

## ABSTRACT

### Karyotypes of certain small mammals from western Africa

Chromosomal data are reported for approximately 40 species of small west African mammals belonging to Soricomorpha, Chiroptera and Rodentia, which were collected during five field trips to Senegal (mainly in the Niokolo Koba National Park area) in 2004 – 2007. Karyotypes of several species are reported for the first time (*Hipposideros cyclops*, *H. gigas*, *H. ruber*, *H. tephrus*, *Eptesicus* spp., *Scotoecus* spp., *Pipistrellus* spp.), some species were karyologically studied for the first time in the African continent (*Rhinopoma hardwickii*) and others for the first time in the west African region (*Epomophorus gambianus*, *Rhinolophus fumigatus*, *Rhinolophus landeri*, *Mops condylurus*). This is also the first study using cytogenetical approach for examining of chiropterans in Senegal.

Two unidentified species of *Crocidura* showed karyotypes akin to complements of certain other white-toothed shrews studied in western Africa. Among rodents, previously published data were confirmed in species with the stable karyotype (*Heliosciurus gambianus*, *Praomys daltoni*, *P. rostratus*, *Mus mattheyi*) or with the variable karyotype (*Arvicanthis ansorgei*, *Mastomys erythroleucus*, *Rattus rattus*). Heteromorphism in the centromeric position was recorded on an autosomal pair and on both heterosomes from the complement of *Mastomys erythroleucus*. Chromosomal diagnostic differences were described between the two *Gerbilliscus* species studied.

Unexpected chromosomal variation was discovered within certain taxa of chiropterans. In the genus *Hipposideros*, previously supposed to possess a conservative karyotype with 32 biarmed chromosomes, complements with higher diploid numbers ( $2n = 36, 38, 52$ ) and uniarmed autosomes were ascertained. In the individuals ascribed to genus *Pipistrellus* and related genera (*Eptesicus*, *Scotoecus*) a variety of different karyotypes was found ( $2n = 28, 30, 32, 34\text{-A}, 34\text{-B}, 36, 38, 46, 48$ ;  $\text{NFa} = 44, 46, 48, 50, 52, 58$ ). The karyotypes apparently represent a discrete variation array, and no heterozygous complement was recorded. Therefore, the existence of several cryptic species is strongly indicated. The data obtained in the bats studied showed that karyotypic variation between species belonging to the same genus is considerable extensive, and the karyotypes of bat genera inhabiting the tropics are more diversified than in the Temperate Zone. This difference is apparently related to particular ecological and behavioural features of bats in tropical habitats. Traditional karyotypic research thus remains an important tool for investigations of systematics and evolution in small mammals from tropical regions.