

Fauna survey of the Saxon villages of Transylvania, Romania

Ilf Jacobs and Pieter Blondé

Fauna Survey of the Saxon Villages

Introduction

The Mihai Eminescu Trust, founded in 1987, is active in the Saxon region of Transylvania, and is concerned with the conservation of cultural and natural heritage, and the promotion of education, culture, religion, and academic research within Romania. For the conservation of the natural heritage, the M E Trust financed a study of flora of the area, by Dr John Akeroyd FLS and Dr Owen Mountford of the Natural Environment Research Council

This paper is the result of a fauna survey supported by the M E Trust. This survey took place in July and August of 2002. The survey was coordinated by Ilf Jacobs, Pieter Blondé and Sofie De Valck, all members of the Belgian organisation, *JNM* or *Jeugdbond voor Natuurstudie en Milieubescherming* (translated: Youth for Nature Study and Environmental Conservation). This central group got help of some Belgian specialists of some taxa, and the survey information collected by the participants of the youth camp organised in the area by the central group.

The main goal of the fauna survey is to make an inventory of the present fauna diversity in order to promote the Bunesti and Laslea areas becoming model Natural Parks under IUCN (International Union for Conservation of Nature) Category 5 ("areas recognised for their landscape value and which require active management by local communities in order to retain their special qualities")

Acknowledgements

We thank the Mihai Eminescu Trust to choose our team to do the fauna survey and to provide us local transport and accommodation. We are grateful to Filip Berlangée who get us to this study and who prepared this study together with us. We are also grateful to everybody who assisted with the field work: Riet, Wouter, Koen, Bert, Katlijn, Katlijn, Kurt, Hicham, Catherine, Daan, Chris, Kathy, Jasper, Bob, Brecht and Filip (all members of the JNM, Youth for Nature study and Environmental Conservation) and Andrea, Alice, Mihai, Ramona, Hitridihircat and Oana (members of FEPAC, Fundatia Pentru Educatie Politica Administrativa si Civica). Of course we are also grateful to many local people of the Mihai Eminescu Trust and other friendly Romanians, too many people to thank them all by name. We would like to thank Sigrid and Floris Verhaeghe for the help to have this text in "readable English". Equipment was given for free by the IBW, (The Flemish Institute for Forest and Wild Management), the ZWG JNM, (the Mammal workgroup of the JNM) and of the Bat Working Group of Natuurpunt. A financial input, mainly for the travelling cost, was done by JINT, Action 1 Youth for Europe.

212 - *folys*

Pygmy Field Mouse	<i>Apodemus microps</i>	T
Wood Mouse	<i>Apodemus sylvaticus</i>	T
Yellow-necked Mouse	<i>Apodemus flavicollis</i>	T
Striped Field Mouse	<i>Apodemus agrarius</i>	D,O,S,T
Brown/Common Rat	<i>Rattus norvegicus</i>	S,H
House Mouse	<i>Mus musculus</i>	O,S,H,T
Fat Dormouse	<i>Glis glis</i>	D,S,P,T
Common Dormouse	<i>Muscardinus avellanarius</i>	O,X
Common Hamster	<i>Cricetus cricetus</i>	H

Results of the visits of church attics and some other roofs

Roofs of 14 old buildings were visited with as main goal to find bats. The most common found genus is *Plecotus*

Building	Bats visible	Bats present	Species	Remark
Bunesti main church	No	No	-	
Bunesti Orthodox church	1	Yes	<i>Plecotus auritus</i>	
Bunesti sheep stable	No	No	-	Tawny owl Fat Dormouse
Closendorf main church	No	No	-	
Crit main church	Yes	Yes	<i>Plecotus auritus</i> <i>Myotis myotis</i>	
Mesendorf main church	2	Yes	<i>Plecotus austriacus</i>	Dead
Mesendorf Orthodox church	Colony > 20	Yes	<i>Plecotus austriacus</i>	
Roades church	Yes	Yes	?	Eastern hedgehogs
Viscri church	Yes	Yes	<i>Myotis myotis</i>	Colony disappeared
Laslea main church	No	Yes	?	
Malancrav main church	No	No	-	Colony disappeared
Malancrav ↓	Colony > 15	Yes	<i>Eptesicus nilssonii</i>	
Noul Sasesc main church	Colony	yes	<i>Eptesicus nilssonii</i>	
Noul S. Romanian church	No	No	-	

Discussion Mammals

The diversity in general and the number of species that are described as 'threatened' in the EU-habitat-directive and the Romanian red list of threatened species, indicates that the region is of great importance for the conservation and observation of mammals. In total we found 48 species present in the area. This number represents 45 % of all species of the Romanian mammal fauna. The total number of reported species is just higher as the total number of reported species from the 'Piatra Craiului National Park' (47 species). The best represented order is that of the Rodents with 14 species, followed by the Chiroptera with 12 species.

The 2000 IUCN Red List of Threatened Species in Romania are

- Glis glis FAT DORMOUSE LR/nt
- Muscardinus avellanarius COMMON DORMOUSE LR/nt
- Sciurus vulgaris RED SQUIRREL LR/nt
- Lutra lutra COMMON OTTER VU/A2cde
- Nyctalus leisleri LESSER NOCTULE LR/nt
- Nyctallus lasiopterus GREATER NOCTULE LR/nt
- Myotis myotis GREATER MOUSE EARED BAT LR/nt
- Barbastellus Barbastellus BARBASTELLE BAT VU A2c

Appendix II of the European Habitat directive species

Brown bear *Ursus arctos*, Wolf *Canis lupus*, Otter *Lutra lutra*, Greater mouse eared bat *Myotis myotis* and Barbastelle bat *Barbastellus barbastellus*.

Focus on some important mammal species

Bats:

All European bats are protected by national and international laws and agreements. All of them have to be protected as described in the EU-Habitat directive. Four of the recorded species of bats appear in the Romanian red list and in the Habitat directive Appendix II. This proves again the importance of protection of the bats, and even more, the protection of their habitat.

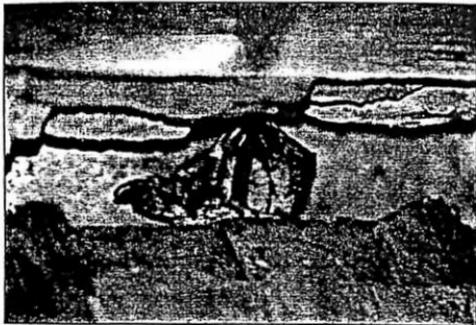
Bats were found at more than 50% of the reported churches. Only at one on six churches, no evidence of the presence of bats was found. We found evidence that bats also use other roofs of historical buildings, (e.g. the Malancrav theatre). Because of the high number of churches with bats and because of the diversity of bat species on churches (5 reported species in 13 churches), churches in the Saxon region should also be protected. They are very important for the conservation of several bat species. This protection should include:

- Education on the importance of bats to the responsible of the church
- Closing places for general public of places where bat colonies are found
- No restoration at the place of colonies while bats are present, especially when the young's are born. No restoration activities should take place at this sites mentioned from April to August.

-Improvement of the churches for bats by giving them several and diverse hiding places. Using American nursery bat boxes high in the roof and in the tower could be the best way to do this.

Some species are never found in houses, some are only found in hollow trees. Examples of the use of hollow trees can be found in the chapter 'Breite Plateau'.

For the existence of bats in a region, the bats do not only need roosting places, but also suitable hunting places. To enrich these suitable hunting places they need line-shaped vegetation structures in the landscape. Because bats find their way through echolocation, they need a structured landscape. The border of a forest, a stone wall, a house, trees near the water and tree-lines in general are necessary, especially for bats with a quiet sonar, such as the Long-eared bat that produces sounds that only reach a few meters. The numerous places with long-eared bats show that the landscape is still coherent and that the bats easily can get anywhere in the region by using landscape elements. The connectivity of the 'hunting areas' of the bats is not only important for them, but also for many other organisms such as butterflies, and larger mammals or birds. The presence of hunting places of the extremely rare Barbastelle at the Breite Plateau and at an orchard in Mesendorf indicates a high abundance of *Lepidoptera* and other soft night insects.



Grey Long-eared Bat

Brown Bear

The population of Bears in Romania is estimated at about 5500 individuals, which represent about 50 % of the European population west of Russia. It's the second largest population in Europe.

During our stay we could notice that Bears are still present in the area, but in different densities. In the Viscri area we found evidence at one place of a constant population. But all the large forest are used by migrating individuals. The best place to find footprints is on the slopes of the hills between Roades and Bunesti or at the other side of the hill north of Roades. On both places where several fresh footprints and bear faeces found. The surface of forest used by the bears is about 50 square kilometres. The total territory used by bears include the surrounded habitats as well. Local people told us that the mother of a young bear was shot three years ago. In the forest around Mesendorf, there is probably a second population of Bears.

For bears, the whole south-western region of Sighisoara can probably be seen as a big and coherent landscape suitable for several families of bears. It is our impression that the main

3 Areas which need special attention

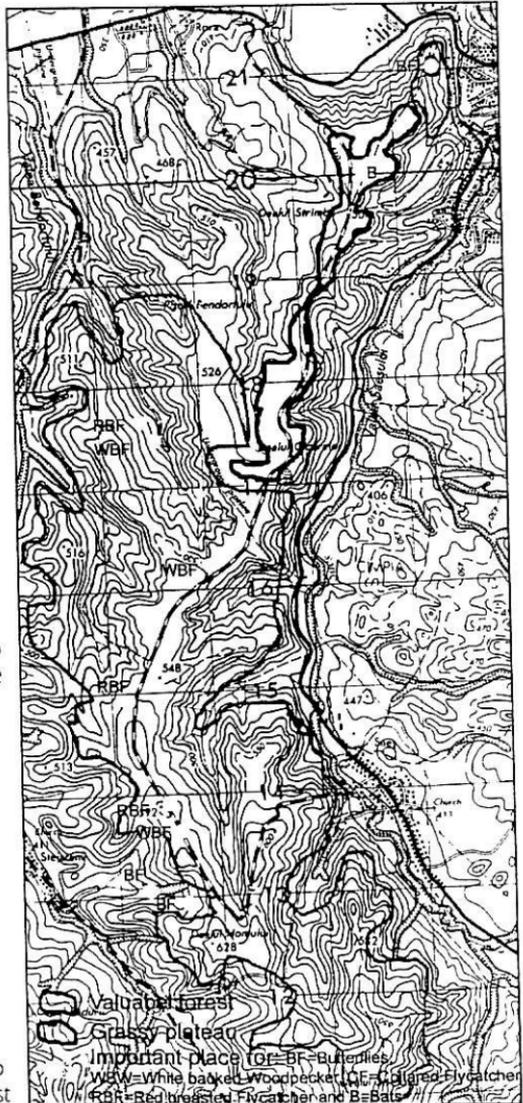
3.1 Areas endangered due to disastrous future plans

3.1.1 Breite plateau

Introduction

In total, the grassy plateau of Breite does not have an extremely high biodiversity level. While the grassy plateau has not too much species, the surrounded slopes, with hornbeam-oak woodlands and the forest edges contain a high diversity. This forest surrounds the plateau totally and is an important part of the total Breite Plateau ecosystem.

According to us, a very important argument to protect the Breite plateau, is the very special type of landscape, with the enormous oaks as most important elements. This landscape is the result of hundreds of years of grazing. Some irrational decisions, for example making fires under the old trees and more important the construction of a Dracula Park are big threats. In fact there is already a beautiful Dracula Park, completely free and sustainable, the only thing you have to do is to open your eyes and enjoy the impressive landscape.



Map
Breite Plateau and surrounding forest

Specie list Breite

Mammals

<i>Erinaceus concolor</i>	Eastern Hedgehog
<i>Sorex alpinulus</i>	Alpine Shrew
<i>Sorex samniticus</i>	Common Shrew
<i>Talpa europea</i>	Common Moie
<i>Myotis mystacinus/brandtii</i>	Whiskered Bat
<i>Myotis nattereri</i>	Natter's Bat
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle
<i>Pipistrellus pipistrellus</i>	Pygmy Pipistrelle
<i>Nyctalus leisleri</i>	Leisler's Bat
<i>Nyctalus noctula</i>	Noctule Bat
<i>Nyctalus lasiopterus</i>	Greater noctule
<i>Plecotus auritus/austriacus</i>	Long-eared Bat
<i>Barbastellus barbastellus</i>	Barbastelle Bat
<i>Canis lupus</i>	Wolf
<i>Vulpes vulpes</i>	European Red Fox
<i>Ursus arctos</i>	European Browns Bear
<i>Mustela nivalis</i>	Weasel
<i>Martes meles</i>	Eurasian Badger
<i>Felis sylvestris</i>	Wild Cat
<i>Sus scrofa</i>	Wild Bear
<i>Cervus elaphus</i>	Red Dear
<i>Capreolus capreolus</i>	Roe Dear
<i>Sciurus Vulgaris</i>	Red Squirrel
<i>Clethrionomys glareolus</i>	Bank Voie
<i>Apodemus sylvaticus</i>	Wood Mouse
<i>Apodemus flavivolis</i>	Yellow-necked Mouse
<i>Aphodemus agrarius</i>	Striped Field Mouse
<i>Rattus norvegicus</i>	Brown/Common Rat
<i>Glis glis</i>	Edible Mouse
<i>Lepus capensis</i>	Brown Hare

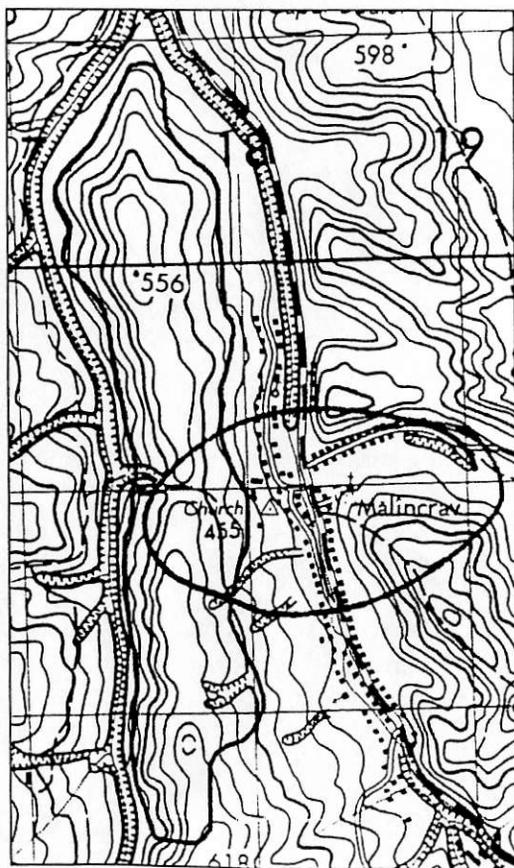
The Breite is a coherent area of approximately 70 km², this surface provides the minimum living surface of a wolf and for a healthy population of bears (both Appendix II of the European habitat directive species). Any increase of this coherent area will probably result in the disappearance or at a minimum in destabilisation of the present population of both species.

The presence of the very old oaks on the plateau results in an abnormal high concentration of hollow trees. These hollows are from different shape and volume. There are not only the usual woodpecker hollows, but because of the elderliness, there are also lots of hollow branches and trunks. The old oaks on the Breite Plateau are the breeding places for birds like Hoopoes, Tawny Owls and several species of woodpeckers. For mammals the area is a hotspot, especially for hollow tree depended species. We found many bat species (all strictly protected by different international laws) using these trees, Leisler's Bat *Nyctalus leisleri* (Romanian Red list specie), Noctule Bat *Nyctalus noctula*, Long-eared Bat *Plecotus auritus/austriacus* and several other bat species. From *Nyctalus leisleri*

3 2 2 The Orchard of Malancrav

Introduction

During the period of the communism farming had to be done at a large scale. In Malancrav an orchard of nearly 1 square km was made. After the communism, nobody took care of the orchard, this situation continued for 9 years until the year 2000. From that moment on, the Mihai Eminescu Trust rented the orchard and tried to improve the quality of the orchard by introducing biological systems. The apples of the orchard are not for direct consumption, rather for the production of biological apple juice.



Map:
Orchard of Malancrav
List of the most important animals

Following lists are the results of animal species recorded in or just around the orchard

List of mammals

Crocidura suaveolens Lesser white-tooted shrew, *Sorex araneus* Common shrew, *Talpa europea* Common mole, *Pipistrellus pipistrellus* Common pipistrelle, *Nyctalus noctula* Noctule, bat *Eptesicus nilsonni* Northern bat, *Vulpes vulpes* European red fox, *Ursus arctos* European brown bear, *Mustela nivalis* Weasel, *Martes foina* Beech (Stone) marten, *Clethrionomys glareolus* Bank Vole, *Pitymys subterraneus* Common pine vole, *Apodemus microps* Pygmy field mouse, *Apodemus sylvaticus* Wood mouse, *Apodemus flaviollis* Yellow-necked mouse, *Rattus norvegicus* Brown/Common Rat, *Mus musculus* House mouse, *Glis glis* Edible dormouse, *Lepus capensis* Brown hare

List of birds

Sparrowhawk	<i>Accipiter nisus</i>
Common Buzzard	<i>Buteo buteo</i>
Stock Dove	<i>Columba oenas</i>
Woodpigeon	<i>Columba palumbus</i>
Turtle Dove	<i>Streptopelia turtur</i>
Collared Dove	<i>Streptopelia decaocto</i>
Scops Owl	<i>Otus scops</i>
Little Owl	<i>Athene noctua</i>
Tawny Owl	<i>Strix aluco</i>
European Bee-eater	<i>Merops apiaster</i>
Hoopoe	<i>Upupa epops</i>
Wryneck	<i>Jynx torquilla</i>
Green Woodpecker	<i>Picus viridis</i>
Grey-headed Woodpecker	<i>Picus canus</i>
Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
Middle Spotted Woodpecker	<i>Dendrocopos medius</i>
Great Spotted Woodpecker	<i>Dendrocopos major</i>
Woodlark	<i>Lullula arborea</i>
Barn Swallow	<i>Hirundo rustica</i>
House Martin	<i>Delichon urbica</i>
White Wagtail	<i>Motacilla alba</i>
Tree Pipit	<i>Anthus trivialis</i>
Wren	<i>Troglodytes troglodytes</i>
Robin	<i>Erithacus rubecula</i>
Black Redstart	<i>Phoenicurus ochruros</i>
Blackbird	<i>Turdus merula</i>
Song Thrush	<i>Turdus philomelos</i>
Common Whitethroat	<i>Sylvia communis</i>
Lesser Whitethroat	<i>Sylvia curruca</i>
Garden Warbler	<i>Sylvia borin</i>
Blackcap	<i>Sylvia atricapilla</i>
Chiffchaff	<i>Phylloscopus collybita</i>
Spotted Flycatcher	<i>Muscicapa striata</i>
Marsh Tit	<i>Parus palustris</i>

Fauna Survey of the Saxon Villages

2.1.2 Mammal species list

- B - Bat detector proof
 D - Dead found
 F - Footprint
 H - Heard by several local people
 O - Owl pellets
 P - Photographed by ourselves
 S - Seen
 T - Trapped
 X - Other methods (droppings)

Eastern Hedgehog	<i>Erinaceus concolor</i>	D,H,S,P
Lesser White-tooted Screw	<i>Crocidura suaveolens</i>	P,T
Bi-collord White-toothed Shrew	<i>Crocidura leucodon</i>	O
Common Shrew	<i>Sorex araneus</i>	D
Pygmy Shrew	<i>Sorex minutes</i>	T
Alpine Shrew	<i>Sorex alpinus</i>	D
Common Mole	<i>Talpa europea</i>	D,O
Whiskered Bat	<i>Myotis mystacinus/brandtii</i>	S
Natter's Bat	<i>Myotis natterei</i>	B
Greater Mous-eared Bat	<i>Myotis myotis</i>	D, S
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	B
Pygmy Pipistrelle	<i>Pipistrellus pygmaeus</i>	B
Leisler's Bat	<i>Nyctalus leisleri</i>	B,P,T
Noctule Bat	<i>Nyctalus noctula</i>	B,S
Geater Noctule	<i>Nyctalus lasiopterus</i>	B,S
Northern Bat	<i>Eptesicus nilsonni</i>	B,S
Grey Long-eared Bat	<i>Plecotus austriacus</i>	D,S
Brown Long-eared Bat	<i>Plecotus auritus</i>	S
Barbastelle Bat	<i>Barbastellus barbastellus</i>	B
Wolf	<i>Canis lupus</i>	H
European Red Fox	<i>Vulpes vulpes</i>	F,H,S
European Brown bear	<i>Ursus arctos</i>	F,H,S
Weasel	<i>Mustela nivalis</i>	H
Stoat	<i>Mustela erminea</i>	H
Pine Marten	<i>Martes foina</i>	X,H
Beech Marten	<i>Martes martes</i>	H
Eurasian Badger	<i>Meles meles</i>	F,H
Otter	<i>Lutra lutra</i>	H
Western Polecat	<i>Mustela putorius</i>	H
Wild Cat	<i>Felis sylvestris</i>	F,S,H
Wild Boar	<i>Sus scrofa</i>	F,S,H
Red Dear	<i>Cervus elaphus</i>	F,S,H
Roe Dear	<i>Capreolus capreolus</i>	F,S,H
Red Squirrel	<i>Sciurus vulgaris</i>	F,S,H
Northern Water vole	<i>Arvicola terrestris</i>	O
Bank Vole	<i>Clethrionomys glareolus</i>	D,O,T
Common/Snow Vole	<i>Microtus arvalis/nivalis</i>	O
Common Pine Voie	<i>Pitymys subterraneus</i>	D,O,T