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## First report on the Snow leopard studbook *Panthera uncia* and 1976 World register

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The preliminary studbook of Snow leopards *Panthera uncia* has now been prepared and copies have been distributed to all participating zoos. The World register showing the distribution of these animals at 31 December 1976 is given below.

When work first began on this studbook, it was intended that the records for North America would be kept by the Lincoln Park Zoo, Chicago and the remainder by Helsinki Zoo. In the autumn of 1976, however, it was agreed between the two zoos that Helsinki would undertake responsibility for the complete studbook.

Questionnaires had been sent to European and Asian zoos from Helsinki in 1974-75 and again in 1976. Later, with the help of information already collated by Lincoln Park Zoo, the same format was used for American zoos. Information requested included: number of Snow leopards; house names; date of birth and parents or place and date of capture, with details of when the animals had arrived at the respective zoo; date and cause of death; information on animals

transferred to other collections. Each zoo was also asked for a list of all the animals which had ever been in its possession, including those which had subsequently been transferred or had died. In many cases animal dealers were also asked to help.

Replies have not yet been received from all zoos but it is believed that registration is almost complete and the first complete studbook will be published by the end of 1978. Owners of animals which are not included in the World Register below are asked to contact the studbook keeper. We plan also to publish in the studbook relevant articles and photographs and it is hoped that a new volume will be produced biennially. The proceedings of the International Snow Leopard Conference to be held in Helsinki in March 1978 will also be included in the first volume.

For the studbook to be fully effective, it is essential that the studbook keeper is kept informed of all new arrivals, both wild-caught and captive-born (including details of previous

| LOCATION  | TOTAL<br>1975 | BIRTHS | DEATHS                           | TRANSFERRED TO                                | TRANSFERRED FROM     | TOTAL<br>31.12.76 |
|---|---------------|--------|----------------------------------|---|----------------------|-------------------|
| Alma-Ata USSR                                       | 1.2           | 0.1    |                                  |   | 1.0 (wild-caught)    | 2.3               |
| Arnhem Ne   | 1.1           | 0.0.2  | 0.0.2.                           |   |                      | 1.1               |
| Basle Switz   | 1.1           |        | 1.0                              |   |                      | 0.1               |
| Bekesbourne GB<br>(Chicago LP)                      | 1.1           |        |                                  |   |                      | 1.1               |
| Berlin E Ge   | 1.3           |        | 1.1                              |   | 1.0 Helsinki         | 1.2               |
| Berlin W Ge   | 1.1           |        |                                  |   |                      | 1.1               |
| Buffalo USA   | 1.1           |        |                                  |   |                      | 1.1               |
| Calgary Can   | —             |        |                                  |   | 1.0 Colorado         | 1.0               |
| Center Hill USA*                                    | 1.1           |        |                                  |   |                      | 1.1               |
| Chicago Br USA<br>(W Orange 1.0)                    | 2.2           | 1.0    |                                  |   |                      | 3.2               |
| Chicago LP USA<br>(St Louis 1.0)                    | 4.4           | 2.0    | 2.0                              |   |                      | 4.4               |
| Cincinnati USA                                      | 1.1           |        |                                  |   |                      | 1.1               |
| Cleveland USA                                       | —             |        |                                  |   | 0.1 Colorado         | 0.1               |
| Colorado USA  | 4.4           |        |                                  | 1.0 Rochester<br>1.0 Calgary<br>0.1 Cleveland |                      | 2.3               |
| Columbus USA*<br>(Cincinnati 0.1)                   | 1.1           |        |                                  |   |                      | 1.1               |
| Denver USA<br>(Los Angeles 0.1)                     | 1.1           |        |                                  |   |                      | 1.1               |
| Detroit USA   | 1.2           |        |                                  |   | 1.0 Milwaukee (loan) | 2.2               |
| Duisburg Ge   | 0.1           |        | 0.1                              |   |                      | —                 |
| Dushanbe USSR*                                      | 1.1           |        |                                  |   |                      | 1.1               |
| Dvir Kralove Cz                                     | 1.1           |        |                                  |   |                      | 1.1               |
| Edmonton Can  | 1.1           |        |                                  |   |                      | 1.1               |
| Hanover Ge  | 1.1           |        |                                  |   |                      | 1.1               |
| Helsinki Fin  | 5.11          | 3.1    |                                  | 1.1 Prague<br>1.0 Berlin E<br>0.1 Krefeld     |                      | 6.10              |
| Houston USA   | 1.1           |        |                                  |   |                      | 1.1               |
| Kaunas USSR   | 4.2           |        | 1.1                              |   |                      | 3.1               |
| Krefeld Ge  | 1.1           | 1.1    | 1.1                              |   | 0.1 Helsinki         | 1.2               |
| Leipzig Ge  | 1.2           |        |                                  |   |                      | 1.2               |
| Leningrad USSR                                      | —             |        |                                  |   | 1.1 (wild-caught)    | 1.1               |
| Los Angeles USA<br>(San Francisco 1.0)              | 1.1           |        |                                  |   |                      | 1.1               |
| Milwaukee USA                                       | 4.1           | 1.1    |                                  | 1.0 Detroit                                   |                      | 4.2               |
| Moscow USSR   | 1.1           |        |                                  |   | 1.1 (wild-caught)    | 2.2               |
| Munich Ge   | 1.1           |        |                                  |   |                      | 1.1               |
| Nagoya Jap  | 0.1           |        |                                  |   |                      | 0.1               |
| NY Bronx USA<br>(Chicago LP 1.0)<br>Cincinnati 1.0) | 3.2           | 0.3    | 1.3                              |   |                      | 2.2               |
| Novosibirsk USSR <sup>1</sup>                       | 2.3           |        |                                  |   |                      | 2.3               |
| Oklahoma USA  | 3.5           | 2.0    |                                  |   |                      | 5.5               |
| Omaha USA<br>(Chicago LP 1.0)                       | 3.3           |        | 1.0 <sup>2</sup><br>(Chicago LP) |   |                      | 2.3               |
| Peking China  | 1.2           |        |                                  |   | 1.0 (wild-caught)    | 2.2               |
| Pittsburgh USA                                      | 1.0           |        |                                  |   |                      | 1.0               |
| Portland USA  | —             |        |                                  |   | 2.0 Seattle (loan)   | 2.0               |
| Prague Cz   | 0.1           |        |                                  |   | 1.1 Helsinki         | 1.2               |
| Rochester USA                                       | —             |        |                                  |   | 1.0 Colorado         | 1.0               |
| Rostov USSR*  | 0.1           |        |                                  |   |                      | 0.1               |
| Rotterdam Ne  | 1.2           |        | 0.1                              |   |                      | 1.1               |
| San Antonio USA                                     | 1.4           | 1.1    |                                  | 0.1 Seattle (loan)                            | 1.0 Seattle (loan)   | 3.4               |

| LOCATION                          | TOTAL<br>1975 | BIRTHS         | DEATHS       | TRANSFERRED TO                                | TRANSFERRED FROM              | TOTAL<br>31.12.76 |
|-----------------------------------|---------------|----------------|--------------|---|-------------------------------|-------------------|
| San Diego USA<br>(Cincinnati 2.0) | 2.0           |                |              |   |                               | 2.0               |
| San Francisco USA                 | 1.1           |                |              |   |                               | 1.1               |
| Seattle USA                       | 5.2           |                |              | 1.0 San Antonio (loan)<br>2.0 Portland (loan) | 0.1 San Antonio (loan)        | 2.3               |
| Tallin USSR                       | 1.1           |                |              |   |                               | 1.1               |
| Tashkent USSR*                    | 1.1           |                |              |   |                               | 1.1               |
| Winnipeg Can                      | 1.1           | 0.1            |              |   |                               | 1.2               |
| Zürich                            | 1.2           | 0.2            | 0.1          |   |                               | 1.3               |
| <b>TOTAL</b>                      | <b>72.84</b>  | <b>11.11.2</b> | <b>8.9.2</b> | <b>8.4</b>                                    | <b>12.6 (4.2 wild-caught)</b> | <b>79.88</b>      |

\* No reply to questionnaire

<sup>1</sup> These animals were known to be living at 31 December 1976 but are not as yet registered in the official studbooks because of lack of further information.

<sup>2</sup> Died December 1975

Owners and numbers of animals on loan are shown in parenthesis.

owner or date and place of capture); new births (including stillborn cubs and details of both parents); deaths (including date and cause).

A questionnaire will be sent to all owners annually and it is hoped that this will be completed and returned promptly.

The animals currently included have been allotted studbook registration identification, including the name of the zoo at which they were born or first received after capture and a number indicating the order in which the animals were received at that zoo. All wild-caught animals are registered on arrival. Captive-born animals are registered only when they reach six months of age, although cubs dying before this date are noted in the studbook record of both parents.

Altogether 259 Snow leopards have been registered, of which 162 were alive at 31 December 1976. The World register shows an additional five animals, which were known to be living at Novosibirsk Zoo at that date, but which are as yet unregistered because of lack of further information.

The earliest registered animal is one which was received at the Bronx Zoo in 1903. The oldest living Snow leopard is probably a ♂ at Lincoln Park Zoo, 'Walter' LPZ 2. Although recorded as arriving at Lincoln Park only in 1963, Walter is probably the same animal as one captured in 1959 and sent to Brookfield Zoo. It was sold to a dealer in 1963 and two days later

Walter LPZ 2 was bought from the same dealer. However, as this information did not come to light until the registrations for both zoos were complete (and, although it is highly probable, there is no absolute proof that it is the same animal), the original identification number has been retained. Walter LPZ 2 was still living in 1977 and mated with one of the ♀♀ at Lincoln Park as late as 1975.

The record for the oldest ♀ is probably held by Kaunas Zoo, where 'Ramune' Kaunas 1 arrived in May 1959, after capture in Kirghizia the same year. She died of old age at Kaunas in April 1976. A number of Snow leopards which were caught in 1961 are still living today.

The first reported zoo-born Snow leopards were a ♂ and ♀ born at Copenhagen Zoo on 11 June 1956. The ♀ cub died after 11 days, but the ♂, 'Tamerlan' Copenhagen 3, lived for almost three years, dying in Copenhagen in March 1959.

Most of the ♀♀ which have given birth have been at least four years old but there are some exceptions. 'Valma' Helsinki 20, born at Helsinki in April 1974, gave birth to two cubs in May 1976 at Krefeld Zoo, to which she had been sent in April the previous year. Both cubs died but in April 1977 two more cubs were born and although the ♂ died, the ♀ 'Irina' is still alive and in good condition at time of writing (pers. comm. W. Encke). Another ♀ from Helsinki, 'Venla' Helsinki 6, born in April 1971, gave birth to her

| YEAR | TOTAL | WILD-CAUGHT | % FROM WILD | ZOO-BORN   | % ZOO-BORN |
|------|-------|-------------|-------------|------------|------------|
| 1960 | 19    | 11 (4.7)    | 57.9        | 8 (5.3)    | 42.1       |
| 1961 | 21    | 14 (7.7)    | 66.7        | 7 (4.3)    | 33.3       |
| 1962 | 20    | 14 (8.6)    | 70.0        | 6 (3.3)    | 30.0       |
| 1963 | 23    | 18 (10.8)   | 78.3        | 5 (2.3)    | 21.7       |
| 1964 | 30    | 24 (10.14)  | 80.0        | 6 (3.3)    | 20.0       |
| 1965 | 33    | 28 (10.18)  | 84.8        | 5 (2.3)    | 15.2       |
| 1966 | 41    | 29 (11.18)  | 70.7        | 12 (7.5)   | 29.3       |
| 1967 | 50    | 34 (12.22)  | 68.0        | 16 (8.8)   | 32.0       |
| 1968 | 59    | 39 (15.24)  | 66.1        | 20 (10.10) | 33.9       |
| 1969 | 70    | 43 (18.25)  | 61.4        | 27 (13.14) | 38.6       |
| 1970 | 74    | 46 (19.27)  | 62.2        | 28 (12.16) | 37.8       |
| 1971 | 90    | 55 (23.32)  | 61.1        | 35 (17.18) | 38.9       |
| 1972 | 108   | 62 (27.35)  | 57.4        | 46 (23.23) | 42.6       |
| 1973 | 121   | 65 (29.36)  | 53.7        | 56 (25.31) | 46.3       |
| 1974 | 137   | 64 (27.37)  | 46.7        | 73 (30.43) | 53.3       |
| 1975 | 151   | 63 (28.35)  | 41.7        | 88 (42.46) | 58.3       |
| 1976 | 162   | 63 (29.34)  | 38.9        | 99 (48.51) | 61.1       |

Table 1. Growth of the captive population of Snow leopards *Panthera uncia* between 1960-1976. Only registered animals are shown, the five (2.3) animals at Novosibirsk listed in the World register, but unregistered, are not included.

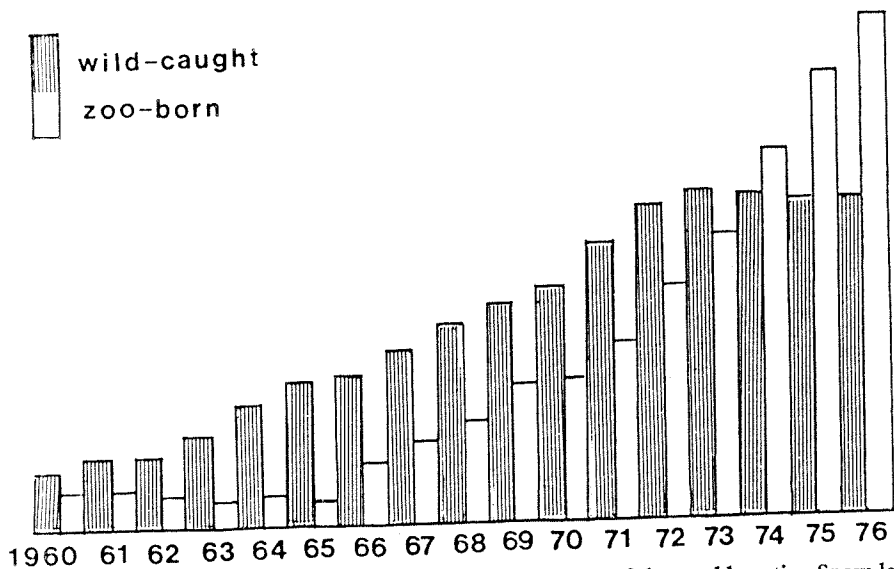


Fig. 1. Comparative trends in the wild-caught and zoo-born sectors of the world captive Snow leopard *Panthera uncia* population since 1960.

first litter in May 1974 (Koivisto, Wahlberg & Muuronen, 1977). Both cubs were mother-reared and are still in the collection at Helsinki Zoo. A third ♀ 'Elektra' Oklahoma 14, born in Oklahoma City Zoo in May 1974, gave birth to 2.1 cubs on July 1977. Two of these were killed by the mother and the other ♂ died in July 1977 (pers. comm. Linda Turner).

Table 1 and Fig. 1 show the growth of the Snow leopard zoo population between 1960-76. The percentage of zoo-born animals has increased, especially in the last few years, but at the same time the number of wild-caught animals has still been remarkably high. The author is firmly convinced that by using the material we already have in captivity today, all further importations

from the wild of this extremely rare species could be avoided.

The growing trend of sending animals on breeding loan, more common in the USA than in Europe and Asia, should be encouraged. However, this inter-zoo co-operation does demand good sanitary and health conditions in all zoos so that no diseases will spread from one collection to another.

#### ACKNOWLEDGEMENTS

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#### REFERENCE

KOIVISTO, I., WAHLBERG, C. & MUURONEN, P. (1977): Breeding the Snow leopard *Panthera uncia* at Helsinki Zoo 1967-1976. *Int. Zoo Yb.* 17: 39-44.

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