Abstract (English)

Sex determination plays an important role in the viability of populations and species evolvability. This is one of the reasons why sex determination has become an important subject of many studies during more than the last 100 years. The thesis focuses on the evolution of sex determination systems in toxicoferan reptiles. Toxicofera is a group of squamate reptiles containing more than 6000 species. Their species richness is also reflected in the diversity of their sex determination systems. The presence of environmental sex determination (ESD) as well as genotypic sex determination (GSD) with either XX/XZ or ZZ/ZW sex chromosomes, was reported among the toxicoferan species; however, the current knowledge on sex determination in toxicoferan reptiles is not equally distributed across their lineages. The main aim of the theses is to expand our knowledge on sex chromosome evolution using cytogenetic methods in snakes, chameleons and anguimorphan lizards. The first part of the thesis deals with the sex chromosome evolution in caenophidian and henophidian snakes. It is focused mainly on the variability in the distribution of repetitive content as well as heterochromatinization of the W chromosome of caenophidian snakes. While the sex chromosomes of Caenophidia are cytogenetically quite well studied and easily recognizable, the homomorphic and poorly differentiated sex chromosomes of other snakes are mostly not detectable by commonly used cytogenetic methods. In our work, we examined ten species of non-caenophidian snakes. The differentiated sex chromosomes were detected only in one member, namely in the Madagascan boa *Acrantophis* cf. *dumerili*. The second part of the thesis focuses on the cytogenetic description of sex chromosomes in chameleons of the genus *Furcifer*: ZZ/ZW and $Z_1Z_1Z_2Z_2/Z_1Z_2W$ multiple sex chromosomes were detected in studied species. The third part of the thesis is devoted to sex chromosomes in anguimorphan lizards. The knowledge on the sex determination mode in Anguimorpha was limited mainly to monitors (Varanidae) and beaded lizards (Helodermatidae). In our work, apart from these two families, we detected putative sex chromosomes also in *Abronia lythrochila, Celestus warreni* and *Gerrhonotus liocephalus* (Anguidae)