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CYTOGENETIC SURVEY IN SOME ENDANGERED ANIMAL SPECIES REARED IN CAMPANIA REGION

DI MEO G.P.*, PERUCATTI A.*, GENUALDO V.*,**, IANNUZZI A.*,**, MANZONE M.***, PERETTI V.****, MATASSINO D.***, IANNUZZI L.*

*) National Research Council (CNR) of Italy, Institute of Animal Production Systems in Mediterranean Environments (ISPAAM), Laboratory of Animal Cytogenetics and Gene Mapping, Naples
**)Department of Animal Production, Agricultural Faculty of Sciences, Bari
***) ConSDABI, Sub-National Focal Point of FAO (Mediterranean Biodiversity), Benevento
****) Department of Animal Production and Food Inspection (DISCIZIA), Veterinary Medicine Faculty, University of Naples "Federico II", Naples

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The use of cosmopolitan animal breeds has been radically changing the genetic patrimony accumulated in thousands of years in some local breeds as a result of full integration between genotypes and environments. Indeed, in Italy (and Campania region) the selection of breeds with high genealogy and productions has been producing a continue reduction of local breed animals which most often are correlated to local and typical products.

In the present study a cytogenetic survey has been performed on 60 cattle (*Bos taurus*, 2n=60) from endangered breeds (of which 20 from Agerolese breed) and 15 pig (*Sus scrofa*, 2n=38) from Casertana breed raised in Southern-Italy at the ConSDABI center, to check for the presence of chromosome abnormalities.

Peripheral blood cell cultures were performed without (normal cultures) and with addition of 5-Bromodeoxyuridine (BrdU) during the last 6 h of cell culture to obtain R-banding chromosome preparations. Slides obtained from normal and BrdU-treated cells were used for C- and R-banding techniques, respectively. For some animal, fluorescence in situ hybridization (FISH) technique and bovine BAC-clones, as probes, were employed.

While no chromosome abnormalities were found in pig, the following chromosome abnormalities were found in five cattle (8.3 % of investigated cattle): (**a**) XX/XY chimera (freemartin) in two females from Agerolese and Modicana breeds which resulted both sterile for internal gonadal dysgenesis; (**b**) rob(1;29) at the homozygous (2n=58) and heterozygous (2n=59) conditions in two females of Garfagnina and Varzese-Ottonese breeds, respectively; (**c**) a new and unusual reciprocal translocation in a female cattle of Agerolese breed involving chromosomes 11 and 25, as demonstrated by both CBA- and RBA-banding techniques, as well as by FISH-mapping using specific molecular markers of cattle chromosomes 11 and 25.

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