The Recuperation of a Monk Seal Pup, *Monachus monachus,* in the Ilhas Desertas – The Conditions for its Success

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SUMMARY

During the period when they are nursing, young monk seals depend on their mothers to survive. Sometimes, however, some monk seal pups lose contact with their mothers due to heavy seas. In this type of situation, human intervention is crucial and a strict protocol for the rehabilitation of the animals should be followed, from the first encounter until they are released in their natural habitat. Aseptic conditions should be maintained to the extreme, and human contact avoided and kept to the minimum.

In December 1995, a pup was found which had lost contact with its mother; it was picked up and taken to the Ilhas Desertas station at Doca. There it was given shelter and exposed to frequent human contact and the corresponding possibility of infections. Although it appeared to be healthy, the animal died 12 days later. Autopsy results confirmed that the death of the animal had been caused by septicaemia. This case led to the construction of a centre for the rehabilitation of monk seals in the Ilhas Desertas.

In December 1997, another pup was found washed up on the beach at Doca, Deserta Grande, in conditions identical to those the previous one was found in. Based on previous experience, and benefiting from the facilities of the monk seal rehabilitation centre, plus the fact that the pup's mother was located, it was possible to rehabilitate the animal and later return it to its natural surroundings.

INTRODUCTION

The monk seal is one of the most endangered species in the whole world. In Portugal the only herd of monk seals is found in the Ilhas Desertas, which were classified as a Natural Reserve in 1990. Since that time, the size of the population has been increasing, and it is presently estimated to number 19 individuals. This is the result of conservation work which has been carried on there, in effectively protecting the monk seal and its habitat. Monitoring the monk seal and studying its biology and ecology are fundamental to the adopting of the most appropriate strategies for its protection. In the course of this work, it has been found that one of the threats to the population is linked to the fact that the season for births and the pups' first outings into the sea, from November to February, coincides with the season in which ocean storms are the most frequent in the Ilhas Desertas. The pups are still very vulnerable in this phase, not being able to withstand the action of the waves. Thus they run the risk of being driven into areas of strong breakers next to the rocky coast, or pushed by the ocean currents far from the cave where they were born, losing contact with their mother, upon whom they are still dependent for feeding. In this type of situation, the intervention of Man is crucial so as to accompany the pups until they are capable of surviving on their own in their natural surroundings. This is a process which should follow a strict protocol for feeding and handling the animals, in which

aseptic conditions are maintained to the extreme, seeking to guarantee success. This was the experience gained with the first pup found washed ashore in the Ilhas Desertas m November, 1995, and which contributed to the successful recuperation of another pup in December, 1997.

This article proposes to set forth the procedures followed during the recuperation of the two pups, analysing the factors which contributed to failure in the first case and success in the second.

THE REHABILITATION PROCESS OF THE FIRST PUP

Location

The pup was found by one of the wardens of the Madeira Natural Park on December 3, 1995, while manning one of the observation posts used in monitoring and studying the monk seal. The post is located on the beach of an inlet called Calhau das Areias. There he noticed that the monk seal tried several times to get to the sea, but always ended up being thrown back up on land by the action of the waves. Because the sea conditions were tending to worsen the warden decided to pick up the pup and bring it to the Ilhas Desertas station at Doca.

Meanwhile, an unsuccessful search for the mother of the pup was undertaken, using a boat to run along the SW coast of Deserta Grande, which is used by the monk seals for raising their young (Pires 1997).

Identification of the pup

Sex: Female **Weight:** 19 kg

Standard Length: 100 cm **Total Length:** 106 cm

Estimated Age: 3-4 weeks

The age was calculated based on the absence of the umbilical cord, which probably falls off by the 5th day (SRRC, 1991); on the fact that the new growth of fur which appears between the fourth and sixth weeks of life (Vedder 1990; SRRC 1991; & Dendrinos, 1996) had not begun yet, and the fact that its teeth were ready to come through, which happens between 3 and 7 weeks of life (Vedder 1990 & SRRC 1991).

Name: Maria

Condition of the pup

Dehydrated and injured at the base of the flippers.

Treatment and Feeding

'Maria' remained at the station at Doca, in the same space used by the Nature Wardens who work there, being constantly in contact with them. The care given the pup was essentially in keeping it fed and hydrated. The evaluation of its condition was made by keeping track of its rectal temperature and weight, and by observing its behaviour.

The pup was fed and hydrated 7 times a day, on average, with a mixture consisting of: 100- 200 g of scabbard fish, 100-250 g of oatmeal, and 250-650 ml of water with hydrating salts. The first two days, 850 g of fish were used, and this was gradually increased to 1300 g. Contrary to what happens with the majority of pinnipeds in this situation, 'Maria' ate voluntarily and 'force feeding' was not necessary.

Seeking to keep the pup hydrated and in permanent contact with its natural habitat, it was taken to the sea every day and bathed. Although the pup was carried by one of the wardens the first few times, it later became able to accompany them on its own and followed them.

Evolution of the pup's condition

Over a period of 11 days, the pup was apparently healthy. Although its weight remained stable and its temperature varied between 34.5°C and 37.1°C, it was active and the fact that it was eating regularly indicated that it was healthy. However, on the 12th day, the pup demonstrated lethargic behaviour and died at 11:30 a.m.

Results of the autopsy

The results of the autopsy confirmed that the pup's death was caused by septicaemia. Congestive haemorrhagic lesions were found in most of the organs and the following pathogenic agents were isolated: *Salmonella arizonae, Staphylococcus aureus,* grupo B *Streptococcus, Streptococcus dysgalactiae, Streptococcus bovis* I, *Streptococcus equisimilis,* hemolytic *E. Coli* β, and type 1 *E. Coli*.

Measures taken as a result of this experience

In 1997, a Monk Seal Rehabilitation Unit was built at Doca, in the Ilhas Desertas, and a technician from the Madeira Natural Park was trained at the Seal Rehabilitation Centre at Pieterburen (SRRC) in Holland to accompany the rehabilitation of monk seals.

THE REHABILITATION PROCESS OF THE SECOND PUP

The Pup's Location

At 2:30 p.m. on December 3, 1997, exactly two years from the day 'Maria' was found, a pup was found washed ashore at Doca. The animal was immediately taken to the Monk Seal Rehabilitation Unit, where its condition was checked and it was given 'first aid'.

The observation work at that time was being carried out in the Tabaqueiro inlet, where 3 days earlier it had been noted that the beach was being used by a pup and two females. The fact that both females nursed the pup indicated that one of them had lost her pup.

Condition of the Pup

Dehydrated, with injuries at the base of the flippers, obstruction of the respiratory tract and high temperature – 38.8°C.

First Aid

Following the protocol of the SRRC, the pup was hydrated with a saline solution prepared from 500 ml of sterilised water to which various vitamin complexes were added (A,

B-1,2,6, 12, C, D3, and E). This mixture was given by means of a funnel and a tube inserted in the pup's oesophagus.

The wounds were disinfected and the respiratory passages were unblocked with the aid of a vapospray.

Identification of the Pup

Sex: Female **Weight:** 17.40 kg

Standard Length: 102 cm **Total Length:** 108 cm

Estimated age: 1-3 weeks

Based on the fact that the navel was not healed and the gums of the upper jaw, which are soft when the monk seals are born (Vedder 1990), were hard, and by comparison with 'Maria'.

Name: Autonomia.

Treatment of the Pup

Since the pup's probable mother had been located, the pup's stay in the Rehabilitation Unit served to bring the temperature to normal and hydrate the pup so it could be returned later to its natural surroundings. By 1:00 p.m. the following day, the pup had been hydrated 4 times and its temperature recorded.

Evolution of the Pup's Condition

Soon after a 4-hour period of isolation in the Unit, the rectal temperature dropped to 37.8°C and remained stable until the pup was placed in its natural surroundings.

Integration of the Pup in its Environment

At 1:45 p.m. on December 4, the pup was placed on the beach at Tabaqueiro, about 30 m from the other three animals, who were asleep. The pup called out and the female which was alone answered immediately and came up to the pup to establish a contact typical of mother and young, and soon afterwards nursed the pup. On the following days, it was the other female who adopted the pup and began nursing it and accompanying it on excursions outside the Tabaqueiro inlet.

CONCLUSION AND DISCUSSION

The death of 'Maria' was the result of a rehabilitation process which was undertaken without the necessary conditions and experience to ensure its success. Conditions of asepsis were practically non-existent, which according to the autopsy results, was the cause of death of the pup. This, due to the fact that the pup was deprived of its maternal food, essential to mammals in the first days of life as a way of obtaining antibodies and organic defences against infections from the surrounding environment (Vedder, *pers. comm.*). Besides this, the frequent contact with the personnel on duty at the station on the Desertas would have turned out to be harmful to the pup, in the event it did survive, seeing that it was leading to a dependence upon Man. Although this was a negative experience, two years later it contributed to the success in recuperating 'Autonomia', because it had

alerted us to the need for creating conditions for the rehabilitation of monk seeds in the Ilhas Desertas. Thus, 'Autonomia' was treated in the Rehabilitation Unit according to the protocol for the recuperation of seals from the Centre at Pieterburen. However, in the case of this pup, the fact that its probable mother was located was, without a doubt, the factor which led to the success of this operation, principally because she was nursing another pup. As a general rule among pinnipeds, mothers end up abandoning their pups after these are absent for 3 days because they stop producing milk due to the lack of the sucking stimulation (Vedder, *pers. comm.*). The recuperation of this pup is an excellent example of the importance of the work of monitoring and studying the monk seal for its conservation, which not only permitted the saving of the pup, but also the determining of the place and season for giving birth and raising young, which is fundamental for the establishment of a work plan which will allow human intervention in future situations of this type. This, together with the existence of conditions for the recuperation of abandoned pups reduces their mortality to a minimum.

ACKNOWLEDGEMENTS

We wish to express our gratitude:

To the wardens of the Madeira Natural Park for their dedication in the work of saving the monk seal.

To SRRC for their important long-distance collaboration during the recuperation process of 'Autonomia'.

To IFAW, in the person of Dr. Petra Deimer, for the financial support of the Monk Seal Rehabilitation Unit of the Ilhas Desertas.

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