

# In situ research on EUROPEAN TURTLE DOVES

(*Streptopelia turtur*) in Africa and the Netherlands

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Young European Turtle Dove fitted with a gps data logger (photo: Elly Schipper)

## European Turtle Doves on their wintering grounds in Africa

The 'International Single Species Action Plan for the Conservation of the European Turtle-dove *Streptopelia turtur* (2018-2018), emphasizes that our biggest knowledge gap concerning these turtle doves is located on the wintering grounds in Africa. Coen van Tuijl conducted research on the European Turtle Dove on one of the wintering grounds in Africa for his master thesis at Wageningen University in the Netherlands.

Coen's research focussed on habitat selection of European Turtle Doves on their wintering grounds and specifically looked at the influence of climate changes in this region. His research was conducted in the Beer Sheba region in Senegal in collaboration with Wageningen University & Research and the Royal Society for the Protection of Birds (RSPB).

Migrants, like the European Turtle Dove, are particularly susceptible to the effects of environmental changes due to the fact they rely heavily on different locations during different moments of their life. Long distance migrants who are dependent on farmland cope the worst with climate changes. They are experiencing difficulty with the rapid habitat changes on their breeding grounds.





Added to that, negative circumstances on their migration route, and on their wintering grounds can have a direct negative impact on the population size. Circumstances on both the migration route and on the wintering grounds can have significant effects on survival; the condition of the body; and on future reproductive success. Understanding the ecology at the wintering grounds can therefore make an important contribution to the conservation of the European Turtle Dove.

During Coen's research a 170 European Turtle Doves were caught to identify the crop content. Both the subspecies *turtur* as *arenicola* were present, but for this research no selection was made in subspecies. The diet of European Turtle Doves on their winter grounds fluctuated over the timespan of the research. It changed from a majority of sorghum as their main food source at the beginning of the study period, to a majority of millet combined with wild seed at the end of the study period.

Several caught European Turtle Doves were equipped with gps data loggers. From the locations that these European Turtle Doves visited with gps data loggers, the characteristics of the type of habitat were recorded. Habitat selection of wintering European Turtle Doves is formed by the presence of food and water, but also the presence of trees was one of the criteria for a suitable forage area.

One of the results was that European Turtle Doves spend more time looking for food as the season progressed. The quality and quantity of food for turtle doves decreased which resulted in more hours spent foraging on a daily basis. The time spent foraging increased by 93 minutes per day between the beginning and the end of the research period.



*Streptopelia  
turtur arenicola*



The conclusion of the research is that European Turtle Doves are dependent on human changes to the landscape. European Turtle Doves eat mainly seeds of crops which are planted by local farmers; they drink from wells made by man; and sleep in forest which are maintained by local people. Changes in these, both by climate change and due to the increasing human population, can have major consequences for the survival of the European Turtle Doves on their winter grounds.

### European Turtle Doves in a changing landscape

In 2018 research on the Dutch population of the European Turtle Dove started. In the Netherlands the European Turtle Dove has declined by approximately 97% since the 1980's (Sovon, 2018). Jennifer Vreugdenhil-Rowlands took the initiative in 2018 to conduct research on this species in the Netherlands. Her project is called (translated from Dutch) 'European Turtle Doves in a changing landscape' and focusses on habitat selection by European Turtle Doves. The research takes place in collaboration with Rijksuniversiteit Groningen (University of Groningen) and Stichting Het Zeeuwse Landschap (Foundation for the province of Zeeland). The project receives substantive support from NIOO Vogeltrekstation (bird migration station), Vogelbescherming Nederland (Dutch BirdLife International partner), Justus Liebig University Giessen and the Royal Society for the Protection of Birds (RSPB).

Not a lot is known about the smallest dove in the Netherlands and up until now little research has been conducted in the Netherlands on foraging behaviour and the use of landscape by European Turtle Doves. No research has been conducted on the migration routes of European Turtle Doves from the Netherlands to Africa.

The aim of the project is to get a detailed overview of the daily foraging behaviours of the last breeding populations in the province of Zeeland and their migration route to Africa.

This research will also contribute to the international conservation of this species by realising several of the objectives of the International Single Species Action Plan for the European Turtle-dove.

The two research questions are:

1. What is the habitat preference for breeding European Turtle Doves in the Netherlands?

Through the use of gps loggers the foraging, nesting, and sleeping locations will be mapped out. Within the movement radius of the individual a detailed map will be provided with crops, vegetation and landscape elements. In order to gain an insight into their habitat selection choices and foraging strategies.

2. What are the migration routes and wintering areas of breeding Dutch European Turtle Doves?

When the same birds with the same loggers are back from their migration from Africa the data of their migration can be collected. This data can be compared with other migration studies in Europe.

At the time of writing (December 2019), four European Turtle Doves have been caught in the province of Zeeland and have been equipped with a gps logger. A good start to this research! One can follow the project on [www.zomertortels.nl](http://www.zomertortels.nl).

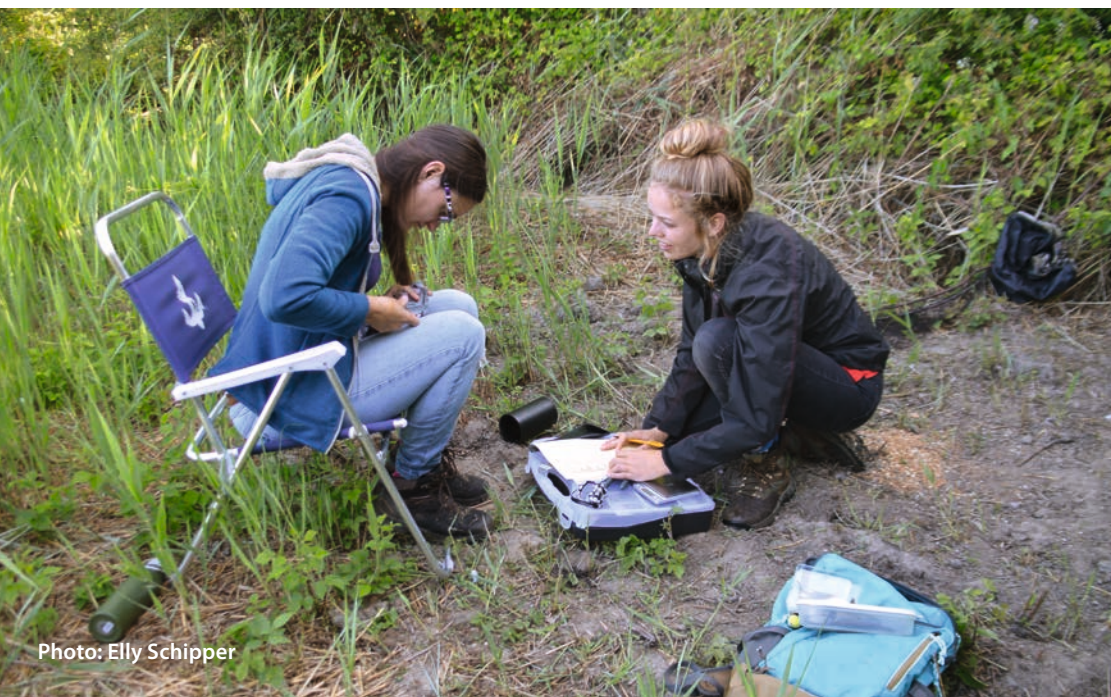


Photo: Elly Schipper



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