

SEALION BREEDING: THE SECOND YEAR AT THE WELSH MOUNTAIN ZOO.
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DINELEY (1980) has given a detailed account of the first successful birth of a California sealion, *Zalophus californianus* at the Welsh Mountain Zoo, Colwyn Bay, North Wales. This paper is an account of developments in the sealion group and subsequent births during 1981. This group of animals and their husbandry remains much as reported earlier. In January 1980 the group consisted of, "Fred" a mature male, "Pru" a mature female, their first pup "Salty" and "Pinny" a mature female.

"Saltys" progress:

"Salty" continued to make very good progress. By August 1980, at 14 months old and after 5 months of training he had been trained to shake flippers, wave, clap, kiss, flipper stand, catch hoops around his neck and retrieve them from the pool, ball-balance, come off his stand to command and climb up onto the trainer. He had a friendly and playful character and would, if in the mood, play in the evening with you, retrieving objects from the pool. He also enjoyed sitting on your lap and would go to sleep in this position if allowed to do so. His food intake at this time was 2 kg per day.

"Pinny's" birth:

It was thought that it was quite possible that in 1980 both our mature females would be in pup. "Pinny" showed a few signs this could be likely in April 1980 by occasional days of lack of interest in food and a rotund appearance in her lower abdomen. This was especially noticeable in both females when they stood on their training stands.

On the 15 May 1980 "Pinny" appeared ready to pup. She spent time on her own away from the other animals on the side of the pool. However, nothing happened and this gave us some cause for concern.

On the 18 May 1980 she did not eat in the mid-day feed, by mid-afternoon she once again displayed behaviour that suggested a birth was due, and she had resumed her prone position on the side of the pool.

We noted during this time that there were contractions or semi-contractions of 2-5 minutes, some so strong you could see the skin on the stomach ripple. At 3.30 she gave birth on the side of the pool to a female pup, which was stillborn. The pup was born tail first and was attached to the afterbirth. Its weight in total was 6 kg. The other animals showed little interest in the birth.

Post-mortem of the pup could find no discernible cause of death. The next day "Pinny" spent much time swimming around the pool calling for the pup. On the 20 May 1980 she came onto her training stand and ate normally, although still calling for the pup during the day. Under veterinary supervision she was placed on a three day course of "Clamoxyl" antibiotic¹) as a precaution against post-parturient infection. She made a complete and uneventful recovery from this point on. The calling for the pup stopped after about one week.

"Pru's" birth:

"Pru" showed by her appearance the same bulge in the lower abdomen as "Pinny". On the 12 June 1980 she lay on the side and we suspected pupping was imminent. On the 14 June she was found in the sealion den in the holding area at 11.00 am. We locked her in, but she did not pup during the afternoon, which we had felt would be likely. On the morning of the 15

June 1980 she was found to have a healthy active female pup on inspection at 7.30 am. We assume the birth took place between midnight and 7.30 am that morning. The pup was observed to suckle. "Pru" ate as normal that day a total of 3.5 kg. Mother and pup remained in the yard and den area of the sealion exhibit until the 17 June 1980, day 3 after the birth. On introduction to the main pool the water level in the pool was lowered until we could determine the pup could swim. On day 7 after the birth, "Pru" became very aggressive in "Fred's" interest in her. He had been sexually active with "Pinny" two days previously. In fact "Pru" became so aggressive that she picked "Fred" up by his neck and dragged him across the now empty pool.

On day 9 we noticed how well "Pru" and "Pinny" got on socially; they would sleep side by side with the pup between them. However on day 11 "Pru" was found with a small but nasty "v" shaped gash on the crown of her head. The gash was treated with a topical antibiotic. The pup was unharmed and in good health. By the afternoon it became apparent what had been the cause of the wound on her head. "Pru" had began to fight with "Fred" in a vicious manner as he chased her around the exhibit. "Salty" took this opportunity to pick up and play with the pup, while "Pru" was being pursued by "Fred".

By late afternoon however; things seem to calm down. On day 13 "Salty" was found to be playing with the pup in the pool and not being very gentle with her, the pup was taken from the water and placed back with "Pru". The pool had been refilled the day before after the pup had been seen to swim in the small amount of water left on its bottom. But since the pool had been filled "Pru" spent much of her day in the pool with the pup staying on the side, "Pru" only coming out in the evening to feed the pup and sleep. It was decided to drop the pool level again, which would in turn make "Pru" more attentive with the pup and keep "Salty" away. This did seem to work for a period of time.

On day 14 it was noticed that "Pru's" wound on her head was not healing very well, so a five day course of "Tribissen 80"²⁾ was prescribed. On the morning of day 17 after the birth, "Pru" was missing from the exhibit and found in a paddock 300 metres away. She was returned to the exhibit, only to escape again another 25 times over the next two days. This meant she had to negotiate a one metre fence and electric wire. The reason for this was a repeat of the early behaviour from "Fred" who was trying to mate with her. She was then placed in the holding area with the pup and seemed quite content as long as she was away from the male. On day 20 we ran the electric fence in front of the yard gate giving "Pru" access to an area of land in the exhibit. The fence stopped "Fred" from coming near her and also allowed "Pru" contact with "Pinny", howbeit only visually.

The pup would from time to time, by walking under the wire, swim in the main pool. However, we had to keep a close watch on her because "Salty's" playfulness with her could be very rough. In fact at times he caused lacerations to her hind flippers when he tried to stop her leaving the water.

The pup was weighed on day 25 and found to be 9.8 kg. "Pru" was protected from "Fred's" unwelcome advances until day 45 when the group was reunited.

The pup was weighed again on day 56 and found to be 13.75 kg. At this time it was noticed that the pup began to play with "Salty" now on more equal terms, although there was still considerable size difference he could not bully her as much as he had previously. On day 63 "Pru" had to be again placed back in the exhibit holding area, as "Fred" had renewed his hounding of her. Finally on day 74 she was reintroduced and no more serious problems were observed.

On day 82 "Pru" began of her own accord to perform with the group and the young pup was seen to pick up a sprat (*Clupea sprattus*) from the pool. By day 84 "Pru" had returned to her normal routine.

On day 139 "Salty" was removed to a new home in an animal collection in the south of England, giving "Celia", as the female pup was now called, a chance to play with fish unhindered. Although it was now the end of the summer season the adults were still fed on their training stands to allow the pup time to experiment with fish in the water.

At the time of writing (March 1981), the pup now nine and half months old still has not eaten its first fish, although it plays with fish often. She still remains fat and active and suckles from "Pru".

Feeding generally takes place in the evening or when the pool is empty for cleaning. This became an established practice after about the first week after birth. We are not too concerned by this, as it has been reported from California that in captivity, young pups will suckle until a year old, if the milk supply is forthcoming. As long as she remains in good weight, we are happy with her progress.

Discussion:

1980 provided us with more problems than our first birth of "Salty" in 1979.

"Pinny's" stillbirth although unfortunate, as we are led to believe not unusual in captive and wild first births of sealions. The mortality rate of young pinnipeds is very high in the wild not only from stillbirths but also from accident, disease and starvation.

The behaviour problem with "Fred" and "Pru" could have much to do with the group size and topography of the exhibit.

Only one complete copulation occurs in California sealions. "Fred" was observed in copulation with "Pinny" two days before the first outbreak of aggression. It could be speculated that, with "Pinny" no longer an active sexual target for "Fred", he turned his attention to "Pru". Nine days elapsed between the birth and aggressive behaviour between "Pru" and "Fred" which in theory could be enough time for "Pru" to have mated with "Fred". With no other females left to mate "Fred", being at the height of sexual activity, would have solicited after the most vulnerable animal of the group, this being "Pru" with her pup. She, by this time, had a gash on her head. With the pup being intimidated by her juvenile off-spring of the year before, and a pool which she could not retreat into because it lacked enough water, she sought refuge by escape from the exhibit area.

I would therefore suggest that it is important to include some form of maternity holding area in pinniped breeding exhibits in case of this problem, especially in those groups with a small female to male ratio. Even if the female can find refuge in a large pool it may be she would not venture out to care for the pup and would neglect it.

The topography of the exhibit could also help or hinder this problem. Our exhibit is very flat, the animals can see each other wherever they may be in the exhibit. Perhaps as SPOTTE (1980) has suggested in his paper, pinniped exhibits should be designed with features of the terrain to allow pockets or caves to be formed so that dominant bulls can not see all the exhibit and animals out of their line of vision can rest undisturbed.

The behaviour of the young immature animal "Salty" is also worthy of note. The possibility of rough play from their older companions being fatal for small pups can not be overlooked, and should be watched for.

References:

- DINELEY, J., 1980. A trainer's observations of the birth and development of a California sealion. *Aq. Mammals* 7(3): 68-70.
- SPOTTE, S., 1980. Seal Island: a new exhibit at Mystic Marinelife Aquarium. *Intern. Zoo Yearbook* 20:286-295.

Footnotes

- 1) "*Clamoxyl*" broad spectrum semi-synthetic penicillin: Beecham Animal Health, Brentford, Middlesex, England.
- 2) "*Tribissen 80*" Trimethoprim 80 mg. / Sulphadiazine 400 mg. Wellcome Veterinary Division, Berkhamsted, Herts., England.