

Abstract

Body size has a potential to influence almost any trait in animal biology. The thesis contains four case studies (I – IV) covering four various situations and four various taxa, mainly squamate reptiles (Lepidosauria). Body size is a connecting factor for all these studies, in which I and my co-authors tried to elucidate various implications of body size.

- I. The sex ratio in Cuban boa (*Chilabothrus angulifer*) litters is often male or female biased. The neonates are so large, that are able to accept the same type of prey as are adults (in contrast to the other *Chilabothrus* species). We found that both the sexes are of the same size and shape at birth. Large size of the neonates a long lifespan lead to considerable generation overlaps. This could clarify our findings that small females produce sons whereas the larger ones deliver daughters. Males are smaller than females, probably also less philopatric and refuse food during breeding season. We can conclude that females manipulate the sex ratio of neonates according to its own body size, in order to decrease the probability of competition with their own offspring.
- II. Mangrove-dwelling monitor lizard (*Varanus indicus*) shows one of the greatest degrees of sexual size dimorphism among monitor lizards. We recorded the growth of the individuals from hatch to almost the maximal body size. We found that the males and females are of the same size at hatch and show the same growth rate until it slows down after one and half year of age. Females reach that point earlier than males. Thus, the remarkable dimorphism is generated by different timing of (fast) growth.
- III. Northern common boa (*Boa imperator*) undergoes considerable size changes in its ontogeny. We recorded growth and behaviour of boas from birth up to four years of age. The size as well as the behaviour developed during the ontogeny, but the individuals showed also a consistency to some degree. This consistency persisted during the whole study and meets the criteria of personality.
- IV. Mammals in Zoos are selected neither equally nor accidentally. We checked the world-wide Zoo collections and simultaneously investigated aesthetical preferences toward the mammals. Body size of an animal determinates the cost of its keeping in Zoo. In spite of the fact the world-wide Zoo collections are biased to large species. According to our analysis, Zoos are keeping predominantly large, beautiful and big-brained mammals.