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A SHORT DISCRIPTTON OF THE LATVIAN MAMMAL FAUNA

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ABSTRACT – Since the 17th century 74 mammal species have been recorded in Latvia. Two species have become extinct, 10 species have been observed occasionally or introduced unsuccessfully but 62 are considered as permanently occurring in Latvia. Among the latter 8 species have been introduced or have invaded Latvia. 23 species are included the Red list.

***Key** words*: Mammals, Development fauna, Status, Red list, Latvia

THE HISTORY OF THE MAMMAL FAUNA

The history of the modem mammal fauna of Latvia goes back to the end of the last glaciation, and has been formed during the last 10,000 years, i. e. during the Holocene. The genesis of the fauna was connected with development of the flora and both depend on changes of climate. Several phases in the genesis of the mammal fauna related to climatic periods are apparent for the East Baltic regions (Paaver, 1965) as well as for Fennoscandia and the East Baltic together (Lepiksaar, 1986). According to K. Paaver this division is as follows:

I stage - fauna of birch-pine forests (from 10,000 BP)
- phase 1: period of preborial climate
- phase 2: period of borial climate

II stage - fauna of broadleaf forests (from 7,000 BP)
- phace *3:* period of Atlantic climate
- phase 4: period of subboreal climate

III stage - fauna of mixed forests and cultural landscape (period of subatlantic climate)
- phase *5:* from 3,000 BP
- phase 6: since the 17th century (increasing human influence on the mammal fauna)

The mammal fauna of Latvia is not indigenous. It originated from different faunal complexec, mainly from boreal mixed forest and broadleaf forest faunal complexes, but also from complexes typical for taiga and steppe. There is no species endemic to Latvia. There is no species typical for mountain regions as Latvia is a flat country situated in the Western part of East European Plain besides the Baltic Sea.

Thirty-seven mammal species have been found among fossil remains. Six of these species (*Rangifer tarandus, Equus ferus, Bos primigenius, Bison bonasus, Cervus elaphus, Felis silvestris*) disappeared before the 17th century. The composition and tendencies of Latvian mammal fauna during last phase are given in Tab. 1. This review is based mostly on data given in the Handbook of Latvian mammals (Taurins, 1982), with additional data on introduced mammals from Kolosov and Lavrov (1968).

THE NUMBER OF SPECIES, EXTINCT AND OCCASIONALLY OBSERVED SPECIES

Seventy-four mammal species have been recorded in the wild for the present territory of Latvia since the 17th century (Tab. 1). Two species have gone extinct.

Phocaena phocaena. The only cetacean species which previously inhabited regularly (during the iceless period) the coastal waters of Latvia. It has declined all over the Baltic Sea since the 1950s. The last observation (one specimen drowned in a fishnet) goes back to 1974.

Gulo gulo has declined since the 17th century due to human influence. The last specimens were shot in the 1870s. Occasionally seen again in 1973 and 1974.

Ten species are observed only occasionally (*Myotis myotis, Myocastor coypus, Tursiops truncatus, Delphinapterus leucas, Megaptera nodosa, Balaenoptera physalis, Phoca vitulina* and *Bison bonasus*) or have been introduced unsuccessfully. Therefore only 62 mammal species can be regarded as more or less permanently inhabiting the territory of Latvia.

Table 1 The number of species recorded in Latvia since 17th century; TN = total number; Ex = extinct; O = occasionally observed/introduced unsuccessfully; R&I = reintroduced and introduced: NI = naturally invaded; RL = in Red List; PF 0 possible to be found

ORDER	FAMILY	TN	EX	O	R&I	NI	RL	PF
INSECTIVORA	Erinaceidae	2					1	
	Talpidae	1						
	Soricidae	3					2	1-3
CHIROPTERA	Vespertilionidae	15		1			7	1
LAGOMORPHA	Leporidae	3		1				
RODENTIA	Sciuridae	2					1	
	Castoridae	1			1			
	Cricetidae	6				1		1-2
	Muridae	7						
	Myoxidae	4					4	
	Zapodidae	1					1	
	Capromyidae	1		1				
CETACEA	Delphinidae	3	1	2				
	Balaenopteridae	2		2				
FISSIPEDIA	Canidae	3			1			
	Ursidae	1				1	1	
	Mustelidae	10	1			1	4	
	Felidae	1						
PINNIPEDIA	Phocidae	3		1			2	
ARTIODACTYLA	Suidae	1			1			
	Cervidae	4		1	2			
	Bovidae	1		1				
TOTAL		75	2	10	5	3	23	3-5

INTRODUCED (I), REINTRODUCED (R) AND NATURALLY INVADING (N) SPECIES

Oryctolagus cuniculus (I) - Was introduced as a game animal in Southern Latvia at the beginning of this century but was soon exterminated during the First World War (Rupeiks, 1936).

Castor fiber (R, N) - Was declining due to overhunting since the 18th century. The last specimen was killed in 1871. Reintroductions were started in 1927. when 2 pairs from Norway were released. In 1952 five pairs from the Voronezh nature reserve (Russia) were released . Since the 1960s immigration from Bielorussia has also started. During 1975-84, 145 specimens of local origin were released in new areas. In 1985, according to estimates, the number of beavers exceeded 25,000 (Balodis, 1990) but it still is increasing. Since 1980 hunting has been allowed.

Ondatra zibethica (N) - Was introduced in adjacent countries in the 1950s. It first appeared in the very south-east part of Latvia in the late 1950s. Later, it invaded also from the north-east and from South. Now muskrats have been found also in the central part of Latvia, but in general its distribution is of a mosaic type.

Sciurus vulgaris exalbidus (I) - In 1952 hnd 1955 small number (198 specimens) of Siberian red squirrel was introduced to improve the quality of fur of local animals. The experiment was unsuccessful.

Nyctereustes procyonoides (I, N) - Was introduced in 1948 (84 specimens), although the first invaded specimens of this species had been already observed in neighbouring areas since 1943. It is now one of the most common carnivore species.

Ursus arctos (N) - Started to decline due to forest clearance and overhunting since the beginning of the 19th century. It first disappeared from southern and western parts of Latvia, but during the end of the 19th and beginning of the 20th century the last specimens were shot also in the north-east part of Latvia. Since the 1960s it regularly invaded Latvia from Estonia and Russia. Although the official statistics of the forestry service show the presence of only some individuals, the general assumption is that some 10-20 specimens permanently occur in Latvia. Some females with cubs have also been observed.

Mustela vison (N) - Was introduced in neighbouring countries in the 1950s but had already been observed in the wild in Latvia in 1944. This species appeared in two ways: first it escaped (sometimes may have been released) from fur farms, but later invaded from adjacent countries. Now one of the most common mustelids.

Sus scrofa (N, R) - Went extinct around 1791. At the beginning of this century wild boars were kept in game parks. They were first released in 1911. During the First World War some more escaped. Since the 1930s its distribution range has started to extend and numbers to increase. Now it is one of the most common game animals. Recently, the numbers have decreased due to plague.

Capreolus capreolus pygargus (I) - 13 specimens of Siberian roe deer were unsuccessfully introduced in 1955.

Cervus dama (I) - Was kept in game parks from the end of the 18th till the beginning of the 20th century. Some animals escaped and lived in smale numbers in the wild till 1937. The last unsuccessful attempts at introduction were made in 1974 and 1975 when 56 animals were released.

Cervus elaphus (R) - Went extinct in the 10-11th century. Since the end of the 17th century specimens were kept in deer parks. At the end of the 19th century some

animals escaped or were released and a vigorous population was founded in western Latvia. Later it was released successfully several times in new areas. Now it inhabits almost the whole country except the very north and north-east areas.

SPECIES ON THE EDGE OF THEIR DISTRIBUTION RANGE

Although Latvia is a rather small country (64,600 Km^2) it is at the edge of the distribution range of several species. For example, the distribution ranges of *Einaceus europaeus* and *E. concolor* meet and the most northern distribution points are found for 3 bat species (*Nyctalus leisleri, Eptesicus serotinus* and *Barbastella barbastellus)* as well as for 2 dormouse species (*Myoxus glis* and *Dryomys niteduln).* Another dormouse species *(Muscardinus avellanarius)* as well as *Martes foina* is very rare to the north and north-east of the west Latvia. *Cervus elaphus* is a species whose distribution range **is** extending to the north and north-east. By contrast, for *Pteromys volans* and *Ursus arctos* the south-west border of their distribution range is situated in Latvia. The Baltic seals *(Phoca hispida botnicu* and *Halicjoerus gryphus baltica*) are also rare in the coastal waters of Latvia and especially more Southward. Other species with the edge of their distribution range in Latvia may be *Microtus (Terricola) subterraneus* and *Apoderniis (Sylvaemus) rnicrops* (Zagorodnyuk and Mezhzherin, 1992), but more studies are necessary for a final conclusions.

RED LIST SPECIES

The first Red lists of Latvian animals and vascular plants were compiled at the end of 1979. It includes 26 mammal species; among them 12 bat species (all known at that time). In 1985 the Red Data book was published. The Red lists were revised in 1992 and now include 23 mammal species (Tab. 2). The status of 8 species **is** still unclear, therefore for these species the category "insufficiently known" was applied (here reported as "indeterminate"). The new Red lists have been published in Red Data Book of the Baltic Region (1993).

Table 2 Mammals on the Red List; S = status (E = endangered; V = vulnerable; R = rare; I = indeterminate); RA = relative abundance (R = rare; NC = not common; VC = very common); PT = population tendencies (I = increase; R = reduction; S = stable); DA = distribution area (R = reduction; S = stable); ? = not enough data

	S	RA	PT	DA
1. Barbastella barbastellus	R	R	S	S
2. Dryomys nitedula	R	R	?	?
3. Eliomys quercinus	R	R	R	R
4. Erinaceus europaeus	I	?	R?	R?
5. Myoxus glis	E	R	R	R
6. Halycoerus grypus	E	R	I	S
7. Lutra lutra	I	VC	S?	S
8. Martes foina	I	R	?	S?
9. Muscardinus avellanarius	I	NC	S	R?
10. Mustela erminea	I	NC	R	S?
11. Mustela lutreola	R	R	R	R
12. Myotis dasycneme	V	NC	R?	S
13. Myotis mystacinus	I	R	?	?
14. Myotis nattereri	I	R	?	?
15. Neomys fodiens	I	NC	?	?
16. Nyctalus leisleri	R	R	?	?
17. Phoca hispida botnica	E	R	R	R
18. Pipistrellus pipisterllus	R	R	?	?
19. Pteromys volans	E	R	R	R
20. Sicista betulina	R	NC	S?	S?
21. Sorex minutus	R	NC?	?	?
22. Ursus arctos	R	R	S	S
23. Vespertilio murinus	R	R	?	?

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