

Erforsch. biol. Ress. Mongolei (Halle/Saale) 2007 (10): 219-226

## **The birth of a Wild Ass (*Equus hemionus khur*) in India's Little Rann of Kutch**

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### **Abstract**

The birth of a Wild Ass was completely described and photographed in the wild for the first time. It happened in the daytime, in the open desert, and in the vicinity of other Wild Asses. The mother isolated her foal afterwards for an entire day. After birthing she drove away her male yearling, which did not join her any longer from this moment on.

**Keywords:** Indian Wild Ass, *Equus hemionus khur*, foal, birth giving, Little Rann of Kutch

### **Introduction**

The foaling of wild equids is hardly ever observed in their natural environment and only rarely seen in captivity. KLINGEL & KLINGEL (1966) were the first who documented the birth of a wild equid, a Plains Zebra (*Equus quagga*), in Tanzania in January 1965. In the case of the non-territorial system of Plains Zebras the birth happened within the circuit of the harem group. In case of the territorial system of Wild Asses it was unknown how far the birthing mare would separate herself from her conspecifics.

RASHEK (1964) mentioned the circumstances of a birth among re-introduced Kulans, or Turkmenian Wild Asses (*Equus hemionus kulan*), in Kazakhstan. The parturition of native Kulans in Turkmenistan was witnessed by SOLOMATIN (1973), but without detailed documentation. LANG (1983) mentioned that foals of the Somali Wild Asses (*Equus africanus somaliensis*) in Basel Zoo were mostly born at night. Only once, when it happened in the daytime in April 1976, he was able to describe, photograph and film the event.

SHAH (1993), who studied Indian Wild Asses in the Little Rann of Kutch in 1989-1992, did not see the birth of a foal. She wrote: "The births in the wild occurred at late night or early dawn". Once she found a mare and her one-day-old foal alone, rejoining the herd on the second day. She reported a single birth peak in August.

### **Observations**

My observation period of Indian Wild Asses (also known as Khurs or Ghor-khurs) in 2005 was from 26<sup>th</sup> September until 15<sup>th</sup> October. I had chosen the Khadi area (71.7° E, 23.2° N) at the eastern edge of the Little Rann of Kutch in Northwest India within easy walking distance from the next passable track. Every night the Wild Asses walk here into the fields for grazing and return in the morning to the salt desert. In the daytime there was always an aggregation of mares and young animals with a daily changing number of heads (between 16 and 53) walking between the territories of two particular stallions. The animals did not proceed further into the desert as they normally do under dry conditions, because the ground was still wet and muddy due to lately rains. Mating on both territories was seen daily from 30<sup>th</sup> of September 2005 onwards until my departure. A new stallion (holder of the adjoining territory in the fields) had conquered one of these territories on 2<sup>nd</sup> October 2005, when the former holder betrayed weakness after the first two days of exhausting mating activities.



Fig. 1: The yearling, a male, sniffing the amnion emerging from his mother's vulva.



Fig. 2: The mare is slowly walking and grazing with the liquid filled amnion sticking out.



Fig. 3: The bladder is bursting and the amnion fluid discharges. The yearling stands besides his mother.



Fig. 4: During labour-pains the mare is getting up. A long leg of the foal is visible.



Fig. 5: The mare is pressing.



Fig. 6: Half of the foal, head and forelegs, are already out.

The Wild Asses in the Little Rann of Kutch are used to seeing local people without getting harmed and allow relatively close proximity of pedestrians (100 - 150 m). The following observations were done on foot.

### *5. October 2005: Recording of a foaling*

After spending already 3 hours with the same animals the foaling happened totally unforeseen. 45 Wild Asses (mares and young animals, including seven young foals) were grazing and resting on the territory of a particular stallion. The young ones, of almost same size, were approximately 5 - 6 weeks old, indicating a peak of foaling in August. Two or three of the mares were still pregnant.

10.15 a.m.: One of the pregnant mares, while feeding, is discovered having a small whitish bladder, the amnion, puffing up in her vulva. One leg is already visible inside the sac. She sits down. Her one-year-old male foal is sniffing at the object (fig. 1). The next conspecifics are about 300 m away.

10.18 a.m.: The mare gets up and walks slowly for about 100 - 200 m (fig. 2).

10.30 a.m.: The amnion is bursting while the mare stands and the amnion fluid spouts out (fig. 3). Afterwards she lies down. While pressing she defecates.

10.35 a.m.: A second leg appears.

10.37 a.m.: The mare stands up (fig. 4), nibbles at some plants, sits down and sinks aside. She presses and groans strongly only once (fig. 5). The following contractions seem to be less painful.

10.40 a.m.: The head of the foal appears between its forelegs (fig. 6).

10.42 a.m.: The complete foal is out (fig. 7). The birthing happened in recumbent position of the mother. The foal inside the remains of the foetal envelope is very active. It starts immediately to move its legs and head. The mother raises her head and looks interested backwards while lying (fig. 8).

10.44 a.m.: The mare turns herself into an upright sitting position with bended legs. She is watching the foal but does not yet interact with the newborn (fig. 9).

10.47 a.m.: The foal succeeded to get rid of the foetal membrane. It finds a stable position on the belly with the head up, supported by angular forelegs and tries unremittingly to get up. The first moves resemble a crawling as the hind legs do not yet support the forward movement. After some clumsy forward movements it comes to a halt behind the mother (fig. 10).

10.54 a.m.: The mother stands up, turns around and now pays attention to her offspring. She touches the head of the newborn, sniffs, and walks around it. She has not yet lost the afterbirth. The foal tries meanwhile to coordinate the movements of front and hind legs for getting up (fig. 11, 12).

10.56 a.m.: The mare loses all down-hanging foetal membranes including the placenta.

10.59 a.m.: The foal is tired and takes a short rest.

11.02 a.m.: With spread out forelegs the foal gets into a shaky standing position on all four legs for the first time (fig. 13). Then it loses its balance after a few steps, falls, makes another attempt (fig. 14) and stumbles (fig. 15). Next time on the legs the foal comes into body contact with its mother and leans against her chest and legs for support. From now on it starts to walk almost restless anti-clockwise around her without stumbling any more.

11.05 a.m.: The foal starts searching for the udder.



Fig. 7: The foal is fully out and raises its head. It is partly covered with the foetal membrane, but the nostrils are free.



Fig. 8: The newborn is stretching neck and forelegs.



Fig. 9: The foal is using its forelegs for crawling. The hind legs are still folded.



Fig. 10: The foal, now freed from the foetal membrane, stretches the hind legs. The dorsal stripe of the foal shows a zigzag line, which is also visible in the previous figure.



Fig. 11: The mare got up 14 minutes after the birth. The foetal membrane and placenta are still with her.



Fig. 12: The foal is trying to get up on its hind legs. The mare lost the after-birth two minutes after getting up.

11.10 a.m.: The mother walks a few steps and the foal follows and circles her again. The foal's tongue is visible while searching for the udder, but it cannot find it (fig. 16).

11.20 a.m.: The mother walks further on. The foal follows.

11.30 a.m.: The yearling comes closer. The mother drives him away and demonstrates severe aversion to him. During a vehement chase of the yearling the newborn foal falls into the mud and gets dirty. The outlaw understands the lesson and leaves his mother.

11.35 a.m.: The territorial stallion runs calling ahead and shows interest in the mother, possibly attracted by her slightly erected tail and her straddle. She kicks him off with her hind legs (fig. 17) and he stays back. His action attracts attention to other Khurs and a few mares with their yearlings come close. The mother blocks their way and does not allow any approach to the foal (fig.18).

11.40 a.m.: After a brief investigation the other mares and yearlings turn aside by themselves.

11.45 a.m.: Mother and foal start intense contacts, sniffing and licking each other's noses and muzzles. The foal, although permanently searching for it, has still not found the udder.

12.10 a.m.: The mother licks head and ears of the foal.

12.12 a.m.: The foal starts with attempts of running and jumping. The mother guides its movements with her nose. The foal itself also keeps nose contact when returning to her.

12.18 a.m.: The foal has finally found the udder and starts sucking.

12.30 a.m. till 5 p.m.: Observation break.

5.00 p.m.: The young mother and her newly born foal are found ahead, about 500 m away from the place of foaling and about 500 m away from the aggregation of other animals. The foal's activities are training its legs during short runs, sucking and resting.

6.20 p.m.: The mother and her young foal do not join the other Wild Asses, who enter the fields towards the east at dusk. The two walk slowly westwards in opposite direction and disappear in an area covered with bushes.

### *Subsequent days*

During the next day, the 6<sup>th</sup> Oct. 2005, the young mother and her foal were not seen at all, although I searched for them. The eligible area was difficult to survey due to thorn thickets. Two days after the birth, in the morning of 7<sup>th</sup> Oct. 2005, they returned in some distance from the other animals. The foal was resting 95% of the time. Between 7.30 a.m. and 9.30 a.m. it got up four times for sucking a few minutes. When urinating the foal was identified as a male. A second mare with a foal of the same age joined the first mother. They formed a temporary sub-group and were often, but not always seen close together. The second mare was accompanied by a female yearling, which was allowed to follow in some distance. The male yearling of the first mother however was chased away durably soon after the birth and it was not further seen in her vicinity.

A comparison of the small foals in the age of about two days revealed in both cases that the lower half of their dorsal stripes was folded into a zigzag line, which is assumed to stretch into a straight line with growth of length. Long legs and a rather short torso are characteristic for newborn foals (see fig. 17). First the foals are quite light in colour. The tinge of brown appears a few days later.

Six days after the birth, in the morning of the 11<sup>th</sup> Oct. 2005, the Wild Asses, including the mother with her young foal, returned from the fields unusually late. I could not ascertain when mother and foal went into the fields at night for the first time after birth, because the animals often go and return during darkness in this time of the year.



Fig. 13: Twenty minutes after the birth the foal is standing straddle-legged and moves for the first time on four legs.



Fig. 14: The foal lands on the belly after the first few steps, but tries again and again to stand up.



Fig. 15: The foal stumbles during another attempt to walk.



Fig. 16: The foal is searching the udder, which was finally found 96 minutes after birthing.



Fig. 17: The territorial stallion shows interest in the mare. She is lashing out to keep him away. The proportions of the newborn are remarkable: long legs and short torso.



Fig. 18: The mother (right) is protecting her foal from approaches of the territorial stallion (left) and a strange female yearling (centre).

## Results and Discussion

The foal of a Khur was born on 5<sup>th</sup> October 2005 in the open desert on saline ground, sparsely grown over with shrubby low *Suaeda* spec. The soil was partly wet and muddy because the recent heavy rain shower had poured down on 26<sup>th</sup> September. The foaling happened in the daytime. The expectant mother, accompanied by her yearling, was within an assembly of other animals, the nearest about 300 m away. The time between bursting of the amnion and delivery was 12 minutes. It took the foal about 20 minutes before it was able to stand. The mare stood up 12 minutes after the foaling. The afterbirth, left with the mother, was lost 14 minutes after dropping the foal. It took 96 minutes before the foal found the udder. The Khur mare licked the muzzle, head and ears of the newborn, but did not lick the entire body, which might be required only in cold climate. The temperature here was 36 °C at midday and 22 °C at night.

The scattered foaling data of wild equids as published by other authors are compiled here for comparison. KLINGEL & KLINGEL (1966) recorded that the Plains Zebra foal was able to stand 11 minutes after birth, made its first steps after 19 minutes, and suckled firstly after 67 minutes. The foaling mare stayed at a distance of 50 m from other mares of the same harem group. LANG (1983) observed in the Basel Zoo that the placenta was driven out together with the foal of the Somali Wild Ass. The foal was able to stand 22 minutes after delivery. Afterwards it walked for about 10 minutes dragging the placenta with the naval-string along the ground, before the naval string tore. The mother did not lick the foal. Lang's film shows the mare standing up already 2 - 3 minutes after the birth giving.

RASHEK (1964) did obviously not see the actual process of delivery among the Turkmenian Wild Asses, but noticed some attendant circumstances. The mare left the herd several hours before giving birth and chased away her yearling. The place of foaling was a raised plateau or open plain with low plant growth, or a depression during bad weather. The mare licked her foal carefully in the first hour after birth, particularly during cold and stormy weather. SOLOMATIN (1973) found foaling of Turkmenian Wild Asses taking place in open areas with shallow but good vegetation. The mares choose an average distance of 500 m from other animals, but not less than 100 m. He saw the mother pushing the newborn with her head and forcing it to walk, after drinking, when standing or lying too long. Usually on the second or third day after the birth, sometimes within 24 hours, the mother and her young foal re-associated with the group. Non-pregnant females were then keen to play with the foal and chased it over the plain.

In my case the Khur mare waited until the end of the first day, before isolating herself and the foal for about 36 hours. The reason: the bond between mare and foal needs to be well established before contacts with other conspecifics are permitted. In the first night after delivery the mare with her newborn did not participate in nocturnal excursions, but at least in the fifth night she went together with the others into the fields. On the third day she entered close relations with another mare and young foal of similar age. Both mothers stayed patiently near their sleeping offspring and avoided long walks.

When estimating the age of the foals in the Little Rann of Kutch after a first high peak of birth giving around August, a lower second or even third peak seem to occur until October, possibly in time intervals equal to the period of the oestrous cycle. It could be noticed that all mares in the wild come into heat more or less coincidental. Foals are therefore born in certain batches. The data of HAMADANIAN (2005) for captive Persian Wild Asses (*Equus hemionus onager*) reveal a first high and second lower peak in birthing dates, approximately one month apart. More data, preferably from the wild have to be collected to confirm such intervals. The oestrous cycle for the Turkmenian Wild Asses is 17 - 28 days long according to SOLOMATIN (1973) and comparable with those of other wild equids. Mating and birth-giving of Wild Asses are typically seen at the same time in the same region. The gestation period for Asiatic Wild Asses is about 11 months.

The author had visited the Little Rann of Kutch in breeding season of the Khurs earlier. Once she found a Wild Ass placenta in the same area. This may indicate that birthing in the open desert is not uncommon. Isolated mares with very young foals were several times observed in the agricultural fields. It is presumed that the delivery in these cases happened while the animals grazed here at night and that mother and foal stayed back not far from the place of birthing.

It has to be investigated in general if male yearlings in contrast to female yearlings are expelled from following their mothers after the birth of a new foal.

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