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## Building of a Conservation Breeding Facility for the Psychedelic Rock Gecko (*Cnemaspis psychedelica*) in Southern Vietnam

### Aufbau einer Erhaltungszuchtanlage für den Psychedelischen Felsengecko (*Cnemaspis psychedelica*) in Südvietnam



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## Abstract

Vietnam belongs to the global hotspots of biodiversity, and new vertebrate species have been regularly discovered from this country. Lizards and in particular geckos are among the groups with the highest discovery rates. One of the most beautiful geckos recently discovered from Vietnam is the Psychedelic Rock Gecko (*Cnemaspis psychedelica*), an endemic species of Hon Khoai Island, a small island with a total area of only 8 km<sup>2</sup> in Ca Mau Province, southern Vietnam. Although Hon Khoai is protected through the Ca Mau Biosphere Reserve, and collecting and exporting of the wild fauna and flora for commercial purpose is prohibited, the beautiful geckos made their way to the international pet trade. But the species is not only threatened by illegal collecting for the pet trade, but also by macaques introduced on this island. To act against this alarming development, Wildlife at Risk (WAR), the Institute of Ecology and Biological Resources (IEBR) and Cologne Zoo decided to cooperate in building up a gecko house as basis for the establishment of a reserve population, which could become the beginning of a potential conservation breeding program for *C. psychedelica*. The gecko house was planned in May 2014 and finished in November 2014 in WAR's Hon Me Station in

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Kien Giang Province, southern Vietnam. It has a movable rain cover with sunblind and contains ten large terraria consisting of aluminium, metal gauze and glass. Terrarium furniture mainly consists of cemented rock walls, plants, and natural soil with leaves. The gecko house also has a double door system to prevent accidentally escaped geckos from breaking out. The exterior of the gecko house is covered by a large water proof poster which points both in English and Vietnamese languages to the threats to the Psychedelic Rock Gecko and the background of the conservation project. First small gecko breeding groups were transferred from Hon Khoai Island to the Hon Me Station in March 2015, with relevant permits provided by the respective authorities. Furthermore we report about our first experiences with the keeping and breeding of *C. psychedelica*, and document colour pattern change during juvenile development.

**Keywords:** Gekkonidae; *Cnemaspis psychedelica*; Facility building; Husbandry; Conservation breeding; Vietnam

## Introduction

Vietnam belongs to the global hot spots of biodiversity, and new vertebrate species have been regularly discovered from this country (e.g., Ziegler & Nguyen, 2010). Lizards and in particular geckos are among the groups with the highest discovery rates. For example, at the end of the past millennium, there were only four Bent-toed Geckos (genus *Cyrtodactylus*) known from Vietnam, but these days the number already has increased towards more than 35 species (Nguyen et al., 2015; Ziegler, 2015), and there is still no end of new descriptions in sight. But also among the Common Dwarf Geckos (*Hemiphyllodactylus*), Leaf-toed Geckos (*Dixonius*), True Geckos (*Gekko*) and Tiger Geckos (*Goniurosaurus*) diverse species descriptions from the Indochinese region have been published in the past decade (e.g., Botov et al., 2015; Luu et al., 2014; Ngo & Ziegler, 2009; Nguyen et al., 2014; Wang, Jin, Li, & Grismer, 2014). Also the Rock Gecko genus *Cnemaspis* is famous for numerous new discoveries from Southeast Asia during recent times, so that it is difficult meanwhile to keep track of the enormous *Cnemaspis* species diversity (e.g. Grismer et al., 2014). The species *Cnemaspis psychedelica* (Fig. 1) was recently described by Grismer, Ngo, and Grismer (2010) and certainly belongs to the most spectacular gecko discoveries in a world wide scale. This extremely gorgeous species is currently known only from Hon Khoai Island in Ca Mau Province, 18 km off the southern tip of the Ca Mau Peninsula in southern Vietnam. The species name refers to its bright, incongruous colouration and pattern. It is the most uniquely coloured rock gecko in that both sexes have bright orange forelimbs, forelegs, hands and feet, a bright orange tail, a dense yellow reticulum on the neck overlying thick black longitudinal lines, and a blue-gray to light purple trunk bearing yellow transverse bars on bright-orange flanks. The diurnal species lives on large granite boulders in the shade of the forest canopy. At night it usually is restricted to deeper areas of crevices and only rarely is seen outside the rock cracks. Reproduction takes place via eggs (usually two per female) which are deposited on the undersides of overhanging boulders (Grismer et al., 2010). As Hon Khoai Island is a very small island, with ca. 8 km<sup>2</sup> surface, the population size of *C. psychedelica* is rather small (Ngo, Nguyen, Nguyen, van Schingen, & Ziegler, submitted). A potential threat to the Psychedelic Rock Gecko (in Vietnamese

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