

## Amphibian Conservation Needs Assessments for Madagascar

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Amphibian Ark staff help coordinate *ex situ* (captive) amphibian conservation programs implemented by partners around the world and we assist AArk partners in identifying priority species for *in situ* (in nature) and *ex situ* conservation work. An initial part of this process involves evaluating species, to help conservation managers maximize the impact of their limited conservation resources, by identifying which amphibian species are most in need of particular types of conservation action. These Conservation Needs Assessments are usually undertaken by a similar team of experts to that which led the original 2004 Global Amphibian Assessment, and who also undertake IUCN Red List assessments ([www.redlist.org](http://www.redlist.org)). The Conservation Needs Assessments however have a goal of updating the information and separating out and assessing all taxa to determine the best conservation actions to help ensure their ultimate survival in the wild. The assessments result in a series of reports for nine different conservation actions. Species are listed according to their priority for the particular conservation action, and the supporting documentation provided by the experts gives a guide for those species which have the most chance of benefiting from the prescribed conservation action(s).

Since 2007, AArk staff and our partners have facilitated Conservation Needs Assessments for over 2,600 (31%) of the 7,530 currently-known amphibian species through twenty-six national or regional workshops. In early 2015, the assessment process was migrated to an online format ([www.ConservationNeeds.org](http://www.ConservationNeeds.org)), allowing for more inclusive access for assessors, with concurrent national assessments being made at the same time. This new online program has considerable cost savings, as funding for each assessment workshop varies between \$10,000-\$30,000.

In early 2015, as the development of the online program was nearing completion, we contacted several people who were working with frogs in Madagascar, and asked if they would be willing to complete some assessments, and to provide feedback on the new online program before it was formally launched. Initially, four assessors used the program, and provided some great feedback, most of which was incorporated into the final design of the program. Over the next twelve months, an additional twelve assessors contributed their expertise, with a total of 282 assessments being completed. These assessments resulted in 564 recommended conservation actions (more than one conservation action can be recommended for each species):

- **Rescue** (20 species) - A species that is in imminent danger of extinction (locally or globally) and requires *ex situ* management, as part of an integrated program, to ensure its survival.
- **In Situ Conservation** (166 species) - A species for which mitigation of threats in the wild may still bring about its' successful conservation.
- **In Situ Research** (202 species) - A species that for one or more reasons requires further *in situ* research to be carried out as part of the conservation action for the species. One or more critical pieces of information is not known at this time.
- **Ex Situ Research** (78 species) - A species currently undergoing, or proposed for specific applied research that directly contributes to the conservation of that species, or a related species, in the wild (this includes clearly defined 'model' or 'surrogate' species).
- **Mass production in captivity** (4 species) - A species threatened through wild collection (e.g. as a food resource), which could be or is currently being bred in captivity – normally in-country, *ex situ* - to replace a demand for specimens collected from the wild. This category generally excludes the captive-breeding of pet and hobbyist species, except in exceptional circumstances where coordinated, managed breeding programs can demonstrably reduce wild collection of a threatened species.
- **Conservation Education** (62 species) - A species that is specifically selected for management – primarily in zoos and aquariums - to inspire and increase knowledge in visitors, in order to promote positive behavioral change. For example, when a species is used to raise financial or other support for field conservation projects (this would include clearly defined 'flagship' or 'ambassador' species).
- **Biobanking** (20 species) - A species for which the long-term storage of sperm or cells to perpetuate their genetic variation is urgently recommended, due to the serious threat of extinction of the species.
- **No Conservation Action** (12 species) - Species that do not require any conservation action at this point in time. This list may also contain species that were not evaluated during the workshop due to a lack of data being available.



The Red Rain Frog (*Scaphiophryne gottlebei*) has been widely collected for the international pet trade - over-collection could be a significant threat to this species. Creation of insurance colonies may be a strategy to help preserving wild populations, although there is still a lack of knowledge on how to breed the species, with successful breeding only being achieved through the use of hormones.

Photo: Devin Edmonds.



Boettger's Grainy Frog (*Gephyromantis horridus*) is a rare species from Madagascar, which is difficult to find because of its secretive life style. It is severely threatened by habitat loss and has been recommended as a high priority species for *ex situ* rescue, *in situ* research, conservation education and biobanking.  
Photo: Devin Edmonds.



New  
Sahonagasy Action Plan  
2016-2020

There are twenty-seven amphibian species in Madagascar which have not yet been assessed.

The recommendations arising from these assessments will help to guide future amphibian conservation in Madagascar, as part of the *Conservation Strategy for the Amphibians of Madagascar* (ACSAM, [www.sahonagasy.org/acsam](http://www.sahonagasy.org/acsam)). The ACSAM initiative was produced as a result of a workshop which was held in Antananarivo, Madagascar in September 2006 to discuss and decide priorities for amphibian conservation in Madagascar. The plan was subsequently updated during a second meeting of over sixty experts from Madagascar and around the world in Ranomafana, Madagascar in November 2014, resulting in *The New Sahonagasy Action Plan 2016 - 2020* ([www.amphibians.org/news/nsap2016-2020/](http://www.amphibians.org/news/nsap2016-2020/)).

The benefits of the Conservation Needs Assessment process are clear – we assemble the leading amphibian field experts in each region, to collectively determine the best course of conservation actions to help prevent the extinctions of threatened amphibian species in the wild. These actions include habitat restoration and preservation, threat mitigation, captive breeding for release and community awareness and involvement. Without immediate captive management as a stopgap component of an integrated conservation effort, hundreds of species could become extinct. Because *ex situ* resources are limited, the Amphibian Ark and our partners must try to identify which species require *ex situ* management most urgently.



*Mantidactylus pauliani* is only known to occur in a single area, which is probably less than 10 km<sup>2</sup>, and its forest habitat is severely declining. This is probably the most threatened frog species in Madagascar, and it has been recommended as a high priority for *ex situ* rescue, *in situ* conservation, further *in situ* research and biobanking.  
Photo: Devin Edmonds.