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## Birth and development of Spotted hyaenas *Crocuta crocuta* at the University of Ibadan Zoo, Nigeria

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Four adult Spotted hyaenas *Crocuta crocuta* were in the University of Ibadan Zoo on my arrival in 1963. As adequate accommodation was not available for all four animals, two were disposed of. We were not able to sex the animals from the appearance of the external genitalia and the two animals kept were chosen primarily because one appeared to be very slightly heavier in general build than the other, and we hoped that we might have a pair. As it turned out we were correct, although this may have been more luck than judgement, as there now appears to be even less difference between the two animals. As far as we

know they arrived separately as youngsters from Northern Nigeria at the end of 1961. Certainly the female has not given birth to any progeny apart from those mentioned here.

They were kept in a small open enclosure, about 4.25 m square, with a concrete floor to eliminate the presence of biting flies *Stomoxys* spp. Opening off this enclosure is a room about 2.2 × 1.2 m in size which can be separated from the enclosure by a sliding door.

The hyaenas were observed mating by zoo staff on two or three occasions during the end of September and beginning of October 1966. By

the beginning of 1967 it was obvious that the female was pregnant and I considered it prudent to move the male to an adjoining enclosure.

On the arrival of the zoo staff at 0700 hours on 17 January 1967 the female had just given birth to an infant in the inner room. The mother was excited and very aggressive towards anyone looking through the inspection grille of the service door. At any such interference she became particularly vocal, emitting the well known loud, seemingly hysterical screams. The infant appeared to be strong and was very active, frequently moving around on the bedding of dry grass.

The mother and baby were inspected two or three times during the next couple of hours and at 1000 hours a keeper observed that the mother had just given birth to another infant. This was a surprise, as it seems that in this species twins are rare. Placentas were not seen in either birth and as the actual births were not observed, I assume that the female ate the placentas immediately.

Very soon after this the mother seemed calmer and, as she was feeding in the outer enclosure, the sliding door was closed separating her from her babies. The door is barred and she was able to observe me through the bars as I entered the inner room through the service door and quietly touched one of the babies. After a few minutes I left and the sliding door was re-opened. She immediately went inside and inspected the youngsters, but very cursorily, after which she went outside again to resume her meal. At this

point I considered it safe to examine the babies more closely.

They were uniform dark brown in colour. The eyelids were distinctly but not widely separated and the eyes did not appear to focus. On being handled both babies struggled violently and emitted high pitched squeals. During the ensuing weeks, if care was not taken when they were lifted out for photographs or examination, one would bite the other and sometimes hang on for two or three minutes, and the jaws were already so strong that it was impossible to separate them without the risk of doing damage. This biting also occurred several times when they happened to meet during normal movements around their room. However, they never inflicted serious injury on each other. I could detect no sexual difference between the two animals.

Several times during the day the babies took milk from the mother as she lay on her side in the inner room. By the time they were two months old they were regularly moving into the outer enclosure and feeding with their mother on small quantities of beef and offal, becoming very excited and vocal and snapping at each other on these occasions.

When they were about six weeks old a new growth of hair appeared on the head and fore-quarters, and spread rapidly back during the following three weeks to cover the entire body. By the time they were nine weeks old, they had assumed the typical light brown ground colour

	TWINS		SINGLE YOUNG
	Born 17 January 1967		Born 18/19 January 1968
	1st born	2nd born	
	kg	kg	kg
Weight at birth	1.6	1.6	1.35
Weight at 1 month	4.98	3.6	2.3
Weight at 2 months	8.6	7.25	5.9
Weight at 3 months	10.88	8.6	7.7
Weight at 4 months	15.4	12.7	10.8
Weight at 5 months	15.4	14.5	11.36
Age at commencement of change to adult pelage	6 weeks	6 weeks	11 weeks

Table 1. Comparison of development of twin and a single offspring of Spotted hyaenas *Crocuta crocuta* at the University of Ibadan Zoo.

with numerous dark spots. The head lacks spots. The rapidity and nature of the colour change was very marked.

In July 1967 the young animals were sent in a sedated condition by air to Dudley Zoo in England, and the parents were reunited in the original enclosure.

At the beginning of 1968, it seemed that the female was again pregnant, although this time it was less obvious and mating had not been observed. I decided to leave the pair together.

On the arrival of the zoo staff at 0700 hours on 19 January 1968 it was discovered that a single youngster had been born during the night and had already been cleaned by the mother. Thus, a year plus two days separated the births. Both parents were excited and despite my original decision not to remove the male, I now thought it best to do so.

The significant aspect of the development of this single youngster is that it was in every way much slower than that of either of the twins of

the previous year. The weight of the animal at birth was less than either of the twins (see Table 1) and the corresponding monthly weights have so far remained lower. The young animal is much more nervous than either of the twins and it started to come out of the inner room into the outer enclosure only when it was about three months old. It was not until 8 April 1968 that the commencement of the colour change to adult pelage was observed, and it started taking an interest in solid food only at the beginning of April 1968. In any case, solid food was only taken if the animal was temporarily separated from its mother, as it was reluctant to attempt to take any of the mother's food. However, apart from the interesting difference in rate of development as compared with that of the twins, this single youngster appears basically strong and active and I have no doubt that we shall rear it successfully. It remains to be seen whether the mother will again become pregnant at the same time of year.

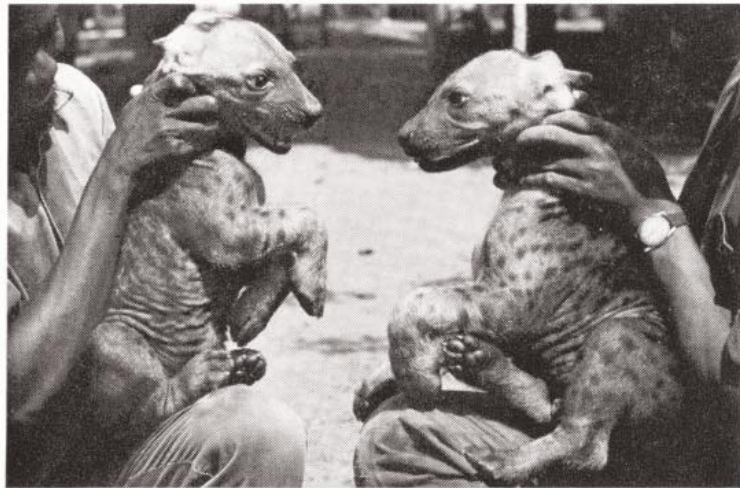


36-39. Twin Spotted hyaenas *Crocuta crocuta* were born at the University of Ibadan Zoo on 17 January 1967 (see page 93). Photograph 36 shows them shortly after birth and 37, 38 and 39 at the age of one, two and three months respectively. The birth of twins in this species seems to be uncommon and on 19 January 1968, one year and two days later, a single youngster was born to the same mother. Strangely, the rate of development in this single offspring is slower than it was with the twins although it is strong and active.  
*Robert R Golding*

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