



# XIV. IS THE COMMON TREECREEPER (*CERTHIA FAMILIARIS* L.) MORE WIDESPREAD IN HUNGARY THAN HAS BEEN PREVIOUSLY BELIEVED?

*Markku Kuitunen*

Department of Biology, University of Jyväskylä Yliopistonkatu, Jyväskylä, Finland

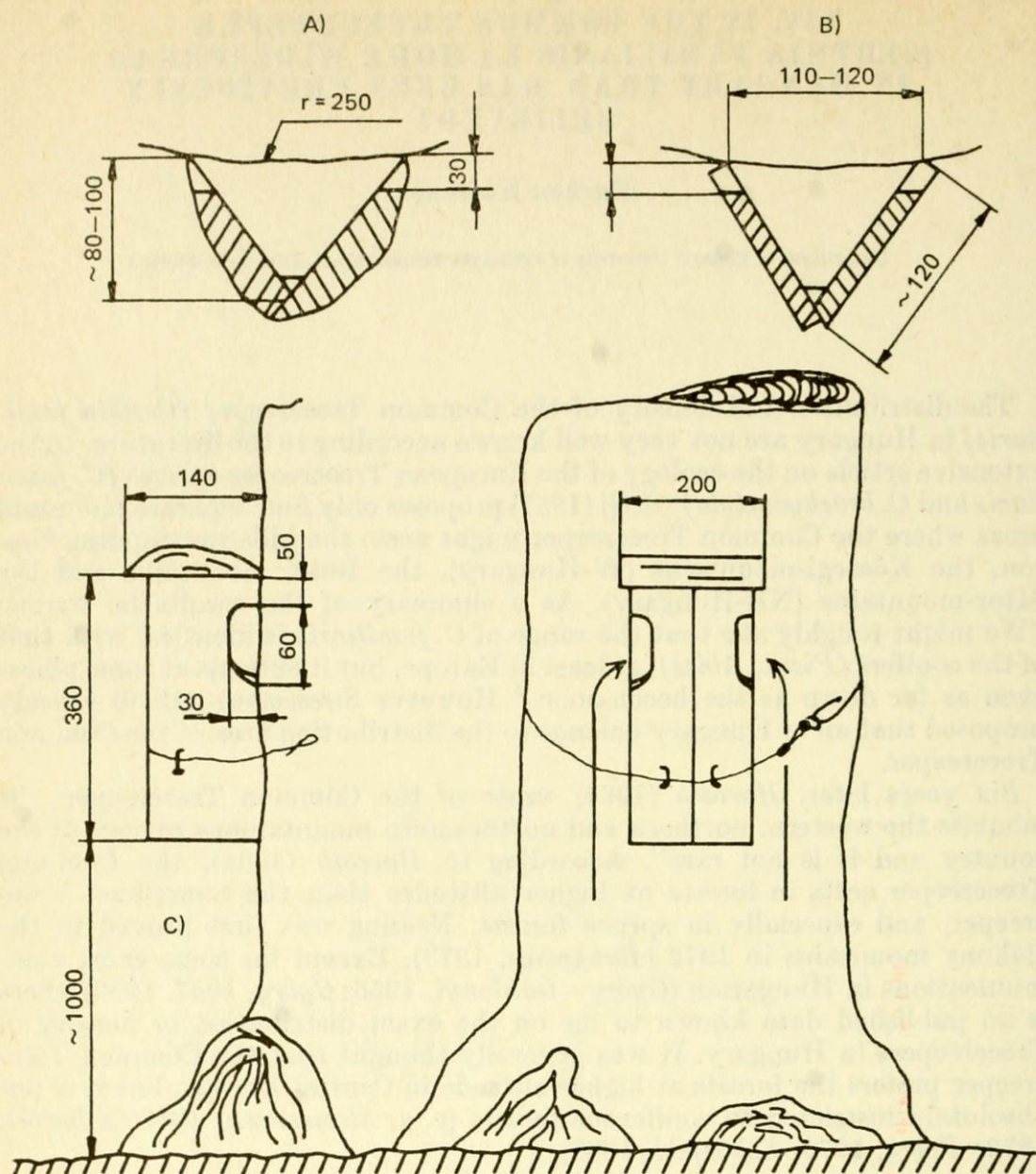
The distribution and density of the Common Treecreeper (*Certhia familiaris*) in Hungary are not very well known according to the literature. In the extensive article on the ecology of the European Treecreeper species (*C. familiaris* and *C. brachydactyla*), *Szűj* (1957) proposes only four separate mountain areas where the Common Treecreeper might nest; the hills surrounding Sopron, the Kőszegi-mountains (W-Hungary), the Bükk mountains and the Sátor-mountains (NE-Hungary). As a summary of the results he writes: "We might roughly say that the range of *C. familiaris* is identical with that of the conifers (*Picea*, *Abies*), at least in Europe, but it extends at some places even as far down as the beech-zone." However *Stresemann* (1919) already proposed that all of Hungary belongs to the distribution area of the Common Treecreeper.

Six years later, *Horváth* (1964) wrote of the Common Treecreeper: "it inhabits the western, northern and northeastern mountainous regions of the country and it is not rare". According to *Horváth* (1964), the Common Treecreeper nests in forests at higher altitudes than the Short-toed Treecreeper, and especially in spruce forests. Nesting was first proved in the Bakony mountains in 1972 (*Bankovics*, 1973). Except for some short communications in Hungarian (*Győry-Gárdonyi*, 1955; *Győry*, 1957, 1959), there is no published data known to me on the exact distribution or density of Treecreepers in Hungary. It was generally thought that the Common Treecreeper prefers the forests at higher altitude in Central Europe, but it is not absolutely restricted to coniferous forests (e. g. *Stresemann*, 1919; *Schnebel*, 1972; *Foyer*, 1976; *Schönfeld*, 1983).

## Nest box experiments in Hungary

I have studied a population of the Common Treecreeper in southern Finland (*Kuitunen-Törmälä*, 1983 and unpubl. data) using special nest boxes for the species (Fig. 1) since the year 1974. At best, there have been 76 pairs nesting in 162 boxes in an area of 5870 ha (*Kuitunen*, 1985).

In order to get additional material, 28 special Treecreeper boxes of Finnish design were placed in the Pilis mountains, 40 km north of Budapest, Central Hungary, in the spring of 1982. Three groups of boxes were used: one near Visegrád, the second near Pilismarót and the third near Pilisszentlászló. Since the boxes in each sub-area were only about 25 m from each other, it was expected that there would be only one nest in each group of boxes. In



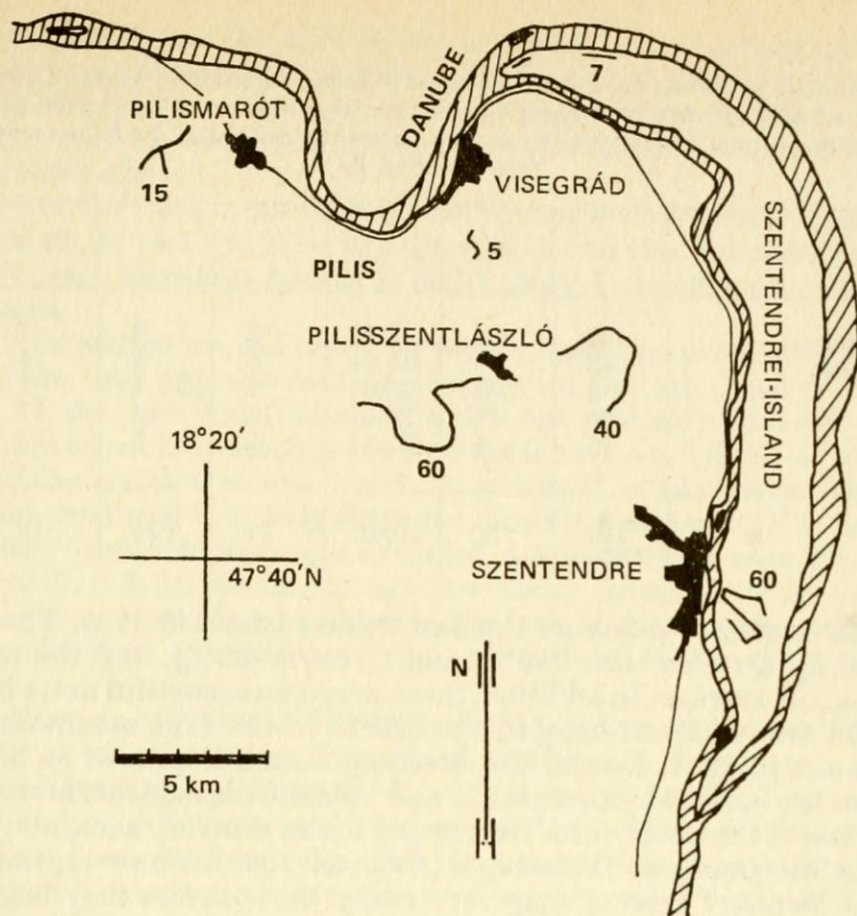
1. The special nestbox for Treecreepers designed in Finland. A - nestbox section from above; B - another variety of the nestbox; C - side view; D - front view.

Finland the minimum distance between the boxes has been at least 400 m.

The habitats of the boxes were of *Carpino - Fagetalia* (Visegrád), *Luzulo - Fagetalia* (Pilismarót) and *Quercetalia robori - petraeae* (Pilisszentlászló) types.

In the years 1983 and 1984, I studied the Treecreeper populations of the Pilis mountains area with the aid of 187 special boxes (Fig. 2).

Based on the published information on habitat selection and abundance of Treecreepers in Hungary, I expected that the boxes would be occupied mainly by Short-toed Treecreepers.



2. The study area in the Pilis mountains. The numbers of boxes are shown.

### What do the results tell?

The results were surprising in the first year, 1982, because on the basis of measurements on the six breeding adults, all were determined as Common Treecreepers. Every brood was successful.

During May 1982 I wandered almost daily in the forests of the Pilis mountains and could hear different males of the Common Treecreeper singing outside the nestbox areas on four occasions. At the beginning, I did not know the differences in the field characteristics between the Treecreeper species. But when I met local bird watchers, very few of them seemed to know these any better. Thus I wanted to clarify the actual abundance ratio and distribution of the species.

The results later gave (1983 and 1984) evidence for the view that both Treecreeper species breed in the study area sympatrically. As in 1982, there were no nests of the Short-toed Treecreeper in the boxes in 1983, even if it was not rare to hear the song of the Short-toed Treecreeper once I had learned to recognize it. Instead, the Common Treecreeper occupied the boxes and was successful in breeding (Table 1). The first successful pair of the Short-toed

1. táblázat  
Table 1

The number of available (1) and occupied (*Certhia familiaris*) boxes in 1983 (2), the number of nests with eggs (3), with complete clutch and incubation (4), nestlings (5) and fledgelings (6) in five different localities of the Pilis mountains (see also Fig. 2)

	1	2	%	3	4	5	6
By the Danube	67	2	( 3.0)	2	2	?	?
Pilisszentlászló	40	6	(15.0)	6	5	4	4
Visegrád	5	1	(20.0)	1	1	1	0
Sikaros	60	16	(26.7)	15	14	11	8
Pilismarót	15	5	(33.3)	3	3	3	(1)?
Total	187	30	(16.0)	27	25	19	12

Treecreeper nested in a box on the Szentendrei-Island in 1984. The site was dominated by *Quercus robur* (80%) and *Q. cerris* (20%), and the trees were 84 years old on average. In addition, there were two successful nests in natural sites in the area of Malas-hegy in the middle of the Pilis mountains, one in 1983 and one in 1984. During the breeding season it proved to be easy to distinguish the species by their songs and voices. It is evident, however, that at least some of the Short-toed Treecreeper males can very accurately imitate the song of the Common Treecreeper (Hanssen, 1983). However, they do not repeat the "wrong" type of song very many times before they begin to use their own again. On contrast to this finding, Thielcke (1972) claims that the males of *Certhia* spp. singing themes of *Certhia familiaris* and *C. brachydactyla* in the wild were always found to be Common Treecreepers (*C. familiaris*).

The box sites occupied by the Common Treecreeper were typically dominated by the Winter Oak (*Quercus petraea*) (Table 2). In general, the tree

2. táblázat  
Table 2

The mean frequencies (%) of the tree species in the sites of the next boxes occupied by the Common Treecreeper in 1983. The number of sites dominated by each species is given in brackets

<i>Quercus petraea</i>	40.1	(11)
<i>Q. cerris</i>	18.1	( 2)
<i>Carpinus betulus</i>	17.1	( 5)
<i>Pinus nigra</i>	7.4	( 2)
<i>Salix alba</i>	7.0	( 2)
<i>Q. pubescens</i>	3.0	( 1)
<i>Fraxinus ornus</i>	2.4	(-)
<i>Fagus sylvatica</i>	2.4	(-)
<i>Populus nigra</i>	1.7	(-)
<i>Pinus sylvatica</i>	0.2	(-)
	100.0	23

species composition in the sites of the occupied boxes corresponded well to the forest grove structure of the Pilis area forest. No Treecreepers were found nesting in the boxes in the very young lowland forest on the Szentendrei-Island. The only two nests found there were in a forest containing mainly old willows (*Salix alba*).

The age of the trees in the stands with occupied boxes was on the average 67.2 years (S. D. = 15.4; N = 23). *Quercus petraea* characterized the nesting site in 13 cases, *Carpinus betulus* in eight cases, and wooded lowland steppe in two cases.

Some information on the breeding results has been presented in Table 2. In 1983, the first egg was laid on average on the 7th April (S. D. = 4.3; N = 8). If the late four clutches, which are probably renewal or second clutches, are taken into account the average is 14th April (S. D. = 12.8 [days]; N = 12). The clutch size was 5.7 (S. D. = 0.9; N = 14; range from 3 to 7). One brood produced 1.9 fledgelings per breeding attempt (N = 28). If the totally destroyed breedings are excluded 4.5 fledgelings were produced on average. Still, it is impossible to say how many descendants the population produced per one breeding pair due to the lack of data on the second breedings. Woodpeckers (*Dendrocopos* spp.) proved to be the most important predators.

In the Museum of Natural History in Budapest I measured the Treecreeper skins (67), of which 34 were determined as Common Treecreeper and 33 as Short-toed Treecreeper (*Kuitenen, M. — Kuitenen, P., 1985*). I noticed that 9 Common and only 3 Short-toed Treecreepers were found or shot during the nesting time from April to July. This does not either support the idea that the Common Treecreeper is common in Hungary only in winter because of migration.

### Concluding remarks

Although my data is fragmentary, I think that the distribution and habitat selection of Treecreepers in Hungary are probably similar to those in other Central European countries at present. The Common Treecreeper is a generalist, not dependent on any specified species of tree, if only the trees are relatively old. The Short-toed Treecreeper seems to prefer oaks (*Schnebel, 1972; Foyer, 1976; Schönfeld, 1983*). Obviously, the Common Treecreeper is more widespread in Hungary than has been previously believed (*Szizj, 1957*). It is possible, however, that the Common Treecreeper occupies the nestboxes more easily because of its dominance over the Short-toed Treecreeper (*Schnebel, 1972*). In this case, the density of the Short-toed Treecreeper would have been considerably underestimated, if only the nestboxes had been studied. There were, however, many empty boxes after the occupancy of the Common Treecreeper, which were not accepted by the Short-toed Treecreeper.

Finally, I want to emphasize the need of more comprehensive research on the autoecology of Treecreepers both in Hungary and in areas where the ranges of the two species overlap. As my results on habitat selection of the Common Treecreeper do not agree exactly with the earlier information on preference for spruce (see the literature in *Schnebel, 1972*), it is possible that the habitat selection pattern of the species has changed or been misunderstood.

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Author's Address:  
Markku Kuitunen  
Seminaarinkatu 15  
SF - 40100 Jyväskylä 10  
Finland - Suomi

## References — Irodalom

- Bankovics, A. (1973):* Adatok a Kőris-hegy madárvilágához. Veszprém Múz. Évk. 12.
- Foyer, H. (1976):* Die Siedlungsdichte der beiden Baumläuferarten und des Kleibers in einem Waldgebiet des Luxemburger Sandsteins. Regulus. 12. 9 - 18.
- Györy J. (1957):* Újabb adatok az erdei fakúsz költéséhez a Soproni-hegységben (New data about the breeding of the Treecreepers in the hills of Sopron). Aquila. 63 - 64. 303 - 304.
- Györy J. (1959):* Adatok a fenyvescinege, búbos cinege, erdei fakúsz és a léprigó költéséhez (Data on the nesting of the Coal Tit, Crested Tit, Treecreeper and Mistle Thrush). Aquila. 66. 282 - 283.
- Györy J. - Gárdonyi G. (1955):* Fakúszok érdekes fészkelőhelyei (Unusual nesting sites of Treecreepers). Aquila. 59 - 62. 391 - 392.
- Hanssen, P. (1983):* Fuglesang - form og funktion. Natur og Museum. 23. (1) 1 - 32.
- Horváth, L. (1964):* The evolutionary significance of the atavistic aberrations in the plumage of the Treecreepers of Hungary. Acta Zool. Acad. Sci. Hung. 10. 131 - 138.
- Kuitunen, M. (1985):* Special nestbox in breeding ecological Studies of the Common Treecreeper (*Certhia familiaris* L.) in southern Finland. (Manuscript)
- Kuitunen, M. - Kuitunen, P. (1985):* Discriminant analysis in biometric research: identification of the European Treecreeper species *Certhia familiaris* L. and *C. brachydactyla* Brehm. (Manuscript).
- Kuitunen, M. - Törmälä, T. (1983):* Nestling food of the Treecreeper, *Certhia f. familiaris* L. in southern Finland. Ornis Fennica. 60. 42 - 44.
- Schnebel, G. (1972):* Die Ökologie der Baumläufer (*Certhia brachydactyla* und *Certhia familiaris*) in Ostniedersachsen. Die Vogelwelt. 93. 201 - 215.
- Schönfeld, M. (1983):* Beiträge zur Ökologie und intraspezifischen Verhalten der Baumläufer, *Certhia familiaris* und *C. brachydactyla* in Eichen - Hainbuchen - Lindenwäldern unter dem Aspekt der erhöhten Siedlungsdichte durch eingebrachte Nisthöhlen. Hercynia N. F. Leipzig. 20. 290 - 311.
- Stresemann, E. (1919):* Über die europäischen Baumläufer. Verh. Ornith. Ges. in Bayern. 14. (1) 39 - 74.
- Szűj L. (1957):* Ökológiai és állatföldrajzi tanulmányok a Kárpát-medence fakúsz-féléin (Ecological and geographical studies on the Treecreepers of the Basin Carpathia). Aquila. 64. 119 - 155.
- Thielcke, V. G. (1972):* Waldbaumläufer (*Certhia familiaris*) ahmen artfremdes Signal nach und reagieren darauf. J. Orn. 113. 287 - 296.