

Historical distribution and present status of the lynx in Greece

Maria Panayotopoulou, Frangini 9, 546 24 Thessaloniki, Greece, eMail thrakovelonitsa@hotmail.com

1. Status of the lynx in Greece

1.1. Distribution in the 19th and early 20th century

The lynx was widespread but very rare in Greece during the 19th century and the beginning of the 20th. During this period, lynx distribution expanded from Mount Olympus south to the Peloponnese. One lynx was killed on Mount Parnitha (vicinity of Athens) on March 18, 1862 (Heldreich 1878). The specimen belongs now to the Zoological Museum of the University of Athens. The scientific mission of Morias (Peloponnese), which took place in the last decades of the 19th century reports lynx distribution on the Peloponnese on the following mountains: Mount Olenos of Achaia, Kynouria Mountains, Flambouritsa gorge (Mount Killini), also an individual was killed in Xilokastro village (Heldreich 1878). The lynx was more common and widespread in the mountains of south and north Pindos and in the mountains of Macedonia and Thrace: Mount Vitsi, Mount Varnoundas, Mount Voras and Rhodope Mountains (Kalostypis 1886). Regular sightings date back 40–45 years in the plain of Vistonida Lake (Thrace) and Nestos Delta Forest „Kotza Orman“ until the large scale deforestation of the alluvial plain in the early 1950s took place (Papaioannou 1952).



Map 1. Lynx distribution in Greece during the 19th and early 20th century.

1.2. Present status, current trend and distribution

Over the last 40 years, there has been a dramatic reduction of the original distribution of lynx. In the frame-

work of the National Inventory of Fauna and Flora, a field survey with the objective of collecting recent data of lynx presence in Greece, as well as identifying the main causes of extinction from certain areas, took place in 1991–1993. Today there are scarce reports of observations from N. Pindos and Voras Mountains. The last reports of sightings and/or damage in the Evros Mountains and the region of Thrace date back 35–40 years. Records from the Rhodope Mountain range ended approximately in 1965, when the nomad shepherds abandoned the area. However, the present status of the lynx in Greece remains uncertain.

Since no monitoring project exists for collecting evidence of lynx presence, there is no possibility of accurately assessing the actual lynx status in the two previously mentioned areas. Moreover, it is also impossible to assess the past or present population levels due to the lack of any official data on lynx kills (before its legal protection) or lynx sightings.



Map 2. Distribution of the lynx in Greece up to 1970

1.3. Recent evidence of presence

During the National Inventory of Fauna and Flora, we examined three target areas: North Pindos Mountains, Rhodope mountain range and Evros Mountains.

1.3.1. North Pindos Mts.

An area of extensive mixed and coniferous forests with scattered habitations, which covers almost 1000 km². In general, the people interviewed knew very little about the lynx and the older people had only a faint

idea of the species' appearance and behavior. The three most important reports were the following:

- Sightings and livestock damage in Mount Flega, Metsovo, September–November 1991;
- Sighting in Vrissohori 1986, by M. Karagiannopoulou (farmer, age over 70);
- Sighting in Vrissohori 23/4/1978 by D. Kaprantzas (school teacher, age over 60).

1.3.2. Evros Mountains

Contrary to the situation described in North Pindos, villagers in the Evros Mountains (Thrace) are familiar with the lynx. The species has a local name „sari gutzuk“ (sari = reddish, buff, gutzuk = croptailed, short tailed). The main aim of the research in this area was to investigate the reasons for the extinction of lynx from the area. Among 11 people that were asked, 6 had seen a lynx at least three decades ago in the forests and forested areas of Dadia-Aissyymi – Lefkimi, Treis Vryses and Nea Sanda. Shepherds reported that the lynx was already rare in the period 1950–1960. The same is also stated by the Pomaki shepherds, who inhabit the eastern and central part of the Rhodope Mountains. Local people are familiar with the cry of the lynx and shepherds believe that the lynx were frightening away the wolves which were responsible for the killing of numerous sheep and goats. However, the lynx was attacking too, but in a different manner, killing one or two animals at a time on a regular basis. The last two lynx in the Evros region were sighted by local shepherds in Gimbrena (in the area of Dadia forest), approximately at the end of the 1960s. A lynx was killed in Gimbrena in 1958.

1.3.3. Central and west Rhodope mountain range

This region is a large undisturbed forested area covering more than 2000 km². Most of the villages within this mountain range are now abandoned. The main economic activity is timber production, while livestock raising is very limited. Since the area is practically uninhabited, only a few people can provide information on sightings, and these are mainly forest workers. Sarakatsani nomadic shepherds who lived there until 1965 reported the last records of lynx in this region. During the last 35 years and after the abandonment of traditional livestock raising practices the area has been naturally reforested with dense forests of spruce, beech and pines. Although the Rhodope Mountains have some ideal characteristics as lynx habitat (good roe deer numbers, extensive forest coverage, very low disturbance) it is important to bear in mind that the link with the Pindos Mountains and other forested areas to the west is problematic, since large intensively cultivated plains interfere. Moreover, the lynx is extinct in the north (Bulgarian part of the Rhodope mountain range) and in the east (east Thrace-European part of Turkey). So it has been quite impossible for the lynx to recolonise the Rhodope Mountains after its extinction.

1.4. Additional information from other areas

1.4.1. Mount Voras (border with the Former Yugoslav Republic (FYR) of Macedonia)

Mount Voras or Mount Kaimaktchalan is the third highest mountain in Greece and together with Mounts Tzena and Pinovo they form a continuously forested mountain range along the border with FYR of Macedonia. Forest coverage is over 80% with the exception of the pseudo-alpine areas above the timberline. The region has recently been recolonised by bears, originating from the neighboring mountains of FYR of Macedonia.

Lynx observations:

- Sighting at Dobro Pole, March 1993 (shepherd);
- Sighting at Skopos area, winter 1995–1996 (woodcutters).



Map 3. Recent observations of lynx in Greece (see text).

1.4.2. Nestos Delta

The alluvial plane of Nestos today holds the largest riverine forest in Greece and one of the largest in the Balkans, the „Kotza Orman“. During the beginning of the 1950s large scale drainage and land reclamation works destroyed 80% of the riverine forest. Today, 50 years later, a significant part of the forest has been restored to its natural status and the restoration project is still continuing. The population of jackals is increasing, and a new population of wild boar has been established. The area hosts the only autochthonous wild pheasant population in Europe.

Lynx observations:

1. Sighting in Dasochori (east delta), spring 1998 (fo-

rest ranger and shepherd);

2. Sighting in Paradisos, May 1998 (two old women);
3. Sighting in Dasochori, February 1999 (M. Panayotopoulou).

Our hypothesis about the origins of all the above-mentioned individuals in N. Pindos, Voras Mountain and Nestos are the following:

1. Occasional transborder movements of lynx coming from FYR of Macedonia and/or Albania;
2. Remnants of an autochthonous population;
3. Attempts at reestablishment of a new population nucleus by individuals originating from the neighboring countries;
4. Clandestine releases from zoos or private collections (a possible explanation for the Nestos sightings).

2. Damage to livestock

Shepherds in Thrace have reported occasional damage dating back 30 years. They can identify differences between wolf and lynx attacks. They report that the lynx attacks one animal at a time, and the dogs are afraid of it. Most of the documented reports and the only ones of recent damage are from N. Pindos Mountains (Flega in Metsovo). ARCTUROS has collected 1000 questionnaires on wolf damage (this is the only livestock damage database in Greece) but so far no data on lynx kills have been found. However some modifications on these questionnaires should be made in order to use them to trace possible or older lynx damage.

3. Protection status of the lynx in Greece

Since 1937, law has prohibited hunting of lynx. Today, hunting of lynx is prohibited by the hunting law (s. 258, par. 2z of LD 86/69, as amended by s. 7 of Act 1775/75). The lynx in Greece is also protected under the Bern Convention and the CITES Convention.

4. Habitat suitability and prey base

The abandonment of traditional livestock raising practices as well as the immigration of many people to the larger cities has led to a marked increase of forest coverage in Greece by 7,9% (National Forest Inventory, 1992) from 18% to 25.9%. Dense forests especially in Rhodope and N. Pindos today cover areas that had been previously dominated by pastures. A large proportion of these areas are protected or their legal protection is under way, so the protection status of probable lynx range can be summarized as follows:

- Valia Kalda National Park (N. Pindos), 100km²;
- Vassilitsa (N. Pindos) NATURA 2000, 81.6km²;

- Voras Mountain (border with the FYR of Macedonia) NATURA 2000, 100km²;
- Tzena and Pinovo Mountains (border with the FYR of Macedonia) NATURA 2000, 127.4km²;
- Nestos Delta National Park, 60km².

Although forest coverage is increasing, the prey base remains poor in most areas that could be suitable lynx habitat. Concerning the wild ungulates:

- Red deer is extinct, only a few individuals are observed in Rhodope;
- Roe deer is widespread but the populations are greatly reduced due to illegal hunting;
- Chamois exist in small isolated populations.

The hare is widespread, but there is insufficient data on population densities. The University of Thessaly is conducting a population study in Thessaly and Ipeirous. The grouse has only a small population in Rhodope and Lailias Mts. The hazel grouse is widespread but rare in Varnoundas, Voras, Lailias and Rhodope ranges. A single wild population of pheasant exists in the Nestos Delta and the partridge (mainly rock) is widespread, locally common due to releases by hunters.

Possible threats include extensive mountain road networks for timbering or tourist purposes, large scale tree felling which causes deterioration of the best forest stands and disturbance by legal and illegal hunting.

5. People and institutions

Governmental agencies:

- Ministry of Agriculture responsible for timber production, hunting laws, national parks, management of the forests;
- Ministry of Environment, Land Planning and Public Works, responsible for protected areas (national parks, Natura 2000 sites), public works (dams, roads e.t.c.).

Non-governmental Organizations (NGOs):

- ARCTUROS
- WWF-Hellas
- Hunter's Federation

Universities and relevant institutions:

- School of Forestry and Natural Environment (Aristotelian University of Thessaloniki)
- Institute of Forest Research (National Agricultural Research Foundation)
- University of Thessaly

6. Prospects and needs for the future

6.1. Historical data

Collection of all historical data on lynx presence in

Greece after 1950. These should be mapped with GIS so the retreat of the distribution is best illustrated. The collection of this data must be done through a questionnaire, which will also reveal the causes and time of extinction.

6.2. Fieldwork in target areas (N. Pindos, Voras Mountains, Nestos Delta) must include:

- Surveys with recorded calls;
- Placement of remote control cameras in selected points;
- Distribution of questionnaires;
- Detailed examination of livestock kills.

There should be a monitoring program in forested areas bordering mainly on the FYR of Macedonia and secondarily Albania, where observations should be regularly collected and evaluated. Also collaboration with local game farmers and stock raisers is needed in order to examine kills on roe deer and livestock respectively. To this end collaboration with ELGA (State organization for damage compensation) would help in quick recognition of livestock damages that can be attributed to lynx.

6.3. Parallel work and collaboration

Parallel work and collaboration with the FYR of Macedonia, Albania and Bulgaria, concerning questionnaire handouts and livestock damage inspection.

Literature referring to the lynx in Greece

The following authors refer to transborder movements of the autochthonous lynx population of Macedonia and Albania across the Greek borders to the mountains Voras and Varnoundas. However, they made no field surveys in these areas.

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