

A CASE OF MULTIPLE OCULAR COLOBOMA IN A SNOW LEOPARD

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An Ocular coloboma (derived from the Gk work Kolobos = mutilated) is a congenital defect, a fissure or a gap in any parts of the eye or its adnexa. The Coloboma is a result of a faulty closure of the foetal membranes. Colobomas often occur bilaterally and are frequently combined with other developmental defects. In man, the association of Ocular coloboma with congenital heart disease has been described (1).

There are cases, both in man and animals, where Ocular colobomas have been proved to be hereditary (2, 3, 4). Hereditary coloboma is known to exist in Charolais cattle (4), and in the cat a coloboma has been reported, inherited as a dominant autosomal factor (3). Bellhorn et al. (5) reports cases of multiple Colobomas in the domestic cat, affecting the upper eyelids, the uvea and the disc.

On March the third, 1977, a Snow leopard male, Helsinki 32, born on the 24th of April 1976, had to be eutanized because of total blindness due to a bilateral, multiple Ocular coloboma.

The cub was raised by its mother in the normal way. However, in June, when the cub started to move outside the nestbox, the keeper observed some discharge from the eyes.

A clinical observation revealed a well nourished male cub, weighing 3 kg. In both eyes the corneas were opaque grey and of a rough appearance. The deeper parts of the eye could not be seen. A moderate, serous discharge was observed. In the lateral half of the upper lids of both eyes, the limbus was missing and, thus the hair on the lid touched the cornea, causing a permanent irritation.

Where lack of space prevents the subordinate retreating, provision of thoughtfully placed cage furniture, in the form of a ramp, a shed to jump on or even a pool to hide behind, enables the oppressed to gain an advantage and resolve the situation. These cage components can also provide privacy, especially from members of the public and separation from each other, which in confinement with its attendant tension is of great importance. When considering such terms as security, respect, tolerance and stability, one can be accused of being anthropomorphic. However, in the context of pair-bonding and family groups they undoubtedly apply.

In conclusion, we are of the opinion that the presence of the male in a family of snow leopards is advantageous. The case described outlines the need with future litters to monitor feeding and bodyweights more closely.

The treatment with the usual eye-ointments brought about some improvement and an ophthalmoscopy could be performed, showing a deep keratitis and a cataract in both eyes. The fundus could still not be seen, but in the left eye there were signs of more serious developmental anomalies.

In order to bring about the best corneal protection, a conjunctival lambeau was made from the third lid, and the cornea was thus protected for three weeks. A minor surgical correction of the upper lid was also made in order to diminish the irritation, caused by the hair on the lid.

When the lambeau was removed, a considerable improvement of the cornea was observed. Through the improved cornea an iriscoloboma was visible. There was a severe strabismus in both eyes, and the left eye was microphthalmic. In spite of this, the vision of the animal still seemed to be fairly good.

A final attempt to surgically correct the lids was made, using the technique described by Roberts et al. (6). The operation was satisfactory with regard to the secondary conditions, only.

In spite of the operation, the vision of the cat declined, and in March, 1977, at the age of one year, it was considered totally blind and euthanized.

The autopsy showed no other congenital anomalies, except those of the eyes and lids. In the eyes, a wide vertical iriscoloboma, stretching all the way to the opticus as a wide uveal coloboma was found.

The mother, Helsinki 4, was born in the Helsinki Zoo by wild-caught parents. She was four times mated with her father, and gave birth to ten cubs in all, of which five were raised. In four of the survivors, no anomalies could be found. As far as could be observed, no anomalies existed in the other dead cubs. However, Helsinki 4 has from an early age on been marked by an asymmetric pupil in the left eye, i.e., a coloboma iridis. There are no defects in other parts of the eyes or lids.

The defects of the above mentioned case could not be proved to be hereditary, but on account of the narrow genetic base in Snow leopard breeding, every suspected case of a genetic disease must be considered important.

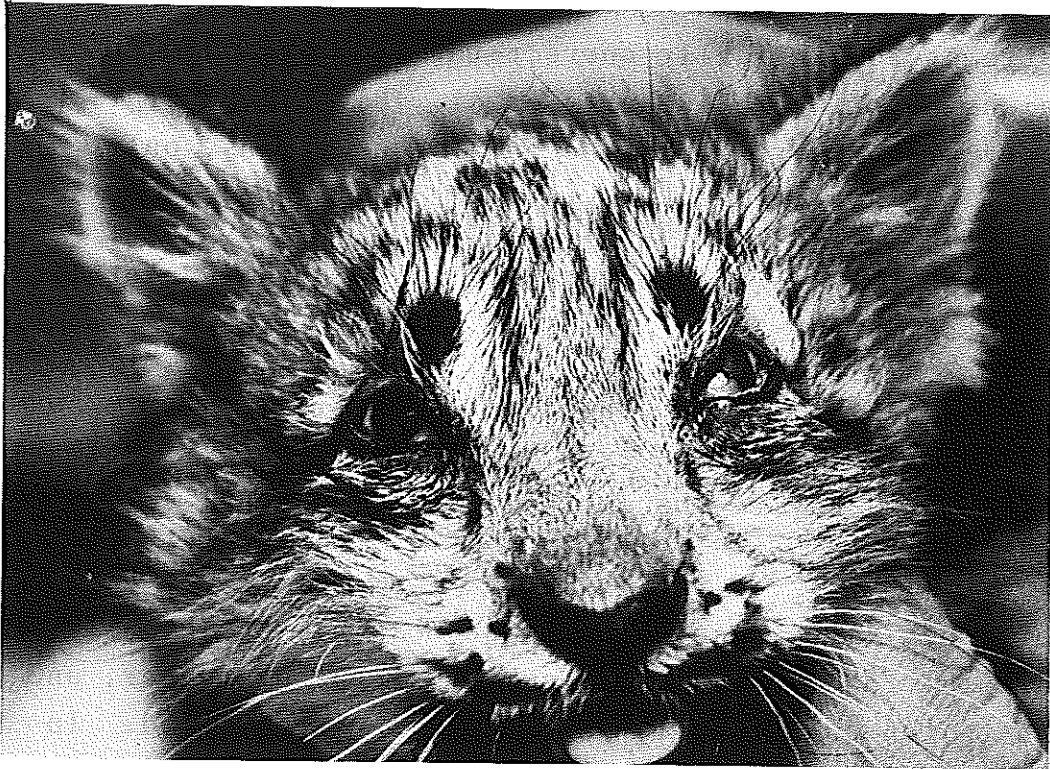


Fig. 1 : Väinämö, Helsinki 32, en face. The palpebral coloboma of the upper lids is clearly seen.
Photo: P. Muuronen.

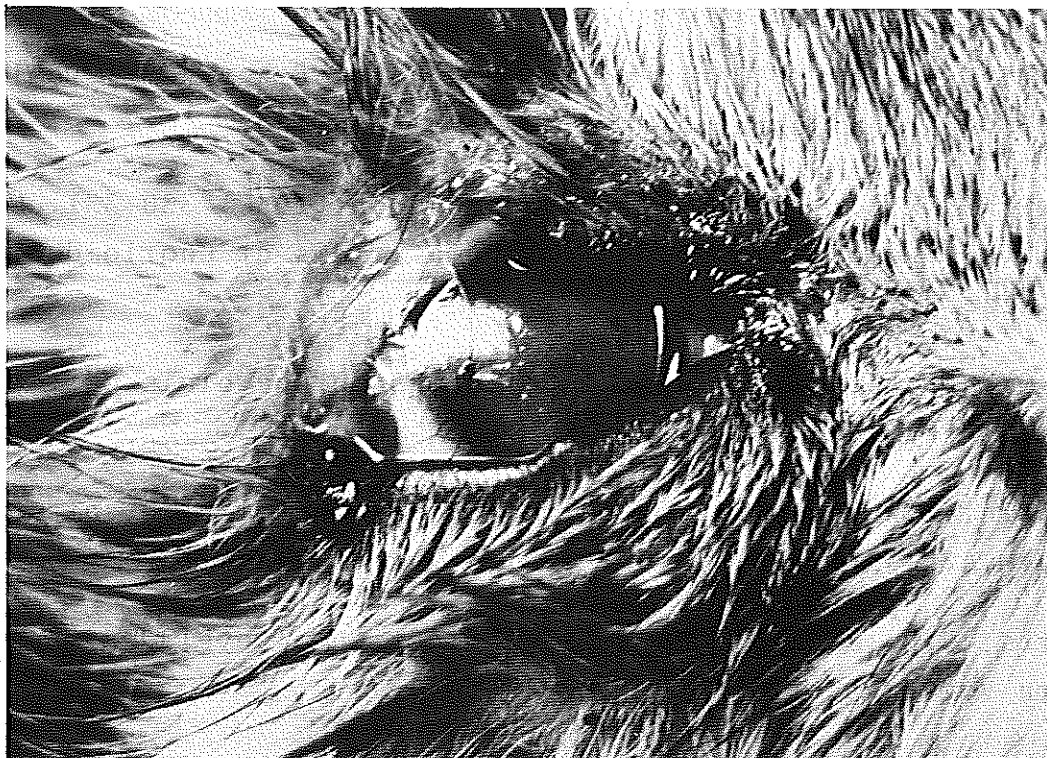


Fig. 2 : The right eye. The iris coloboma can be seen through the opaque cornea.
Photo: P. Muuronen

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