

Determination of *Taterillus* (Rodentia, Gerbillidae) from Senegal by serum electrophoresis

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The taxonomy of the genus *Taterillus* Thomas has always posed problems. Recently, Rosevear (1969) regrouped all Senegalese *Taterillus* in only one species: *Taterillus gracilis* Thomas 1892. Professor Matthey carried out a cytotoxic investigation on specimens collected in the field; there are at least two chromosomically distinct species: the first with 22 chromosomes for females and 23 for males (Fundamental Numbers 44 and 46, respectively) and the second with 36 and 37 chromosomes (FN = 46). Later on, cytotoxic investigations were carried out in Lausanne and Dakar on wild animals and their offspring reared in the laboratory. All individuals studied belong to one of these two groups. Although we never found other chromosomic numbers in nature, hybrids have been obtained with 30 chromosomes by interbreeding the two species (either by mating a male with 23 chromosomes with a female with 36 chromosomes or the reciprocal cross).

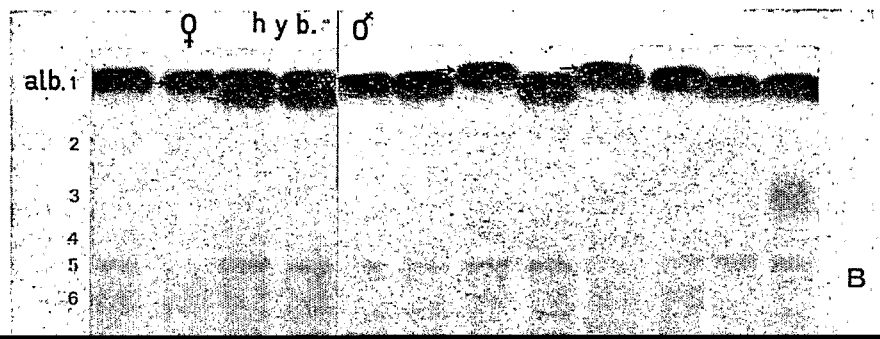
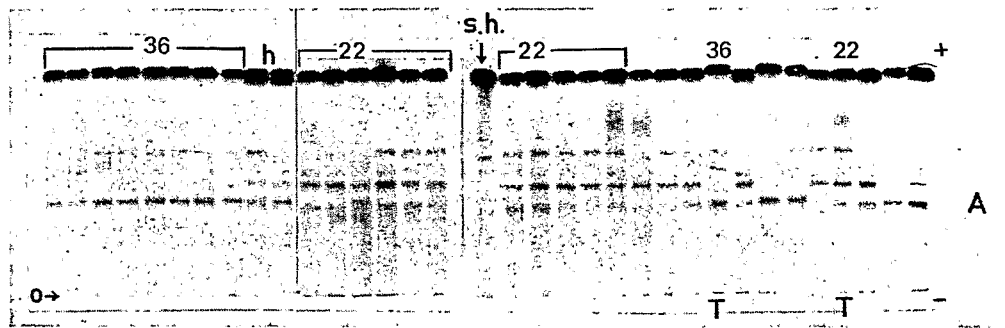
According to a recent proposal of nomenclature (Petter et al., 1972), the individuals with 36/37 chromosomes are called *Taterillus gracilis* Thomas and the others with 22/23 chromosomes *Taterillus pygargus* Cuvier. These two species, sympatric on the main part of the Senegalese territory (*T. gracilis* should be more Soudanian and *T. pygargus* more Sahelian), are indistinguishable by usual tests (colour of the coat, body and cranial measurements and morphology). Determination by chromosomic analysis requires the sacrifice of the animal, prohibiting any ecological work with capture-recapture and marking methods. Therefore a method has been developed which permits the identification of an animal without killing by carrying out a serum electrophoretic analysis with blood obtained by a cardiac puncture.

The search in serum esterases for isoenzymes which can be used as genetic markers appears intricate (cf. Baron, 1973). But the electrophoretic analysis of the whole serum permits an easy differentiation of the species since the migration of the albumin fraction is slower in individuals with 22/23 chromosomes than in those with 36/37 (Fig. 1A and 1B). Hybrids have an electrophoretic pattern showing two bands for the albuminic fraction while the parents are characterized by only one band (Fig. 1B).

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DETERMINATION OF TATERILLUS BY SERUM ELECTROPHORESIS

two bands, X belongs to the other species (36/37 chromosomes). Determination of the species by serum electrophoresis.