2007.pdf)) and supported by the IUCN ASG Conservation Breeding Working Group ([www.iucn-amphibians.org/working-groups/thematic/captive-breeding/](http://www.iucn-amphibians.org/working-groups/thematic/captive-breeding/)). The Conservation Needs Assessment process identifies those species that are a high priority for assurance populations within a country or region. Zoos, aquariums, and other organizations that are outside of range countries can help in many ways, by providing expertise, training, and/or funding to assist facilities in range countries. While there may be instances in which special research efforts are needed that require the establishment of a population outside of the range country, every effort should be made to develop and support this capacity within the range country.

## Conservation Needs Assessments for Brazil

**Cybele S. Lisboa, Iberê F. Machado, Luis F.M. da Fonte and Débora L. Silvano, IUCN Amphibian Specialist Group, Brazil; Kevin Johnson and Luis Carrillo, Amphibian Ark**

During 2020, an important step was taken to advance strategic planning for the conservation of amphibians in Brazil. Despite the sad global scenario we are experiencing due to the COVID pandemic, we had an opportunity to use the AArk's Conservation Needs Assessments (CNA) process to assess all endangered Brazilian amphibian species, as well as other species which are in critical situations, but their levels of threat have not yet been evaluated. Using the CNA process, we were able to identify and prioritize conservation actions for each species, which may or may not include *ex situ* management. This process was conducted jointly by the IUCN SSC Amphibian Specialist Group (ASG Brazil) and Amphibian Ark, with support from the Brazilian government agency "Centro Nacional de Pesquisa e Conservação de Répteis e Anfíbios do Instituto Chico Mendes de Conservação da Biodiversidade" (RAN/ICMBio, National Center for Research and Conservation of Reptiles and Amphibians of the Chico Mendes Institute for Biodiversity Conservation), which provided the database with essential information about Brazilian amphibian species.

The logistics for the Brazilian assessments were conducted taking into account several aspects about our country, from the magnitude of size, to regional differences, and also the work that has already been done by RAN/ICMBio in relation to developing national action plans. Accordingly, we opted to form working sub-groups, dividing the species and participants by region, which resulted in four groups: South, Southeast, Northeast and Midwest/North. In total, sixty-seven species were evaluated and to carry out the evaluations, ASG Brazil invited more than sixty experts, from different locations and specialties, including academics, researchers, students and members of government agencies.

The assessments took place between August 17 and 21, in a



*Boana buriti* is one of the highest priority species identified during the Conservation Needs Assessments for Brazil. The main threats for this species include conversion of native areas by mechanized agriculture, reduction of the water table level by using water for agriculture, underground fire in peat soil locations in veredas areas, habitat loss due to land use, and the potential effects of climate change. Photo: Reuber Brandão.

series of online meetings using Zoom, an online video conferencing service, which were facilitated by AArk Training Officer, Luis Carrillo, and by members of ASG Brazil (Cybele S. Lisboa, Iberê Machado, Luis F. Marin

da Fonte and Débora Silvano) and by Luis F. Toledo from the University of Campinas. Additionally, some species were assessed after the workshops, when other specialists were identified and invited to complete the process. Therefore, the evaluation work ended in early November 2020.

In general terms, the process had several positive aspects. Although in-person meetings can be more productive and less tiring, virtual meetings have brought other opportunities, such as the ability to include a large number of specialists, and working according to the availability of those involved, rather than being limited to a specific timeframe. During the CNA workshops, we also noticed a great involvement of specialists in contributing to the process, who highlighted that the results of their research are being used in practice, serving as a basis to elaborate conservation strategies for threatened species. Another positive point was the way we conducted the work by region, both to facilitate discussions and to direct future actions to the national action plans of the RAN/ICMBio, which are also divided regionally and whose coordinators also participated in the workshops. Finally, an important aspect was the involvement of ASG Brazil in the CNA workshops, because, it is connected with the country's scientific and government community, and this facilitated the integration of key stakeholders into the process.

The results of the assessments are currently being reviewed by ASG Brazil and the species experts and will be shared soon on

the CNA website ([www.conservation-needs.org](http://www.conservation-needs.org)).

We would like to thank the following experts who contributed their time and knowledge to the assessments: Adrian Antonio Garda, Albertina Pimentel Lima, Ana Maria Paulino Telles de Carvalho e Silva, Ariadne Fares Sabbag, Barnagleison Lisboa, Carlos Eduardo Guidorizzi de Carvalho, Carlos Roberto Abrahão, Caroline Zank, Christine Strüssmann, Cinthia Aguirre Brasileiro, Clodoaldo Lopes de Assis, Daniel Cassiano Lima, Déborah Praciano de Castro, Délio Pontes Baêta da Costa, Diego José Santana Silva, Elaine Maria Lucas Gonsales, Eliza Maria Xavier Freire, Fabio Perin de Sá, Felipe Sá Fortes Leite, Fernanda de Pinho Werneck, Filipe Nascimento, Geraldo Jorge Barbosa de Moura, Itamar Martins, Izabela Menezes Barata, João Luiz Gasparini, Leandro João Carneiro de Lima Moraes, Leo Ramos Malagoli, Luciana Barreto Nascimento, Luís Felipe de Toledo, Luiz Fernando Ribeiro, Marcelo Duarte Freire, Marcelo Felgueiras Napoli, Marcelo Gordo, Márcio Borges Martins, Marcio Roberto Costa Martins, Michelle Abadie de Vasconcellos, Mirco Solé Kienle, Moacir Santos Tinôco, Patrick Colombo, Pedro Luiz Vieira Del Peloso, Rafael F. Jorge, Reuber Albuquerque Brandão, Robson Ávila, Rodrigo Barbosa Ferreira, Rodrigo Lingnau, Selvino Neckel de Oliveira, Sérgio Potsch de Carvalho e Silva, Thaís Barreto Guedes da Costa, Tiago Quaggio Vieira and Victor Goyannes Dill Orrico.

Participants in the online Zoom meeting for developing Conservation Needs Assessments for endangered amphibians from the Southeast region of Brazil. Photo: Cybele Lisboa.

