

REPRODUCTION PARAMETERS OF CASPIAN MINIATURE COLTS

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The Caspian miniature horse is an ancient breed of horse, which was thought to be extinct for many years. This breed has now been recognized as holding an ancestral position in the history of modern horse breeds, probably preceding that of the Arab horse. On the other hand, the Caspian horse is the only breed with odd chromosome numbers that means it may be a mixture of *Equus przewalski* and *Equus caballus*.

The objectives of this study were firstly to determine the age of puberty; and secondly to characterize seminal characteristics and sexual behaviour, of the Caspian miniature horse.

Puberty was studied using 6 colts of the Caspian miniature horse phenotype. They were born and kept in Khojir region located 13 km east of Tehran (44°51' N, 39°35' E). All of the colts were fed with the same nutrition according to the N.R.C. requirements. The evaluation was performed during 2 years on the healthy group of colts.

Data for sexual behaviour represented all colts at puberty. The sexual behaviour was recognized as 4 degrees: 1 - without sexual behaviour; 2 - Erection and Flehman reflex; 3 - Mounting and Intromission; and 4 - Ejaculation. Seminal collections were attempted every 2 weeks from 50 to 140 weeks of age. For all collections, times to erection, mount and ejaculation and seminal characteristics were recorded. Age at puberty was defined as the first ejaculate containing 50 million spermatozoa with >10% motile.

The age at puberty was on average 24.6 months (18 to 34 months). Sexual behaviour and seminal characteristics differed ($P < 0.05$) between puberty and 2 years, except for time to erection, time to mount and percentage of motile spermatozoa.

The findings of ejaculations and semen characteristics were:

Age of puberty: 24.6 ± 8.2 months.

Weight at the puberty: 189.8 ± 24.07 kg.

Semen concentration at puberty: $57 \pm 0.32 \times 10^6$ cc

Semen volume: 18.2 ± 6.2 cc

Gel volume: 1.5 ± 1.2 cc

Motility: $24.2 \pm 14\%$

pH: 7.88 ± 0.7

Testosterone concentration: 0.54 ± 0.2 ng/mL

Biometrical aspects:	Left testis	Length: $8/21 \pm 1/15$ cm
		Width: $4/83 \pm 0/56$ cm
	Right testis	Length: $6/08 \pm 3/06$ cm
		Width: $3/98 \pm 2/09$ cm

In this study the differences and similarities between this breed and other ponies were determined. Puberty, as determined by seminal characteristics, occurred between 11.5 and 14.5 months in Welsh pony stallions (Skinner and Bowen 1978) and between 12 and 23.6 months in quarter horse colts (Cornwell 1972). In our study we found that puberty in the Caspian miniature colt was at 24.6 months. As other researchers have shown, puberty in horses varies a lot between breeds. It can occur from 8 to 24 month and in pony breeds it is shorter than other horse breeds. The average age at puberty of *E. przewalski* is 31 months and of *E. caballus* 12 months. The Caspian miniature horse was called Caspian pony for many years and shows more physiological similarities to horse breeds than ponies and to *E. przewalski* than *E. caballus*.

CORNWELL. C. (1972). Seasonal variation in the stallion in semen and puberty in the quarter horse colts. M.S. thesis. Louisiana State University.

SKINNER, J. D. and BOWEN, (1978). Puberty in the welsh stallion. *J. Reprod. Fert.* **16**: 133.

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