Abstract

Chromosome rearrangements represent one of the most striking phenomena related to speciation. Nevertheless, their importance for other evolutionary processes is not well understood yet. Within some groups we observe even variability in the presence or absence of differentiated sex chromosomes. Such variability has a crucial role for our comprehension of general principles regarding the evolution of sex determining mechanisms. From this point, the family Eublepharidae is a very interesting model group as it includes species with both genetic sex determination and temperature-dependent sex determination. The investigation of the karyotype composition as well as of the structure and homology of sex chromosomes within such taxa could bring valuable information on the general evolutionary processes leading to the differentiation of karyotypes and sex chromosomes.

In this work the description of karyotypes in several selected species of the family Eublapharidae was done by available cytogenetic techniques. I have examined following species: *Coleonyx brevis, C. elegans, C. mitratus, C. variegatus, Eublepharis angramainyu, E. macularius, Goniurosaurus araneus, G. lichtenfelderi, G. luii, G. splendens, Hemitheconyx caudicinctus, Holodactylus africanus.* It was found that the karyotypic differentiation among species evolved by fixation of centric and probably also tandem fusions. Karyotypes of all but one species with genetic sex determination exhibit no presence of heteromorphic sex chromosomes. This suggests that sex chromosomes in these species are homomorphic and have emerged from autosomes relatively recently. In male karyotype of the species *Coleonyx elegans* (2n = 31), the large metacentric chromosome Y was found which probably arose by centric fusion of the former Y sex chromosome with an autosome. The number of chromosome arms is NF = 32 the same as the diploid number of chromosomes in females. The original and derived X chromosomes were identified in the male karyotype by the application of highly sensitive genome comparative methods. I demonstrated that during meiosis, Y chromosome forms a trivalent with both X chromosomes.