Dispersal and migration of Danish Montagu's harriers

Aim

This project will provide much needed information on dispersal and migration for the Danish Montagu's harriers. An extensive field project involving both satellite tracking of adults and wing tagging of nestlings combined with extensive searches of wing tagged birds through a concerted international effort, will enable detailed description of spatio-temporal patterns of movement.

Background

This project is an extension of the existing Montagu's harrier ringing project in Denmark, (since 2005) where Danish Montagu's harriers are already being colour ringed as part of a collaboration with Dansk Ornitologisk Forening. A large-scale, coordinated international project involving wing tagging and satellite tracking of Montagu's harrier is already taking place in France, The Netherlands, Germany and Poland. The extended Danish project will form the Danish part of this programme.

The international satellite telemetry and wing tagging projects are described in detail in separate project descriptions.

Methods

The project extension consists of two main parts: satellite tracking of two adult, breeding Danish Montagu's harriers and wing tagging of the young from nests that are controlled and colour ringed anyway (ie. 15-25 young). Tagging activities will be restricted to 2008.

Satellite tracking

Trapping and fitting of satellite transmitters will be carried out by Danish ringers in collaboration with the Dutch team, who has extensive experience with the methods from previous satellite tracking of Montagu's harriers. Capturing of adults will depend on the circumstances: either using a catching pole or a mistnet with stuffed predator.

The catching pole is a wooden pole placed in the parcel edge near the nest which the harrier gets used to use and can then be used to catch the bird with a spring mechanism. The success rate of this method is about 75 % (the methods has been used since 2002 by the Dutch group). This method requires some preparations, which costs at least a week, and the capturing itself may cost a lot of patience as well (waiting for 15 min - several hours).

A more efficient method which was used last year is a mistnet and stuffed predator (e.g. Marsh Harrier, Buzzard). We have a 70 mm mistnet and place this with the predator under it close to the nest (50-200 m). The birds usually attack and fly into the net 15-30 min after they discover the predator. This method was also used for trapping red kites in Denmark for an earlier project.

Both pole and net-methods are unspecific to which sex is captured, as both sexes use poles (except females during incubation) and attack predators (although females sometimes seem to be more keen during attacks).

So far, there have been no direct problems with the bird during catching (no accidents) or cases of nest desertion. The bird is handled for a maximum of 40 minutes, but usually ringing, measuring and applying a transmitter proceeds within around 20 min. During handling, the bird's head is covered with a "hat" (a sock or bag) when possible to keep the bird quiet. Usually, with the head covered and low noise level the birds are quite relaxed in the hand. In the past years, a number of number of transmitter birds were observed every third day after catching to check

whether the breeding was going well. Nothing abnormal has been noted. All nesting attempts within the season when the bird was captured were successful. The birds do what they always do (carry prey etc) and only one female has been observed pulling at her harness for several days.

If any such effects would become obvious, we would try to catch the bird back and take the transmitter off.

Wing tags

Fitting of wing tags will be carried out by Danish ringers and the Dutch team (or perhaps the French team) in collaboration. Both the Dutch and the French team have extensive previous experience. The tags are expected to last during the life-time of the birds. The colour coding system is coordinated by the French.

Wing tags have been used by the French for decades, and the French know the species very well. No negative consequences in terms of behaviour or survival have been experienced. From an aerodynamic viewpoint, we do not expect the wing tags to be disturbing, and the tags fulfil all aerodynamic criteria defined by John Videler, author of the book "avian flight" (2005): they lie flat on the upper surface (convex), do not protrude over the wing, neither touch nor interfere with the sharp edge of the secondaries, neither do they interfere with the sharp edge of the primaries.

Probably the largest problem with the wing tags lies in the aesthetic aspects. An earlier Danish project involving wing tagging of red kites did result in quite some debate (http://www.netfugl.dk/news.php?id=show&news_id=8724108d5456a995). In this case, we plan to provide birdwatchers with detailed information about the project and its aims through Dansk Ornitologisk Forenings webpage and other channels. This will detail that the intensive field tagging only lasts one year and thus only include one cohort, that there is a large, coordinated international effort also on the winter grounds in Africa and that we urgently need better information on the Danish Montagu's harrier population to improve our conservation efforts. Additionally, the project has been approved by the Dansk Ornitologisk Forenings Scientific Committee. In this way, we hope that there will be a general acceptance of the need for this research project.

For further information including attachment, see the detailed project description.

People

The Copenhagen Bird Ringing Centre, University of Copenhagen (Kasper Thorup) is overall responsible for the Danish part of the tagging activities. Lars Maltha Rasmussen will be responsible for the practical parts of the project in the field.

Collaborators

The project will be part of the already existing Montagu's harrier ringing project which is run in collaboration with Dansk Ornitologisk Forening. The ringing project is part of the Danish Montagu's harrier project http://www.dofbasen.dk/DATSY/datsyart.php?art=02630&sidenummer=5) which is a collaboration between Dansk Ornitologisk Forening, Ministry of Environment, local Municipalities and local Farmers' organisations. Furthermore, the satellite telemetry is integrated and coordinated through collaboration with the Dutch Montagu's Foundation, the University of Groningen, Holland, and the Vogelwarte Helgoland, Germany. The wing tagging is coordinated by the French group at CEBC-CNRS in

Chizé and is done in collaboration with the Dutch Montagu's Foundation, the University of Groningen, Holland, and the Vogelwarte Helgoland, Germany.

Publication

Scientific publications as part of these activities will be in collaboration with the Dutch and the French groups. However, the results will of course also be available to relevant Danish authorities, and would appear as part of the report published by DOF on the Montagu's harrier project. Additionally, the results of satellite tracking will be published on the Dutch web as well as DOFs websites and updated regularly.

Budget and financing

Satellite tags will be financed by the Dutch group. Wing tags will be supplied by the French group. Part of the field work will be funded through Dansk Ornitologisk Forenings existing Montagu's harrier activities.