

the southern boundary of Oregon, northern Nevada, and southern Idaho; forms two extensions into Utah and the Colorado mountains; bends in the form of an arc northward along Wyoming, South Dakota, and Nebraska; and extends into the west [*sic*]\* through Iowa, Illinois, Indiana, Ohio, and West Virginia. The boundary extends toward the Atlantic Ocean slightly north of 40° N. lat., i.e., almost at the same latitude as it extends toward the Pacific Ocean.

In Europe and Asia fossil finds have been reported within the present-day range. However, lynxes lived in the Crimea during the Pleistocene and Holocene (Birulya, 1930). (V.H.)

### Geographic Variation

Individual color variation of lynx is very considerable, even for cats, and is characterized by differences of general background color and the extent of spottedness. This renders determination of geographic variation of these characteristics extremely difficult and the problem is complicated further by several distinct individual variations, particularly when examining small collections. Even now several "species" of lynx are recognized (large monochromatic *lynx*, large spotted *cervaria*, smaller reddish, spotted *pardina* or *pardella*) giving rise to typical hypothetical constructs. Thus K.A. Satunin (1909) attributed the color diversity of Eurasian lynx to free hybridization of some species of lynx which, in the past, lived together and merged into a single species.

The typical feature of geographic variation in the color of lynx is its statistical nature. In almost every region (sections of the species range) several of the described color types occur with all the transitions between them. However, usually one or several predominate numerically and herein lies the particularity of individual subspecies populations. A study of variability of this nature is very difficult and in the present case rendered almost impossible for purely technical reasons—nonavailability of adequate numbers of skins in museums. Differences in size of body and skull structure are extremely insignificant or altogether absent. On the whole geographic variation of lynx has not been studied or satisfactorily demonstrated and the diagnosis of existing forms is incomplete. The system of subspecies of lynx set forth is largely tentative.

On the whole, all geographic forms of lynx of Eurasia may be divided into two natural groups.

Group *pardina*. Relatively small forms with predominantly bright "reddish" general color of coat and numerous definite spots. In most animals

\*Error in Russian original; should be east—Sci. Ed.

Table 28. Body size and weight of adult (second winter of life or older) European lynx, *F. (L.) l. lynx* in Belovezh Forest (Nikitenko and Kozlo, 1965)

Indexes	Males				Females				Males and females	
	n	min	max	M	n	min	max	M	n	M
Body length	16	76.0	108.0	100.0	21	85.0	100.0	90.0	37	95.0
Tail length	16	17.0	24.0	20.2	21	18.0	23.5	19.6	37	18.9*
Length of hind foot	16	24.0	26.5	24.8	21	20.0	24.0	21.7	37	23.2
Length of ear	16	9.0	9.6	9.0	21	8.5	9.3	9.0	37	9.0
Weight (kg)	10	16.3	23.5	19.6	12	14.0	21.5	17.3	22	18.4

\**Sic*; should be 19.9?—Sci. Ed.

Table 29. Body size and weight of young lynx (up to a year or in first winter of life) in Belovezh Forest (Nikitenko and Kozlo, 1965)

Indexes	Males				Females				Males and females	
	n	min	max	M	n	min	max	M	n	M
Body length	20	73.0	86.0	80.0	23	71.0	85.0	79.6	43	79.6
Tail length	20	13.5	22.0	20.0	23	12.9	18.0	17.0	43	18.5
Length of hind foot	20	20.7	24.0	22.3	23	21.0	23.0	22.1	43	22.2
Length of ear	20	8.0	8.6	8.3	23	7.5	9.0	8.2	43	8.3
Weight (kg)	12	8.3	10.6	9.6	8	7.2	10.3	9.2	20	9.4

the coat is relatively sparse, short, and rough. Forms of this group are found (or were) in southern Europe from the Pyrenean [= Iberian] Peninsula to the Balkans, Asia Minor, the Caucasus, and the Carpathians. From among the few subspecies included in this group, the Carpathian form occupies a somewhat intermediate position ("transitional") between the groups *pardina* and *lynx* with respect to size, coat type, and color.

Group *lynx*. Generally larger forms with a very dense, long, and luxuriant coat. "Reddish" spotted color encountered rarely in this type. This group covers all the rest of the range of the species in the Old World. American lynxes belong to this type.

This natural zoological grouping is also reflected in practice. Based on the quality of the coat and the color of the fur, only two strains of Soviet lynx are recognized: 1) Northern lynx—'European part of the USSR, Urals, Siberia, Far East, and Middle Asia. Size very larger. Pelage long, dense, and soft. Monochromatic, ashy-bluish, dark gray, and reddish skins predominate;' 2) Caucasian lynx—the Caucasus and Trans-Caucasus. "Size smaller. Pelage short, sparse, and rough. Spotted, reddish chestnut, and reddish skins predominate" (Kuznetsov, 1941).

From the zoological point of view the following subspecies exist or have been recognized.

1. European lynx, *F. (L.) l. lynx* Linn., 1758 (syn. *vulgaris*, *melinus*, *borealis*, *cervaria*, and *virgata*).

Fur moderately rich and soft. Color of winter coat variable but animals with a weakly developed spotted pattern predominate. Back usually reddish with well-developed gray hair; flanks rusty-gray.

Craniological characteristics not clearly known. Apparently, frontals more or less flat (Stroganov, 1962).

Size moderate (see Tables 28 and 29; additional data given under "Description").

Found in the European part of the USSR except the Carpathians, Urals, western Siberia, and Yenisey basin.

Outside the Soviet Union, in western Europe except for all of the Carpathian arc, the Balkans, the Pyrenean Peninsula, and Sardinia.

It is entirely possible that in the various parts of the habitat of this subspecies in the Soviet Union the animals are not quite uniform in their predominant color type or average size. They do not always correspond accurately in skull size with the westernmost Belovezh animals. Thus references exist with regard to the large size of lynxes in western Siberia and northeastern European Russia (Ognev, 1935), the predominance of a reddish monochromatic color in these very parts of Siberia and northern Russia (Kuznetsov, 1941), and so on. However, actual taxonomic differences among individual populations have not been established.