Abstract

In the case of reptiles, there has been described an occurrence of an asexual reproduction, especially in the case of a group Squamata; the asexual reproduction of birds (Aves) has been observed, too. Multiple times the asexuality of reptiles has been originated. Occurrences of obligate and facultative asexual species have been described. Most obligate asexual species have theirs origin in one or more hybridization events between closely related species. However, within the family Xantusiidae two exceptions where asexuality apparently originated without hybridization were discovered. Facultative parthenogenesis was originally expected only among reptiles kept in captivity, where the females were separated from males for a long time. However, this assumption was later disproved. The majority of the specimens formed by facultative parthenogenesis has reduced viability, which can be caused by the imperfect mechanism of the formation of parthenogenetic offspring. The terminal fusion is considered to be the probable mechanism of creation of diploid oocytes in the case of facultative parthenogenesis reptiles. The cytological mechanism of the parthenogenetic offspring's genesis was described for the obligate parthenogenetic species just for genus *Aspidoscelis*. During oogenesis in this case is ploidy maintained by premeiotic doubling of chromosomes. Apomixes is considered to be another potential mechanism for obligate parthenogenesis of reptiles.

Key words:

Asexuality, parthenogenesis, reptiles, Squamata, hybridization, evolution, apomixis, endomitosis, terminal fusions