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ABSTRACT

The woodpigeon is a forest bird, which accommodates well not only to deforested agricultural environments but also to urban and suburban habitats. It is now one of the most common urban birds across much of the western Palaearctic. This species has been studied for decades based on standardized monitoring programs with large data sets. This monitoring has allowed a good knowledge of its migratory populations in western Europe, particularly in the main wintering areas of south-western France and in the Iberian Peninsula. Conversely, little is known about resident populations in south-western France. In order to better understand their habitat use in cities like Périgueux or Bordeaux, we equipped two birds with GPS (Global Positioning System) satellite transmitters during the summer of 2018. The solar powered transmitters were attached to the birds' back with a harness. Unfortunately, one bird was rapidly predated and died. The second one is still alive. The wealth of data that was collected over the first 9 months of the study has enabled us to characterize wintering woodpigeon habitat use in the vicinity of Bordeaux, south-western France. Before hunting season, the bird spend the majority of its time between rural (feeding) sites in the north and urban (loafing and resting) ones in the South (see Figure). By 9th September 2018, the bird did not move out of the urban-suburban area and exhibited very little movement within the sector. Analysis of the data collected is still ongoing. As the settlement and spread phases of the synurbanization (which refers to the adaptation of wildlife to urban environments) of woodpigeons follow an exponential curve, more precise knowledge about their habitat use and population dynamics are important for future population monitoring.

BACKGROUND

In Europe, more and more woodpigeons breed in urban and suburban areas. Despite being very common, little is known about their movement ecology and habitat selection across their annual cycle. So, the aim of this study was to gain more precise information about the way woodpigeons use the suburban habitat.

OBJECTIVES & METHODS

Our main objectives were to:

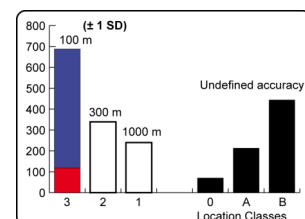
1. Characterize seasonal activity patterns of woodpigeons,
2. Identify home range sizes,
3. Quantity the daily movements of birds.

Our study was conducted in the vicinity of the city of Bordeaux, South-western France. The sector is composed of a mixture of grassland and cultivated fields in the North, commercial and residential areas in the South. Grasslands in the study area are composed mostly by hay, pasture, and wetlands (hunting ponds). We trapped the woodpigeons in the northern sector (see photography). One of them was tracked with solar-powered GPS satellite transmitter (Microwave Telemetry Inc.) on July 2018. This material provide insights into movement ecology, including habitat use, foraging behavior, and mortality. The different position coordinates (longitude and latitude) were used to map the distribution of the woodpigeon's location and distance travelled over several months.



RESULTS

Between July 2018 and July 2019, we obtained 1994 locations, among them 688 in Argos location Class 3. Until September 8th, the woodpigeon spend the majority of its time in grassland sites, but some exploratory movements around the core use occurred (blue squares in the figure). By September 9th, the bird did not move out of the residential and commercial area (red squares). The woodpigeon has an average home range of about 20. It foraged directly in the streets or along channel and river lines.



CONCLUSIONS

GPS-tracking allowed us to gain precise information about the spatial use by woodpigeons in a suburban area. During an entire year, we obtained a complete picture of the movements of a bird fitted with a GPS transmitter in the suburban sector of Bordeaux. We were able to analyze its home range size (about 20 km²) and habitat use.

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