

# Breeding Habitats of the Black Grouse Hens in the Rhön Hills/Bavaria/Germany<sup>(\*)</sup>

by  
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## SUMMARY

The breeding-habitats being known in the years 1995 to 2000 will be described and the importance of the registration of the sentry-species Red-Backed Shrike *Lanius colurio* and Great Grey Shrike *Lanius excubitor* will be put in relation to the habitats of the hens.

Good breeding-habitats of Red-Backed Shrike (a lot of insects, short distances) are suitable for the breeding of the Black Grouse as well. Habitats of Great Grey Shrike, shifting easily from breeding to wintering habitats, give clues too. Decisive is the high availability of animal protein for the breeding of the young, which must be likewise high in the habitats of Red-Backed Shrike. Breeding-places are not shown, because there is no search for it. The connection between breeding-habitats of the hens and the close range of displaying areas will be analysed.

## Characteristics of Black Grouse breeding habitats

In areas where the presence of Black grouse is known, I don't look for indirect tracks of his presence like for example clutches, nests, egg-shells, feathers or faeces.

But I begin to look for hens with brood in the field after the beginning of the mowing period, which starts in the High Rhön Mountains at the 10th of

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July. So I can describe only the areas that hens with brood use at that time or later. I also look for the places where the hens stay during the mating season after their visit on the lek.

Breeding habitats content very different kind of habitat types:

Because of the late mowing date large numbers of meadows are comparable with fellows in early stadium. Other important structures are old fellows, in which the Black Grouse can easily move between old grass, dwarf shrubs y trees and single stones. In these areas there is a high availability and a good quality of reachable insect food. Many insect groups are present so that at nearly all the time insect food is available although in all weather conditions: beetles, butterflies, caterpillars, spiders, grasshoppers, flies, ants and others.

Fellows include shelter from bad weather conditions with not exposed and dry parts.

Important structures are stone walls, single trees with many branches leaving to the ground, especially spruce *Picea abies*, pines *Pinus sp.*, willow *Salix sp.*, birch *Betula sp.* and rowan *Sorbus sp.*

Most of the breeding and hatching areas include fens or different kinds of wetland, meadows of *Geranium arrietetum*, tall herbaceous, *Nardus stricta* meadows or fellows and early stages of forest succession.

The hatching habitats content large areas of dwarf shrubs with many food-carrying trees. The distance between the assumed breeding areas and the leks are between 100 m and 400 m, in some cases of larger distance.

## **Time table of the breeding season of Black grouse in the Rhön hills**

The first observation of hens at the lek depends on the weather. In the year 2000, mild climate leads to an early regularly presence of the hens since the 20th of March. Usually hens appear at the lek from the beginning of April. Last observations of hens at the lek can be made normally in the middle of May. Only hens with clutch-losses arrive some times later again. The copulation is concentrated in the last week of April and/or the first week of May.

A time table for example with a copulation at the 3rd of May is described below :

3rd May : copulation

9th May : first egg is layed, normally 6 to 10 days after copulation, for every egg 28 hours, clutch size 7 eggs, clutch-pause of 36 hours after the 4th Egg.

20th May : clutch ready, start of breeding at the evening before the last egg is laid

19th June : hatch of the young after a breeding time from 24 to 28 days

26th June : the youngs can fly to short distances, till the middle of July they are warmed by the hen, the first time I see them is the end of July; starting from July the hen begins her plumage moult

2nd. week in August : male and female young can be differed by plumage.

the end of September: dissolution of the family, the young cocks join the old cocks groups, the autumn display starts and is very lively by a large number of young males

## **The importance of the species Red backed Shrike and Great Grey Shrike as indicators for parts of the Black Grouse habitats**

The Great Grey Shrike *Lanius excubitor* uses the same area as Black Grouse does. Its habitat contents a big part of fellow land with single trees and bushes. The Great Grey shrike often uses areas with clear cutted spruce forest in different stages of succession. Also during winter it stays in the open grassland structured by single trees and bushes. 12 habitats distribute over 2700 hectares. The monitoring shows that the hole landscape of the High Rhön Mountain is suitable for this species because the habitat localities chance from year to year. This shows us that we are doing right with our management plan which includes tree cutting, mowing of very old and structureless fellow land.

The habitats of the Red backed Shrike *Lanius collurio* are the «classic districts of the short ways». Short ways between the feeding grounds and areas of recreation are necessary, combined with a high availability of insect food during the whole breeding period. Often Red backed Shrike habitats are very warm and dry places in south exposition. This species increases enormous in the last years after the tree cutting of 110 hectares. On this clearings we have the highest density of this species at that stadium of succession when the trees are 3 to 5 meters high and with open ground between. The same structures are used by Black Grouse hens as breeding habitats or refuges during bad weather periods. If the succession of the soft wood become too dense management is necessary to cut some trees once more. Because the size of the Red backed Shrike population is much higher than the Black Grouse one, we have good clue for management planning by controlling the Shrike populations, or the populations from other species which represent other parts of the very different Black Grouse habitats.

## Monitoring

I determinate the habitat use, the frequency and the trend of the population size of the umbrella species Black Grouse, Great Grey Shrike, Red backed Shrike, Corncrake (*Crex crex*), Common Snipe (*Gallinago gallinago*) and Whinchat *Saxicola rubetra* and some other species like Stonechat *Saxicola torquata*, Lapwing *Vanellus vanellus* or Quail *Coturnix coturnix* in relation to their environment and to the changes in the environment as a cause of our management work. This is the basis for ideas for the habitat management. It also produces proof of the effectiveness of our implemented habitat management.

The population control of the selected species takes place each year since 1995 in the frame of this project. It continues the investigation of others, some years ago. So we have a long time control to see easy what we have to do in the future. So we hope to take the right steps in managing the landscape of the High Rhön Mountains especially for the typical species of large open grassland.

## Prospect

The important management steps are to conserve and optimise natural habitats with a low changing rate (f.e. bugs) and to manage the agricultural land-use of the meadows, fells, wetland and pastures. The tree succession is to be controlled to an early stadium. So we have to beware the typical historical habitat potentials and take into consideration former, typical and in future possible management activities. The key species are almost endangered. The High Rhön Mountains have a special responsibility for these populations in the Rhön biosphere reserve.

## ZUSAMMENFASSUNG : Bruthabitate von Birkhennen im Naturschutzgebiet Lange Rhön.

Es werden die in der Zeit von 1995 bis 2000 bekannt gewordenen Bruthabitate beschrieben und die Bedeutung der Erfassung der Leitarten Neuntöter *Lanius collurio* und Raubwürger *Lanius excubitor* in Beziehung zu den Hennenhabitaten gesetzt.

Gute Neuntöter-Bruthabitate (insektenreich, kurze Wege) sind in der Hochrhön auch gut für die Brut des Birkhuhns geeignet. Raubwürger-Habitate, die vom Brutrevier zum Winterrevier leicht wechseln, geben ebenso Anhaltspunkte. Entscheidend ist die hohe Nahrungsverfügbarkeit tierischen Eiweißes zur Kükenaufzucht, die in Neuntöter-Revieren ebenso sehr hoch sein muß. Es werden keine Neststandorte gezeigt, da diese nicht gesucht werden. Die Zusammenhänge zwischen Bruthabitaten der Hennen und die Balzplatznähe werden analysiert.

**Schlüsselwörter :** *Tetrao tetrix*, Birkhuhn, Deutschland, Bayern, Rhöngebirge, Nahrung, Brutökologie, Wurger, Teilhabitate, *Lanius sp.* (Raubwurger = *Lanius excubitor*, *Lanius collurio* = Neuntöter), Leitart

## RESUME : Habitats de reproduction des poules de tétras lyres dans la réserve naturelle de Lange Rhön

Les habitats de reproduction connus de 1995 à 2000 sont décrits et la signification des recensements des espèces indicatrices pie-grièche écorcheur *Lanius collurio* et pie-grièche grise *Lanius excubitor* est mise en relation avec les habitats des poules du tétras lyres.

De bons habitats de reproduction pour les Pie-grièches écorcheurs (beaucoup d'insectes, courtes distances) conviennent aussi pour la nidification du tétras lyre. Les habitats de la pie-grièche grise, changeant facilement de zone de reproduction vers des zones d'hivernage, donnent également des indications. La grande disponibilité en protéines animales pour l'élevage des jeunes qui doit être tout aussi grande dans les habitats de la pie-grièche écorcheur est décisive.

Les lieux de pontes ne sont pas précisés parce qu'ils ne sont pas recherchés. La relation entre les habitats de reproduction des poules et la proximité des aires de parade est analysée.

**Mots-clés :** *Tetrao tetrix*, Tétras lyre, Allemagne, Bavière, collines de la Röhn, écologie de la reproduction, habitats, nourriture, espèces sensibles, pie-grièche grise *Lanius excubitor*, pie grièche écorcheur *Lanius collurio*.



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