

SYLVIA 2025



El Puig - summer campaign



Introduction:

SYLVIA is a scientific programme using **constant-effort bird ringing** to monitor landbird populations in Catalonia. Established by the **Catalan Institute of Ornithology** in 1991, it aims to collect a wide range of data on individual birds and demographic parameters, in order to identify long-term trends and detect population changes over time.

Constant-effort ringing monitors widespread passerine and near-passerine population trends through standardised mist-netting in defined habitats. By maintaining consistent net locations, effort and timing across years, it provides comparable data over time and between areas. Changes in the number of adults caught and in the proportion of juveniles indicate variations in adult abundance and breeding population size, and in productivity, respectively; while recaptures between years allow the estimation of adult survival rates. This method is particularly effective in habitats such as reedbeds and scrub, which are often underrepresented in traditional census methods.

Constant-effort ringing has proven to be effective for bird monitoring, as demonstrated by programmes established since the 1980s in Great Britain, Ireland and North America. This approach is also supported by EURING, the European organisation which promotes its use in scientific research and conservation.¹

Using the mark-release-recapture method, ringing, unlike other bird monitoring methods, is particularly useful to obtain data on individual birds, most of which cannot be collected through simple observation: age, sex, biometric measurements, muscle and fat scores, moult state, weight... These data, gathered across space and time, provide information on species' migration, phenology, sex ratios, behaviour and population dynamics.

The SYLVIA programme is divided into two annual periods: the breeding period, mainly covering the summer, and the winter period.

In 2025, a total of 49 active constant-effort SYLVIA ringing stations are scattered across Catalonia to collect data during breeding-season monitoring campaigns. Together, they form a network that provides general trend information and allows comparisons between different areas (*see Fig. 1*).^{2,3}

This report presents the results obtained at **El Puig ringing station** during the summer campaign. This station joined the SYLVIA project in 2022 and operates with the participation of **EB Montseny bird station** volunteers, making 2025 its fourth year of activity.

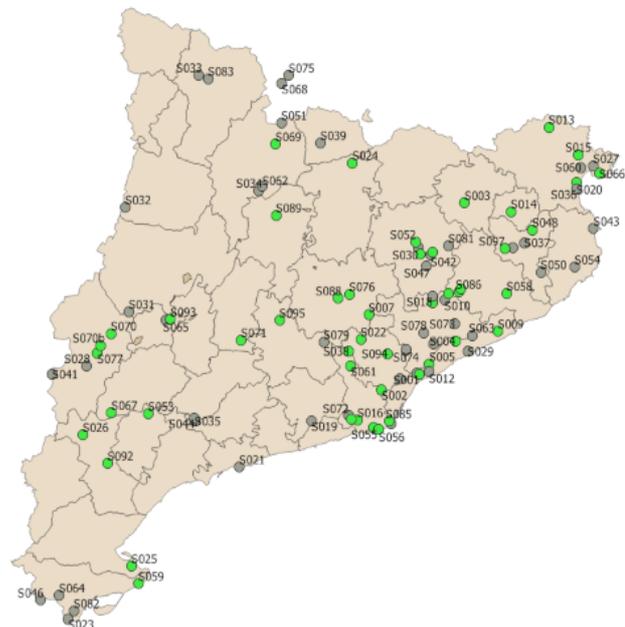


Figure 1: All SYLVIA ringing stations in Catalonia, active (green) or inactive (grey) © ICO website

Objectives:

By implementing a constant-effort ringing network across Catalonia, the SYLVIA programme aims to:

- obtain long-term information on the demographic parameters of terrestrial birds in Catalonia, including survival rates, productivity, and increase in the adult population;
- monitor breeding and migratory movements;
- collect data on the general biology of individual birds;
- establish population and species trends, detect variations, and identify the causes of these changes.

Materials and Methods:

1. Study area

SYLVIA ringing station locations were chosen on the condition that the area remains accessible and mainly unchanged for at least five consecutive years. It must also be suitable for capturing a sufficient number of individuals to ensure a good representation of the most common species present in the sampling area.

Since vegetation type and structure affect population size, productivity and survival (DeSante et al., 1993), a detailed description and map of the area were prepared at the start of the project, indicating the main habitat types, dominant plant species, geographic features (such as structures, roads, watercourses, etc.), and showing the location and numbering of the mist nets.⁴

A brief description of the habitat in the ringing area must be recorded. As it should not change between ringing sessions, the habitat codes assigned at the start of the project should remain the same and may be reused over time, except in cases where significant disturbance occurs.⁴

El Puig ringing station is located in the municipality of Arbúcies, within Montseny Natural Park, in north-eastern Catalonia (see Fig. 2). It is situated in a mixed deciduous forest composed of Holly Oak (*Quercus ilex*), European Beech (*Fagus sylvatica*), Sweet Chestnut (*Castanea sativa*), and Cherry (*Prunus sp.*).



Figure 2: Location of Catalonia and El Puig
©Sylvia in El Puig summer report 2023



Figure 3: Ringing session in El Puig in 2025

2. Protocol

This project is based on a constant ringing effort, meaning that the effort deployed to capture birds must remain consistent from one campaign to another. Accordingly, as in previous years, ten mist nets were set up at El Puig before each session, each measuring 12 metres, for a total length of 120 metres, and placed at the exact same locations each time (*see Fig. 4*). This is considered the optimal number of nets for a station with a single ringer⁴. No methods are used to attract birds in any way (e.g. food, calls, water...).

The nets are installed on the eve of the ringing session but kept closed overnight, and opened one hour before sunrise. Then, all nets are checked every hour, **from sunrise until 12:30 pm**.

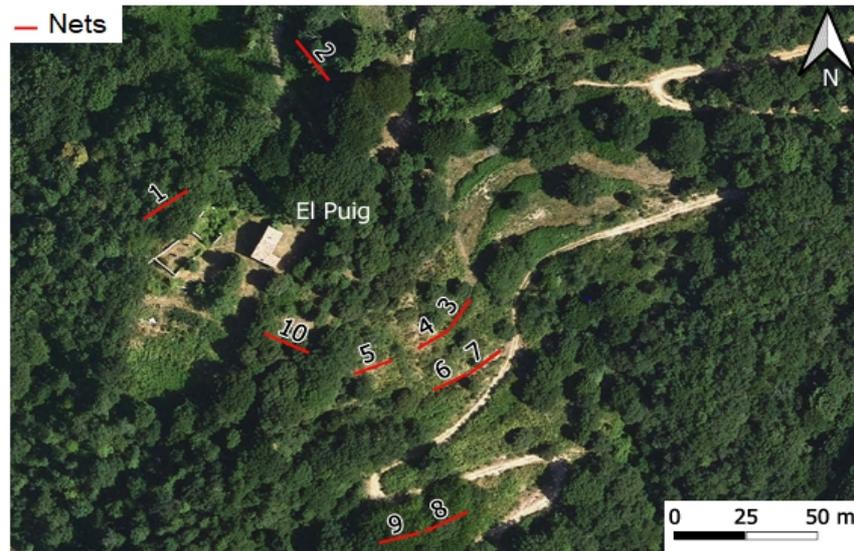


Figure 4: Location of the ten nets at El Puig ringing station © ICO

A total of **seven ringing sessions** are carried out, one every two weeks, separated by a minimum of six days, **between the 1st of May and the 6th of August**, following a predefined schedule (*see Fig. 5*).

CALENDAR FOR SYLVIA	
Session number	Dates
Summer SYLVIA (sunrise until 13:00)	
1	1MAY - 14 MAY
2	15 MAY - 28 MAY
3	29 MAY - 11 JUNE
4	12 JUNE - 25 JUNE
5	26 JUNE - 9 JULY
6	10 JULY - 23 JULY
7	24 JULY - 6 AUGUST

Figure 5: Calendar of summer SYLVIA sessions

Every bird caught in the net is carefully extracted and brought to the ringing table in a bird bag designed to minimise stress to the animal.

If it is a first capture, the bird is ringed. If it is a recapture, the ring inscription is recorded in the same way, and the “control” option is checked.

In both cases, the same information is documented for each individual: in addition to the ring code, the species (reported using its ringing code), the capture time and net

AGE	
Code	Description
0	Unknown
1	Nestling
2	Bird fully grown. It's unknown if the bird was born during the current year
3	Born during the current year
4	Born before the current year
5	Born last year
6	Born before last year
7	Born two years ago
8	Born before than two years ago
9	Born three years ago
A	Born before than three years ago
B	Born four years ago
C	Born before than four years ago
D	Born five years ago
E	Born before than five years ago
F	Born six years ago
G	Born before than six years ago

Figure 6: EURING age codes and descriptions

number, age (using EURING codes; *see Fig. 6*) and sex, as well as the ringer's initials. Several measurements are taken, including wing length (Svensson, 1992), length of the third primary, and weight (Kaiser, 1993)—as a practical tip, the project leader may ensure that spare batteries for the scale are always available in the ringing backpack. Scores are assigned for fat and muscle condition (Kaiser, 1993; Bairlein, 1995), moult extent and intensity, and breeding status (*see Fig. 7*). Once all information has been collected, the bird is released, and its condition at release is also recorded.⁴

Code	Description
0	No brood patch present (nor evidence of having an egg)
1	Without feathers in the ventral area but with smooth and dark red skin
2	Evident vascularization, some wrinkles present and some fluid is shown under the skin; skin pale pink
3	Vascularization extreme with many thick wrinkles and with much fluid under the skin; colour pale pink. This is the maximum stage of development of the brood patch
4	Vascularization and fluid under the skin mostly gone. Skin largely dry in appearance and with many contracted thin and dry wrinkles
5	Vascularization, fluid and most of the wrinkles have disappeared. Ventral feathers starting to grow
6	The bird shows clear signs of carrying an egg: abdominal area extremely enlarged
7	Noticeable cloacal protuberance (base narrower than or equal to the centre)
9	Unknown

Figure 7: Breeding state codes and descriptions



Figure 8: Different stages of bird ringing, including biometric measurements, and moult and age determination

All information must be recorded for both ringings and controls, with one exception: same-day controls. If the recapture occurs less than three hours after the previous capture, only the ring code, species, condition, time and sub-zone of capture, and the ringer's name are noted. If more than three hours have passed, the following additional data are also recorded: weight, fat and muscle scores, breeding condition, moult intensity and extent. If at least 24 hours have passed since the previous capture, all data are collected again.

During the session, all information collected is entered on a standardised field sheet (*see Fig. 9*). In addition to the data related to the birds themselves, for each session, the date, the exact times of opening and closing of the nets, as well as the weather conditions (including wind direction and intensity, cloudiness, precipitation and minimum and maximum temperatures) are also noted.

In parallel, a list is created using the NaturaList application for the entire duration of the session, recording all birds observed or heard on the site, and is synchronised with the Ornitho.cat database portal.

After each SYLVIA ringing session, all data must be entered at <https://app.ornitologia.org/anella/sylvia>. They will then be processed using the NoubioPro software.

They were divided into **50 adults** and **51 juveniles**, with two individuals of unknown age, including the Long-tailed Tit, whose most precise age was recorded as “bird fully grown”. This indicates that it is not possible to determine whether the bird was born during the current year due to its moult strategy.

As in the previous year, the **Eurasian Blackcap** was the most frequently captured species, with a ratio of 54% juveniles, followed by the **Common Blackbird**, with 52% juveniles.

For comparison, the overall results from all active SYLVIA stations show that the **Common Blackbird**, followed by the **Eurasian Blackcap** and **European Robin**, were the most frequently captured species this year, with a total of 871, 760 and 719 individuals, respectively.⁵

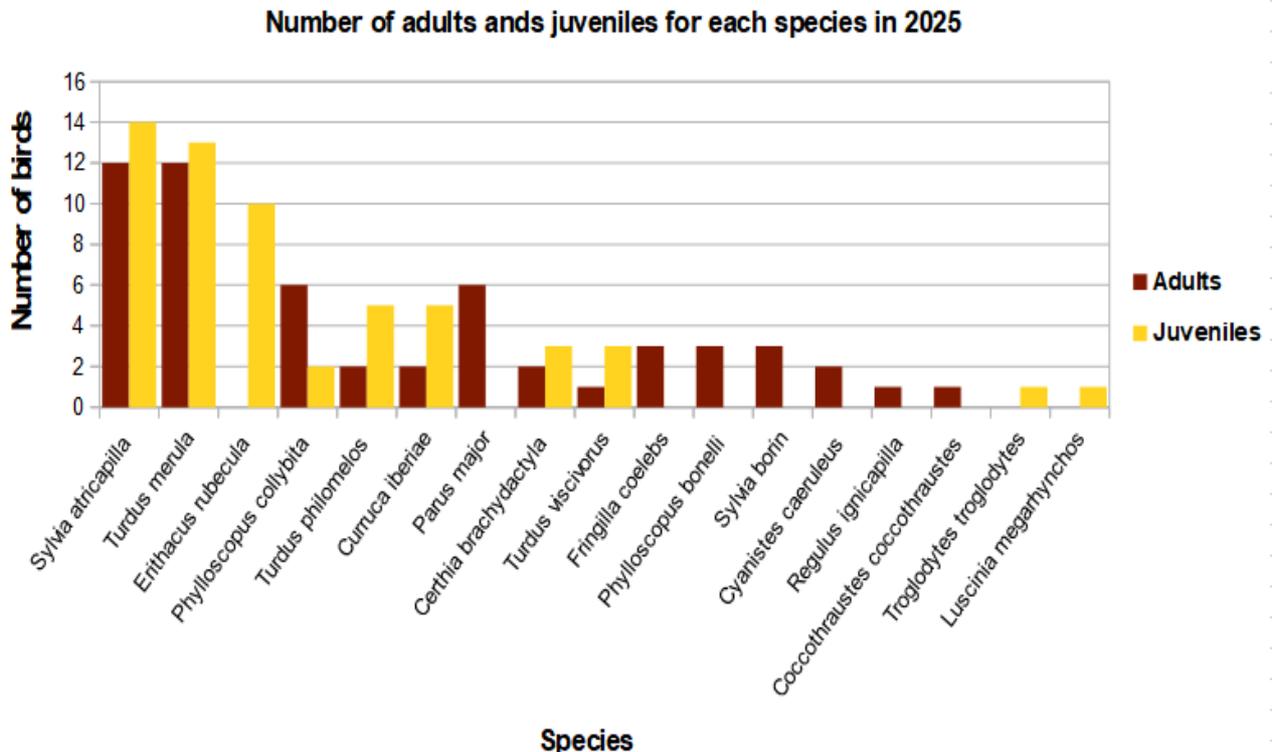


Figure 10: Number of adults and juveniles captured for each species during 2025 SYLVIA campaign

Representing 50.5% of the precisely aged captured birds, the number of juveniles caught this year was particularly high.

Overall, juvenile proportions within species tended to be higher than in the previous campaign, with particularly marked increases in several species, although the species showing the highest increases were not necessarily the same as those with high proportions in 2024 (see Fig. 11).

Species	Percentage of juveniles in 2025 (%)	Percentage of juveniles in 2024 (%)
<i>Sylvia atricapilla</i>	54	33
<i>Turdus merula</i>	52	57
<i>Erithacus rubecula</i>	100	44
<i>Phylloscopus collybita</i>	25	40
<i>Turdus philomelos</i>	71	0
<i>Curruca iberiae</i>	71	-
<i>Parus major</i>	0	71
<i>Certhia brachydactyla</i>	60	33
<i>Turdus viscivorus</i>	75	-
<i>Fringilla coelebs</i>	0	0
<i>Phylloscopus bonelli</i>	0	25
<i>Sylvia borin</i>	0	-
<i>Cyanistes caeruleus</i>	0	0
<i>Regulus ignicapilla</i>	0	0
<i>Coccothraustes coccothraustes</i>	0	0
<i>Troglodytes troglodytes</i>	100	25
<i>Luscinia megarhynchos</i>	100	-
<i>Aegithalos caudatus</i>	0	30

Figure 11: Percentage of juveniles for each species caught in 2025, and comparison for these species in 2024⁶

June, when ringing sessions 3 and 4 took place (on 3 and 17 June), was the **month with the highest number of captures**. The third session, in particular, reached the highest capture count, with 20 individuals.

This coincides with the period just after adult numbers peaked and began to slowly decline, while the proportion of juveniles increased. After that, adult captures progressively decreased until the final session, whereas the number of juveniles remained relatively stable after reaching a peak of 11 individuals in a session, declining slightly in the sixth session only (*see Fig. 12*).

The peak in juveniles corresponds to the fledging period for most species, while the decrease in adults is likely related to adults of some species preparing to leave, or already in postnuptial migration.

Evolution of the number of adults and juveniles caught per ringing session in El Puig in 2025

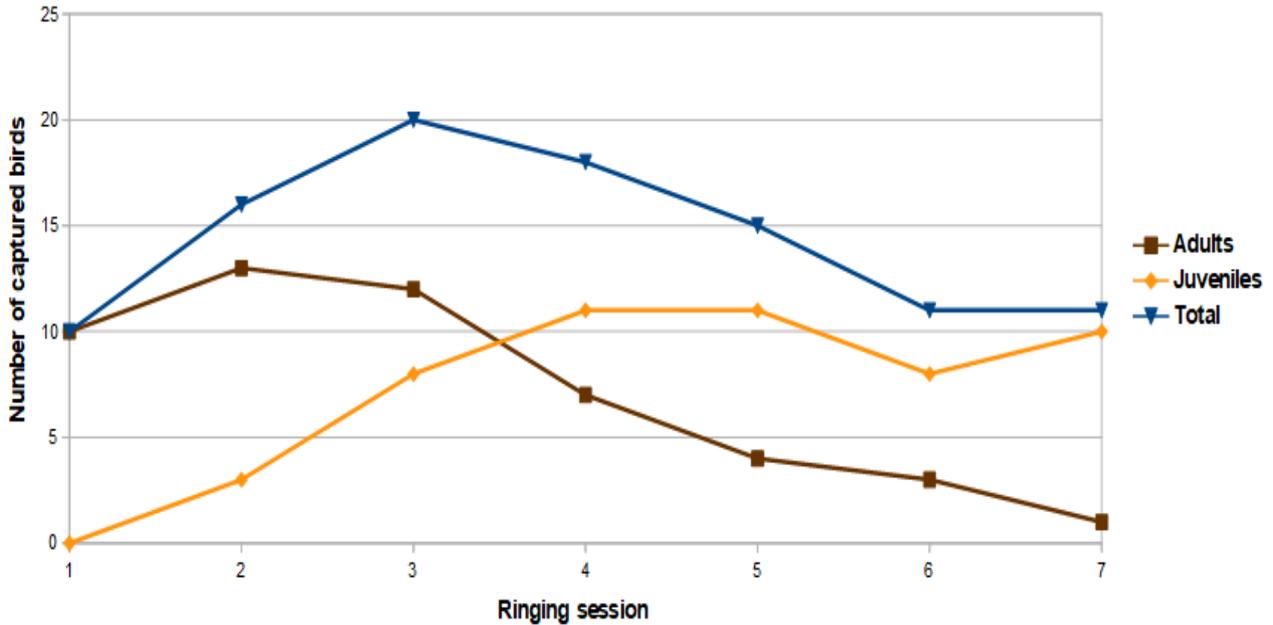


Figure 12: Evolution of the adults, juveniles and total number of captured birds over the ringing sessions

The mist nets with the highest number of captures were **nets n°8, n°4 and n°5**, with 17.5%, 13.6% and 12.6% of the total captures, respectively (see Fig. 13).

This contrasts with 2024, when nets n°3 and n°5 recorded the most captures. Until then, since the start of the project, nets n°2 and n°10 had appeared to be the most suitable locations.

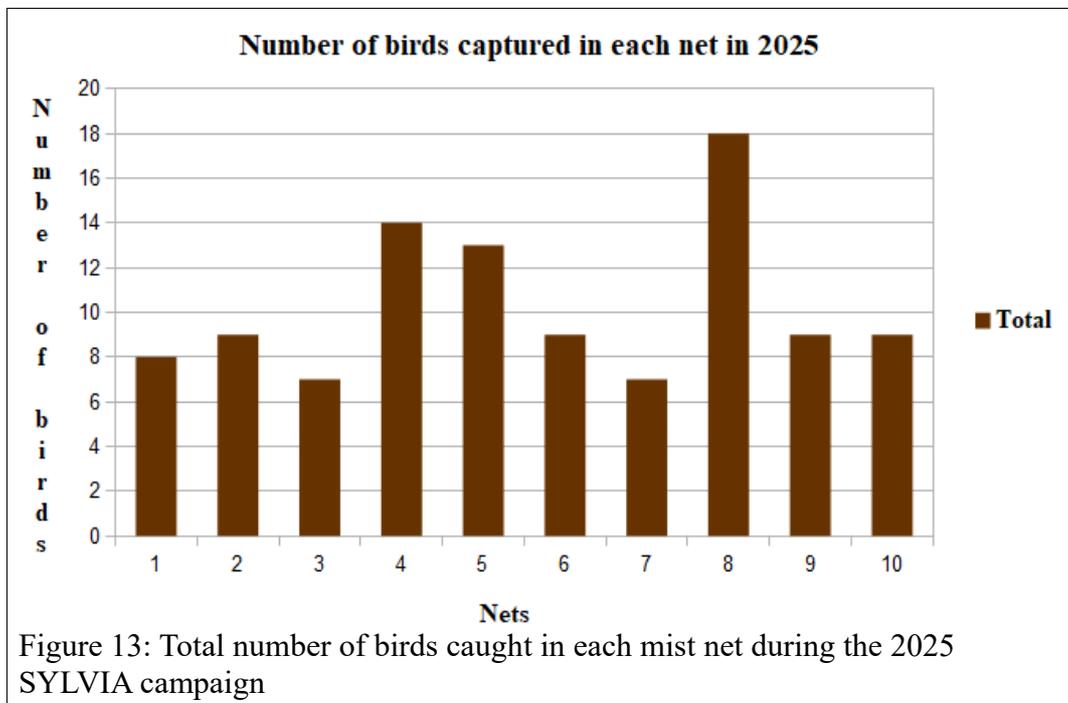


Figure 13: Total number of birds caught in each mist net during the 2025 SYLVIA campaign

These variations over the years do not appear to show any clear trend or preference so far, as the distribution of birds in each net tends to change, despite the habitat and management remaining consistent.

It may be interesting, with further data, to determine whether these variations are related to species distribution, since some species are more likely to be found with certain vegetation types. For example, the Mistle Thrush and Song Thrush, more frequently caught this year compared with previous seasons, were mostly captured in net n°8. The proportion of adults and juveniles might also be another factor among others.

One species new to the station was recorded this year: the **Western Subalpine Warbler**. Two species, the **Common Nightingale** and **Mistle Thrush**, captured in 2025, had not been caught since 2022.

The number of birds caught is fairly consistent with the three previous years: 98, 110 and 103 individuals in 2023, 2024 and 2025, respectively. The first year remains the one with the highest number of captures so far with 145 birds in total (see Fig. 14).

This may be linked to the fact that it was the first time the nets were put at this location, to a particularly productive year for species such as the Common Blackbird, or related to the weather conditions: 2022 marked the start of severe drought episodes that continued until 2025^{7,8}. If this is the case, higher numbers might be expected in 2026.

All the species captured since 2022, not including individuals ringed and controlled in the same campaign

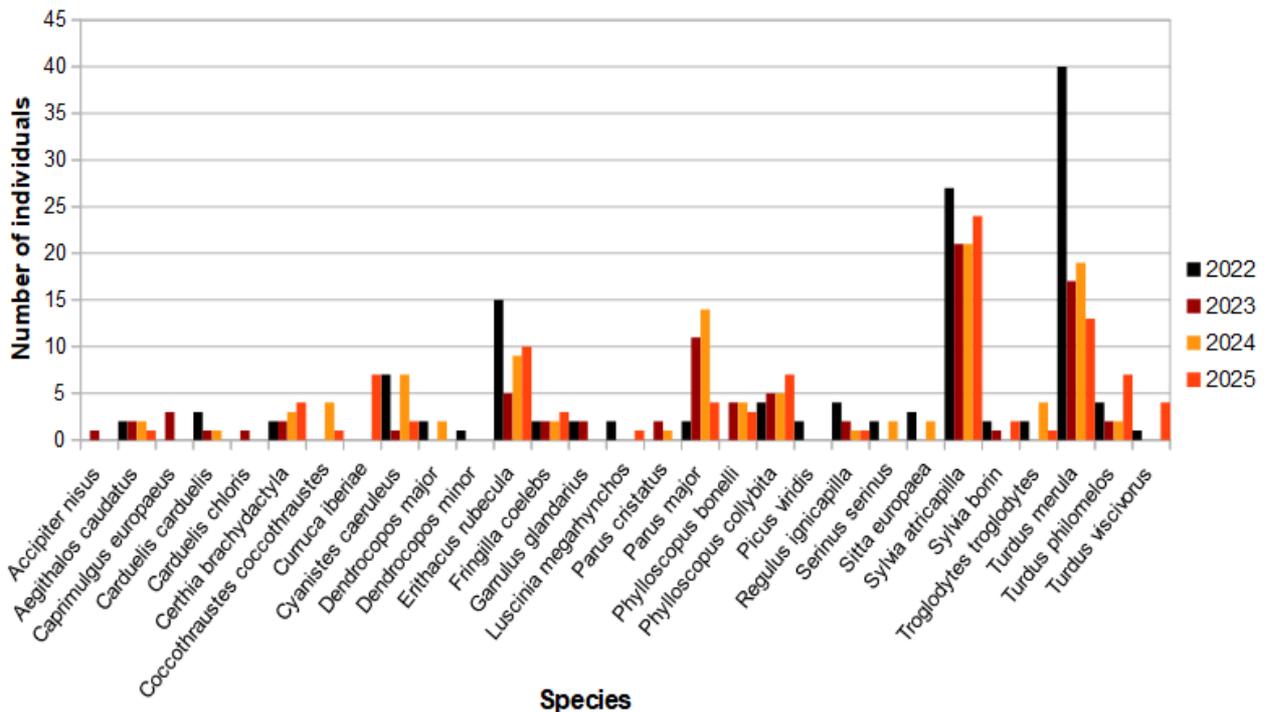


Figure 14: Total number of birds captured per species since the start of the project, excluding birds ringed and recaptured during the same campaign⁹



Figure 15: Some of the species captured in El Puig during SYLVIA summer campaign in 2025

Scientific name	English name	Catalan name
<i>Accipiter nisus</i>	Eurasian Sparrowhawk	Esparver
<i>Aegithalos caudatus</i>	Long-tailed Tit	Mallerenga cuallarga
<i>Caprimulgus europaeus</i>	European Nightjar	Enganyapastors
<i>Carduelis carduelis</i>	European Goldfinch	Cadernera
<i>Carduelis chloris</i>	European Greenfinch	Verdum
<i>Certhia brachydactyla</i>	Short-toed Treecreeper	Raspinell comú
<i>Coccothraustes coccothraustes</i>	Hawfinch	Durbec
<i>Curruca iberiae</i>	Western Subalpine Warbler	Tallarol de garriga
<i>Cyanistes caeruleus</i>	Eurasian Blue Tit	Mallerenga blava
<i>Dendrocopos major</i>	Great Spotted Woodpecker	Picot garser gros
<i>Dendrocopos minor</i>	Lesser Spotted Woodpecker	Picot garser petit
<i>Erithacus rubecula</i>	European Robin	Pit-roig
<i>Fringilla coelebs</i>	Common Chaffinch	Pinsà comú
<i>Garrulus glandarius</i>	Eurasian Jay	Gaig
<i>Luscinia megarhynchos</i>	Common Nightingale	Rossinyol
<i>Parus cristatus</i>	European Crested Tit	Mallerenga emplomallada
<i>Parus major</i>	Great Tit	Mallerenga carbonera
<i>Phylloscopus bonelli</i>	Western Bonelli's Warbler	Mosquiter pàl·lid
<i>Phylloscopus collybita</i>	Common Chiffchaff	Mosquiter comú
<i>Picus viridis</i>	Iberian Green Woodpecker	Picot verd
<i>Regulus ignicapilla</i>	Common Firecrest	Bruel
<i>Serinus serinus</i>	European Serin	Gafarrò
<i>Sitta europaea</i>	Eurasian Nuthatch	Pica-soques blau
<i>Sylvia atricapilla</i>	Eurasian Blackcap	Tallarol de casquet
<i>Sylvia borin</i>	Garden Warbler	Tallarol gros
<i>Troglodytes troglodytes</i>	Eurasian Wren	Cargolet
<i>Turdus merula</i>	Common Blackbird	Merla
<i>Turdus philomelos</i>	Song Thrush	Tord comú
<i>Turdus viscivorus</i>	Mistle Thrush	Griva

Figure 16: English and Catalan translations of species' scientific name

Conclusion:

The number of birds captured in 2025 was fairly consistent with the two previous years of ringing, although lower than in 2022, the first year of monitoring.

As has been the case since the start of the project, **Eurasian Blackcap** and **Common Blackbird** were the most frequently caught species.

Although some species present in the area and previously captured were not caught this year, one new species for the station, the **Western Subalpine Warbler**, was recorded. In addition, some relatively rare species for the site, such as the **Common Nightingale**, were also captured.

As in 2024, June was also the most effective month in terms of captures. However, 2025 was marked by a particularly high proportion of juveniles. As the previous year, they reached their peak

in June, likely reflecting the fledging period. This high productivity could be related to weather conditions, and consequently to food availability: Catalonia has been affected, since 2022, by several severe drought episodes, peaking in 2024, followed by intense rainfall this year, before and during the breeding season^{7,8}. These conditions may have contributed to breeding success.

However, a preliminary analysis of the global SYLVIA data collected this year already shows a more nuanced situation. Although an apparent abundance of juveniles has been widely observed across ringing stations, the overall results indicate a generally low productivity, below the average of the 23 previous years for most of the frequently monitored species. This could be related to the persistent effects of droughts in the previous years, despite this year's abundant rainfall, or to a delay in breeding for some species. The apparent abundance of juveniles may therefore mainly reflect an improvement in comparison with the two previous years, characterised by particularly low productivity¹⁰. This impression is especially pronounced at El Puig ringing station, which has only been active since 2022.

Further data and comparisons with other years and SYLVIA ringing stations will be needed to establish relevant trends in local population dynamics, and to assess their causes and consequences. These preliminary results should therefore be interpreted with caution until more data are available.

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