harvesting, microslide plating and microscopy were used (Ali et al., 2008). Similarly G-band procedure was applied using Trypsin for individual c hromosome identification. Standard chromosome complement of Nili Ravi buffalo was found to be (50,XX) and (50, XY) in females and males respectively.nly five female young calves) showing typical freemartin chromosome complement (50, XX) and (50, XY chimerism in somatic cells. These animals also had phenotypic abnormalities in genitalia and sex adducts. Study concludes, so far, that in indigenous buffalo populations, either there is a non-significant incidence of chromosomal aberrations or there needs to be a sound reporting mechanism through field workers, to cytogenetic labs in Pakistan. Further more extensive studies employing differential staining and FISH mapping techniques are recommended to gather reliable data on cytogenetic abnormalities in buffalo and other farm animals in Pakistan.

O4

Two New Reciprocal Translocations in sheep (*Ovis aries*, 2n=54)

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The Laticauda is considered an endangered sheep breed and is therefore included in several projects for genetic conservation and product enhancement. In one such project, screening cytogenetic analysis was carried out on phenotypically normal young sheep (*Ovis aries*, OAR, 2n=54,XX), both from the Laticauda breed (15 animals) and Laticauda-Comisana hybrids (5 animals). Several cytogenetic analyses were performed to characterize their karyotypes. First, RBA-banding, CBA-banding and karyotyping analysis investigated the chromosome organization in all animals. Other analyses such as Ag-NORs and FISH-mapping were performed only in specific cases in order to confirm the presence of chromosomal aberrations and regions involved. FISH mapping analyses included different types of probes: two specific BAC-probes in one technique, and the telomere PNA probe in the other. In the course of screening, two new cases of chromosomal translocation were reported in two female animals. One tiny chromosome, later identified as one of two der, emerged in all metaphases of each carrier, suggesting the presence of two reciprocal translocations. Chromosomal translocations were then classified as rcp (4q;12q) and, probably, rcp(18q;23q). The FISH analysis with specific BAC probes to confirm chromosomes involved in the two rcp is still in progress.

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PI-1

A cytogenetic investigation on the Lethal White Syndrome in sheep

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The mating of genetically related animals is known to increase the homozygosity. Such condition can also increase the chances of the offsprings to be affected by recessive traits. Lethal white syndrome (LWS), is an autosomal genetic disorder most prevalent in the American Paint Horse. Affected animals phenotypically appear normal, although they have all-white coats and blue eyes. Internally, they have a non-functioning colon and die within a few days after birth.

In a small group of Cameroon sheep, where only one ram was used for several consecutive years and mated to his relatives, five lambs were completely white-coated with blue eyes. All died shortly after birth. A cytogenetic investigation was carried out on the available mothers, most probably heterozygous carriers of the genetic defect. Peripheral blood sample cultures were performed for two ewes to get both normal and BrdU-treated cultures, the latter to obtain R-banded preparations. Normal cultures