

The discovery of an extinct species: Data for the recent presence of the Lynx (*Lynx lynx* L.) in Bulgaria and discussion of its status since 1941

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Abstract. The accumulated data for the possible or probable presence of the lynx (*Lynx lynx*) in Bulgaria after the date considered as an official extinction of the animal in the country (1941) are discussed. New reliable data for the recent presence of this carnivore are presented proving its existence in the recent mammal fauna of Bulgaria as well as the beginning of a recovery process from North-West. The possible existence of an unknown local population in Strandja region is also discussed.

Key words: *Lynx lynx*, Bulgaria, review

Introduction. History of the Bulgarian lynx population and extinction of the species in the XX century

Being a large carnivore and the largest European cat the lynx is an emblematic species between the mammals of the continent. The lynx is also a very discussed animal of the Bulgarian fauna. The searching of the lynx and the elucidation of its status is associated with the overall nature protection effort in the country for several decades.

The lynx was a typical inhabitant of the Balkan and Bulgarian forests. Subfossil lynx remains dating back to the Neolithic and Halcolithic periods exist in several Bulgarian archaeological sites like Salmanovo, Goliamo Delchevo, Ovcharovo, Staliyska Mahala and Dolnoslav. According to historical data the felid was present in the XIX century in the wooded habitats throughout the country and has inhabited in the beginning of the XX century all the large mountains. At present it is accepted (SPIRIDONOV & SPASSOV, 1985) that the species has disappeared from the Bulgarian fauna. The species disappeared from the Eastern Stara Planina, Sredna Gora, Pirin and Strandja mountains during the thirties of the last century and from the Central Stara Planina Mountain about 1940 (ATANASSOV, 1968; SPIRIDONOV, 1969; SPIRIDONOV, 1985a; SPIRIDONOV & SPASSOV, 1985; Spiridonov, Mileva, unpubl. questionnaire with the local Forestry administrations in Bulgaria; SPASSOV et al. 2001). The lynx is considered in the Red data book of Bulgaria officially as an extinct species since the beginning of the 40's years of the last century: the last certain report of the species (1941) is from Rila Mountain – the Parangalitsa reserve, where German soldiers have killed a lynx according to the witness report of the former librarian of the Rila monastery – S. Bahchevandjiev

(SPIRIDONOV & SPASSOV, 1985). This is the date of the last sure observation, but it is hardly possible to say that this is the last lynx in the country.

Possible cases of *Lynx* presence after 1941

After a period of lack of information (1941~1965 with some few exceptions: see below) a large number of reports are accumulated till recent days. The unconfirmed and indirect data till recent days are considerable and the areas of distribution are dispersed practically in most of the regions of the country, so the problem of the possible lynx occurrence became strongly debatable. Only a part of all the witness reports deserve more serious attention (some of them were inspired by the discussions in the media) but several data could represent reliable data of last lynx occurrence or above all data of occasional re-colonization.

The Danube region – N.-E. Bulgaria: area of unexpected information

A witness report for a killed lynx was collected by YOVCHEV (1982) for the 50's from Dobrodga (N.E. Bulgaria) - a region that seems to be a very improbable habitat for the lynx, but this report coincide with some other strange at first glance information: Several reports were collected for the Danube coastal region and the Danube plain . Two of them are related to the paradoxical observations of lynxes perched on a poplar: information collected by N. Spassov for the Russe area for the 60's (witness report of Dr. K. Zidarov) and by G. Spiridonov (pers. comm. of S. Chakarov) for Biala local forestry for the late 70's. Similar witness observations also from the 60's (gathered by T. Michev, Lab. of Ecology, Bulg. Acad. Sci.) is for the region along the Danube near Silistra. After the statement of Atanas from Tutrakan (pers. comm. to G. Spiridonov) a veterinary killed and buried a lynx in the vicinities of the town at the beginning of the 80's. In the winter of 1999 the press released information about a lynx seen by a group of hunters in the region of Balchik on the northeastern coastline of the Black Sea. Our additional inquiry did not substantiate the information. If some of the noted above information is reliable it could be possibly explained as cases of lynxes that swim across the Danube (such cases were proven recently as a process of a lynx dispersal from the Romanian Carpathians to East Serbia (see below)).

The Strandja region: a last unsuspected nucleus of native isolate population?

According P. Beron (pers. comm.) and YOVCHEV (1982) in 1952 the forest engineering Sava Stoimenov has seen a lynx in Strandja Mountain near Zabernovo, at about 20 km from the Turkish border. This report seemed doubtful for a long time having in mind the lack of reliable information on Lynx population in Turkish Strandja Mountain. On the other hand after the questionnaire of SPIRIDONOV (1979) a lynx was observed the same year (1979) in the Forestry of Kosti at the State border. After a Turkish specialists' report from 1990 (Akin et al. after BREITENMOSER & BREITENMOSER-WÜRSTEN, 1990) the species probably occurred along the northern border to Bulgaria. All this information sounds quite interesting now on the ground of some new information for the Turkish part of the Mountain from the end of 2004. After the testimony of a Turkish forester from Kırklareli who have communicated with Kiril Georgiev (Wilderness Fund, Bulgaria) two lynxes

were killed in the Region by the end of 2004. It is interesting to note that at the end of the 90s a skin of a lynx killed after the confirmation in Bulgarian Strandja was shown to experts, but it is not certain if the animal was really shot in Bulgaria or it was a trophy from outside (Russia, Romania etc.). There is another hunter's witness report for the same period for an observation in the forests near Boliarovo village (V. Pochekanski, pers. comm.). As a confirmation of all these data arrived the witness report of Andrey Stoyanov, a zoologist from the N.M.N.H - Sofia, who claim to have observed with some German colleagues a lynx in the Nature reserve of Ropotamo on 25 May 2005. The animal was seen from a distance of about 80-100 m., but the short tail with a black tip, the massive paws and the short muzzle were the significant characteristics of the observed rusty large felid-like carnivore "who disappeared with two jumps in the forest".

Sredna Gora mountain, the Balkan Range, Rila, Rhodopes and the mountainous area of the Western Border of the country: The possible region of the last survivals as well as of a natural lynx re-colonization process

Sredna Gora mountain: Information from the beginning of the 70s, collected by the eminent Bulgarian naturalist Nikolai Boev for Sredna Gora: tracks was detected in the region of Strelcha town - near the peak Vluk, also a lynx with two cubs was observed in the Eledjik part of Sredna Gora mountain; about 30 sheep were also killed (the information is from the Stoyanov, Pazardjik regional forestry administration). A statement for a killed lynx in the vicinity of Gara Negoshevo was collected by G. Spiridonov (pers. com. of G. Kalaidjiev, Usoitsa village, 1985).

Central Balkan range: Information was collected also by N. Boev for Djendema Nature reserve (Central Balkan) at the beginning of the 70's. Checking the above noted information from Djendema N. Spassov and P. Petrov (1973) got an interview from a shepherd who claimed to have seen the lynx besieged by his shepherds' dogs in a rock. Scats (1983) and tracks (1984) was detected by G. Spiridonov in the Nature reserve Stara reka, Central Balkan (SPIRIDONOV, 1985a,b). The author supposed that the lynx recovery process has started with animals from Yugoslavia. Also in the 80's several claims of the existence of the lynx in the same region have been collected by the ornithologist Dr. Tseno Petrov. It is necessary to note in relation to this that at least some of the noted above affirmations were influenced by the idea of the introduction of the lynx in Central Balkan mountain, popularized in the 70s and 80s in the press (SPIRIDONOV, 1985b). An unconfirmed information on a lynx observation was collected by N. Spassov and V. Ivanov in 1984 from Stara Reka. Few years later a scat resembling lynx's (V. Ivanov, pers. comm.) were found in the same region. In the mid-90s tracks very similar to lynx's were observed and measured at a long distance on the tourist way in the same reserve by Kiril Georgiev (Wilderness fund). An attack by a "lynx" on a young cow was reported from the region of Apriltsi in Central Stara Planina Mountain in 1998 (a subsequent inspection by Wilderness Fund experts could not substantiate the information). Soon after this case a "strange large cat-like animal" was noticed crossing the motorway in the same region. The people observing it described it as a lynx immediately after seeing samples in the National Natural History Museum.

Rila mountain: During the late 60s some unreliable information about observations of "lynx" attacks on sheep in the mountain of Rila mountain were collected again by N. Boev. In 1998 G. Spiridonov discovered what were probably lynx scats on Rila Mountain, in the Rila Monastery Forest Nature reserve.

Western Rhodopes: Questionnaire (1989) of Spiridonov & Mileva with the Local Forestry Administrations detects an information for a killed lynx in 1963 in the region of Barduche (vicinity of Sarnitsa village, Forestry of Selishte). The additional inquiry (G. Pashov, inspector of nature conservation, Pazardjik) indicates that the skin of the animal was preserved till the 80s (!?). A report exists (1986) for Slivov dol, now part of the Nature reserve of Chervenata Stena, where the foresters St. Velinov and D. Munev claimed to have seen a lynx. The reliability of the information is now in process of attestation but the data from this region coincides with some “paradoxical” at first glance observations from neighbouring regions in Greece (PANAYOTOPOULOU, 2001).

The mountainous area of the western state border: Recent reports exist also from the mountainous region along the western Bulgarian Border – the region of Trun and the region of Maleshevska Mountain. An animal described as a lynx has been observed (at daybreak) in the Rui Mountain close to the Macedonian border by an amateur ornithologist in 1997. An unconfirmed statement of a killed animal in the region of Trun (in 2000) (the skin was preserved?) was collected by us. Footprints that could be lynx tracks were detected and photographed in snow also in the region near Trun in 2003 (E. Tsingarska, A. Dutsov, in let.). Another statement of a “lynx” observed by two hunters in from Maleshevska Mountain is collected in the beginning of 2005 (Stamen Stanchev, pers. comm.).

Recent reliable data from Stara Planina mountain: attempts of lynx recovery in Western Stara Planina (Balkan) Mountain

A skull of a lynx was given recently (2004) to Diana Zlatanova (Sofia Zoo) from a veterinary who claim to have killed the animal in the western part of the Central Balkan in 1992 (D. Zlatanova pers. comm.). It was kept as a trophy in secret for several years (a logic attitude having in mind that the lynx in Bulgaria is a strictly protected by law animal). A possibility exists that the skull is from a zoo but this is an unproven suspicion and the find is among the most interesting recent argument till the very convincing recent proofs from the Western Balkan region (received from the personal communication with Dipl. Eng. Ts. Mihailov):

The lynx was seen in late winter-early spring (2004) in the Belogradchik region of the mountain. The first observation has been by a forester. The animal has been observed again for several minutes by a game specialist soon after dusk from a gun-carriage hide and from a very short distance.

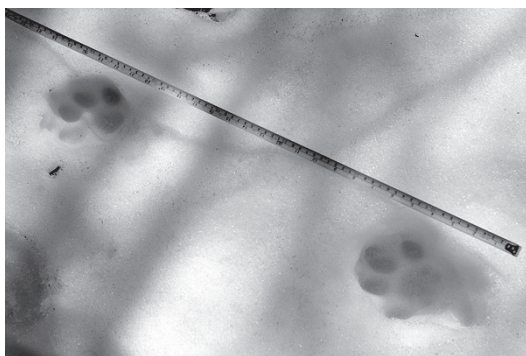


Fig. 1. A lynx track in Western Stara Planina (March, 2005) (photo: V. Pochekanski)

The tracks of the animal have been also seen few days after in the same region, as well. Several signs of the presence of the animal were detected again in the period February-April 2005. The tracks of the lynx was detected by one of us (G.P.) and filmed by V. Pochekanski (Fig. 1-3) and after by S. Zidarova (Fig. 5) in March 2005 near the same gun-carriage as in 2004. The footprint is typical for a cat species, with a width very close to the length, with large and rounded anterior part, with prints of the lateral fingers positioned quite ahead, with relatively small surface of the fingers cushions' part as well as with pointed (in some cases) finger's cushions but without separate traces of claws. The



Fig. 2. A lynx footprint from the same track (see above) in the snow (photo: V. Počekanski)



Fig. 3. A lynx footprint from the same track (see above) in muddy ground (photo: V. Počekanski)

footprints are estimated after the photos about 8 X 7.6 cm indicating a large male from the Carpathian population. Another possible activity of the lynx was detected in the same days by G.P: a roe deer with scars of injuring on the neck and the ear and scratched fur on the chest was detected (Fig. 4). All these data show without doubts a permanent recent presence of the lynx in the Border region of Western Stara planina or a regular presence in the reproduction season (time of increasing activity).



Fig. 4. A roe deer with possible injuries from a lynx attack (photo: V. Počekanski)



Fig. 5. A roe deer carcass with traces of carnivore canines on the throat. The place of the biting is typical for a lynx attack (photo: S. Zidarova).

Discussion

The lynx population has probably disappeared from Bulgaria in the 40s, but it is not impossible that some individuals have inhabited certain regions much later as well as that several lynxes have penetrated in our territories periodically till recent time. Some penetrations crossing the Danube were quite possible (see above). The extension of the Yugoslav population in the 80s and the development of the game farming in Bulgaria at this period have offered a good basis for emigration process from the west. It is quite possible also that a Strandja local population has existed all the time till now without being officially recognized. This could be the case also having in mind some Greek data (PANAYOTOPOULOU, 2001) of the Western Rhodopes where a local population possibly have existed till the 60s or more.

The discovery of the lynx presence in Western Balkan Mountain after a long period of absence is logical considering the data on recent re-colonization of the adjacent territories of Eastern Serbia and the formation of a small local population in this region. A process of a dispersal of the lynx from the Western Carpathians across the Danube (mostly in the narrow and adjacent to the Carpathian foot hills part of the Iron Gate) to Eastern Serbia up to the Bulgarian Border was registered in the early 90s (MIRIĆ & PAUNOVIĆ, 1992). After another opinion the lynx never became extinct in Eastern Serbia but hid in uninhabited and inaccessible areas, where it could not be recorded and that recently its population started to increase (HADŽI PAVLOVIĆ, 1997). Most logical seems to be the hypothesis of the colonization of the territories of E. Serbia by the Carpathian lynx, proved by the find of a lynx that drowned in the fish nets in Danube at Iron Gate (M. Paunovic, NMNH-Belgrade: pers. comm.). The process of dispersal of lynxes across Danube is

interesting not only from ecologic and conservational point of view but also from taxonomical point of view. Claims exist from a long time that the Balkan lynx population could be differentiate in a separate subspecies. In 1978 (MIRIĆ, 1978) described the Balkan lynx population as a separate subspecies *L. lynx martinoi*. It is necessary to note that BURESCH (1941) was the first who gave a name of the Balkan population as *Lynx lynx balcanicus* (see also SIMEONOVSKI and ZLATANOVA, 2001), distinguishing it from the other deeply colored southern form *Lynx pardina*). *L. l. balcanicus* is noted among the lynx subspecies by KRATOCHVIL, (1968) and Heptner and Sludskiy (1972). Buresch have not indicated a type specimen but he gave a brief diagnostic characteristic and he have published photos of Balkan lynxes with typical skin coloration pattern. So, nevertheless that this case is something complicate from nomenclatorial point of view, it seems that the name given by Mirić could be a younger synonym. On the other hand there are no convincing arguments for the statement that the Balkan form merit a separate taxonomic status. The above mentioned observed process of dispersal of the Carpathian lynx across the Danube, show that there was not an isolation of the Balkan population from the Northern one. On the other hand even if from taxonomic point of view the Balkan lynx does not merit a separate name at population level the Balkan lynx (existing till now in Macedonia, W. Serbia and Albania) could have some unique genetic characteristics important for the conservation of the diversity of the genetic fund of the species in Europe.

Recently the process of the re-colonization of East Serbia by the lynx is well documented (more than 50 data between 1990 and 2000) including data on several animals observed or killed close to the Bulgarian border (PAUNOVIĆ et al., 2001). A real small localized population exists in Eastern Serbia, possibly up to 30 individuals (GRUBAĆ, 2000). Three skulls are kept in the Office of the Game Reserve of Negotin from lynxes killed or died close to the Bulgarian territories and an observation of a lynx is made from a forester in 2004 under the peak Midjur in W. Balkan on Serbian territory, but just near the Bulgarian border. We hardly have for the moment a real lynx population in Western Bulgaria, but the noted above facts and data indicate that some peripheral. Bulgarian territories are probably included in the individual habitats of some animals as well as that separate migrations could take place in more central territories. The process of a further recovery is very possible (SPASSOV et al., 1999). Some of the noted data from Central Balkan and Rila possibly argued in favour of this prognosis.

Further measures for protection of the species. The lynx is a species strictly protected by law in Bulgaria (till 1986) (see SPIRIDONOV, 1985b). The large National parks in Central Balkan and Rila representing good habitats for the species were created in the beginning of the 90s. The idea of the re-acclimatization of the species in the rich in game old forests of Central Balkan existed from a long time (see SPIRIDONOV, 1970; 1972). But the real protection of the species in the country and the insuring of the very possible future process of more active natural re-colonization of some Bulgarian Mountainous habitats by the lynx need additional and rapid measures. They must be related to the effective trans-border territorial protection, measures against poachers and a clever public awareness. A Nature park is created in W. Balkan territories from the Serbian side of the border and the creation of a Nature park (160 000 ha) was proposed for the Bulgarian territories by Bulgarian NGOs after a conception prepared by Wilderness fund. The process of the approval of this protected territory need to be accelerated. The real protection needs also common efforts of the Ministry of the Environment and water together with the local forestry structures.

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Възвръщането на един изчезнал вид: Данни за присъствието на риса (*Lynx lynx* L.) в България и обсъждане на състоянието му в страната след 1941 г.

Николай СПАСОВ, Жеко СПИРИДОНОВ, Григор ПЕНЕВ

(Р е з ю м е)

Приема се, че последните сигурни данни за присъствието на риса в България са от 1941 г., когато е удостоверено, че немски войници убиват рис в Парангалишката гора (Рила). От тогава, обаче, са събрани редица данни за присъствието на вида в различни райони на страната: Средна Стара планина, Елечжик, пограничните планински западни територии, Рила, Родопите, край Дунава и Странджа. Не всички сведения могат да се смятат за надеждни, но някои от тях заслужават особено внимание. Възможно е на някои места видът да е продължил съществуването си до доста по-късно време или пък отделни индивиди да са преминавали периодично на наша територия от запад и от север. Събраните сведения показват, че съществува възможност до днес да е останала неизвестна автохтонна микропопулация в района на Странджа. У нас е съществувала формата, която би трябвало да се нарича *L. lynx balcanicus* Buresch, но подвидовата принадлежност на балканския рис е дискуссионна, особено в светлината на новите данни за миграции на карпатски рисове през Дунава. Събраните нови данни доказват проникването на вида от Източна Сърбия в района на Западна Стара планина. Има индикации за възможности за разселване на изток и на юг в планинските територии.