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Abstract: Breeding cheetahs in captivity: description of mating behaviour and birth. Four cubs were born. A plan of the enclosure at Toledo Zoo is given.

## at Toledo Zoo

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We received a pair of cheetahs (Pair A:  $\delta_1$ ,  $\varphi_1$ ) on 15 July 1971 and another (Pair B:  $\delta_2$ ,  $\varphi_2$ ) on 30 July. All four were approximately two to three years old and much larger than other cheetahs I had seen from East Africa. Both pairs shared a large enclosure 67 m long and 7-24 m wide (Fig. 1). The 2 m high chain-link boundary fence has a 50 cm backed wire overhang.

Pair A were always seen together as were pair B until 20 September 1971 when both  $\delta\delta$  began following  $\varphi_2$ . The  $\varphi$  would lie on her side, apparently relaxed, but when she got up or moved, both  $\delta\delta$  would follow her closely. Every so often, one  $\delta$  would rush up to the  $\varphi$ , followed by the other  $\delta$  and all three vocalised at this time. This behaviour pattern continued until noon on 23 September when  $\delta_1$  became dominant. He attempted to mount  $\varphi_2$  repeatedly but  $\delta_2$  would attack him and knock him off the  $\varphi$ . After 30 minutes, these attacks became so vicious

that we decided to remove the subordinate  $\delta_2$  to one of the separate feeding pens. The dominant  $\delta_1$  then copulated normally with the  $\varphi_2$ .

Four cubs were born 94 days later on 26 December 1971. We had only ascertained that the  $\varphi$  was pregnant two weeks before parturition. We were never able to see the nipples although her abdominal region was considerably enlarged. She was then separated from the three other cheetahs and placed alone in the run adjacent to the enclosure which measures 22 x 1.52 m. Two 250 w heat lamps, placed 3 m above the floor, warm the den. A one-way glass window was installed on one side of the den so that the  $\varphi$  could be observed without disturbance. The day before parturition, the  $\varphi$  had trouble walking; the hind legs appeared to be very stiff. The first cub was observed at 1230 and the fourth at 1530 (1  $\delta$ ; 3  $\varphi\varphi$ ). Their eyes opened on 31 December

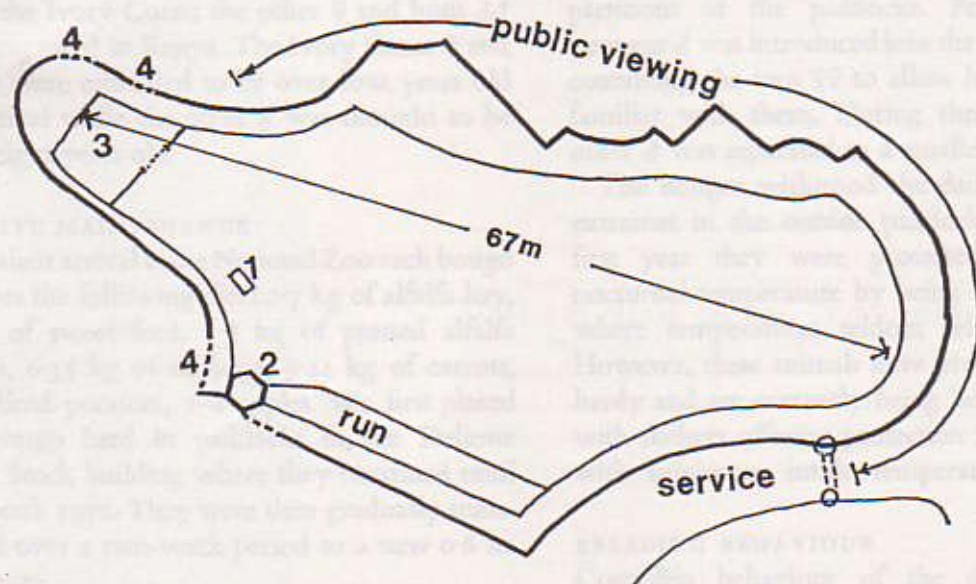


Fig. 1. Cheetah *Acinonyx jubatus* enclosure at Toledo Zoo. The outer boundary consists of a stone wall and fence, and the inner boundary of chain link.

1. Open shelter.
2. Den.

3. Feed area.
4. Gates.

1971. On 14 January 1972, the ♀ ran up and down the narrow run while the two ♂♂ ran alongside on the other side of the fence. All three vocalised as they had in September during the pre-copulatory sequence. Keepers also reported that the cubs made bird-like calls when they added straw to the den on 11 January.

The temperature has dropped to  $-15^{\circ}\text{C}$  (once to  $-27^{\circ}\text{C}$  on 15 January) several times since the cubs were born. The adult cheetahs have a wooden shed with straw bedding without additional heat even during cold spells.

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