

The lynx in Bulgaria: present conservation status and future prospects

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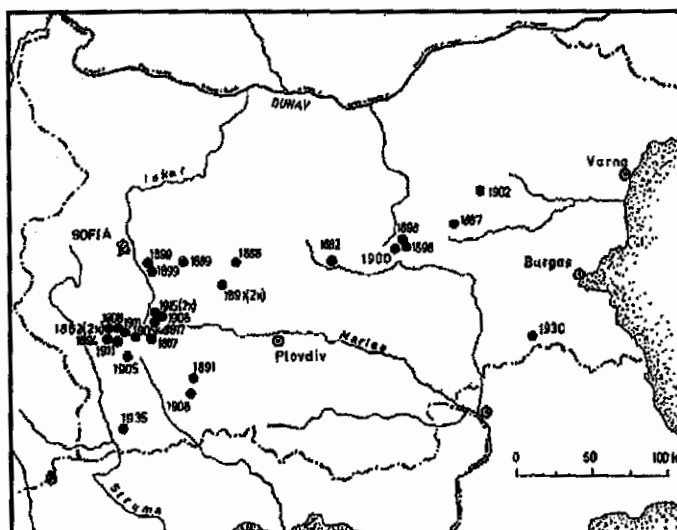
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1. Present status and distribution

The present official conservation status of the lynx is extinct.

1.1. Historical review

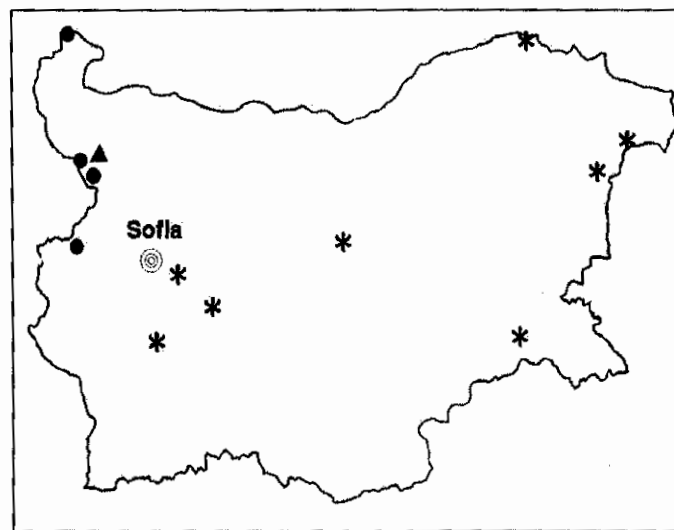
The first records for lynx in Bulgaria date back to 1862 (Map 1, Table 1). The last official records for killed lynx are from Pirin Mountains in 1935, near Melnik (Atanasov 1968), and 1941 Nature reserve Parangalitza (Spiridonov & Spasov 1985). For the period 1862–1941 the recorded cases are 27, covering up to 32 animals, killed, caught or seen. All the records show that the lynx in Bulgaria inhabited mainly the main ranges of Pirin, Rila, Rhodopi and Stara Planina (Balkans) Mountains, less in Sredna gora, Lozen and Strandja Mountains. The species was confined to big forest complexes, both deciduous and coniferous, using rock and shrub concealments. The lynx in Bulgaria occupied more diverse biotopes than other populations in Europe. It has even been seen in dry vegetation (like Strandzja Mountain). Table 1 summarizes the lynx records for the period 1862–1935.



Map 1. Lynx seen or killed in the period 1862–1935, according to Atanasov, N. 1968.

1.2. Current trend/development in the past decades

Current data about lynx presence in Bulgaria are very scarce. During the period 1941–1999 most of the information on observed specimens came from local people. The most interesting fact is that 90% of the information came from the border area between Bulgaria and Yugoslavia – the region of Western Stara Planina, along the border. There are also some reports from Rui Mountain, near Trun (also along the border). The locals, mostly forest guards, shepherds and hunters spoke mainly about observed specimens, but none of these cases was officially proved. From Western Stara Planina there is also additional information about a lynx being killed in 1995 by a local hunter, but it has still not been checked if the skin is available. Some of the conclusions are made from remains – footprints or faeces. These are the only data directly received by fieldwork done by the Balkani Wildlife Society. In March 2000 a footprint similar to that of a lynx was seen and photographed. Later on, additional information was received by a local person of an individual seen in November 1999, exactly where Petko Tzvetkov found the track. There are also many other but uncertain data from different parts of Bulgaria. All the records are summarized in Map 2.



Map 2. Lynx records for the period 1941–2000 ● observed specimen – reliable data; ▲ tracks; * information by locals and other – uncertain data

Table 1. Lynx records in Bulgaria (from 1862 to 1935), according to Neno Atanasov (1968).

Year	Observation	Locality	Altitude	Biotope
	2 juveniles caught	Rila Monastery, Chermena	1100 m	In hole
1882	Killed	Stara Planina (Balkan), village Kran, Kazanlak district	350–400 m	Rock concealments and bushes
1886	Observed and killed	Stara Planina, near Koprivstiza village,	1000–1200 m	Steep slopes and rock concealments with bushes
1887	Killed	Rila Mountain, Demirkapia, Samokov district	2539 m	Dwarf pine forests
1887	Killed	Stara Planina, place Titcha, Kotel region,	600 m	Mixed forest with bushes
1889	Killed and stuffed in Sofia University	Sredna gora Mountain, village Petrich, Panagjuriste district	500–800 m	Thick oak forest
1891	2 lynx observed	Sredna gora Mountain, peak Malak Bratia,	1000 m	Oak forest and bushes
1891	Killed	West-Rhodopi Mountains, Sjutka peak,	2187 m	Virgin coniferous forest
1894	Tracks of lynx following deer	Rila Mountain, along Ilijna river	1300 m	
1896	Live capture	?, Bulgaria, given to Berlin Zoo		
1898	1 male killed ^a	Tvardishki Balkan, Place Shishkin Rid	1250 m	Thick high-tree forest with scrub
1898	1 female killed ^b	Tvardishki Balkan, Place Shildari,	1250 m	Rocky slopes with thick forest and scrub
1899	Killed	Losen Mountain, German Monastery,	1000 m	Mixed forest with concealments
1899	Observed	Losen Mountain, place Urvich,	1000 m	Rock slopes with thick forest and scrub
1900	Killed	Tvardishki Balkan,	1250 m	
1902	Killed	Varbishki Balkan	800–1000 m	Perennial oak forest
1905	4 live caught juveniles	Rila Mountain, Tichtshiishki kolibi		
1905	Killed	Rila Mountain, place Smeseto		
1908	Killed	Sredna gora Mountain, Verinsko region	500–600 m	Oak forest
1908	Killed	Rila Monastery	1100 m	Mixed deciduous and coniferous forest
1908	Tracks	Tcham Koriya, Borovetz	1450 m	
1911	Observed	Rila Mountain, Brichebor	1200–2400 m	
1911	Observed	Kriva reka, Sushichal	1500–2630 m	
1915	Tracks of two lynx found	Rila Mountain, Sitnjakovo	1740 m	Perennial virgin, coniferous forest
1930	Killed	Strandza Mountain, Elchovo district		Thick oak forest
1935	Killed	Pirin Mountain, near Melnik 600 m altitude	600 m	

^a Stomach full of meat^b In stomach – meat covered with fur from red and roe deer

There is a good reason for the assumption that some individuals could migrate to enter Bulgaria from the Carpathian population – records received from Eastern Yugoslavia in 1992–1995 along the border to Bulgaria (Mirić & Paunovic 1992). It could possibly be done by migrations across the Danube through natural recolonization of the Carpathian lynx. There is also the probability of migration of lynx from the Balkan population because of the war in Kosovo. Therefore more detailed research is needed to prove the presence or the absence of lynx in that region.

In 1992 the Bulgarian NGO Wilderness Fund made an assessment of the habitat in the Central Balkan (Stara Planina Mountains) and a feasibility study with the assistance of an expert from the French National Hunting Service, aiming at a proposed reintroduction in the area. The results were promising at that time but later on drastic changes in the situation occurred – loss of prey base due to poaching and ineffective game and hunting control and loss of suitable habitats because of inappropriate management of protected areas.

1.3. Legal status / hunting / poaching

In the past the lynx was registered as a subject for hunting. Today the lynx is legally protected throughout the whole year by the Bulgarian Law for Protection of Nature, which assigns a fine of 1000 Lv. (= 1000 DEM) for a killed or 500 Lv. for a captured animal. The species is included in the Bulgarian Red Data Book under the category Extinct.

Although it is legally protected, there are some unofficial data that poachers or hunters had killed several lynx in Western Stara Planina during the last ten years. Due to its extinct status and lack of recent information, any specimen eventually found in Bulgaria is vulnerable to poaching.

2. Prey base

The prey base data is collected from official statistics of the National Forestry Board.

2.1. Status of main wild prey species (roe deer *Capreolus capreolus*)

The main prey base for the lynx, the roe deer, has been decreasing in numbers for the last 10 years (Fig. 1.).

2.2. Availability of alternative wild prey (hares and capercaillie)

The alternative prey base consists of *Lepus europaeus* and *Tetrao urogalis*. After a decrease up to 1997, the hare population showed an increase over the last two years. The capercaillie population remained fairly stable (Fig. 2. & Fig. 3.).

2.3. Information on killing of domestic animals (sheep, goats)

There is no available information on killing of domestic animals by lynx in Bulgaria.

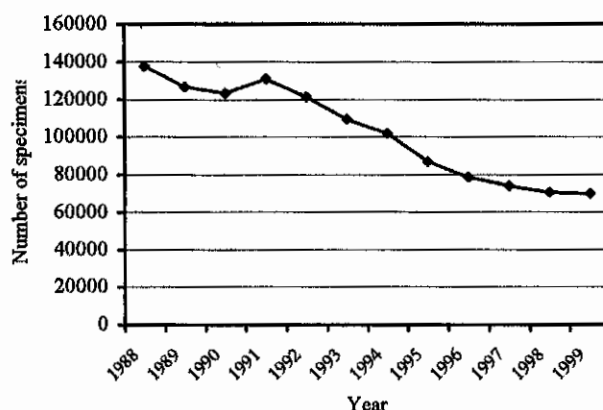


Figure 1. Development of the roe deer population in Bulgaria 1988-1999.

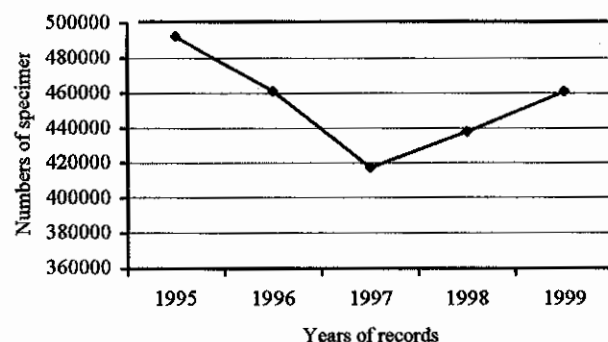


Figure 2. Development of the hare population in Bulgaria 1995-1999

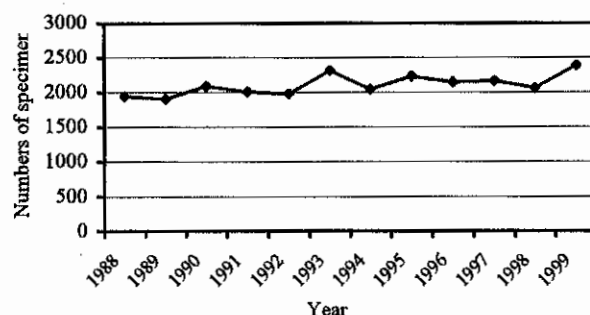


Figure 3. Development of the capercaillie population in Bulgaria 1988 - 1999.

3. Habitat

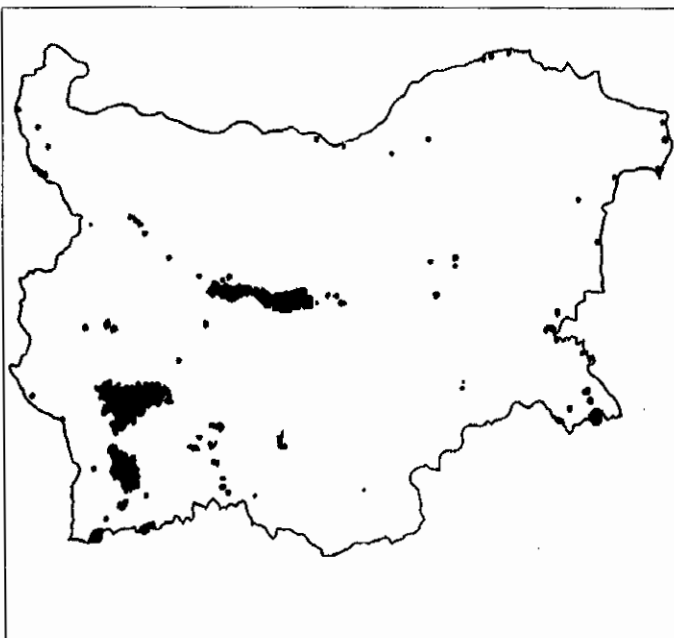
The habitat suitable for lynx in Bulgaria has shown extensive fluctuations due to the transitional period in the country, accompanied by law changes, land restitution and a bad economic situation.

3.1. Status and development of forests

All forests in Bulgaria are managed and exploited according to the Forest Law and forest management projects. The organizational structure for management of the forests consists of three levels: the Committee of Forests, 16 Regional Forestry Boards and 164 Forest Enterprises. Until recently, all forests were owned by the state, having been nationalized in 1947. The restoration of ownership rights on municipal (57% of the forests prior to 1947) and private forestland (19% before 1947) will soon be accomplished. In 1990 the total forestland area comprised 3871.4 thousands hectares. The stands of natural origin covered 2295.0 th. ha (59.3% of the total). The stands of artificial origin covered 1032.1 th. ha (26.7%). The forested area was 3348 th. ha or 86.5% of the total forestland area. This is 30.16% of the total area of the country (or 0.372 ha of forest per citizen). The coniferous high stem forests represent 33.3% of the total area, while broad-leaved high stem forests are 21.4%.

3.2. Distribution, size, status of protected areas (e.g. national parks)

The distribution of the protected areas is shown on Map 3, compiled by GEF/ARD Biodiversity Project for Bulgaria, 1998.



Map 3. Mapping of protected areas in Bulgaria.

The protected areas in Bulgaria are: Reserve, National Park, Natural Monument, Supported Reserve, Nature

Park and Protected Place. The sizes of the three national parks are as follows: Pirin 44066.7 ha, Rila 107923.7 ha and Central Balkans 73261.8 ha.

4. People and institutions

Several GO and NGO institutions in Bulgaria are directly connected to lynx conservation:

4.1. Governmental organizations (GOs)

- Ministry of Environment and Waters: directly responsible for conservation legislation and control of protected areas, wildlife and pollution. Controls through regional inspectorates.
- Ministry of Agriculture, Forests and Agrarian Reform: the department of the National Forestry Board is directly responsible for the control and management of the forests and hunting.
- Union of Hunters and Fishermen (semi-government): a new legislation concerning management is being prepared.

4.2. Non-governmental organizations (NGOs)

There are more than 100 NGOs in Bulgaria concerning wildlife conservation but only 5–15 are really functioning.

- Balkani Wildlife Society
- Wilderness Fund
- Bulgarian Biodiversity Preservation Society – SEMPERVIVA
- Green Balkans Federation
- Bulgarian Society for Protection of Birds (conducts mammal conservation projects too)
- Union for Protection of Nature, etc.

4.3. Universities / scientists

Universities:

- Sofia University with related departments, Sofia
- University of Forestry, Sofia
- Veterinarian Institute, Stara Zagora
- Private universities

Research institutions:

- Institute of Zoology, Sofia, and Institute of Ecology, Sofia. Both institutes are under the management of the Bulgarian Academy of Science
- Institute of Forests, Sofia

Summary

Having in mind the new records about the changes in the conservation status of the lynx in Bulgaria, we propose the following steps:

1. Establishment of a national lynx working group (government and non-government organizations included) to produce a national lynx management plan.
2. Research on cases of lynx recently announced as seen or killed in Bulgaria.

3. The historical decline of the lynx should be analyzed; threats should be identified and removed.
4. Taxonomic surveys (including DNA analysis) on tissues of native lynx are needed to clarify the taxonomic status and population affinities of the Balkan population, and to determine its conservation importance. A project has already started (App. 1).
5. Promotion of conservation through appropriate education programs for local people, hunters or any interested groups.
6. Local people should be informed about any steps for lynx management.

Available literature / reports / statistics

Apart from the in depth report done by Atanasov Neno, 1968, there are few available literature sources on lynx in Bulgaria. The available literature is summarized below.

- Anonymous, 1900–1901. Ubit ris. [Killed lynx]. *Priroda*, 7 (4–5) (in Bulgarian).
- Anonymous, 1900–1902. Oshe edin ubit ris. [Another killed lynx]. *Priroda*, 8 (5): 98 (in Bulgarian).
- Anonymous, 1935. Ubit ris v Bulgarija. [Killed lynx in Bulgaria]. *Zora*, 4730: 8 (in Bulgarian).
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