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# Linking *ex situ* Measures and Ecological Research for the Conservation of the Endangered Psychedelic Rock Gecko



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The psychedelic rock gecko (*Cnemaspis psychedelica*) was only recently described from Hon Khoai Island, Ca Mau Province, beneath the southernmost tip of Vietnam. The species' name derives from its very bright colour pattern. Only few years after its discovery, the colourful gecko appeared in the pet trade and has been offered for up to 3,000 Euro per pair. Given the fact that Hon Khoai Island covers only 8 km<sup>2</sup>, and facing the alarming development of the illegal collection of this endemic gecko species, we planned together with Khoi Vu Nguyen from Wildlife at Risk (WAR) as a first conservation measure the building-up of a captive insurance colony as basis for a conservation breeding programme. In 2014, together with Cologne Zoo's terrarium section keeper Anna Rauhhaus, we planned and built a gecko house at the grounds of WAR in the south of Vietnam, comprising ten large terraria, a movable rain cover with sun blind and a double-door

system to prevent accidentally escaped geckos from breaking out. For the front side of the gecko house, we prepared a large water-proof poster that points, both in English and Vietnamese, to the threats to the psychedelic rock gecko and the background of the project.

In 2015, first small gecko breeding groups were transferred from Hon Khoai Island to the gecko house, with relevant permits provided by the respective authorities. This year, we reported about the successful keeping and breeding of the psychedelic rock gecko at WAR's gecko house in southern Vietnam in the journal *Der Zoologische Garten*. In parallel, on behalf of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), and as legwork for the Species Program, UNEP World Conservation Monitoring Centre, Cambridge, UK, our team has analysed the international trade in the species, the results of which were recently summarised in an overview paper on trade in live reptiles and its impact on wild populations in the journal *Biological Conservation*.

Besides aforementioned preliminary trade analysis and our first and fortunately already successful *ex situ* initiative, our team also initiated first *in situ* action with the consent of the local authorities, viz. nature conservation-based ecological field research on Hon Khoai Island. Funded by the BMUB and Rufford Foundation, further supported by the Institute of Ecology and Biological Resources (IEBR), the Vietnam Academy of Science and Technology (VAST) and Cologne Zoo, our students Hai Ngoc Ngo and Tan Van Nguyen collected first data about the psychedelic rock gecko's ecology, population and threat status on Hon Khoai. The first population assessment of the gecko, jointly evaluated with our PhD student Mona van Schingen and Frank Barsch from the BMUB, will be published in the journal *Amphibian and Reptile Conservation*. Our preliminary analysis revealed that the population seems to be rather small, only covering several hundreds of individuals. The preferred habitat, densely forested granitic rocks, is rare and increasingly threatened by human activities (e. g. poaching, building activities, forest destruction, invasive animals). Thus, the timely build-up of an *ex situ* breeding facility and conservation breeding programme in southern Vietnam was reasonable, as negative influences by anthropogenic impact both on the habitat and density of the population are obvious.

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Gecko house in southern Vietnam with large information banner developed by our team.

Now, the development of *in situ* conservation measures is urgently required. For this reason, in March 2016, we have met with the authorities of the Forest Protection Department (FPD) of Ca Mau Province, which is responsible for Hon Khoai. As a first initiative, we have handed over ranger equipment, further materials and self-made panels pointing towards the threats and protection of the psychedelic rock gecko. Together with the Ca Mau FPD and WAR, we try to preserve the psychedelic rock gecko in the long term and jointly engage in habitat protection measures. Here, further population monitoring and extended biodiversity research, currently supported by the Zoological Society for the Conservation of Species and Populations (ZGAP), will be mandatory for the establishment of a reserve.

Our preliminary population assessment and threat evaluation recently already has led to the inclusion of the species in the IUCN Red List of Threatened Species (see <http://www.iucnredlist.org/details/97210381/0>); our data also were provided for the official application to list the species on the CITES Appendices on the occasion of the seventeenth meeting of the Conference of the Parties (CoP) in Johannesburg, South Africa. Summa-

rised, this is a good example of how interaction between research and conservation in collaboration with zoo engagement can make a contribution towards threatened species' protection – or which role modern, scientifically led zoos can play in international species conservation. ■

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Psychedelic rock gecko (*Cnemaspis psychedelica*).



# NEWS

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