

# COMMUNITIES OF BREEDING BIRDS IN THE PEATY SZÜCSI-FOREST AT KISKŐRŐS

*Dr. Lajos Horváth*

Hungarian Natural History Museum, Budapest

The investigations and collecting work of the Natural History Museum in the Kiskunság National Park arrived in their fourth year in 1980. In the first year (1977) of the research work I have investigated the alderwood marshes near the village Ócsa; I published the results in the periodical *Aquila* (1978). The study of the turfy meadows between the villages Ócsa and Inárcs was the task of the second year (1978); the results were published also in the *Aquila* (1979). My third year (1979) program was to study the bird fauna in the marshy forest at Tabdi village. The results are in print (*Vertebrata Hungarica*, 1980). My fourth year work was considerably easier by the fact that I have investigated in a similar place namely in the Szücsi Forest at Kiskőrös. This also is a mixed poplar forest in the same turfmoor region. The forest consists of ashes in its main part and poplars subordinately; there are one-two oaks still in it.

On the occasion of my former studies as also at present, I have always considered the birds in their relation to their living and inanimate environments, and above all on the basis of their direct or indirect interconnection. Investigations of this kind aid in outlining my ecological theory with respect to the breeding communities of birds (1956). My numerous papers of bird ecology are founded on this (6, 7, 8, 9, 10, 11, 12, 13, 14), and the present paper is also closely coupled to it, representing a further justification of my theory. An account of the results of bird watchings an outline of the investigation area concerning its locality, soil and vegetation is demanded.

The Szücsi Forest is situated between the Danube and the Tisza River in the near of the Budapest – Kalocsa railway line, about 126 km south of the capital. The place of this forest is very well definable, because it lies in the immediate vicinity of Kiskőrös town north of the settlement and west from the railway mentioned above. Its shape is approximately quadrangle: about one and a half km from north to south, and only 600 – 700 m from west to east. Its territory is 92 hectares. The forest mainly consists of ash with a good many number of poplars and some old oaks. Its larger part is a purer and looser as stand while the fringe of the forest intermixes partly irregularly with the embracing turfy meadows as in the case of the Tabdi Forest. That is this forest is free, without any encroaching smaller or larger human settlements. It is greatly remembered – as concerns the character of its landscape – to the similar Tabdi Forest as well as to the alderwood marches at Ócsa village, in particular to its section called the Turjáni Forest. There are many lesser and larger clearings here and there, too; the whole wood forming an island in the surrounding turfy meadows. It results from this circumstance

that some of the bird species breeding in the peaty meadows may be found also in the forest and, inversely, one or the other of the forest breeders nest in the meadows nearby, partly on the soil, partly in the isolated bushes and trees.

It also belongs to the characterization of the environment of the forest that the turfy meadow is not disturbed by man, except the time of mowing. This undisturbed condition has an effect not only on the bird life of the meadows but also on one of the forests. Apart from this direct and very essential influencing factor, the turfmoor also plays a role in the life of the silvicolous birds. Namely, at least one part of the bird life of the forest flows out of it, into its vicinity. The proximity of the meadows plays a very important role in the nourishing of one or the other species; on the other hand, elements also appear in the forest which without presence of the turfmoors, would not occur there at all consequently, interdependence of bird life between the forest and the meadow is natural and must be taken into account. The peculiar arrangement of the nearly interwoven two types of country contributes to the development of the local breeding communities. This fact becomes indeed obvious when we compare it with forest areas of the very different type, but of a similar extension. Thus e. g. four breeding communities developed in the forest of Csévharaszt, and ten in the forest at Csomád, in contrast to the three under discussion (I/7, I/8, I/11). The reason for this is almost exclusively the environment of the forest area. Namely, the environment of the forest at Csévharaszt is turfy only to a lesser degree, and it is wholly absent from the surrounding of the Csomád Forest with its neighbouring, or rather intruding, ploughfields.

Beyond outlining the geography and soil conditions of the investigation area, some brief remarks should be made about the tree stands of the Szücsi Forest. Eighty percent of the forest is composed of ash, there is a fair number of poplars, while oak is less numerous in the wood, and there is no alder; other kinds of trees occur in smaller numbers and only sporadically. However, the tree species do not primarily determine bird life here, but rather other circumstances. The most essential of them is that in certain parts of the forest—particularly in those of a drier substrate—there are very many bushes affording a rich and varied bird life. It is only favourable for the birds that they can find some of old and tall trees sporadically all over the forest.

In the followings I submit the results based on my observations of the breeding communities in the Szücsi Forest made in the year 1980; comparisons made with my earlier data (1952–1956, 1977, 1978, 1979) collected partly in the peaty forest at Ócsa, of a similar character and partly at Tabdi, a place not very far from the present investigation area being also in the Kiskunság National Park.

The first in order is the *Sylvia atricapilla* breeding community with the serial number I/7 in my basic work (5). The Roman numeral designates the type of country (forest in this case), the Arabic one refers to the community of birds nesting together within the region. The breeding area according to my original definition is “miced, deciduous forest—low, scattered, bushy under-vegetation in particular in the near of edges of wood, forest roads, paths, lines and clearings”. The latter restriction is founded on the marginal coenosis principle (7). The permanent member of this category—with the

Blackcap as the leader characterizing the breeding community—is the Song Thrush (*Turdus philomelos*). The subordinate members are, in the order of their frequency, as follows: Yellow Bunting (*Emberiza citrinella*), Turtle Dove (*Streptopelia turtur*), Blackbird (*Turdus merula*), Tree Pipit (*Anthus trivialis*), Chiffchaff (*Phylloscopus collybita*), Nightingale (*Luscinia megarhynchos*), Marsh Tit (*Parus palustris*), Robin (*Erithacus rubecula*), Nightjar (*Caprimulgus europaeus*) and Cuckoo (*Cuculus canorus*).

The Szücsi Forest is not homogenous as concerns undergrowth and soil moisture. On the drier portion (in the west) mostly poplars and oaks grow; the bushy undergrowth is more abundant here. The *Sylvia atricapilla* breeding community is typical (i. e. complete) only in such places, consequently all members of this community can be found only here. In parts of the forest with a moister substrate (in the east) some of the subordinate members are absent (e. g. Nightjar, Tree Pipit, Blackbird).

The Blackcap, the leading member of this community, lives here in a moderate number only (8 pairs). This phenomenon is in contrast with any earlier experiences in similar habitat, so in the alderwood marshes at Ócsa presumably the chemical plant protection contributes severely to the number of the Blackcap in its entire distributional area.

The Song Thrush, the permanent member of this community, nests here in considerable numbers (10 pairs) as compared to the size of the forest. In all probability the chemicals do not affect it since its food includes worms, snails and berries in the main part, so the poisoning and the lack of food do not influence its numbers.

Concerning the subordinate members I found that, in the order of their characteristics represented in this community, the mass of the Yellow Bunting is low (2 pairs) in the Szücsi Forest as compared to those in forests of a similar type and size. On the other hand the Turtle Dove is a frequent breeding species (7 pairs) with respect to the size of the forest. I observed its increase also in other similar areas (e. g. in the marshy alderwoods between Ócsa and Inárcs) during recent years, the cause being a more effective nature conversions.

The Blackbird breeds here in low numbers (4 pairs); this circumstance strengthens my experiences obtained in other places, namely that this species becomes more and more a denizen of human settlements and thus its wild stock decreases all over the country. Nevertheless, it does not wholly preclude the supposition that the conspicuously multiplying Song Thrush is a severe competitor.

The Tree Pipit settles down merely in the drier parts of the forest, and in some few pairs only. The Chiffchaff breeds also in small numbers (4 pairs) in the Szücsi Forest. The Nightingale (5 pairs) lives in the moister parts of the forest. The Robin is not a characteristic bird of the plain forest, but according to my earlier experiences it can be found everywhere in smaller numbers. I found only one breeding pair in the Szücsi Forest. The Marsh Tit bred also in one pair only in one of the oak section of the forest.

The Nightjar is more frequent, having nested in two pairs. One of them were in a lesser to a certain extent disjointed part of the forest, in the vicinity of Kiskőrös town, in all probability because there is a pasture here along the forest's rim. The breeding of this species may be explained by the proximity of pastures and with the great number of bushes growing there.

The Cuckoo—the final subordinate member of this community—lays its eggs in the nests of the silvicolous birds in the Szücsi Forest, in contrast to my experiences in the marshy alderwoods between the villages Ócsa and Inárcs where it was laying in the nests of birds which bred on the marshy meadows in the vicinity of the woods. Two species found to be fosterparent: there were cuckoo eggs in the nests of two Blackcaps and in that of the single Robin. The reason of the similarity of these two forests (Tabdi Forest, Szücsi Forest) is in the circumstance that they are surrounded by continuous meadows. Accordingly, the meadow breeding birds suffer here less from the laying of eggs by cuckoos in their nests.

The second breeding community is that of *Locustella fluviatilis* bearing the serial number I/8 in my above cited (5) paper. The breeding area of this community is, according to my original definition, as follows: “marshy groves and laced forests with underbrush in the flood area along rivers and streams”.

The permanent member of this breeding community — with the River Warbler as the leading species — is the Blackcap (*Sylvia atricapilla*). The subordinate members are in the order of decreasing relation to the type of country and of their frequency, as follows: Garden Warbler (*Sylvia borin*), Icterine Warbler (*Hippolais icterina*), Dunnock (*Prunella modularis*), Greenfinch (*Chloris chloris*), Nightingale (*Luscinia megarhynchos*), Turtle Dove (*Streptopelia turtur*), Hooded Crow (*Corvus c. cornix*), Spotted Flycatcher, Thrush Nightingale (*Luscinia luscinia*), Wood Pigeon (*Columba palambus*), Lesser Spotted Woodpecker (*Dryobates minor*), Short-toed Tree Creeper (*Certhia brachyactyla*), Hobby (*Falco subbuteo*), Buzzard (*Buteo buteo*), Goshawk (*Accipiter gentilis*), Willow Warbler (*Phylloscopus trochilus*), Red-backed Shrike (*Lanius collurio*) and Common Sandpiper (*Tringa hypoleucos*).

Of the subordinate species also three are absent from the marshy forest Szücsi as was the case in the Tabdi Forest. It is very interesting to note that the same three species are missing also from the alderwoods of the Hanság and Ócsa. Consequently the marshy forest, surrounded by turfy meadows differ from the moist gallery woods by means of these three species. Thus the Dunnock is a common breeding bird of the gallery forests of the Danube, from the Szigetköz (a large western island in the river) to the Dunakanyar (“Danube’s bend”); the Common Sandpiper breeds along the Rába River and in the Szigetköz on the Danube; the Thrush Nightingale breeds only along the upper reaches of the Tisza. Accordingly, the birds of the peaty forests and of the gallery woods must be united from the true, “typical” checklist, that is to say, they are subgroups of the same forest landscapes and the reason of uniting lies in identity of the leading species and the permanent one of this community.

The River Warbler is the most characteristic but not a common species of the Szücsi Forest, as also in the marshy forest at Tabdi. On the contrary, its number is very great in the marshy alderwoods of the Hanság and Ócsa. The number of the breeding pairs—computed on the basis of the singing and territorial behaviour of the males—can be estimated at 4–5 pairs. To actually locate the nests would be disastrous for this species, as I have experienced in the 1950’s during my investigations of the life history of the River Warbler, because the disturbance of the vegetation frightens away the birds and results in the destruction of the clutches. I desist therefore from

searching for the nests – but merely for those of this species – in my estimation the sole certain method to establish the number of the breeding pairs.

The precious statement is valid also for the Blackcap, the permanent member of this community, as already set forth in detail in its characterisation (I/7), with the restriction that it has bred in this community also in lesser numbers.

In connection with the subordinate members of this community I was able to establish the followings there bred in the Szücsi Forest in this year (1980) 4–5 pairs of the Garden Warbler, 2 of the Icterine Warbler, 10–12 of the Greenfinch, 6–8 of the Nightingale, 5 of the Spotted Flycatcher, 2 of the Lesser Woodpecker. This numbers are relatively fairly low – but higher as in the Tabdi Forest – and also the following species have bred here in lesser numbers than it might have been expected: 6 pairs of the Turtle Dove, 2 of the Hooded Crow, and 2 each of the Wood Pigeon and of the Short-toed Tree Creeper. The strict protection of the raptors may be the cause of the fact that one pair of the Hobby, two pairs of the Buzzard and one pair of the Goshawk have bred in such a small forest. I must mention the nesting of a pair of Willow Warbler despite the fact that the area does not conform to its requirements; furthermore, there were ten pairs of the Red-backed Shrike which found the bushy forest edges highly suitable.

Perhaps the following remark should be made after the discussion of the next and last community, nevertheless – to avoid any misunderstanding – I should like to state now that the two communities so far discussed are, though inhabiting the same wood, peculiarly isolated from each other, nearly as much as those of the peaty forest from the turfy meadow. There are contact influences of course (Blackcap, Turtle Dove, Nightingale), but in the case of these species the differences in frequency are also very striking. Such weak influences exist also – naturally – between the forest and the meadow when they are in direct contact and there occurs then the physical possibility for nesting in both areas (e. g. Hooded Crow on a meadow tree, Red-backed Shrike in a meadow bush, Turtle Dove also in a meadow bush, Wood Pigeon on a meadow tree, Hobby also on a meadow tree).

In the order of the sequence, the third breeding community is that of *Buteo buteo* bearing the serial number I/9 in my above cited paper (5). The short characterization of the breeding area of this community runs as follows: “Boggy woods on plains and mountain old beech forest”. On the whole therefore two woodlands of different aspects are united with the Buzzard as the leading species and with the Goshawk as the permanent member determining the community. Apart from two species mentioned above, this community has a number of members in both kinds of the forest nevertheless some of the species occur in one or in the other, at least in Hungary. In addition there are certain species whose presence depends on the geographical position and on the extension of the forest in question. But let us see some concrete examples. In the alderwood marshes at Ócsa there occur only the Black Kite (*Milvus migrans*), the Heron (*Ardea cinerea*), the Hooded Crow (*Corvus c. cornix*) and the Tree Sparrow (*Passer montanus*) beside the leading species and permanent member, while the big raptors and the large bodied birds – as the Black Stork and the Eagle Owl – are in general absent, contrarily to the situation prevailing in the alderwoods of the Hanság; this

is due to the smallness of the forest, the proximity of the human settlements and the restricted extension of the neighbouring turfy meadows.

What is acceptable in the comparison of the three former investigated marshy forests (Ócsa, Hanság, Tabdi) is increasingly valid for the bird life of the Szücsi Forest. After such precedent the expectable subordinate members of this community would, in order of their importance (characteristically and not at all quantitatively), be as follows: the Black Kite, the Tree Sparrow, the Heron, the Hooded Crow and the Woodcock (*Scolopax rusticola*). Though the Black Kite—a highly characteristic and common bird of the gallery forests of our larger rivers (Danube, Tisza)—is present also in the marshy alderwoods but in small numbers only. It seems a peculiar chance that it has bred only in one pair in the alderwoods at Ócsa (in the Nagy Forest) and also in the peaty alderwoods of the Hanság (in the Kapuvári Éger), just as in the Tabdi and Szücsi Forest. The Heron “equalizes” the Hanság and the peaty region between the Danube and the Tisza River, because in both areas there is one small-numbered 8–10-pair colony each: one in the “Csíkos Éger” at the easternmost part of the great alderwood of the Hanság; the other in the “Gémes Forest” between the villages Ócsa and Inárcs in the eastern part of this peaty region; it has bred in former times also in the Tabdi and Szücsi Forest provided that its feeding places were not far from the forest (at the Danube). The Tree Sparrow settles alongside the nests of the larger raptors and it can be found in all four marshy forests (Hanság, Ócsa, Tabdi, Szücsi). The Hooded Crow is not a sivicolous species notwithstanding the fact that it builds its nest often on the marginal trees of the marshy forest, particularly here, where there are few suitable trees in the encircling meadows. It may be found in some pairs in all four parts (Nagy Forest, Turjáni Forest, Gémes Forest, Hosszú Forest) of the alderwoods at Ócsa. The case is similar in the peaty forests of the Hanság and of Tabdi and Szücsi. The Woodcock appears regularly during migration in the Tabdi and Szücsi Forest—both at springtime and in the autumn—as also at Ócsa and in the Hanság. However, it does not stay for breeding except in the case of a very old observation (1).

The three breeding communities discussed above include nearly all of the species breeding in the region under examination. The following six species may occur in dry parts of the Szücsi Forest lacking ash or alder trees. The Sparrow Hawk (*Accipiter nisus*) settles for breeding in the young forest sites; the Golden Oriole (*Oriolus oriolus*) and the Goldfinch (*Carduelis carduelis*) live also in the same quarter of the forest; The Chaffinch (*Fringilla coelebs*), the Great Tit (*Parus major*) and the Wood Warbler (*Phylloscopus sibilatrix*) occur in the older ones.

So far only the breeding species have been discussed but the picture drawn of the bird life of the Szücsi Forest would not be complete without mention of the birds which occur in the region from autumn to spring. These are as follows: Jay (*Garrulus glandarius*), Hawfinch (*Coccothraustes coccothraustes*), Siskin (*Carduelis spinus*), Bullfinch (*Pyrrhula pyrrhula*), Wood Lark (*Lullula arborea*), Nuthatch (*Sitta europaea*), Long-tailed Tit (*Aegithalos caudatus*), Chiffchaff (*Phylloscopus collybita*), Fieldfare (*Turdus pilaris*), Redstart (*Phoenicurus phoenicurus*), Wren (*Troglodytes troglodytes*), Grey-headed Woodpecker (*Picus canus*), Wryneck (*Jynx torquilla*).

To sum up, it may be stated that the breeding communities of the Szücsi

Forest are the same as those found during the earlier investigations in the turfmoors of the Hanság and in the peaty region at Ócsa or at Inárcs or at Tabdi. The demonstrable differences — quantitative as well as qualitative — derive from the much lesser extension of the forest. The sequence of importance of the subordinate species of the breeding communities, that is, the order of rank of their characterization of the type of country shows no deviations from one another in these forests, what still increases the stability of the communities. It is also manifest from the investigations that the character of the forest (the age of trees, combination of the plant species, geographical situations, its open or closed state, its richness in bushes and herbaceous undergrowth) does not alone determine its bird life, but also its soil and, a great extent its environment too. However, the environment of the Szücsi Forest and the Tabdi Forest is also related with the marshy and peaty alder-wood forests of the Hanság and the Ócsa — Inárcs region.

On the basis of my investigations conducted for one year, 44 bird species have been regularly observed, among them 30 species have bred, while the other ones were spring-autumn transitional migrants and winter visitors. The explanation of these relatively low numbers is that birds which I have seen merely flying over the investigation area (turfmoor region) or which were represented very rarely and irregularly by occasional specimens in the peaty meadows have not been included or treated here. In reality these birds are not at all connected with forests, and perhaps they do not even appear for many years or decades in the country.

Author's Address:  
 Dr. L. Horváth  
 Budapest  
 Baross u. 13.  
 H — 1088

#### References—Irodalom

- Balaton Farkas, J. (1931–1934):* Az erdei szalonka fészkelése az Alföldön. *Aquila*. Vol. 38–41. 356. p.
- Balogh, J. (1953):* A zoocönológia alapjai. *Grunzüge der Zoözoologie*. Budapest. 248. pp.
- Balogh, J. (1958):* *Lebensgemeinschaften der Landtiere*. Budapest. 560. pp.
- Dice, L. R. (1952):* *Natural Communities*. *Ann. Arbor*. 547. pp.
- Horváth, L. (1956):* *Communities of Breeding Birds in Hungary*. *Acta Zool. Hung.* Vol. 2. 319–331. p.
- Horváth, L. (1957):* *Avifaunistic and Ecological Conditions of the Peat Bog Region between the Danube and the Tisza*. *Acta Zool. Hung.* Vol. 3. Fasc. 4. 233–244. pp.
- Horváth, L. (1959):* *A szegélycönózis elve a madarak fészkelőközösségében. The Principle of Marginal Coenoses in the Nidifying Communities of Birds*. *Vertebr. Hung.* Vol. 1. 49–57. p.
- Horváth, L. (1970–1971):* *A csévharaszi erdővidék madárvilágában bekövetkezett változások az elmúlt 30 év alatt*. *Vertebr. Hung.* Vol. 12. 37–49. p.
- Horváth, L. (1973a):* *A Csomád-Göd közti dombvidék madarainak ökológiai és cönológiai viszonyai*. *Vertebr. Hung.* Vol. 14. 23–40. p.
- Horváth, L. (1973b):* *A Tapolcai-medence madárvilágának összehasonlító cönológiai és ökológiai vizsgálata. Vergleichende ornithologische Untersuchungen der Basaltberge in Tapolcaer Becken*. *Veszprém megyei Múzeumok Közleményei*. Vol. 12. 539–563. pp.
- Horváth, L. (1974):* *A csévharaszi erdővidék madárvilágában bekövetkezett változások az elmúlt harminc év alatt*. *Abstracta Botanica*. Vol. 2. 95–106. p.
- Horváth, L. (1978):* *Az ócsai lágégeresek madarainak fészkelőközösségei. Communities of Breeding Birds in Alderwoods at Ócsa (near Budapest, Hungary)*. *Aquila*. Vol. 85. 77–84 p.

- Horváth, L. (1979): Communities of Breeding Birds in the Peatbog Region between the Villages Inárcs and Ócsa, near Budapest, Hungary. Az Inárcs-Ócsa közötti láprétek madarainak fészkelőközösségei. Aquila. Vol. 86. 101 – 109. p.
- Horváth, L. (1980): Communities of Breeding Birds in the Peaty Forest at Tabdi. A tabdi láperdő madarainak fészkelőközösségei. Vertebr. Hung. Vol. (in print).
- Tischler, W. (1955): Synökologie der Landtiere. Stuttgart. 404. pp.
- Vönöczky Schenk, J. (1943): Az erdei szalonka fészkelőterületei a történelmi Magyarországon. Aquila. Vol. 50. 310 – 313. p.

## A kiskőrösi Szücsi-láperdő madarainak fészkelőközösségei

Dr. Horváth Lajos

Természettudományi Múzeum, Budapest

A szerző egy éven keresztül a Kiskőrös melletti és a Kiskunsági Nemzeti Parkhoz tartozó Szücsi-láperdő madarainak fészkelőközösségeit vizsgálta. Azt találta, hogy a 44 előforduló faj közül 30 fészkel itt, tehát 14 faj vagy tavaszi-őszai átvonuló, vagy téli vendég volt. A költőfajok három fészkelőközösségbe tartoztak; ezek a *Sylvia atricapilla*-, a *Locustella fluviatilis*- és a *Buteo-buteo*-közösség. Most is, mint minden korábbi vizsgálat alkalmával beigazolódott, hogy nem egyedül az erdő jellege határozza meg a fészkelőmadarak faji összetételét, hanem a talajviszonyok és a közelebbi környezet is döntő befolyást gyakorol rá.