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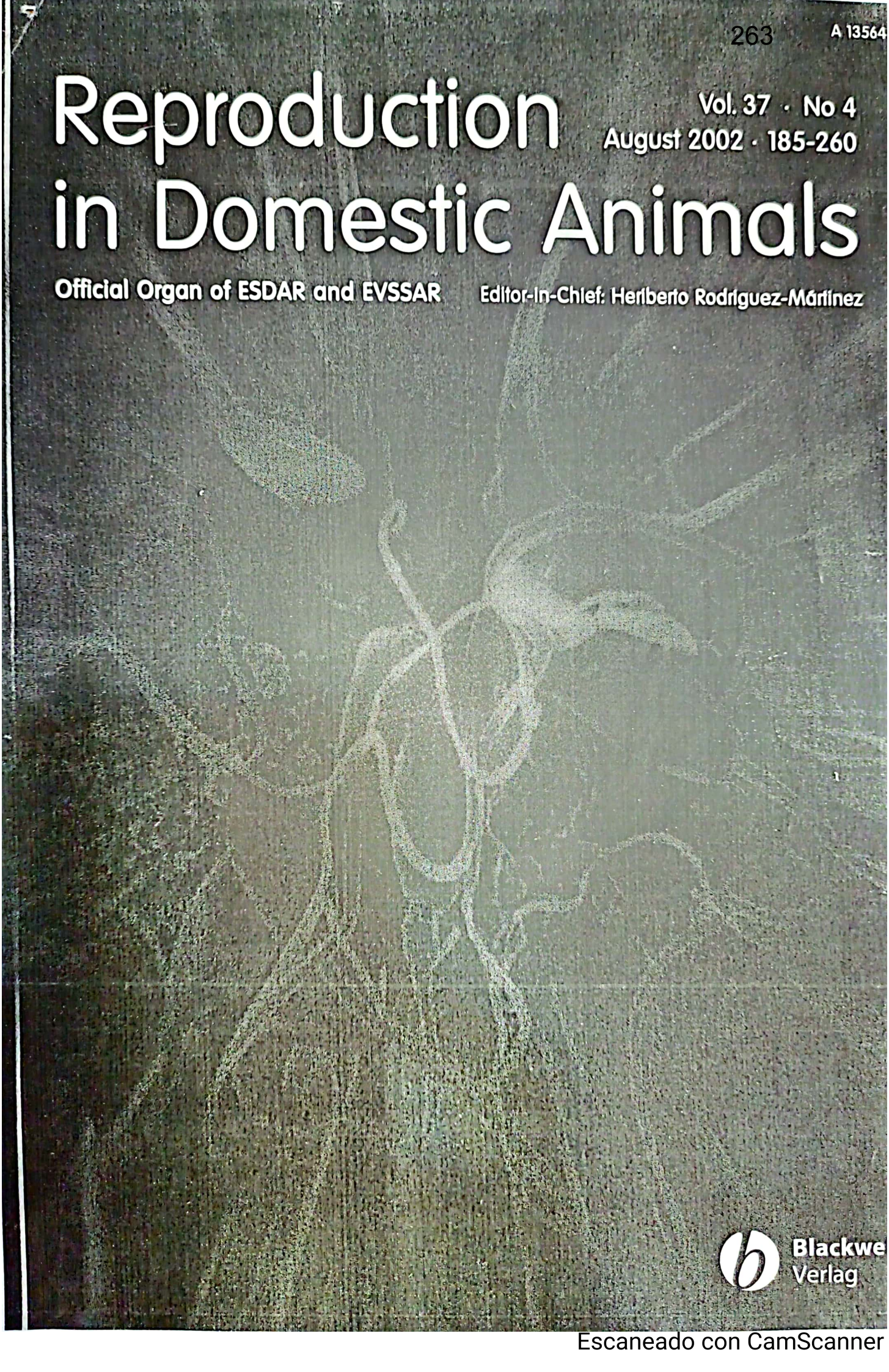

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Abstract P1.102

In Vitro Survival of Expanded Mouse Blastocysts Pressurized at Room Temperature and at 0°C

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Culture conditions affect embryo survival *in vitro*. However, no experiment has been carried out to investigate the effect of high hydrostatic pressure (HP) on embryo development. This study was conducted to examine the survival of expanded blastocysts (EB) after exposure to high HP at different temperatures. Straws containing the EB in M2 medium were exposed to 300, 600 or 900 bar for different times at room temperature (RT) or at 0°C. After the challenge EB were cultured *in vitro*. Survival of EB was evaluated by morphology and hatching rate. The survival of EB showed a hyperbolic-like correlation with pressure and time. The higher was the pressure, the shorter was the time the EB survived under pressure. At RT for 220 min at 300 bar, 170 min at 600 bar and 40 min at 900 bar resulted in > 90% survival and > 80% hatching rate. However, at 0°C the tolerance to pressure decreased compared to RT: only 37% of the embryos survived 600 bar at 0°C, for 5 minutes. Our results indicate that EB can survive elevated pressures at RT. However, at 0°C, the tolerance for HP is significantly reduced. (Supported by OTKA).

Abstract P1.103

Comparison of *in Vitro* Sperm Penetration Speed and *in Vivo* Bull Fertility

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None of the *in vitro* tests utilised to evaluate the sperm quality can be considered to yield a good estimate of *in vivo* bull fertility level. In the present work, the ability to penetrate oocytes of sperm from bulls with different *in vivo* fertility rate (expressed as Estimated Relative Conception Rates – ERCR) was investigated. Different batches of frozen semen from two bulls with low (ERCR = −6) and two with high (ERCR = + 4 and + 5) fertility rate were analyzed. In the first experiment a sperm/oocyte ratio of 3000 was used and the oocytes were fixed 5, 10, 15 and 18 hours after the insemination. The percentages of penetrated eggs were respectively 0, 36, 56, 84 and 0, 53, 73, 88 for the two bulls with ERCR = −6 and 0, 35, 33, 56 and 0, 42, 68, 79 respectively for the bull with ERCR = + 4 and + 5. In the second experiment the sperm/oocyte ratio was reduced to 1000 and the eggs were fixed at 8 and 10 hours post insemination. The percentages of penetrated eggs using the same bulls were 5, 14; 18, 22; 3, 11 and 25, 25. The results, analyzed by Chi-Square test, showed significant differences ($P < 0.001$) among bulls at 15 hours in the first experiment and at 8 hours in the second, nevertheless no accordance was found between *in vitro* bull penetration rate and ERCR.

Abstract P1.104

Pituitary Responsiveness and Fertility in Anestrous Sheep after Estrus Induction and Treatment with GnRH, Calcium and Naloxone

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In order to induce fertile ovulations in anestrous sheep by lumbosacral administrations of GnRH, calcium and naloxone, twenty-five Sopravissana sheep were synchronised in March using fluorogestone-acetate (40 mg) impregnated sponges for 12 days and then injected with 400 I.U. PMSG. Fifty-five hours after sponge removal (SR) the sheep were divided into 5 groups (n = 5) and treated as follows: 1) 0.2 mg gonadorelin, epidurally; 2) 0.1 mg gonadorelin + 0.4 mg naloxone in 1ml of 20% calcium-gluconate solution, epidurally; 3) 0.2 mg gonadorelin, intramuscularly; 4) 0.4 mg naloxone in 1 ml of 20% calcium-gluconate solution, epidurally; 5) saline (0.9% NaCl), epidurally. Soon after the treatment, an active male was introduced into each group. Fifty-five hours after SR, blood samples were taken every 30 minutes for 6 hours (for LH measurement) and every 48 hours for 22 days (for progesterone determination). Pituitary response was evaluated by calculating the area under the LH curve during the 6 hours after stimulation, the LH peak, and its time of appearance. As compared with groups 4 and 5, a significant pituitary response was observed only in groups 1-2-3 treated with gonadorelin ($P > 0.01$, ANOVA). Fertility and progesterone plasma profiles were similar in the 5 groups but with higher values in group 4. Calcium/naloxone association did not work at the pituitary level but influenced luteal function, possibly through the hypogastric plexus, thereby exerting a positive effect on fertility.

Abstract P1.105

Embryo Growth Pattern by Ultrasonography in Canary Goats

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The aim of the present work was to determine the embryo growth pattern throughout the first third of pregnancy by measuring embryo size in 25 Canary goats using transrectal ultrasonography on Days 20, 22, 24, 26 and 28 of pregnancy and transabdominal ultrasonography on Days 28, 32, 35, 42 and 49 of pregnancy. From Day 20 to 35 the growth embryo pattern showed a lineal relation between embryo length and time of pregnancy [regression coefficient, $r^2 = 0.89$; regression equation, embryo length (cm) = −1.86 + 0.11*days of pregnancy], while from Day 35 to 49 the growth pattern showed a quadratic relation between embryo length and time of pregnancy [regression coefficient, $r^2 = 0.89$; regression equation, embryo length (cm) = (7.92 − 0.45*days of pregnancy) + 0.008*(days of pregnancy)^2]. This lineal relation followed by a quadratic relation agree with previous reports in other breeds of goats. These results in Canary goat suggest that the use of the relations between the embryo length and time of pregnancy, could provide an useful method to determine the time of pregnancy in those goats with unknown fertilization date, and to evaluate the adequate embryo development when the fertilization date is known.

Abstract P1.106

Comparison Between Transrectal Ultrasonography and Pregnancy-Associated Glycoprotein Determination for Early Pregnancy Diagnosis in the Goat

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The aim of the present work was to compare the efficiency of transrectal ultrasonography technique and the determination of the pregnancy-associated glycoproteins (PAG) concentrations in plasma samples for pregnancy diagnosis in goats. Thirty nine Canary goats