

Report on the Field Survey

Mavrovo National Park, Macedonia

March 20-25, 2006

*Aleksandar Stojanov, Aleksandër Trajçe, Dime Melovski,
Gjorgi Ivanov, Olsi Qazimi & Manuela von Arx*

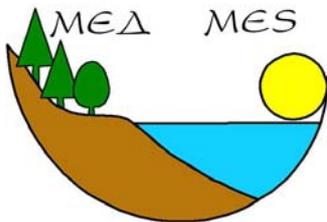


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Executive Summary

After a first training in monitoring methods in the Swiss lynx project, five young researchers from Macedonia and Albania, representing the Macedonian Ecological Society and the Society for Protection and Preservation of Natural Environment in Albania, organized a field survey in the Mavrovo National Park, Macedonia together with the IUCN/SSC Cat Specialist Group / KORA and Euronatur.

The aim of the survey, which took place from March 20-25, was to carry out some transects in supposed lynx habitats in order to identify correctly and record any tracks of mammal species encountered, to get an idea about the species composition in these areas, and with the hope to find indications of lynx presence. The Mavrovo National Park is thought to be the stronghold of the Critically Endangered Balkan lynx population.

We delineated five transects in different regions of the park (Fig. 2). Localities were selected basing on information of lynx observations in the past and depending on the snow conditions.

During these five days indications for the presence of several mammal species in the National Park were found. Besides the numerous hares and foxes, we encountered tracks of wild boar, chamois, badger, roe deer and marten. Among the large carnivores, tracks of one bear, possibly two wolves and, on the last day (Fig. 7), tracks of two lynx, probably a female with young, walking side by side, were found. In general, the species composition was more diverse in mixed forests than in beech forests. This was especially true for the large carnivores and the larger ungulates like roe deer and chamois (e.g. Fig. 5). The survey is well documented with photos; a collection for each day can be found at the end of the report (pages 15-19).

After this experience, we point out some future steps that in our opinion need to be undertaken:

- Continuation of the field work, in order to have more reliable data about lynx and its prey base;
- Creating a data base for collecting the various data and information;
- Continuation of the cooperation with the border police and other stakeholders;
- Rising awareness in order to create a bigger network in the area.

Introduction

The lynx population living in the southwestern Balkan mountains, mainly in Albania and Macedonia, has been identified as the most threatened population of Eurasian lynx in Europe (von Arx et al. 2004). This is even more alarming as it most probably concerns an own subspecies, as previously described by some authors (*Lynx lynx martinoi*, Mirić 1978) and as the preliminary genetic analyses show. Conservation agencies and environmental organizations have shown interest in conserving this population and different actions are taken up to now in help of its survival. These include a series of meetings, seminars, workshops and trainings aiming at the increase of knowledge, capacities and cooperation between the main range countries (see Balkan Lynx Conservation Compendium). A recovery programme for the Balkan lynx is expected to start within this year.

At present, the knowledge about the Balkan lynx distribution, habitat, prey base and threats is limited. This information is immediately needed as no conservation strategy can start without having enough knowledge about the species in the region. One of the conclusions of the Lynx Monitoring Workshop, held in Mavrovo, Macedonia, on 15-17 November 2005, was to gather more ecological data concerning the Balkan lynx (Report on Mavrovo Meeting, 15-17 Nov 2005; Breitenmoser et al. 2005).

With the support of the German Federal Agency for Nature Conservation (BfN), KORA, in collaboration with EURONATUR, organized a training about the lynx monitoring for five students from Albania and Macedonia in Switzerland in January 2006. During this training, the participants learned theoretical, practical and organizational aspects of monitoring wildlife. Field work was an important part of the training, and the participants had the opportunity to do some camera trapping and snow tracking (Balkan Lynx Training Report, Melovski et al. 2006).

The experience gained during the training in Switzerland was the precondition for starting basic surveys in Albania and Macedonia. KORA, together with EURONATUR and representatives from the Macedonian Ecological Society (MES) and the Society for Protection and Preservation of Natural Environment in Albania (PPNEA) organized such a survey in the Mavrovo National Park in Macedonia, the area which is thought to hold the stronghold of the Balkan lynx population. This field survey was conducted from 20-25 March 2006 by Aleksandar Stojanov, Aleksandër Trajçe, Dime Melovski, Gjorgji Ivanov, Olsi Qazimi & Manuela von Arx, members from the above mentioned organizations. The aim of the survey was to carry out some transects in supposed lynx habitats in order to identify correctly and record any tracks of mammal species encountered, to get an idea about the species composition in these areas, and with the hope to find indications of lynx presence. In addition, the conditions at place in regard to future activities, especially camera-trapping, were examined.

This basic survey required: well planned and organized transects, team work, equipment (cars, maps, GPS, snow equipment, field forms, cameras, etc.), analysis and interpretation of the field data. Apart from transects and field work, a very important part of the survey was to collect information from villagers who live in the study area, to set up new connections and meetings with the national park wardens and the border police with the aim to raise awareness in order to create a bigger network of contacts in the area.

Characteristics of the National Park Mavrovo

The Mavrovo National Park (Fig. 1) was established in 1949. At the beginning, the area of the park was 11.750 ha. Since then it has expanded continuously. Today, the territory of NP Mavrovo is 73.088 ha. The area is part of the Scardo-Pindic mountain range. This region covers the southern parts of the Šara Mountain, a whole massif of the mountains Korab and Dešat and parts of Bistra and Vlainica. In the eastern part of the Bistra Mountain, the Mavrovo Lake was constructed as an artificial lake in the field of the Mavrovo Pole. The National Park comprises 36 villages in four local regions.

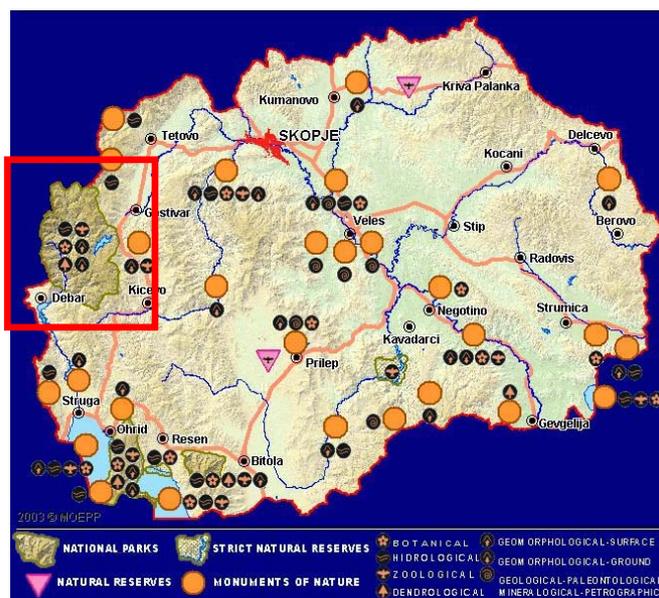
The climate is mountain-continental with a Mediterranean influence. The average annual temperature in the region of Mavrovo is 7.1 °C, and the mean annual precipitation 1103 mm (Mavrovo meteorological station, 1250 m a.s.l.). Similar climatic conditions were observed in the southern parts of Bistra Mt. (meteorological station Lazaropole). However, the lower parts (Radika region) have a warmer climate, and the mountain regions above 2000 m a.s.l. are characterized by an alpine climate.

The main relief types are mountainous and river-valley forms. The lowest part is 600 m a.s.l. at the inflow of Mala Reka into Radika River. The highest peak is Korab on Korab Mt. (2764 m a.s.l.). Paleozoic

phyllite schists represent the largest surface in the NP Mavrovo, but a considerable part consists of Triassic limestones.

Fig. 1:
Situation of the Mavrovo National Park (red square) in the western part of Macedonia, bordering with Albania.

Source of the map: Ministry of Environment and Physical Planning website (<http://www.moe.gov.mk>)



Alpine mountain vegetation is represented only on Korab Mt., while on the mountains Bistra, Dešat and parts of Šara Mountain there is sub-alpine vegetation. Seven vegetation belts can be distinguished:

- Continental-submediterranean region with oriental hornbeam forest (*Quercus-Carpinetum orientalis macedonicum* Rud. Apud. Ht.), (to 600 m a.s.l.);
- Warm continental region with Italian and Turkey oak forest (*Quercetum-frainetto cerris macedonicum* Ober.emend. Ht) (600-900 m a.s.l.);
- Cold continental region with sessile oak (*Orno-Quercetum petraceae* Em), (900-1100 m a.s.l.);
- Piedmont-continental-mountain region with submontane beech forest (*Festuco heterophyleae-Fagetum*), (1100-1300 m a.s.l.);
- Mountain-continental region with montane beech forest (*Calamintho grandiflorae-Fagetum* Em), (1300-1650 m a.s.l.);
- Subalpine mountain region with subalpine beech forest (*Fagetum subalpinum scardo pindicum* Em), spruce forest, *Piceon excelsae*, (1650-2250 m a.s.l.); and
- Alpine mountain region with high mountain pastures (*Edriantheto-Seslerion* Ht. and *Seslerion cosmosae* Ht.), (over 2250 m a.s.l.).

The estimated numbers of the large mammal species present in the park are (T. Gjogjevski, pers. comm.): 18-20 lynx (*Lynx lynx*), 60-80 brown bear (*Ursus arctos*), 14-16 wolf (*Canis lupus*; number of packs unknown), 1500-2000 chamois (*Rupicapra rupicapra*), 350-400 wild boar (*Sus scrofa*; number of adult animals), and 1000-1200 roe deer (*Capreolus capreolus*). In summer, around 15'000 sheep are grazing on pastures within the park. Besides forestry, which forms the most important income to the park, water power (generated by the lake) and tourism are the main industries. Tourism is more or less concentrated around the lake and in winter because of the ski infrastructure in Mavrovo village.

Material and Methods

We did the survey in the Mavrovo National Park area from 21 to 26 March 2006. Tracking normally started at 09:00 AM everyday. We used two 4-wheels Lada Niva cars to go to the points, from where we started tracking. Transects were prepared one day before, using topographic maps (1:25'000). For facilitating the walking in the snow we used snowshoes and gaiters. The whole transect route was followed with two GPS (Garmin GPSmap 76 and Garmin GPSmap 60CS) in which we signed the most significant tracks and signs as waypoints. When tracks or other field signs were found, we used the "Balkan Lynx Field Handbook" to identify them. Tracks and scats were analysed, measured and pho-

tographed. Three digital cameras and three pairs of binoculars were used during the survey for photographing and scanning the areas, respectively. When we encountered lynx tracks, we made plaster casts of them and filled the track form (see page 14). Following the lynx tracks we were able to find lynx hairs, which were collected in appropriate paper envelopes for later analyses. The collected data were assessed and discussed.

Activities and Results

The first thing that had to be done in order to establish good transects was to select possible lynx localities in the region. Localities were selected based on the recent data taken from the questionnaires made by the border police in the Macedonian-Albanian border (Janevski 2006) and not so recent data based on the questionnaires, from scientific papers (e.g. Micevski 1997).

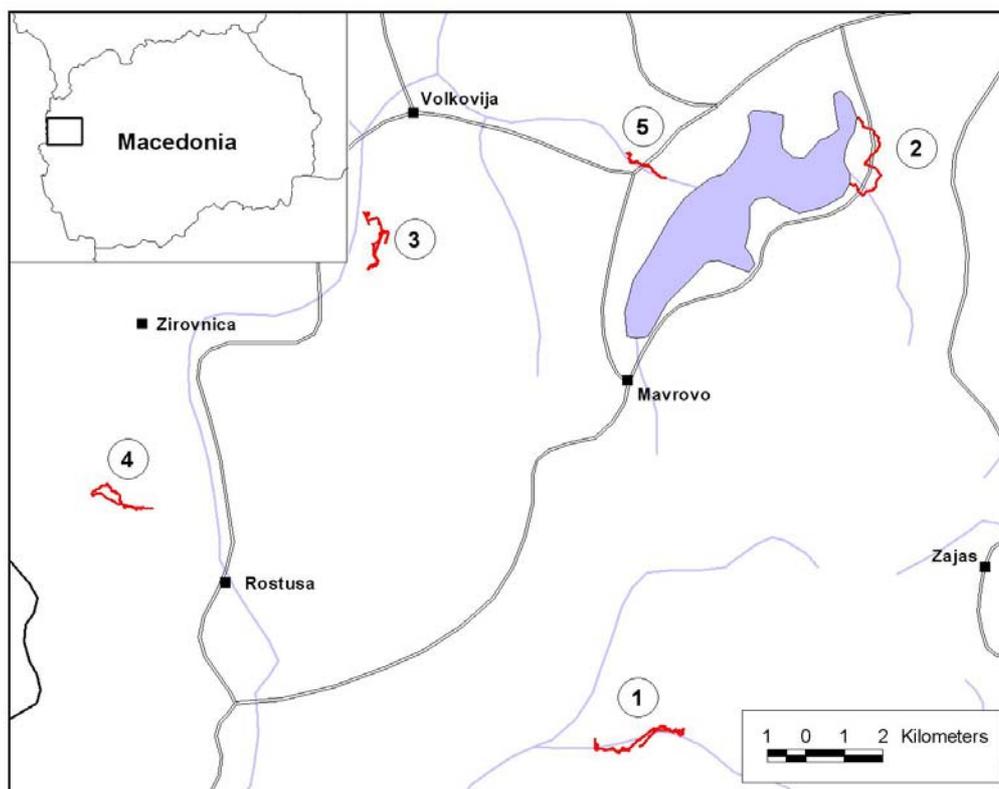


Fig. 2: Location of the transects made during the five days of field work: 1 Tresonče, Alilica cave, 2. Šuntevsi Rid, Vlainica, Leunovo, 3. Sence, 4. village Bituše, and 5. Kičinicka Češma.

The activities during our stay in Mavrovo, with the description of each day are given in the following text: