Studbook breeding programme

Corucia zebrata

(Prehensile tailed skink)

Annual Report 2014

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Introduction

The ESF Studbook for *Corucia zebrata* is not a really new one. It started officially in June 2008. However, based on specific characteristics of the species - which will be illustrated later- and recently missing DNA analysis of various „island types" the studbook now- end of 2014- is able to switch into the „active mode".

Siebren Kuperus and Kevin van Beerendonk had been the initial studbook keepers. Special thanks to them for taking the initiative to cover this extraordinary species. Heiko Kühne, in his role as co-studbook keeper and me took over responsibility - effective Dec. 2014- to organize the respective studbook.
Heiko and myself keep and breed *Corucia zebrata* for several years. From the very first we keep the different „island forms" of *Corucia* separately and avoid the commingling of species within the described "varieties"/ "island forms".
Based on recently published theses, it has been decided to keep the different „island forms" in the studbook separately as well. A real logistical challenge!
As it is the first annual report for the studbook within its active mode, I would like to describe the specific characteristics of *Corucia zebrata* in some details.

Specific characteristics

The prehensile tailed skink is the largest representative by size within the family of Scincidae.
Corucia zebrata is viviparous and endemic to the Salomon islands (Indonesia) an archipelago consisting of at least thousand islands. The species can reach a total length more of 75 cm, with more than half of it assigned to its eponymous body part: the tail.
Only using its prehensile tail *Corucia* is able to secure its cylindric body while climbing and – if necessary- using this body part to lift up its corpus as a whole. The anatomy of *Corucia zebrata* mirrored, that they were made to live on trees and in habitats abundantly covered with vegetation. The extremities looked bulky armed with sturdy claws. However, ideal tools to climb on trees

and move on bark. The triangle-shaped head is armed with strong mandibles. The teeth are chisel-formed, pointed and suitable for crushing herbal nutrition.

The abovementioned anatomic attributes are fundamentally equal to all „forms" of prehensile tailed skinks, however, some differences in physiognomy (e.g. body size, appearance) within the different types of *Corucia* are clearly identifiable.
Beside of their familial social behavior it must be noted that remarkable variability exists between species from different islands, especially related to skin- and eye-color.

Based on their different appearance committed *„Corucia*"-keepers regularly distinguish between these „island forms". Each "island form" differs from another" island form" in respect to skin- and eye color. For some time „insider" within the group of keepers and breeders of theses reptiles differentiate between animals named „Guadalcanal", „Malaita", „Isabel" or „ Bougainville", referring to names of respective Salomon islands, which represents the (potential) origin of the skinks.
Taking this into consideration the following attributes of appearance are linked to the respective „island forms"(Schmidt, 1998). Moreover, the „Bougainville"-form had been described by Köhler as a sub-species named *Corucia zebrata alfredschmidti* (Köhler, 1997).
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„Guadalcanal"; eyes: olive colored; head dark-yellow to rust-brown; corpus with variable color from light green to green brown; frequently no banding with isolated black dots

„Malaita“; eyes: dark yellow to olive; head olive to green-grey sometimes dark yellow; throat yellow; corpus green to olive, banding with different intensity

„Isabel“; eyes: dark-brown: head: soft green, throat: partly yellow, corpus: soft green to olive with bright banding

„Bougainville“(*Corucia zebrata alfredschmidti*); eyes bright yellow, head apple-green, nose and chin frequently yellow; corpus olive to green with distinct banding.

What was not noticed in the first instance was the fact, that beside of the different appearance of each single „island form“, their social behavior and their specific food patterns differ between each group as well, which could be observed especially within each single “island form” held in captivity.

Most recent scientific studies have indeed proven that the described variability between "island forms" of *Corucia zebrata* correlates with their specific distribution on specific islands of the Salomon archipelago (Hagen et al., 2012).

Status in nature

Corucia zebrata naturally occurs on all island of the Salomon archipelago. Even very small isles are inhabited (McCoy, 1996; Hagen et al. 2012). *Corucia* lives on trees and their distribution is linked to the tropical rain forest.

Corucia and its habitats are threatened due to extensive habitat destruction.

Most recent in situ- studies attest clearly, that the different genetically distinguishable forms of *Corucia* represent different distribution areas / different islands of the Salomon archipelago.
Moreover, islands where natural ecotonal forms between different forms of *Corucia* may exist, have been identified (Hagen et al., 2012).
By all means the existence of genetically different forms *of Corucia* on specific islands is at that time an assured fact.

Hagen et al. (2012 describes – reiterated in a condensed form- a complex, phylogeographic network:

- *Corucia zebrata* – populations from different islands of the archipelago are genetically different. At least five genetic networks are capable of being differentiated. These networks consist of the following islands: Malaita/ Makira, Guadalcanal, Isabel, Choiseul/Western Province, Shortland Islands
- Populations from islands, which have been connected by land bridges during the last ice age differ among each other genetically marginal to a lesser extent, compared with those populations, which lived on permanently isolated island of the archipelago.
- The *Corucia* - population located on the proposed geological oldest islands of the archipelago (Malaita, Makira) is the phylogenetically farthest compared with populations on other islands.
- Between the populations located on the geological youngest islands (Western Province) and the population on Choiseul- representing a geological old island- close genetic connections were reported. There is evidence to suggest that populating of the Western Provinces took place from there.

Relating to the sub-species and so called „ Bougainville“-form, *Corucia zeb. alfredschmidti* some specifics must be reported:

- *Corucia* from Bougainville could not be sampled due to political issues in Papua Neuguinea.
- The population located on the Shortland islands ca. 8 kilometers south of Bougainville, corresponds by its appearance, to animals, which have been described as sub-species *C.z. alfredschmidti* from Bougainville.
- A genetic connection between *Corucia* from the Shortland Islands to populations located on the islands of Choiseul and Isabel could be reported.
- A natural hybridation between *C.z. alfredschmidti* and *Corucia zebrata* seems to be possible.

Population in captivity

It cannot be retraced if all species in captivity, be it those in possession of private individuals or zoos, were originally imported from those islands of the Salomon archipelago whose name appears and is used for their description.
A major number of prehensile tailed skinks have been exported to Europe and USA in the eighties and early nineties of the last century. Exact documents of origin do not exist, except some single exceptions.
Today it is strictly prohibited to import or export *Corucia zebrata*. They are listed in appendix II of the Cites convention.

Beside of their morphological specifics members of the different “island” populations are characterized by their distinguished nature.

Observation made in captivity relating to the family- like social structure within *Corucia zebrata* populations have been verified by scientists (Hagen et.al., 2012).
Schmidt (1998) already informed about the different characteristics of representatives within each group of *Corucia‘s* island forms, which I personally was able to observe fundamentally within my different groups of prehensile tailed skinks as well (Zollweg, 2013).

Therefore “fundamentally” because the relevant attributes of each single „island- form“ convert during special periods of life.

Representatives of the „Guadalcanal“ form are presumed to be very calm and little aggressive. However, females mutate after birth to real devils. Similar to all other female prehensile tailed skinks they defend their new born against potential aggressor.

Beside of this special situations and based on findings and observations in captivity the main character attributes of each single “island- form” are as follows:

„Guadalcanal“: Calm and less aggressive.

„Malaita“: Usually both sexes are very aggressive.

„Isabel“: Docile, however, young and sub-adults aggressive. Aggression is often signalized in advance (erecting and expanding of the upper part of the body).

„Bougainville“, sub-species; *C. z. alfredschmidti*: Hardly aggressive, curious.

Whether at the end of the day the various island forms of *Corucia* are determined as “subspecies” seems to be a question of “definition” and must be clarified based on scientific debates.
However, taking into account the most recent developments and the described different attributes in character and appearance it has a lot to commend it to talk about “sub-species”. Anyway time will show.
Within the studbook the decision has been taken to keep each „island form“of *Corucia zebrata* separately.

Breeding/ offsprings

Breeding is an important aspect in association with keeping a studbook.
The reproduction rate of *Corucia zebrata* is very small.
Fundamentally after round about 6 month of pregnancy 1 to 2 neonates are given birth. This however, is an ideal situation for keeping a studbook.
At least theoretically each neonate can be easily registered. Some breeders already have a complete chain of breeding history available.


Corucia zebrata „alfredschmidti“ juv.

Activities so far

Both, Heiko and myself have contacted various *Corucia* keepers and breeders to investigate their willingness to attend to a respective Studbook. So far the feedback was excellent. So we decided to take the next steps for creating a studbook.

Aktivities to come

The database for a studbook must be established. The following steps are taken into account:

- Who keep and breed *Corucia zebrata* (data collection)?
- Is there a differentiation in keeping and breeding between “island forms?
- What about animals, which cannot be classified?
- Are documents of origin available?

Moreover, we try to visit the potential participants to help them with classification and documentation.

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