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The Danish Little Owl population 2007

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As in most of its Northwest European range, the little owl is declining in Denmark. At least since the 1970s where little owls were recorded in approximately 450 5X5 km²-quadrants (out of in total 2160 such quadrants in Denmark), the population has been steadily declining to a current estimate of approximately 100 pairs in 2007.

The remaining stronghold for Danish little owls is in northern Jutland with estimated 80 % of the breeding pairs (Fig. 1). The only other population consists of few pairs in western Jutland. In 2007, 58 territories (of which seven were new) and nine solitary birds were found. 12 known regular territories were not controlled. We still find new territories, mainly by using play-back. In the last three years 17 new territories are found this way. In 1981, we knew of more than 120 pairs in Northern Jutland. Almost all pairs were associated with farmhouses or villages, and most nests were placed in buildings.

The Danish little owl study was started in 2005, when very little was known about exact factors causing the decline, and with the aim of understanding what causes the continued decline in the Little Owl population in Denmark. The project runs as a collaboration between researchers from University of Copenhagen and University of Århus and so far 4 master's students have been associated with the project.

Because no knowledge exists on home-range size, use of habitats and seasonal variation of little owls in Denmark, we have used radio telemetry to track 30 individuals in northern Jutland during the last 3 years. The results from telemetry and registrations of breeding success are used to link population parameters such as fecundity and survival to habitat and nest availability, weather parameters and other relevant factors.

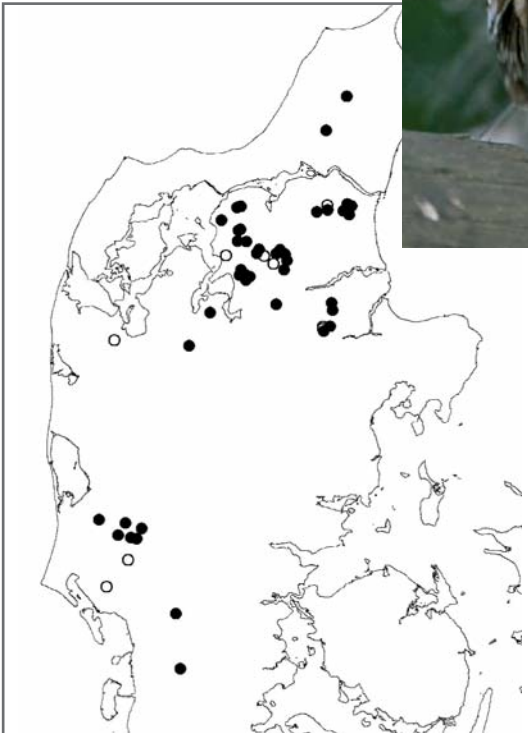
Telemetry surveys has demonstrated that the owls spend most of their time close to the nest (less than 1 km) and showed preference for gardens and grazed areas in the breeding season, when farmed land was generally covered with tall crops.

Analyses of filed data on clutch and brood size show that the production of young has been declining since 1980s, and production of young seems to be more successful when grassy/grazed areas are found near the nest.

During the last 2 years, we additionally experimented with provision of extra food to a few nests during the breeding season. These pairs have reared more young than average, indicating that insufficient food might limit reproductive success, at least for some pairs.



An important outcome of the project will be recommendations for help maintaining a viable population. Possible recommendations would likely focus on the availability of permanently grazed areas near little owl nests and the accidentally induced mortality of young (which e.g. drown in farmers' equipment) as well as adult owls.



Little owl with earthworm, Himmerland, northern Jutland, June 2007.
Photograph: Stig Frode Olsen

Fig. 1. Location of 52 territories of little owls in Denmark in 2007. None were found outside of Jutland. Pairs (solid) and single individuals (open) are shown. Information from 12 sites previously used regularly is lacking, and 14 territories where the exact location is not known are not shown. In total, little owl was recorded on minimum 67 localities in Denmark in 2007



Tengmalm's Owl breeding in Jutland, Denmark, in 2007

David Boertmann & Stinne Aastrup

A singing male Tengmalm's Owls *Aegolius funereus* was found during a search for False Morels *Gyromitra esculenta* in a conifer plantation in Mid-Jutland on 13 April 2007. The characteristic "zigeroller"-call was heard in the twilight, and the following evening two birds and a nest hole was located. The owls were monitored until two – possibly three – young fledged and disappeared in the adjacent plantation in early July.

The nest was placed in an old Black Woodpecker *Dryocopus martius* nest hole 10 m's above ground in an *Abies* sp. planted in 1897. We estimate the first egg to have been laid app. 25 April. First encounter of young in the nest was the morning on 17 June, when an estimated 25-28 days old young looked out of the nest hole. Up to three different young were seen looking out from the nest during the following days. The nest was empty the morning on 26 June. Two young were located close to the nest (200 m) on 29 June and one was photographed there the following day. Last observation was on 2 July when an adult was heard 750 m away from the nest.

The second evening of observation a Pine Marten *Martes martes* was observed close to the nest, and later a litter was found in a Black Woodpecker nest hole only 150 m from the Tengmalm's Owls nest. The young apparently later were removed by the parents to another site.



Fig.1. Female looking out on 22 May.
Photo Tonny Ravn Kristiansen

This is only the second breeding record of Tengmalm's Owl in Denmark outside Bornholm, where a small population exists. The previous breeding, in 1968, in Northern Jutland followed a massive invasion of Scandinavian Tengmalm's Owls in autumn 1967. No invasion from Scandinavia has been recorded in autumn and winter 2006/07 and the present breeding record is therefore interpreted as immigration from the small, but increasing population in Schleswig-Holstein. We suggest that there may be a small, but unnoticed, population of Tengmalm's Owls in Jutland. This is possible because the many conifer plantations now have plenty of large trees and Black Woodpeckers have been present since the 1980s, leaving many potential nest holes. Tengmalm's Owls can be unnoticed because of their very discreet behaviour and because the extensive conifer plantations in Jutland rarely are surveyed by ornithologists when the owls are most easily found. Ornithologists arrive later in the season when Nightjars *Caprimulgus europaeus* are singing during the night. It was sheer luck that we stumbled over the singing male owl on the way home from mushroom collecting. Our suggestion is supported by the fact that after the publication of the breeding record (see below), we have received reports of heard Tengmalm's Owls from at least three different forests in Jutland in recent years.



The plantation where the owls were found is state property, and we immediately notified the local forest authorities. We also reported to the Danish Ornithological Society, which in their May-issue of the monthly on-line newsletter briefly mentioned, that a pair of Tengmalm's Owls was found in Jutland. However, we and the forest authorities agreed on keeping the breeding site and the result of the breeding attempt as a secret throughout the summer. In November 2007, the successful breeding of the owls (site still a secret) was published in a press release from the forest authorities and in the journal "Fugle og Natur" from the Danish Ornithological Society. This resulted in a extensive press cover in local news media.

Subsequently the forest authorities and the Danish Ornithological Society has agreed on a nest box project, which include the deployment in 15 nest boxes for Tengmalm's Owls during December 2007. This can, hopefully, contribute to the establishment of a breeding population in the plantation where the nest was found

Fig. 2. Fledged young on 30 June, four days after leaving the nest. Photo Gerner Majlandt



Fig. 3. Nest habitat. Arrow indicates location of nest. Photo Gerner Majlandt



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Young Tengmalm's Owls looking out, Photo: Gerner Majlandt