

## 2023 Report on ringing of migratory birds in the Ilon Marsh

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In 2023 we carried out two different ringing protocols at the Ilon Marsh site (marais de l'Ilon, Paradou, 13, FR):

- The VOIE protocol, which aims to document variations in migration routes between individuals, in space and time, for a few species with a high incidence of ringing in Europe and generating many external controls. At Ilon, the main objective is to target Barn swallows (*Hirundo rustica*), which gather and form one of the largest and most regular roosts in Europe.
- The aim of the PHENO protocol is to document the variations in migratory phenology of passerines between individuals, in space and in time. We carry out this protocol throughout the post-nuptial migration season, i.e. from the end of August to the end of December.

In 2023, we carried out 24 ringing sessions on this site (18 for the PHENO protocol, 7 for the VOIE protocol). In total, 3417 capture events happened (1172 for the PHENO protocol, 2167 for the VOIE protocol) from 37 species.

### Report by protocol

#### *VOIE protocol*

For this protocol, in 2023, we captured birds of 5 species including 2147 Barn swallows and 13 Sand martins (we also captured a hybrid between Barn swallow and Sand martin). The foreign controls obtained in previous years confirm the North-South migration route (Scandinavia - Rhine Valley - Rhone Valley) (Figure 1).

The VOIE protocol has been carried out at the site since 2006. However, during the capture seasons up to 2012, the capture site sometimes varied, so we will only compare the results since 2013. (Figure 2).

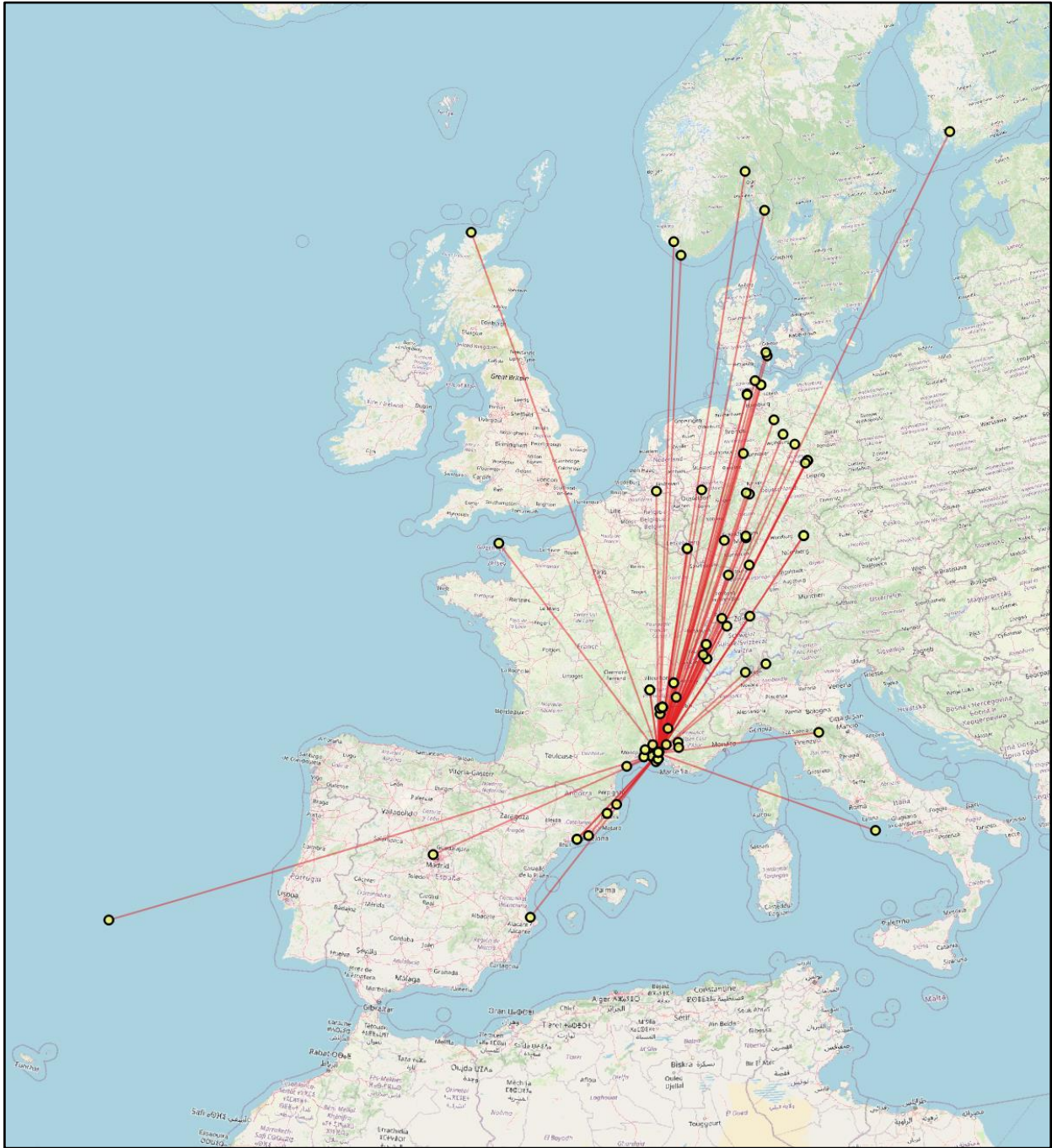


Figure 1: Map of ringing sites or controls of Barn swallows captured in the Ilon Marsh between 2009 and 2023.

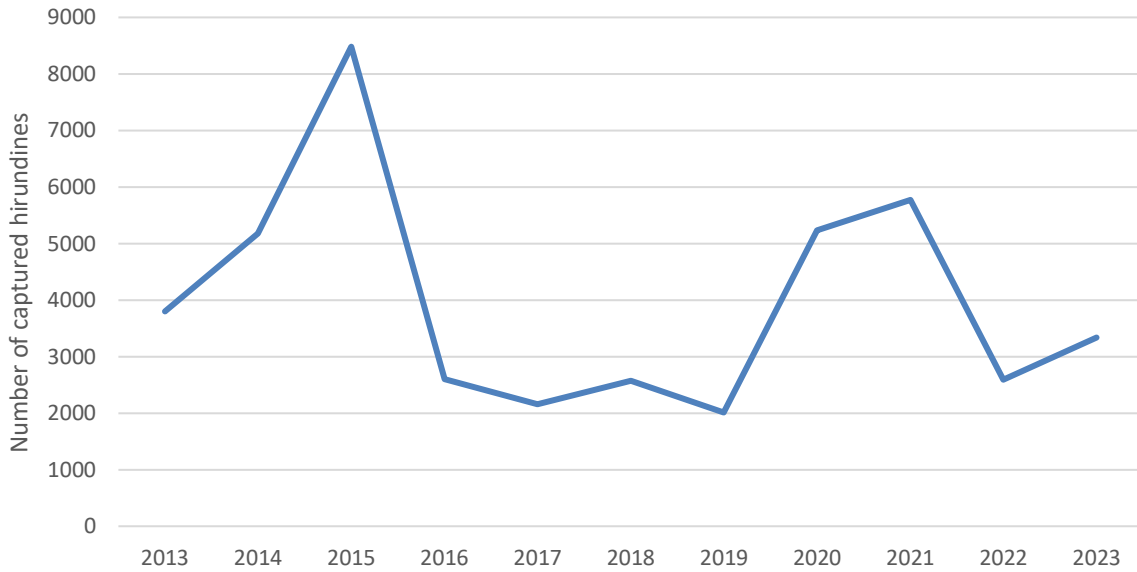


Figure 2: Evolution of the number of hirundines (Barn swallow, Sand martin, Red-rumped swallow, House martin) captured in the Ilon Marsh between 2013 and 2023.

### ***PHENO protocol***

In 2023, 1172 capture events happened from 32 different species for the PHENO protocol. The most common species was the Barn swallow (*Hirundo rustica*) followed by the Chiffchaff (*Phylloscopus collybita*), The next most common species were the Eurasian Blackcap (*Sylvia atricapilla*), Eurasian Reed Warbler (*Acrocephalus scirpaceus*) and Blue tit (*Cyanistes caeruleus*). We obtained 3 foreign controls, two from Catalonia, Spain and one from Poland. It should be noted that 18 kingfishers were ringed or controlled on the site in 2023. Although this number is lower than in the past years, it confirms the importance of the Ilon marsh for this species. In 2023, 61 different individual birds were controlled during the protocol, 8 of those were ringed or controlled on the same site in previous years, from 2019 to 2022.

It should be noted, however, that the capture site was the same as the one for the VOIE protocol, where a swallow dormitory was present between late August and early October. This meant that a significant proportion of the individuals captured during this period were Barn swallows, although this species was not targeted by the PHENO protocol. Also, it is only possible to compare the data from the 2023 PHENO protocol with the ones starting from 2019 as that was the first year where this protocol was conducted on the Ilon Marsh site.

In 2019 we captured 633 birds of 35 different species, in 2020, 852 birds of 38 different species and in 2021, 1355 birds from 37 different species, 2022 we captured 1090 birds of 35 different species. Excluding hirundines, the numbers are different (Table 1). The most common species of 2023 are similar to the ones of previous years (Table 2).

Table 1: Number of capture events and number of species by year excluding hirundines.

Year	2019	2020	2021	2022	2023
Number of captures	633	586	577	1088	896
Number of Species	35	36	35	34	33

*Table 2: The first five species based on the number of recurrences compared to the previous years.*

<b>Year</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>1.</b>	Reed warbler	Barn swallow	Barn swallow	Chiffchaff	Barn swallow
<b>2.</b>	Blackcap	Blackcap	Chiffchaff	Blackcap	Chiffchaff
<b>3.</b>	Blue tit	Chiffchaff	Reed warbler	Reed warbler	Blackcap
<b>4.</b>	Barn swallow	Reed warbler	Blackcap	Reed bunting	Reed warbler
<b>5.</b>	Kingfisher	Kingfisher	Blue tit	Kingfisher	Blue tit

Table 3: Numbers of birds caught by species and by protocol at the Ilon Marsh in 2023.

**Note: Recaptured ind. (C).** Number of different individuals recaptured, i.e. already ringed the same year or previous years, or originally ringed in other countries. **NB: the number of recaptures of each individual is not included.** **Ringed (B).** Total number of ringed birds during the protocol period; excluding accidental releases (i.e. birds released accidentally before being ringed) and mortality events (i.e. birds dead in the net or during ringing)

Species		Recaptured ind. (C)	Ringed (B)
Barn swallow,	<i>Hirundo rustica</i>	5	269
Chiffchaff,	<i>Phylloscopus collybita</i>		213
Blackcap,	<i>Sylvia atricapilla</i>	3	204
Reed warbler,	<i>Acrocephalus scirpaceus</i>	13	79
Blue tit,	<i>Cyanistes caeruleus</i>	7	57
Cetti's warbler,	<i>Cettia cetti</i>	11	27
Moustached warbler,	<i>Acrocephalus melanopogon</i>	13	23
Robin,	<i>Erithacus rubecula</i>	3	32
Garden warbler,	<i>Sylvia borin</i>		33
Reed bunting,	<i>Emberiza schoeniclus</i>		28
Willow warbler,	<i>Phylloscopus trochilus</i>	1	20
Kingfisher,	<i>Alcedo atthis</i>	2	16
Penduline tit,	<i>Remiz pendulinus</i>	1	16
Firecrest,	<i>Regulus ignicapilla</i>		14
Great reed warbler,	<i>Acrocephalus arundinaceus</i>	2	9
Long-tailed tit,	<i>Aegithalos caudatus</i>		7
Pied flycatcher,	<i>Ficedula hypoleuca</i>		7
Song thrush,	<i>Turdus philomelos</i>		6
Bluethroat,	<i>Luscinia Svecica</i>		6
Sedge warbler,	<i>Acrocephalus schoenobaenus</i>		5
Goldcrest,	<i>Regulus regulus</i>		4
<u>Subspecies of Chiffchaff,</u>	<i>P. c. tristis</i>		3
<u>Subspecies of Reed bunting,</u>	<i>E. s. witherbyi</i>		2
Fan-tailed warbler,	<i>Cisticola Juncidis</i>		2
Nightingale,	<i>Luscinia Megarhyncos</i>		2
Great tit,	<i>Parus Major</i>		2
Blackbird,	<i>Turdus merula</i>		1
African stonechat,	<i>Saxicola torquatus</i>		1
Sardinian,	<i>Sylvia Melanocephala</i>		1
Subalpine Warbler,	<i>Sylvia Cantillans</i>		1
Sand martin,	<i>Riparia riparia</i>		1
Eurasian wren,	<i>Troglodytes troglodytes</i>		1
Short-toed treecreeper,	<i>Certhia brachydactyla</i>		1
Turtle Dove,	<i>Streptupelia Turtur</i>		1
Hybrid,	<i>Hirundo rustica x Riparia riparia</i>		1
<b>TOTAL PHENO</b>		<b>61</b>	<b>1095</b>

Species		Recaptured ind. (C)	Ringed (B)
Barn swallow,	<i>Hirundo rustica</i>	1	2146
Sand martin,	<i>Riparia riparia</i>		13
Reed warbler,	<i>Acrocephalus scirpaceus</i>		3
Hybrid,	<i>Hirundo rustica x Riparia riparia</i>		1
Cetti's warbler,	<i>Cettia cetti</i>		1
Little bittern,	<i>Ixobrychus minutus</i>	1	
<b>TOTAL VOIE</b>		<b>2</b>	<b>2164</b>

Table 4: Numbers of both protocols in summary.

Note: (A): Number of all capture events (B): Number of all individuals captured in 2023.

<b>Total count of captures(A)</b>	<b>3417</b>
<b>Total individuals captured(B)</b>	<b>3286</b>

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