

# AVICULTURE AND EUROPEAN TURTLE DOVES

(*Streptopelia turtur*)

text and photos by Charles van de Kerkhof

Final part (6) in a series about the European Turtle Dove

In this sixth article about European Turtle Doves, I use these Turtle Doves as an example to illustrate aviculture. As I have described in more detail earlier, aviculture encourages conservation; it provides information about bird species; and includes research on birds and bird behaviour. It is up to us to effectively write down and share our observations and knowledge about all bird species 'under our wings' in order to inform and introduce others to these species.

We as aviculturists are in the position to acquire specific knowledge about the birds in our aviaries and it is up to us aviculturists to manage birds in protected environment for hobby, research and conservation purposes. Using a number of examples, I demonstrate how aviculturists contribute to the knowledge about specific bird species in our collections and to in-situ research.

European Turtle Dove with a gps logger  
(photo: Charles van de Kerkhof)

In addition to preserving bird species in a protected environment, as aviculturists we are in a position to acquire some knowledge about the birds in our aviaries that would be virtually impossible to gain from observation in their natural habitat. Derek Goodwin put this nicely in his 1967 book "Pigeons and Doves of the World": *"One of the purposes of this book is to identify what is not known. I hope this will encourage my readers who have the opportunity to study some little-known species. If they observe carefully, they will certainly learn new and interesting facts about their behaviour or ecology. Not only do they contribute significantly to our knowledge about pigeons (on condition that they publish their results), but I am sure that they will also enjoy watching their pigeons."*





## Pensthorpe Conservation Trust

Pensthorpe Conservation Trust is a non-profit organization in England, where they, together with several British partners, focus on breeding programs to protect European Turtle Doves, corncrake, European cranes and squirrels. Under the title 'Operation Turtle Dove', Pensthorpe, together with the Royal Society for the Protection of Birds (RSPB), Natural England and Conservation Grade, started in 2012 to raise awareness about the decline of the Turtle Doves and to gather information about the current status of these turtle doves.

One of the studies conducted by *Operation Turtle Dove* is a study to find out which seed mixes are best for the Turtle Dove. The data obtained will help design an ideal habitat with sufficient food sources to improve the local breeding area. These seed mixtures have been tested with Turtle Doves in the Pensthorpe collection.

The research was carried out by a master student who gave the Turtle Doves a choice of different types of seeds in two aviaries, each aviary housed three male Turtle Doves. These doves have been observed by means of



Photo: Charles van de Kerkhof



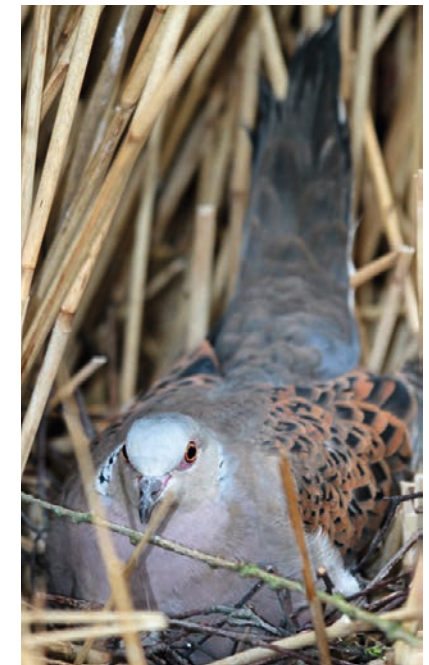
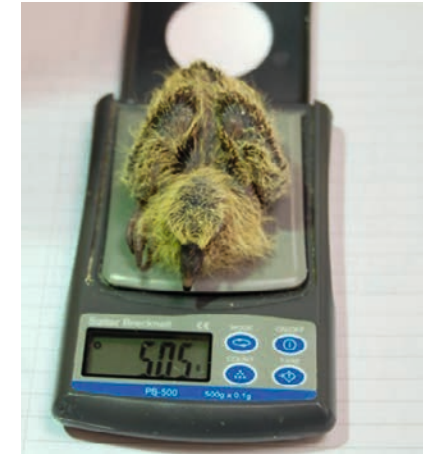
bees and butterflies there than in six different control areas (Dunn, 2013). These seed mixes therefore have a major impact on more than just the Turtle Doves!

Another example of how Pensthorpe contributes to the knowledge we have about Turtle Doves in aviculture is researching the breeding results. A two-year study was undertaken that started in 2015 looking at the breeding results of Turtle Doves that raised their own young; Barbary doves (*Streptopelia risoria*) that raised Turtle Dove chicks and the transfer of Turtle Dove eggs to Barbary doves at various stages from fresh laid to point of hatch. The aim being to determine the optimum way of successfully rearing Turtle Dove young. Many pigeon enthusiasts know that Barbary doves can be used as foster parents for seed-eating pigeons and doves.

What makes this research interesting is that they looked at the flexibility between different foster parent techniques. The aim of the study was to support a potential captive European Turtle Dove conservation breeding program and the results of the study were used to formulate management guidelines.

Top: Barbary Doves with a young European Turtle Dove.  
Middle: a six days old European Turtle Dove.  
Bottom: European Turtle Dove. (photos: Kat MacPherson)

cameras and the preference for the type of seeds has been determined. The first results in the wild of the sown seed mixtures have benefited wild Turtle Doves! Research shows that in the places where these special seed mixes were sown, not only did the Turtle Doves benefit, but that there were more foraging bumble-





During this two-year study, 8-9 pairs of Turtle Doves and several pairs of Barbary doves were kept. The weight of the young birds, both raised by Barbary doves and their parent Turtle Doves was recorded daily.

Two different tactics were used, the changing of young birds and the changing of eggs. The results were compared with the data on self-reared young by Turtle Doves. During this two-year study, 28 young Turtle Doves were raised by foster parents. Three methods were investigated in which

- 1) Barbary doves received young Turtle Doves of the same age as their own young.
- 2) Barbary doves received eggs from Turtle Doves, whereby the age of the embryo was estimated by candling to try and foster to Barbary doves eggs at a similar point in incubation.
- 3) A combination of the above two methods, namely Barbary doves receiving two Turtle Dove eggs, removing an unfertilized Turtle Dove egg and introducing a Turtle Dove chick in the place of the unfertilized egg once the fertilized egg hatched.

The first conclusion is that Barbary doves do a good job as foster parents for Turtle Doves. The young raised under foster parents showed the same growth curve as those raised Turtle Doves. It is difficult to estimate the age of the fertilized eggs by candling and that resulted in different hatch dates. The synchronised hatch date is vital because this is something that influences the presence or absence of crop milk in the parent foster birds. Pigeons and doves have evolved to start producing crop milk at the point of hatch of their eggs, different species have varying incubation periods so when using foster parents, it is important to know the incubation period and incubation point of the foster parent and that of the Turtle Doves so that crop milk is available at the date of hatch. For optimum results it is very important that incubation dates are monitored for both the potential foster parents and the Turtle Doves.

### European Turtle Doves in a changing landscape

As mentioned in the "*In situ research on European Turtle Doves*" article Jennifer Vreugdenhil-Rowlands is researching the breeding and foraging area of wild Turtle Doves in Zeeland, a province in the Netherlands. In order to facilitate this, wild Turtle Doves are caught and fitted with GPS loggers. These loggers consist of an elongated box with a solar panel on top and an antenna at the back. These so-called "backpacks" are attached on the back of the birds and are secured with Teflon rope just like a backpack. The whole is generously measured and the Teflon loops go over the head of the Turtle Dove and underneath the wings will return to the back of the logger.

The collaboration between Jennifer Vreugdenhil-Rowlands and Aviornis International Nederland shows that an ex-situ population of European Turtle Doves can be of added value for in-situ research. Part of Jennifer's research was to receive training on the use and installation of GPS loggers. This training was given by Raymond Klaassen from the University of Groningen and by Yvonne Schumm, PhD student at Justus Liebig University Giessen in Germany. Raymond Klaassen is specialized in the use of



Photos: Charles van de Kerkhof





Photo: Jurre Breeders

all kinds of transmitter and logger techniques with which he researches local movements of individual birds (habitat use, home ranges) but also bird migration. Yvonne Schumm is conducting her PhD research on habitat use, migration strategies, condition and parasitic pests of native wild pigeon and dove species in Germany. In the field, Jennifer and her intern Naomi Oostinga provide wild Turtle Doves with GPS loggers. Jennifer and Naomi required training in the fitting and using of the GPS loggers. This was provided by Raymond and Yvonne using captive Turtle Doves in our collection, a very practical example of how aviculturists can assist in conservation efforts.

Jennifer has been looking for an ex-situ population of Turtle Doves to practice putting on the GPS logger backpacks so that wild caught Turtle Doves can be handled as efficiently as possible. The availability of our collection of Turtle Doves ensures that Jennifer can practice putting on the GPS loggers so that the wild birds are less stressed when they are handled. Unlike their wild counterparts, the birds in our collection are handled more often. This starts with ringing when the young are five days old and then when they change aviaries or go to another aviculturist. To keep handling to a

minimum, Jennifer visited our collection four times, combining Jennifer's visit with capturing the birds for DNA sexing and moving juvenile birds to other aviaries. In addition to practicing putting on backpacks, a collection of Turtle Doves in a protected environment offers the ideal opportunity to make behavioural observations with Turtle Doves equipped with a GPS logger backpack.

### Aviculture knowledge about European Turtle Doves

Over the years, many articles have been published about European Turtle Doves in for instance the Avicultural Magazine and Aviornis magazines. Via these six previous articles on Turtle Doves I hope that we can share our knowledge concerning Turtle Doves, and as Derek Goodwin described it so beautifully, we can motivate readers of these articles to observe and write about the birds they keep themselves.

### Acknowledgment

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