

# Human attitudes towards reptiles: the relationship between fear, disgust, and aesthetic preferences

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## Introduction

Snakes represent evolutionarily prioritized stimuli to humans. Based on our previous studies, snakes may evoke several emotions; besides fear or disgust, positive emotions such as joy accompanying aesthetic judgements are also involved. The following question is whether these reactions might originate from emotions evoked by other reptiles. Thus, we designed a study of human perception of all reptiles (snakes, lizards, turtles, and crocodiles) focusing on the relationship between perceived fear, disgust, and aesthetic preferences and differences between snakes and other reptiles.

## Material and methods

- 127 standardized photographs, 1 species from each subfamily, 2 sets
- all reptiles – lizards (59 photos) and worm lizards (6 photos),
- snakes (45 photos), crocodiles (3 photos), turtles (13 photos)
- specialized web application for picture rating
- rating according to fear, disgust, and aesthetic preferences on a 7-point scale

## Fear

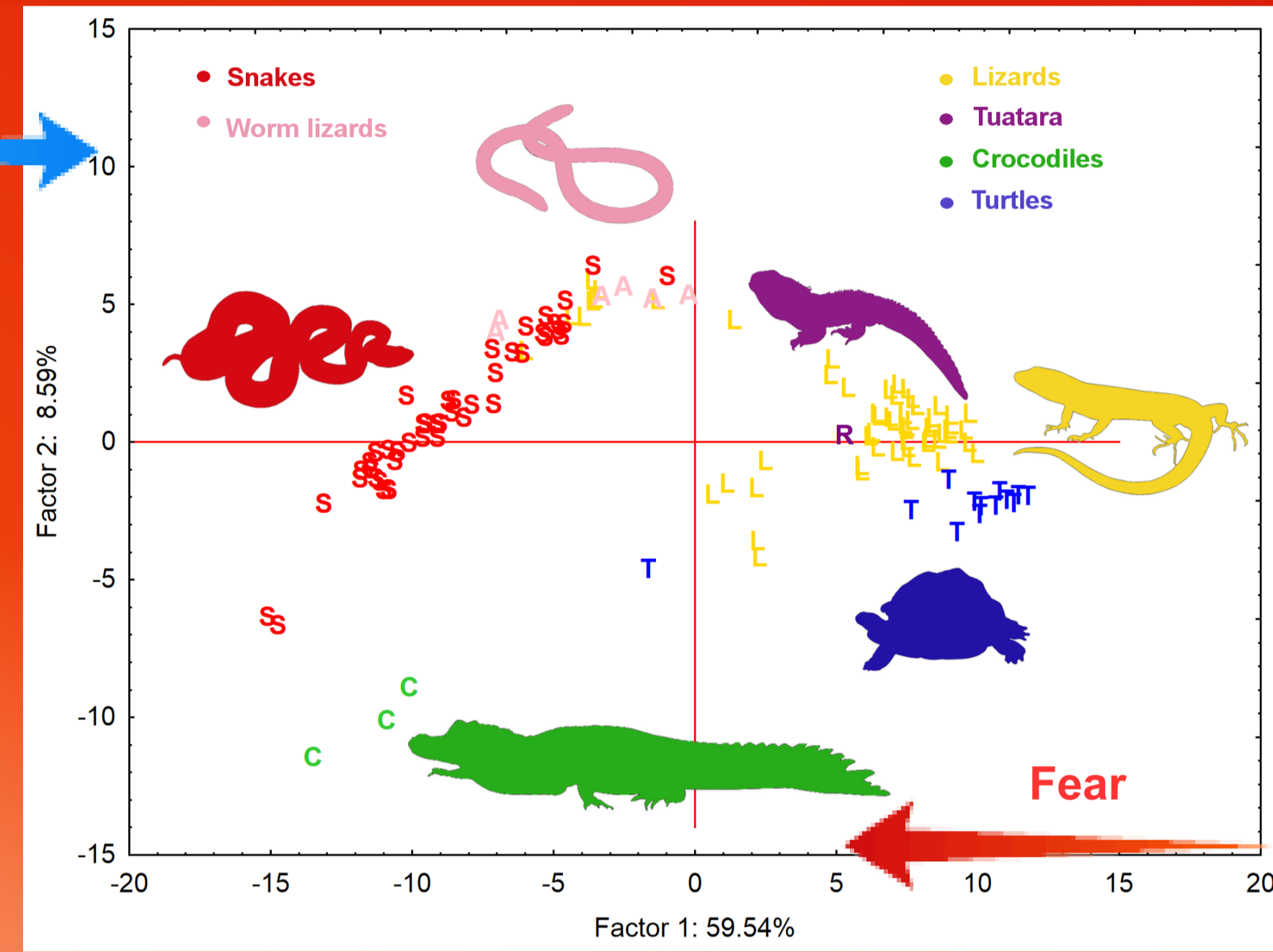
- 3 groups – 1<sup>st</sup> snakes, worm lizards and legless lizards; 2<sup>nd</sup> lizards with legs, turtles, and tuatara; 3<sup>rd</sup> crocodiles
- The most fearful reptiles are all crocodiles, snakes with the „viper“ body shape and big turtle (snapping turtle - *Macrochelys*)

### Snakes

- The most fearful snakes – complex pattern, green, dark colours, „viper“ body shape (triangular head, narrow neck, thick body)

### Other reptiles

- The most fearful species – large body, longer head, dark colours



## Fear X Disgust



### Snakes

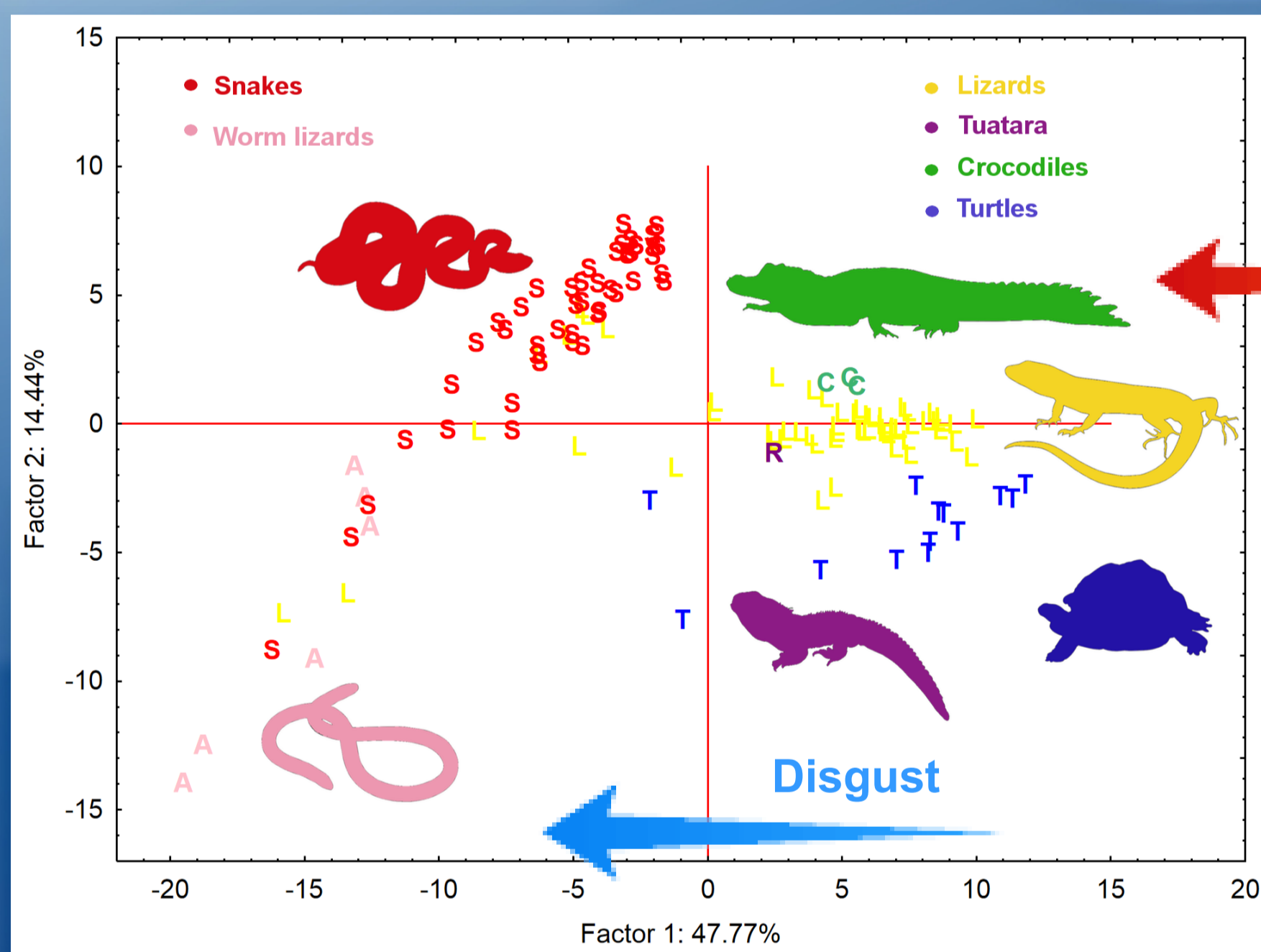
- negative correlation ( $r = -0.446$ )
- fear or disgust evoking species are different



### Other lizards

- positive correlation ( $r = 0.772$ )
- the same species evoking fear and disgust

## Disgust



- 2 groups – type „snake“ (snakes, worm lizards, and legless lizards) and „lizard“ (lizards with legs, crocodiles, turtles, and tuatara)
- The most disgusting reptiles are worm lizards, snakes, and lizards with worm-like body shape and the soft shell turtles (*Dogania*)

### Snakes

- The most disgusting snakes – with no pattern, worm-like body shape (long, narrow body, small eyes, indistinguishable head)

### Other reptiles

- The most disgusting species – without legs, worm-like body shape, pink or purple colour, shine, colorless

## Disgust X Beauty



### Snakes

- negative correlation ( $r = -0.881$ )
- disgust evoking species are not beautiful



### Other lizards

- negative correlation ( $r = -0.839$ )
- disgust evoking species are not beautiful

## Beauty

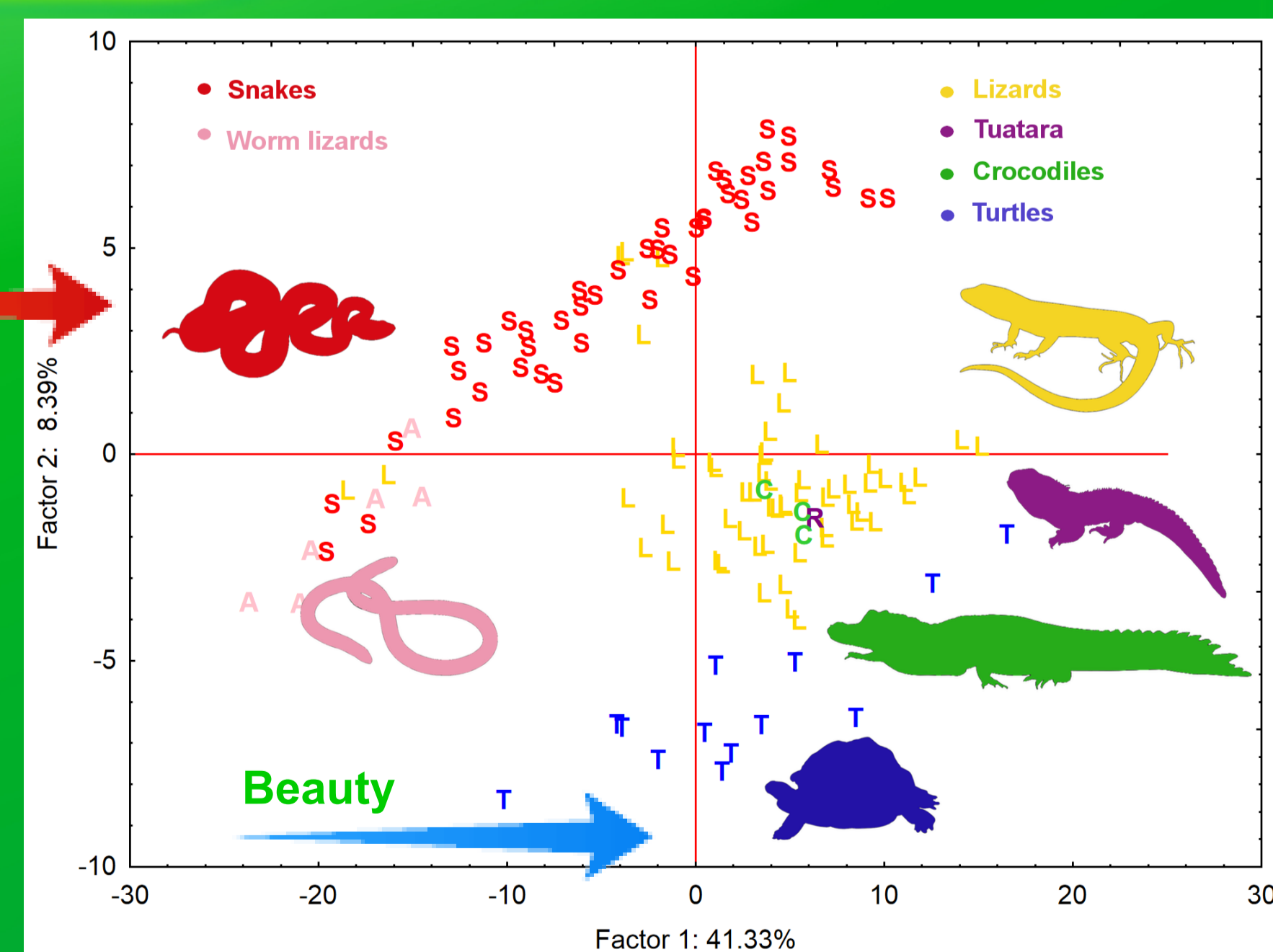
- 2 groups – type „snake“ and „lizard“
- (the same group as in the disgust category)
- In each reptile group, there are more and less beautiful species
- The least beautiful group are worm lizards (*Amphisbaenia*)

### Snakes

- The most beautiful snakes – complex pattern, green or blue colour, saturated color, longer head and body

### Other reptiles

- The most beautiful species – with legs, big eyes, longer head, green or blue color, saturated and light colour, complex pattern

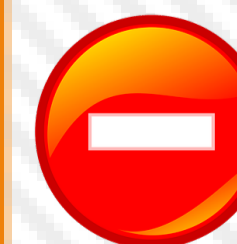


## Beauty X Fear



### Snakes

- positive correlation ( $r = 0.603$ )
- some species are beautiful and fear evoking



### Other lizards

- negative correlation ( $r = -0.462$ )
- positive and negative evaluations not present in the same species