LIFE AEGYPIUS RETURN

REPORT

Deliverable 3.3. Annual report on soft releases and movements of tagged Cinereous Vultures. 2025.

December 2025

LIFE AEGYPIUS RETURN

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Almost four decades after becoming extinct in Portugal as a breeding species, the Cinereous Vulture (*Aegypius monachus*) returned to colonize the country in 2010, as some birds coming from Spain nested in the Tejo International Natural Park. Thanks to the conservation efforts carried out in both countries by NGOs and government entities, the number of breeding pairs has been steadily increasing. However, the Portuguese population is still too fragile, and its future remains uncertain. The LIFE Aegypius Return project will ensure the definitive return of the species.

https://4vultures.org/life-aegypius-return/

Coordinating beneficiary

VCF VULTURE CONSERVATION FOUNDATION

Associated beneficiaries

Palombar Associação de Conservação da Natureza e do Património Rural

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Contributing organizations *(to tagging and monitoring tasks, by alphabetical order)*

ATNatureza - Associação Transumância e Natureza / Faia Brava

ENDESA

Hawk Mountain Sanctuary

Herdade da Contenda

LPN - Liga para a Protecção da Natureza

Palombar - Conservação da Natureza e do Património Rural

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List of acronyms

CAD - Centro de Análisis y Diagnóstico de la Fauna Silvestre de Andalucía
FMV – Faculdade de Medicina Veterinária da Universidade de Lisboa
GNR – Guarda Nacional Republicana
ICNF - Instituto da Conservação da Natureza e das Florestas, I.P.
U.Évora – Universidade de Évora

Wildlife Rehabilitation Centres *(in Portugal and Spain, by alphabetical order)*

AMUS – Acción por el Mundo Salvaje (Villafranca de los Barros, Badajoz)
CARAS - Centro de Acolhimento e Recuperação de Animais Selvagens (Évora)
CERAS - Centro de Estudos e Recuperação de Animais Selvagens (Castelo Branco)
CERVAS - Centro de Ecologia, Recuperação e Vigilância de Animais Selvagens (Gouveia)
CIARA – Centro de Interpretação Ambiental e Recuperação Animal (Felgar)
CRAS Valladolid - Centro de Recuperación de Animales Silvestres (C.R.A.S.) de Valladolid
CRAS-HVUTAD - Centro de Recuperação de Animais Selvagens do Hospital Veterinário da Universidade de Trás-os-Montes e Alto Douro (Vila Real)
CRASM – Centro de Recuperação de Animais Selvagens de Montejunto (Cadaval)
CRFS Los Hornos - Centro de Recuperación de Fauna y Educación Ambiental "Los Hornos" (Cáceres)
GREFA – Grupo de Rehabilitación de la Fauna Autóctona y su Hábitat (Majadahonda, Madrid)
LxCRAS - Centro de Recuperação de Animais Silvestres de Lisboa (Lisboa)
RIAS - Centro de Recuperação e Investigação de Animais Selvagens (Olhão)

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Abstract

This report was prepared within the framework of the LIFE Aegypius Return project, specifically addressing Actions T.3.2 (*Soft release of Cinereous Vultures from wildlife recovery centres to reinforce the Douro Internacional SPA colony*) and T.6.2 (*Monitoring and population impact assessment*). It summarizes progress toward soft-release objectives and analyses the movement data of Cinereous Vultures tagged across Portuguese colonies and rehabilitation centres.

To date, 58 Cinereous Vultures (*Aegypius monachus*) have been fitted with GPS/GSM transmitters: 43 nestlings, one adult, one subadult, three rehabilitated juveniles, and ten soft-released juveniles. Currently, 42 birds are still alive, 12 were confirmed dead, and the status of four is unknown. Mortality causes include both natural and anthropogenic factors.

The soft-release program commenced in 2024 with the acclimatization and release of four juveniles. In 2025, an additional six individuals were successfully released following the same protocol, although two individuals from the 2025 cohort subsequently died.

Movement data indicate a dichotomous behaviour in first-year juveniles, with some remaining near their natal colonies while others engage in extensive dispersal across the Iberian Peninsula. These dispersive movements increase through the year, peaking in spring and summer when birds explore further from their birthplace. Roosting site analysis highlights key areas which can guide future prospections of new colonies.

The integration of field and remote monitoring, supported by a robust network of collaborating people and institutions have allowed the timely rescue and rehabilitation of distressed vultures in Portugal and in Spain. In cases of confirmed mortality, cross-disciplinary cooperation ensures that necropsies and forensic investigations are conducted to determine the cause of death. These data are vital for identifying persistent threats and informing conservation strategies. Furthermore, movement and behavioural data are being integrated with laboratory analysis of biological samples from 71 individuals, bridging veterinary sciences, ecology, and conservation.

The remote monitoring system has been highly effective in identifying critical areas for the species, such as flyways, foraging, and roosting sites, as well as detecting threats and mortality events. These data have provided a robust scientific basis for numerous technical opinions related to land planning instruments and the development of renewable energy projects. By providing this evidence-based guidance, the consortium seeks to influence such projects, aiming to mitigate potential impacts and ensure that territorial management and the green transition are aligned with the conservation needs of the Cinereous Vulture.

However, despite its effectiveness, the remote monitoring system has some technical limitations. Intermittent GSM coverage occasionally hinders real-time data collection, impacting rapid response capabilities. The scientific and conservation communities are currently discussing technological solutions to mitigate these constraints.

Foreword

The Cinereous Vulture (*Aegypius monachus*) is an endangered species with conservation status of Endangered (EN) in Portugal (Almeida *et al*., 2022) and Near Threatened (NT) in Spain (SEO/BirdLife, 2021). Globally, it is classified as Near Threatened (NT) by the International Union for Conservation of Nature. It is protected by the Habitats Directive (Annex I), as a priority conservation species in Europe, by the Bern Convention (Annex II), by the Bonn Convention (Annex II) and by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES - Annex II-A).

As a scavenger bird, it plays a fundamental ecological role by feeding on carcasses and minimising the spread of disease.

Formerly widespread in the Iberian Peninsula, the Cinereous Vulture became increasingly scarce in the region over the 20th century mostly due to habitat loss, wildlife poisoning and direct persecution. In the 1970s the breeding population went extinct in Portugal, and only around 200 pairs remained in Spain. Following the implementation of legal protection and targeted conservation measures, the species started recovering in Spain and naturally recolonised Portugal with the first breeding pair detected in 2010 in the Tejo Internacional Natural Park. Since then, more pairs began settling across different regions of Portugal and five colonies are currently known (the fifth just recently discovered, in June 2024).

The recovery process has been steady, although slow and limited, and the need of urgent action to ensure the definitive return of the species to Portugal and Western Spain led to the approval of the LIFE Aegypius Return project.

Until 2027, the project aims to increase the breeding population in Portugal to at least 80 pairs in five colonies, improve the breeding success, encourage the connectivity between colonies and downgrade the national conservation status from Critically Endangered to Endangered (which already occurred in 2023 with the update of the Portuguese Red List of Breeding Birds – Almeida *et al*. 2022).

Concrete conservation actions will focus on reducing disturbances around nests, preventing fires, installing and repairing nesting platforms, improving food availability, combating poisoning, and reinforcing populations through soft release strategies – the central topic of this report. Furthermore, a thorough collaboration and capacitation plan will be put in place, promoting joint work with all relevant stakeholders – e.g. hunters, farmers, national authorities, conservationists – to improve ecological conditions for the species and to detect and fight wildlife crime and illegal poisoning, which is vultures' biggest threat worldwide.

The success of LIFE Aegypius Return relies on the extensive collaboration of nine partners and the active involvement of such stakeholders.

1. SOFT RELEASE: CONSTRUCTION OF THE ACCLIMATIZATION AVIARY AND OPERATIONAL MANAGEMENT

Following the approval of the LIFE Aegypius Return project, the partner organization Palombar began implementing Action T.3.2, in which they are the lead partner. This action includes the construction of an acclimatization aviary (Fig. 1) as part of the soft release strategy for Cinereous Vultures, defined to reinforce the breeding colony in Douro Internacional – which is still the smallest and most isolated in Portugal.

The licensing details and construction plans for the acclimatization cage were presented in Deliverable 3.1 (Matos *et al.*, 2023a, available on the project's website). A final report on the construction of the facilities was issued in April 2024 (Gutiérrez *et al.*, 2024a, available on the project's website), providing detailed information on the location, fencing, structure, architecture, video surveillance, and cage opening plans.

Each year, an average of five injured or weakened Cinereous Vultures are admitted to Wildlife Rehabilitation Centers throughout Portugal. A protocol (Matos *et al.*, 2023b, available on the project's website) for their rehabilitation and release has been established and agreed upon, ensuring consistent procedures and decision-making. This protocol includes a decision tree to determine the fate of each rehabilitated bird, as well as the eligibility criteria for integrating the soft release program.

Over the course of the project, it is expected that about 20 rehabilitated Cinereous Vultures will participate in the soft release programme. To ensure animal well-being and standardized procedures in maintaining and safeguarding the individuals that integrate the soft release programme, and hence stay a few months in the acclimatization aviary, a management protocol was issued in February 2024 (Gutiérrez *et al.*, 2024b, available on the project's website). This document also ensures standardized procedures for monitoring the birds, conducting the releases, and implementing contingency plans in case of emergencies.

Fig. 1. General view of the finalized acclimatization aviary. ©Leonor Carvalho/Palombar

2. SOFT RELEASE OF CINEREOUS VULTURES

2.1. 2024

The acclimatization facilities were completed by March 2024 (Fig. 1), and inaugurated on May 21st that year, with the admission of four Cinereous Vultures. The aviary was opened on the 3rd November 2024 and the vultures left the next day. A detailed report on their life history and acclimatization process was issued in December 2024 (Matos *et al.*, 2024, available on the project's website). By December 15th, 2025, all the four birds were alive (Table 1).

2.2. 2025

In 2025, a new cohort of six Cinereous Vultures participated in the soft release programme (Table 1).

As foreseen in the rehabilitation and release protocol (Matos *et al.*, 2023b), the six vultures are juveniles that hatched in the wild – in an unknown colony –, and had been found weakened in various parts of the country. They were then rescued and rehabilitated at various rehabilitation centres:

- CRASM, in Cadaval, admitted one weakened male that was rescued nearby and later transferred to CERAS;
- CERAS, in Castelo Branco, received the one from CRASM, and other two juveniles: one rescued in Vidigueira and another from Ponte de Sor, all found weakened;
- Parque Biológico de Gaia received one injured individual, that was later transferred to CRAS-HVUTAD/CIARA;
- CRAS-HVUTAD/CIARA, in Vila Real/Felgar, received the one from the Parque Biológico de Gaia, and a second individual found weakened near the Alqueva dam and first stabilized in CARAS;
- RIAS, in Olhão, admitted an individual found weakened by the sea in Armação de Pêra, Algarve.

Once the birds were fully rehabilitated, instead of being returned directly to the wild, as their origin was unknown, they entered the soft release programme, to acclimatize to the Douro region with the goal to later reinforce the local breeding colony.

On March 19, 2025, after a final veterinary *check-up*, biometric measurements, biological sample collection, and ringing, the six vultures were placed in the acclimatization aviary, under the supervision of biologists from Palombar, and veterinarians from CRAS-HVUTAD (Fig. 2 to Fig. 4).

During the acclimatization period, the birds were regularly fed and monitored as foreseen in the management protocol (Gutiérrez *et al.*, 2024b) developed within the project, and, until the 15th of August, the programme was progressing as expected (Fig. 5 to Fig. 6).

Table 1. Data on the ten Cinereous Vultures acclimatized to the Douro Internacional region, under the LIFE Aegypius Return soft release programme. Red lines refer to individuals dead by 15/12/2025. Dates are presented in the DD/MM/YYY format.

Soft release year	Hatching year	Region of rescue	Bird name	#Metal ring	#PVC Ring	#Tag	Sex	Date of admission in rehab centre	Cause of admission in rehab centre	Deployment start	Deployment end / Date and cause of death	Status on 15/12/2025
2024	2022	Belmonte	Almeirão	1359	4S	243614	M	20/04/2022	Malnutrition/ Weakness	04/11/2024	-	Alive
	2022	Évora	Azedinha	1358	4R	234028	F	29/10/2022	Possible illegal captivity	04/11/2024	-	Alive
	2023	Serra Aire e Candeeiros	Alfavaca	1337	5N	243613	F	27/10/2023	Collision with windmill	04/11/2024	-	Alive
	2022	Évora	Arçã	1323	58	243612	F	17/11/2023	Malnutrition/ Weakness	04/11/2024	-	Alive
2025	2024	Vidigueira	Branco	1673	5Y	370826	M	29/08/2024	Malnutrition/ Weakness	24/10/2025	-	Alive
	2024	Ponte de Sor	Bolacha	1714	28	370825	F	04/11/2024	Malnutrition/ Weakness	24/10/2025	-	Alive
	2024	Alqueva	Bruçó	1461	25	370827	M	16/10/2024 in UTAD	Malnutrition/ Weakness	24/10/2025	-	Alive
	2024	Armação de Pêra	Baga	1715	29	370822	F	26/10/2024	Malnutrition/ Weakness	24/10/2025	-	Alive
	2024	PBGaia	Brisa	1568	27	370823	M	25/09/2024 in UTAD	Wing injury	24/10/2025	15/11/2025. Collision with powerline	Dead
	2024	Cadaval	Bétula	1713	26	370824	M	03/10/2024	Malnutrition/ Weakness	24/10/2025	10/12/2025. Unknown	Dead

Fig. 2. Ringing a Cinereous Vulture before admitting it to the acclimatization aviary (19/03/2019). ©Milene Matos/VCF

Fig. 3. Veterinary check-up before admitting the Cinereous Vultures to the acclimatization aviary (19/03/2019). ©Milene Matos/VCF

Fig. 4. Taking biometric measurements before admitting the Cinereous Vultures to the acclimatization aviary (19/03/2019). ©Milene Matos/VCF

Fig. 5. Six Cinereous Vultures in the acclimatization aviary, where habitat enrichment items are visible. Image captured by the remote surveillance system on 06/10/2025.

Fig. 6. Cinereous Vultures and Griffon Vultures feeding on the supplementary feeding station in front of the LIFE Aegypius Return acclimatization cage. Image captured by the remote surveillance system on 04/04/2025.

2.3. A wildfire in the Douro Internacional Natural Park

Fire start and rescue of the six Cinereous Vultures

On August 15, 2025, a wildfire broke out in the village of Poiares, municipality of Freixo de Espada à Cinta, within the Douro Internacional Natural Park (PNDI). That evening, the fire was still far from the acclimatization station of the LIFE Aegypius Return project, built on the Douro cliffs in Fornos. However, access to these remote areas could be cut off, which would have prevented any subsequent actions if needed. So, in a timely intervention that followed the contingency plan provided for in the project, the Palombar team, in coordination with the technicians and rangers from the ICNF/PNDI, as well as with the Vulture Conservation Foundation (VCF), Faia Brava, the livestock breeder and shepherd who looks after the property, and the veterinarians from the CRAS-HVUTAD), collected the six Cinereous Vultures that were in the acclimatization aviary and transferred them to the facilities of CIARA, in Felgar, where they remained safe.

Damage assessment

The rescue was the result of a careful and timely assessment made by the teams on the ground and prevented a major setback in Cinereous Vulture conservation and the LIFE Aegypius Return's results, as the following afternoon the fire actually reached the acclimatization station, causing a number of damages. Although the surrounding vegetation had been cleared over a wide area (about 23 ha) as a preventive measure implemented by Palombar under the LIFE Aegypius Return project – in accordance with the Habitat Management and Fire Risk Reduction Plan for Cinereous Vulture territories in the Douro International and Águeda Valley Special Protection Area – and was very low-growing, the fire devastated the entire habitat. The aviary sustained only minor damage, but the support container was completely destroyed. This container had functioned as both an infirmary and the digital video-surveillance centre for the facilities. The feeding area in front of the acclimatization cage was also entirely burnt, rendering it unusable in the immediate term.

In total, around 12000 hectares were burned, although the full extent of the damage remains uncertain. The Douro Internacional Cinereous Vulture breeding colony was severely affected. In 2025, the colony consisted of eight breeding pairs, five in Portugal and three on the Spanish side or the river Douro. A total of five chicks had developed and were being monitored by Palombar, with support from the ICNF. Four chicks had already left the nest, but one was still young and unable to fly. However, considering the age of this chick, it was expected to fledge in the following days. When the fire and smoke allowed access to the sites, it was observed that the nest of this non-flying chick had been impacted by very close flames, and the chick was no longer in it.

As of 15 December, the impact of the fire was as follows: two nests were completely carbonised, and six others were affected to varying degrees. The deaths of two (one non-tagged, and one tagged – *Acer*) of the five chicks were confirmed, with two additional deaths (non-tagged) considered likely. The only chick known to have survived was the one hatched and tagged on the Spanish side (*Duero*), where the fire did not reach.

The assessment of the lingering impact on the Cinereous Vultures and the Douro Internacional Nature Park will continue to be monitored in the upcoming months.

Post-emergency plan

After the fire, the partners Palombar, in close coordination with the Northern Regional Directorate of the ICNF, developed an emergency plan for the recovery of the colony (Gutierrez *at al*., 2025, available on the project's website). This included securing financial support, re-establishing the soft-release programme, restoring habitat, fixing the video surveillance system of the aviary, building new nesting platforms, and providing supplementary food for scavenging birds in the region.

Resuming the soft release programme

Thanks to Palombar and the local stakeholders, the acclimatization aviary and the adjacent supplementary feeding site were successfully repaired, allowing the soft-release programme to resume with the return of the six Cinereous Vultures that had been held at CIARA to the aviary on September 10th.

Before being transported back to the aviary, the vultures underwent a health check carried out by veterinarians from CRAS-HVUTAD/CIARA. The birds were also fitted with GPS-GSM transmitters by a team from the Instituto Mixto de Investigación en Biodiversidad (IMIB – University of Oviedo-CSIC-Principality of Asturias, Spain), who collaborate with the LIFE Aegypius Return project. Fitting the transmitters by this occasion avoided the disturbance and handling of the birds on a later occasion, closer to the release date.

Back at the station, the six Cinereous Vultures showed clear signs of familiarity, displaying behaviours of recognition and well-being. Thanks to the provision of supplementary food in the feeding site in front of the aviary, wild birds regularly returned to the area, and normality was restored as possible.

Soft release of the 2025 Cinereous Vulture cohort

The acclimatization period was considered complete, and the aviary was opened on the 24th of October.

Following the procedures established for soft release, the birds were released with minimal contact with human beings, so as not to disturb them. Once the cage is open, the vultures decide when they want to leave, without the intervention of the project technicians. The six vultures left the same day.

The return of the six Cinereous Vultures to freedom was celebrated with an environmental education event targeted at 6th-grade students from the Guerra Junqueiro Schools Group in Freixo de Espada à Cinta, organised by Palombar, and attended by project partners Faia Brava, the teams of supporting veterinarians from CRAS-HVUTAD and CIARA, and local city councils.

The students chose the names for the six vultures before they were released. The names honour the area and the landscape, referring to toponymy and local biodiversity. All the names start with the letter B, to mark the second year of the soft release programme (Table 1).

The six soft released vultures' movements and behaviours are being closely monitored. The results on their movements and survival will be presented in Chapter 4 of this report, and individual maps are presented in Annex II.

Fig. 7. Images of the fire in the Douro Internacional Nature Park in August 2025 ©ICNF; Palombar

Fig. 8. Rescuing the last Cinereous Vulture from the acclimatization cage. Image captured by the remote surveillance system on 15/08/2025.

Fig. 9. Damages of the fire to the acclimatization support container and surrounding habitat. ©Palombar

Fig. 10. The Douro canyon before and after the fire in August 2025. ©Palombar

Fig. 11. The burned area around the acclimatization area and vulture supplementary feeding site. ©Faia Brava/Palombar

Fig. 12. Overall scenario of the Douro Internacional Nature Park after the fire in August 2025 ©Faia Brava

Fig. 13. Before and after: Cinereous Vulture nest completely charred after the fire in the Douro International Nature Park. ©Palombar

Fig. 14. Tagged Cinereous Vulture 2025-chick *Acer*, found dead after the fire. ©Palombar

3. TAGGED CINEREOUS VULTURES

So far, within LIFE Aegypius Return, a total of 58 Cinereous Vultures were tagged with GPS/GSM transmitters:

- 43 chicks in the nest: 15 in 2023; 19 in 2024; 9 in 2025;
- 10 soft released;
- 3 rehabilitated and released juveniles: *Zimbro* and *Gerês* in 2023; *Brava* in 2025;
- 2 captured: one adult in 2023 (*Aravil*); one subadult in 2025 (*Aventuras*).

The project's target is to tag 60 individuals.

During the tagging operations, each individual is fitted with an OrniTrack-E50 4G GPS/GSM solar-powered transmitter from Ornitela using natural tubular Teflon. The applied tagging method is either leg loop harness or backpack, depending on the tagger's assessment and/or specific characteristics of each bird (e.g. weight and size).

As the tagging operations occur mostly in Portugal, each year tagging permits are requested to ICNF, the statutory Portuguese national authority for fauna monitoring, for identified tagging experts who are cooperating with the project. In 2024 and 2025, additional tagging permits were requested to the Junta de Castilla y Leon for tagging Cinereous Vulture chicks (*Arribes* and *Duero*, respectively) from the Douro Internacional colony whose nest were in the Spanish side of the river.

All field technicians and taggers involved in the tagging operations attended a workshop on tagging techniques that the Project organized in the AMUS Wildlife Rehabilitation Centre in Villafranca de los Barros, Spain, in June 2023, to exchange experiences and define best practice.

The tagging operations also always include marking the birds in one leg with a small metal ring with a unique identifier code (that works as the bird's "Identity Card" and is issued by the Portuguese ringing centre CEMPA), and in the other leg with a very light PVC coloured ring. The PVC rings are larger than the metal ones and allow identifying the birds from a distance.

Direct contact with endangered and sensitive species like the Cinereous Vulture is a rare and invaluable opportunity. Within the LIFE Aegypius Return project, this opportunity is maximized to gather scientific data essential for informed conservation decision-making.

Every tagged Cinereous Vulture undergoes a thorough veterinary examination to evaluate its body condition, overall health, and the potential presence of injuries, diseases, or parasites. Detailed biometric measurements, such as beak length and wing size, are recorded, and biological samples are collected, following a specific protocol developed by the project teams (Delgado *et al.*, 2024, available at the project's website). These samples are then analysed by collaborating laboratories to determine the bird's sex and to conduct biochemical, haematological, genetic, microbiological, and toxicological studies, among others. These analyses provide two key benefits: first, they establish critical baseline data for the species; second, they help identify diseases, contaminants, or other risks. Genetic analyses enable the verification of individual lineages and offer insights into population dynamics and reproductive patterns between colonies and regions.

This comprehensive information, integrated with the ecological information provided by the remote monitoring, is essential for understanding the species and its threats, thereby supporting the development and implementation of more effective and evidence-based conservation strategies.

Note: A total of 13 additional chicks in the nest were ringed and sampled for these lab analyses. As a result, the LIFE Aegypius Return project's scientific database now includes records for 71 Cinereous Vultures. However, as the 13 additional chicks cannot be monitored remotely – unless they are directly observed and their rings can be identified – their survival cannot be ascertained.

3.1. Chicks

Cinereous Vulture chicks are tagged once they reach an appropriate size, typically between 80 and 90 days of age. Field monitoring teams estimate chick age based on physical development and parental behaviour. Within each colony, the selection of chicks for tagging is carried out carefully, considering not only age but also the accessibility of nests and the safety conditions required to reach them, as nests are built at the tops of trees.

At the project outset, four Cinereous Vultures breeding colonies were known and closely monitored in Portugal. In 2024, a fifth colony was discovered in the municipality of Vidigueira, that has now expanded to the neighbour municipality of Portel.

The number of tagged chicks in each colony and project year is summarized in Table 2; the detailed data on the tagged chicks is presented on Table 3.

For a complete report on the Cinereous Vulture breeding results in 2025, please see ANNEX III.

So far, a total of 43 Cinereous Vulture chicks have been tagged within the LIFE Aegypius Return project, 41 in Portugal, and 2 in Spain – one in 2024 (*Arribes*) and one in 2025 (*Duero*) in the Douro Internacional region.

Chicks from all five colonies were tagged in order to obtain information on movements and behaviour across all breeding regions in Portugal and at a transboundary level, as the Douro Internacional, Tejo Internacional, and Herdade da Contenda colonies include nests in Spanish territory. However, in 2025, a decision was made not to tag chicks in Serra da Malcata, as network coverage in the area is very limited and most previously deployed devices were unable to transmit data. Prolonged signal unavailability may result in tag failure by the time the bird fledges, meaning that the investment would not yield usable data.

To this date, ten (23.3%) of the 43 tagged chicks have died (Table 2 and Table 3).

The causes of mortality varied and have not yet been fully determined, as some results from laboratory/toxicological analyses are still pending. Results so far suggest that, out of the 43 tagged hicks, four died of natural causes, three from human factors, and three from unknown reasons (Table 3).

Table 2. Number of Cinereous Vulture chicks tagged in the nest in each Portuguese colony per LIFE Aegypius Return project year (2023-2025) and status of the chicks by 15/12/2025 (dead, alive or unknown). *Asterisks mark transboundary colonies.

					Status by 15/12/2025					
	Nr. tagged chicks				Dead		Alive		Unknown	
Colony	**2023**	**2024**	**2025**	**Total**	**N**	**%**	**N**	**%**	**N**	**%**
Douro Internacional*	2	3	2	7	3	42,9	4	57,1	-	-
Serra da Malcata	4	5	0	9	2	22,2	5	33,3	4	44,4
Tejo Internacional*	6	7	2	15	3	20,0	12	80,0	-	-
Herdade da Contenda*	3	3	3	9	2	22,2	7	77,8	-	-
Vidigueira/Portel	0	1	2	3	-	-	3	100,0	-	-
	15	19	9	43	10	23,3	29	67,4	4	9,3

3.2. Capture of wild individuals

The Project foresees attempts to capture adult Cinereous Vultures, aiming to catch at least one wild adult from each colony.

To date, and in coordination with other ongoing projects (e.g., led by rewilding Portugal or Quercus), a total of ten capture attempts have been carried out: one in Douro Internacional, two in Malcata, three in Tejo Internacional, and four at Herdade da Contenda. Each attempt lasts between two to five days and employs various methodologies, such as walk-in traps and clap-nets, placed at supplementary feeding stations stocked with ample bait carcasses.

Despite these efforts, only two individuals were captured so far: *Aravil* and *Aventuras* (Table 4).

Aravil

As reported in Matos *et al*. (2024), *Aravil* was successfully captured in Tejo Internacional on 09/12/2023. When captured, *Aravil* was 13 years old. It was the offspring of one of the two re-founding breeding pairs of the Tejo Internacional colony, in 2010. As an adult and since its tagging, *Aravil* remains in its hatching area (Fig. 28)

Aventuras

This Cinereous Vulture was captured at Herdade da Contenda on 26/11/2025, with the walk-in trap located within the fenced local feeding station. It was tagged and sampled the same day. *Aventuras* is a female most probably hatched in 2021 – it is then a subadult, from an unknown origin (Fig. 16). Since its tagging, it has remained in the cross-border region near Herdade da Contenda (Fig. 29).

Tagging additional adult vultures would be highly valuable for the project, as it would enable the monitoring of their movements and territory occupancy – particularly during the breeding season –, the identification of threats to mature individuals, and the collection of samples from individuals that have lived in the wild for extended periods.

3.3. Rehabilitated Cinereous Vultures

Since the beginning of the project, three birds (*Zimbro*, *Gerês*, and *Brava*) coming from Wildlife Rehabilitation Centres in Portugal were tagged and immediately released after rehabilitation.

When *Zimbro* and *Gerês* were rehabilitated, the acclimatization aviary was not yet built. Their circumstances were fully detailed in Matos *et al*. (2024).

Brava

Brava is a 2025-hatched female Cinereous Vulture that was found in a weakened state in Montemor-o-Novo, southern Portugal, on 26/08/2025, and admitted to CARAS, in Évora. Its colony of origin was unknown. It might have fled from the major wildfires that had struck central and northern Portugal by that time, but fortunately its respiratory system showed no signs of smoke or ash. The diagnosis was straightforward: the bird needed food, hydration, and rest, and quickly gained vitality. As part of the LIFE Aegypius Return project, juvenile Cinereous Vultures of unknown origin admitted to rehabilitation centres are generally transferred to the acclimatization programme, with the aim of reinforcing the fragile colony of the Douro Internacional Natural Park. However, due to the severe wildfires that devastated the region, and the fact that the programme's logistical conditions had not yet been restored by that time, it was decided to tag and release *Brava* back into the wild (Fig. 17 and Fig. 18). The release took place on September 2nd at Herdade da Contenda (Fig. 32).

Fig. 15. Tagging of a Cinereous Vulture chick and processing of the biological samples collected, at Vidigueira. ©VCF

Fig. 16. Estimating the age of Aventuras, a subadult Cinereous Vulture captured at Herdade da Contenda on 26/11/2025. ©LPN

Fig. 17. Tagging of *Brava*, a Cinereous Vulture chick that was rehabilitated at CARAS (29/08/2025). ©Milene Matos/VCF

Fig. 18. Release of *Brava*, a Cinereous Vulture chick that was rehabilitated at CARAS (02/09/2025). ©Fábio Moreira

Table 3. Data on the 43 Cinereous Vulture chicks tagged in the nest within LIFE Aegypius Return in 2023, 2024, and 2025, organized by date of tagging.
Red lines refer to individuals dead by 15/12/2025; yellow lines to individuals of unknown status. Breeding colonies – Douro: Douro Internacional (PTZPE0038); Malcata: Serra da Malcata (PTZPE0007); Tejo Int: Tejo Internacional (PTZPE0042); Contenda: Herdade da Contenda (PTZPE0045); Vidigueira/Portal: Municipalities of Vidigueira and Portel. Dates are presented in the DD/MM/YYYY format.

	Date of tagging	Hatching year	Colony	Nest code	Bird name	#Metal ring	#PVC Ring	#Tag	Sex	Status on 15/12/2025	Deployment start (or fledging date)	Deployment end (date of death)	Cause of death	Place of death	Obs
1	01/07/2023	2023	Douro	AM-SA-30	Freixo	1652	20	215607	M	Dead	21/08/2023	28/01/2024	Collision with powerline	Douro Internacional, PT	Necropsy done in CRAS-HVUTAD
2	01/07/2023	2023	Douro	AM-SA-20	Juniperus	1653	21	215609	M	Alive	27/07/2023	-			
3	02/07/2023	2023	Malcata	AM08		1612	1X	234021	F	Unknown	13/08/2023	-			No signal since 22/01/2024
4	02/07/2023	2023	Malcata	AM12		1613	1T	201437	M	Alive	06/08/2023	-			
5	03/07/2023	2023	Malcata	AM04		1614	1U	234020	M	Dead	19/08/2023	2023-10-04	Septicaemia of bacterial origin followed by drowning	Ramales de la Victoria, ES	Analysed in CAD
6	03/07/2023	2023	Malcata	AM16		1615	1V	234032	M	Unknown	03/07/2023	-			Never connected to GSM network.
7	04/07/2023	2023	Tejo Int	Pôpa 15	Roselha-grande	1332	4V	203507	F	Alive	12/08/2023	-			
8	04/07/2023	2023	Tejo Int	Pôpa 21	Sérgio	1334	51	234023	M	Alive	13/08/2023	-			
9	04/07/2023	2023	Tejo Int	Cubeira 9	Rosmaninho	1335	52	234024	M	Alive	14/08/2023	-			
10	05/07/2023	2023	Tejo Int	Cubeira 13	Rosa-albardeira	1329	54	234034	F	Alive	29/08/2023	-			
11	05/07/2023	2023	Tejo Int	Cubeira 16	Aroeira	1330	55	234036	F	Alive	13/08/2023	-			
12	06/07/2023	2023	Tejo Int	Águas de Verão 1	Aquis	1322	57	234037	M	Alive	19/09/2023	-			
13	13/07/2023	2023	Contenda	C206	Mirante	1616	1W	234022	M	Dead	15/08/2023	26/08/2024	Gunshot	Cumbres de San Bartolomé, ES	Analysed in CAD
14	13/07/2023	2023	Contenda	N40	Bolota	1617	1Y	234025	F	Alive	16/08/2023	-			
15	14/07/2023	2023	Contenda	N31	Raia	1618	2J	234033	F	Alive	16/08/2023	-			
16	01/07/2024	2024	Malcata	AM18		1620	2C	243639	M	Alive	01/07/2024	-			

	Date of tagging	Hatching year	Colony	Nest code	Bird name	#Metal ring	#PVC Ring	#Tag	Sex	Status on 15/12/2025	Deployment start (or fledging date)	Deployment end (date of death)	Cause of death	Place of death	Obs
17	01/07/2024	2024	Malcata	AM24		1541	2E	234030	F	Unknown	01/07/2024	-			No signal since 17/01/2025
18	01/07/2024	2024	Malcata	AM04	Brutus	1542	2F	243641	M	Unknown	01/07/2024	-			No signal since 16/08/2024
19	08/07/2024	2024	Contenda	N30	Touril	1543	2K	243615	M	Alive	31/07/2024	-			
20	08/07/2024	2024	Contenda	C212	Medronho	1544	2L	243616	M	Alive	22/08/2024	-			
21	08/07/2024	2024	Contenda	N37	Arroio	1545	2R	243617	M	Alive	18/08/2024	-			
22	14/07/2024	2024	Douro	AM-SA-35	Zelha	1711	23	234017	M	Dead	16/08/2024	16/05/2025	Unknown	Cabezas Rubias, ES	Necropsy and toxicology results pending
23	21/07/2024	2024	Douro	AM-SA-40	Celtis	1712	24	234035	F	Alive	25/08/2024	-			
24	21/07/2024	2024	Douro (ES)	AM-SA-Espanha-3	Arribes	J06765	XV3	234027	M	Alive	21/08/2024	-			
25	16/07/2024	2024	Tejo Int	Pôpa 4.1		1338	5E	243618	M	Dead	Did not fledge	11/09/2024	Fell from the nest (2nd time)	Under the nest (Tejo Int)	Analysed in CAD; no toxics found
26	16/07/2024	2024	Tejo Int	Pôpa 4	Bela-Luz	1691	5F	243619	F	Alive	04/09/2024	-			
27	16/07/2024	2024	Tejo Int	Pôpa 12		1696	5H	243620	F	Alive	17/08/2024	-			
28	17/07/2024	2024	Tejo Int	Cubeira 11.1		1692	5J	243621	M	Dead	18/08/2024	19/09/2024	Poisoning: fipronil	Penha de Águia, PT	Analysed in CAD
29	17/07/2024	2024	Tejo Int	Cubeira 16		1693	5X	243622	F	Alive	02/09/2024	-			
30	17/07/2024	2024	Tejo Int	Cubeira 19	Natator	1694	5S	243623	M	Alive	15/08/2024	-			
31	18/07/2024	2024	Tejo Int	Soalheiras 3	Aravilinho	1695	5W	237168	F	Dead	29/08/2024	23/09/2024	Drowned	Barragem de Alcântara, ES	Necropsy done in CRFS Los Hornos
32	19/07/2024	2024	Vidigueira	Vid01	Pousio	1546	2H	238668	M	Alive	03/09/2024	-			
33	06/08/2024	2024	Malcata	AM13		1547	2M	243640	F	Alive	06/08/2024	-			

	Date of tagging	Hatching year	Colony	Nest code	Bird name	#Metal ring	#PVC Ring	#Tag	Sex	Status on 15/12/2025	Deployment start (or fledging date)	Deployment end (date of death)	Cause of death	Place of death	Obs
34	06/08/2024	2024	Malcata	AM03		1548	2S	234019	M	Dead	06/08/2024	06/05/2025	Weakness/ Trapped in a tank	CRFS Los Hornos, ES	Necropsy done in CRFS Los Hornos. Cause of weakness unknown
35	24/06/2025	2025	Douro	AM-SA-20	Acer	1716	60	215607	M	Dead	25/07/2025	20/08/2025	Respiratory complications after fire	Douro Internacional, PT	Necropsy done in CRAS-HVUTAD
36	25/06/2025	2025	Vidigueira	NV07	Farrobo	1549	2A	238667	M	Alive	02/08/2025	-			
37	26/06/2025	2025	Contenda	N30		1621	2N	370819	F	Alive	17/08/2025	-			
38	15/07/2025	2025	Douro (ES)	AM-SA-Espanha2.1	Duero	1101813	XVR	370821	M	Alive	15/08/2025	-			Tag loss. Direct observations prove it's alive.
39	21/07/2025	2025	Tejo Int	Cubeira 16.1		1675	09	243618	M	Alive	17/08/2025	-			
40	21/07/2025	2025	Tejo Int	Cubeira 8.4	Charneco	1687	10	223783	M	Alive	19/09/2025	-			
41	24/07/2025	2025	Vidigueira	NV03	Vidigueira	1623	2X	370820	F	Alive	02/09/2025	-			
42	25/07/2025	2025	Contenda	N41		1624	2U	234026	M	Dead	08/09/2025	16/09/2025	Drowned	Contenda	Necropsy done in UÉvora. Toxicological results pending
43	25/07/2025	2025	Contenda	N39		1625	2V	234022	F	Alive	11/09/2025	-			

Table 4. Data on the two Cinereous Vultures captured, tagged and released within LIFE Aegypius Return.

Places of release – Tejo Int: Tejo Internacional (PTZPE0042); Contenda: Herdade da Contenda (PTZPE0045). Dates are presented in the DD/MM/YYYY format.

Hatching year	Region of capture	Region of release	Bird name	#Metal ring	#PVC Ring	#Tag	Sex	Status on 15/12/2025	Deployment start	Date of release	Obs
2010	Tejo Int	Tejo Int	Aravil	MT368	5C	234031	M	Alive	09/12/2024	09/12/2023	ADULT individual originally ringed in 2010 as a nest chick.
2021 (?)	Contenda	Contenda	Aventuras	1627	-	234026	F	Alive	26/11/2025	26/11/2025	SUBADULT (age estimate: 5th calendar year).

Table 5. Data on the three rehabilitated Cinereous Vultures tagged and released within LIFE Aegypius Return.

Red lines refer to individuals dead by 15/12/2025.

Places of release – Douro: Douro Internacional (PTZPE0038); Tejo Int: Tejo Internacional (PTZPE0042); Contenda: Herdade da Contenda (PTZPE0045). Dates are presented in the DD/MM/YYYY format.

Hatching year	Region of collection	Bird name	#Metal ring	#PVC Ring	#Tag	Sex	Status on 15/12/2025	Deployment start	Deployment end (date of death)	Cause of admission in rehab centre	Date of 1st admission in rehab centre	Date of release	Place of release	Obs
2021	Porto de Mós (Leiria)	Zimbro	1236	1K	215888	M	Alive	21/03/2023	-	Weakness	10/2021	21/03/2023	Douro	
2022	Peneda-Gerês National Park	Gerês	1654	22	234017	M	Dead	10/08/2023	16/08/2023	Gunshot	21/10/2022	10/08/2023	Douro	Found dead 24/08/2023 on a cliff (Douro Int). Necropsy was inconclusive.
2025	Montemor-o-Novo	Brava	MT1462	-	234017	F	Alive	29/08/2025	-	Weakness	24/08/2025	02/09/2025	Contenda	

4. MOVEMENTS OF THE TAGGED BIRDS

4.1. Soft-released birds

Staying in acclimatization allows rehabilitated Cinereous Vultures to socialise with other individuals, observe conspecifics in the feeding site facing the aviary, and adjust to local conditions, which will help them better survive and settle once they are freed back into the wild (Ivanov *et al*., 2023).

2024

The four birds acclimatized and released in 2024 in Douro Internacional are alive and, apparently, moving normally (Fig. 19). Since their release, *Azedinha* did a large movement towards the Western Pyrenees, after which moved to central Spain (near the region of Madrid), where it has been since June 2025. *Alfavaca* also moved away from the Douro Internacional area, and spent the last 12 months around the Hoces del Río Riaza Natural Reserve, in the province of Segovia. *Arçã* also did a noteworthy movement North to Somiedo, but as with *Almeirão*, stayed generally in the release region and East, exploring the Spanish landscapes up to Zamora.

Arçã and *Almeirão*, both 2022-hatched juveniles found weakened in 2023, have a long story together. They met in November 2023 for rehabilitation in CERAS, where they stayed until May 2024, when they were transferred to the acclimatization station in Douro Internacional. In November that year, they were soft-released and have spent considerable time together since. Sometimes they fly, feed and perch in synchronous movements (Fig. 20). Very recently, they have begun to exhibit behaviours that may indicate the beginning of nest-building activity. Their proximity will be carefully monitored.

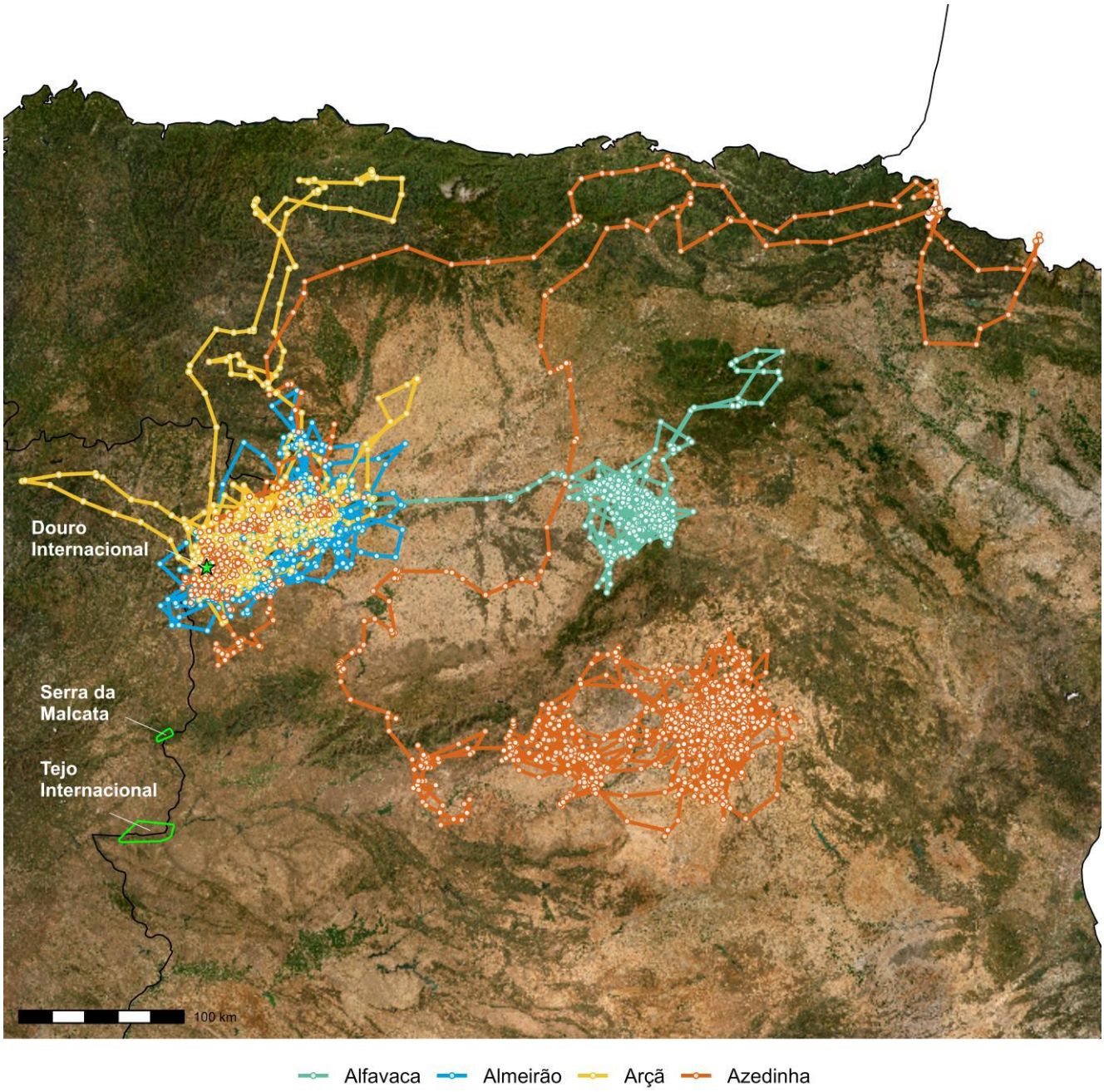

Fig. 19. Movements of the four Cinereous Vultures soft-released in early November 2024, showing the complete movements of each bird since their release (04/11/2024 to 15/12/2025). The green star shows the approximate location of the acclimatization aviary and the breeding colony in Douro Internacional Natural Park; green polygons show the locations of other known colonies in Portugal.

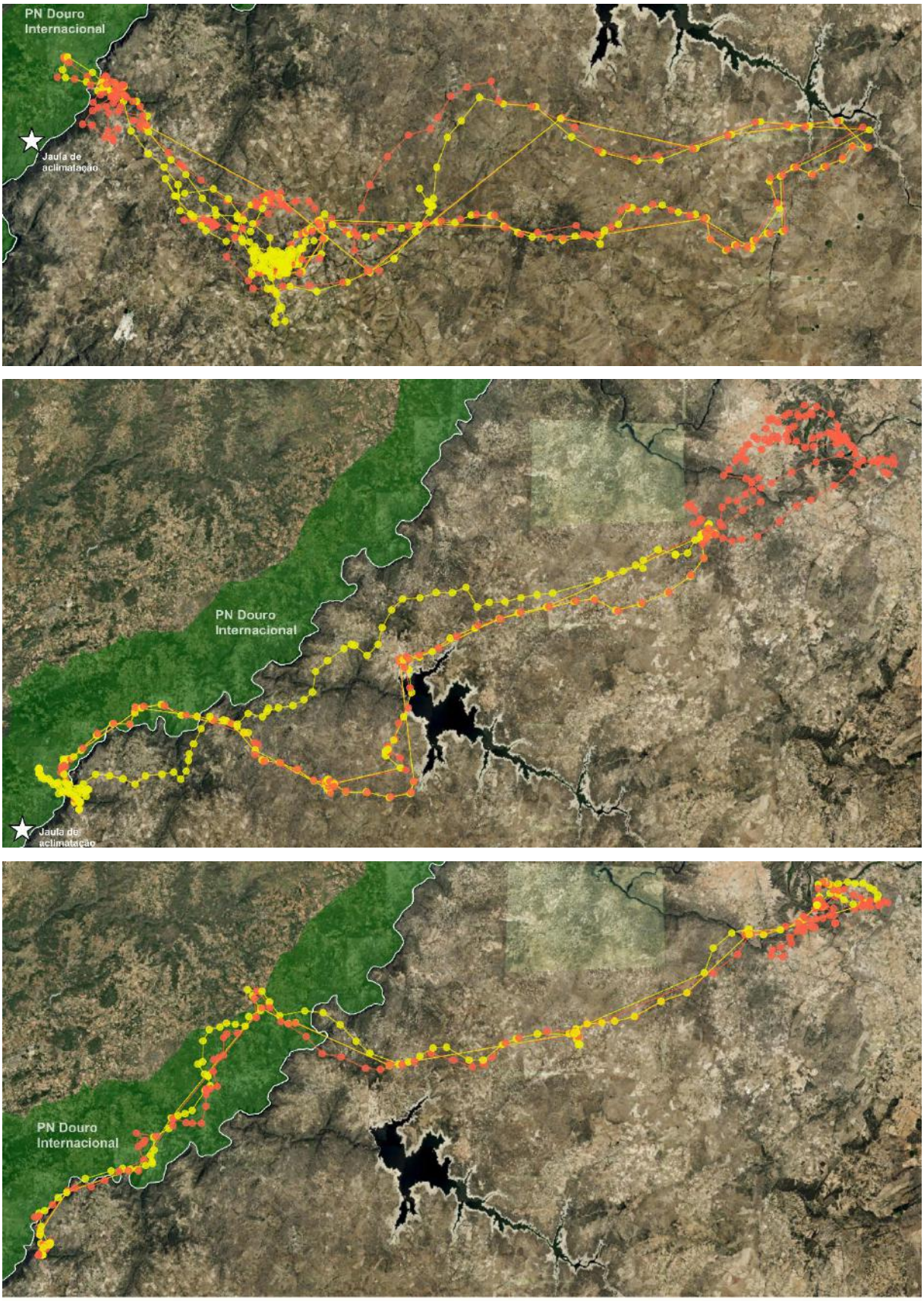

Fig. 20. Synchronous movements of Cinereous Vultures *Almeirão* (orange) and *Arçã* (yellow) on 27/04/2025, 05/06/2025 and 20/07/2025.

2025

Similarly to the birds released in 2024, the six birds released in 2025 remained relatively close to the release area, performing relatively short movements into Spanish territory (Fig. 21). One individual, *Branco*, ventured further south towards the Tejo Internacional breeding colony.

Unfortunately, two soft-released birds have died (Table 1).

Brisa died on 15/11/2025, most likely due to a collision with a powerline (Fig. 22). Following the detection of suspicious data (i.e., clustered GPS fixes and accelerometer patterns consistent with mortality), the Spanish authorities from Junta de Castilla y León were contacted. The bird was located at the last transmitted GPS position, with a broken wing, beneath a high-tension power line near the supplementary feeding station (*muladar*) of Aldeadávila, Spain. The carcass was transferred to CRAS Valladolid for necropsy. This power line had previously been identified as hazardous, with earlier records of mortality involving vultures and other raptors. Despite prior contacts with the Spanish authorities and the power company, which led to corrective signalling measures, casualties continue to occur. Consequently, the authorities are currently assessing the possibility of deactivating supplementary feeding stations located near the power line in order to prevent further mortality.

Bétula died on 10/12/2025 near Belalcázar (Andalusia, Spain), for reasons that remain unknown. Suspicious telemetry data indicated a likely mortality event after the bird had remained active in the same area for 18 consecutive days (Fig. 23). Local authorities and the Junta de Andalucía were contacted, the carcass was recovered, and it was sent to CAD for necropsy and toxicological analyses. Results are pending.

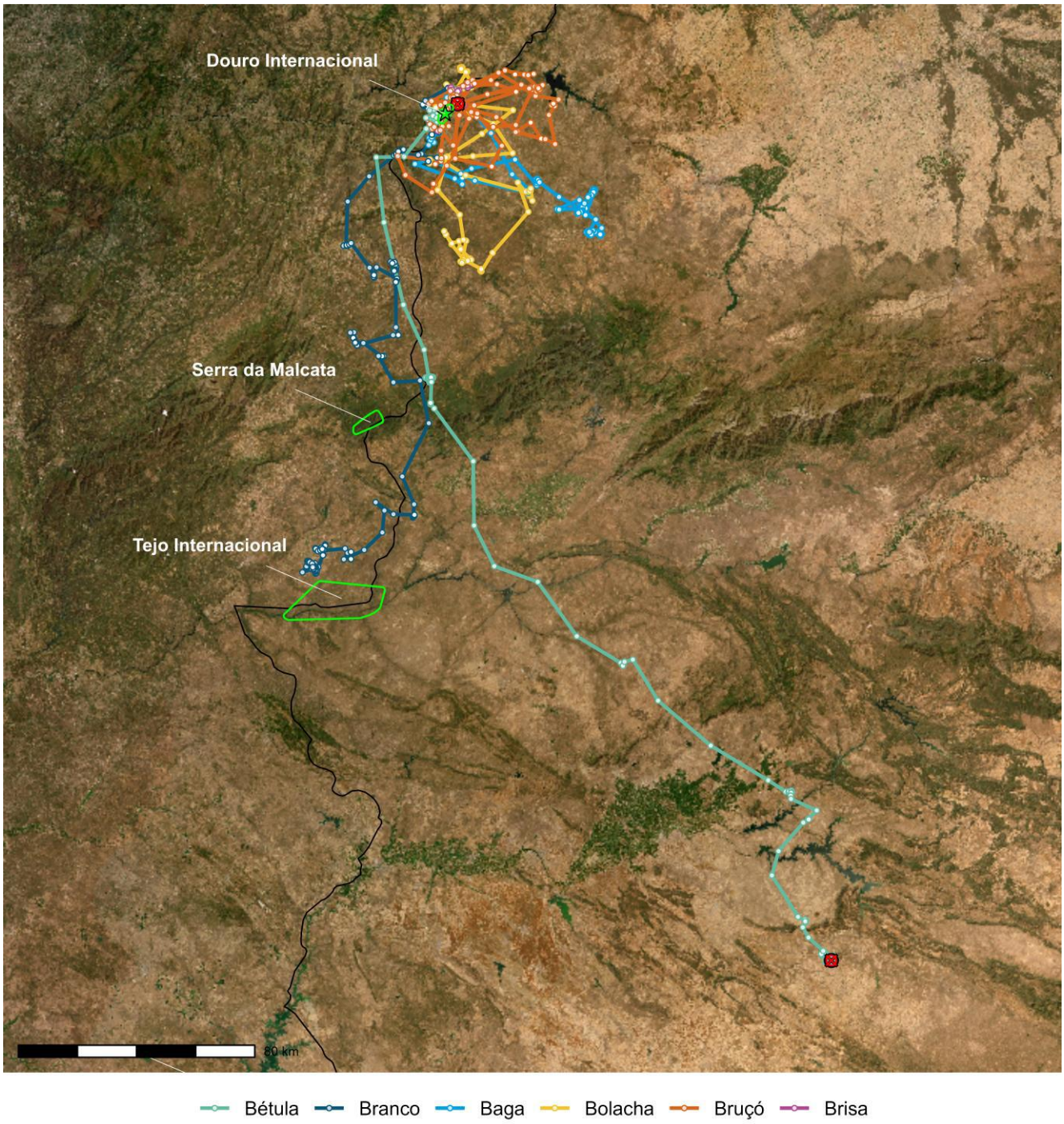

Fig. 21. Movements of the six Cinereous Vultures soft-released in October 2025, showing the complete movements of each bird since their release (24/10/2025) until 15/12/2025. The red circle-cross indicate the sites where Brisa and Bétula died. The green star shows the approximate location of the acclimatization cage and the breeding colony in Douro International Natural Park; green polygons show the locations of other known colonies in Portugal.

Fig. 22. Movements of the soft-released Cinereous Vulture *Brisa*, from 14/11/2025 until 15/11/2025 (date of death). This individual died from a collision with a powerline in the Douro region (near Aldeadávila – red pin).

Fig. 23. Movements of the soft-released Cinereous Vulture *Bétula*, from 23/11/2025 until 10/12/2025. This individual died from unknown reasons near Belalcázar (Andalusia, Spain – red pin), after spending several days in the same farm (blue pin).

4.2. Chicks/ Juvenile Cinereous vultures

Once juvenile Cinereous Vultures fledge and leave the nest, they remain dependent on their parents for several weeks to months (Hiraldo, 1983; 155 ± 32 days *cf.* Soares, 2025), during which time they learn how and where to forage and how to navigate their environment. As this post-fledging dependency period progresses, juveniles gradually increase their movements around the colony until they become fully independent from their parents. While some juveniles may remain in the natal area, others disperse, undertaking extensive wandering movements of tens or even hundreds of kilometres away from their colonies (e.g. García Macía *et al*., 2024).

This pattern could be observed in the chicks tagged in 2023 (Matos *et al*., 2023a) as well as in 2024 (Matos *et al*., 2024). However, it has not been observed in the chicks tagged in the nest in 2025, as during the period between fledging and 15/12/2025 the birds have mostly remained within their natal colony and its immediate surroundings (Fig. 24).

As previously reported for birds tagged in 2023 (Matos *et al*., 2024), juvenile Cinereous Vultures tagged in 2024 also explored large areas in most of central Iberian Peninsula (Fig. 24). The combined annual Kernel Utilization Distributions (KUD; see Annex I for detailed methods) of these birds highlight the importance of the areas surrounding the breeding colonies, which were most frequently used (i.e. the 'core range'; 50% KUD), as well as the extensive areas explored throughout the year across central Iberian Peninsula (i.e. the 'home range'; 95% KUD) (Fig. 25).

With regard to distances travelled throughout the year, Cinereous Vultures tended to travel more widely during the spring and summer months, dispersing through long flights that covered large areas far from their colonies (Fig. 26). Nevertheless, a marked difference in the accumulated distance travelled during the summer months of the second year of life was observed between birds tagged in 2023 and 2024.

During autumn and winter, travelled distances were comparatively short, as weather conditions are generally less favourable for long-range movements (Fig. 26). These seasonal patterns are consistent with those reported for other Cinereous Vulture populations in the Iberian Peninsula (García-Macía *et al*., 2024).

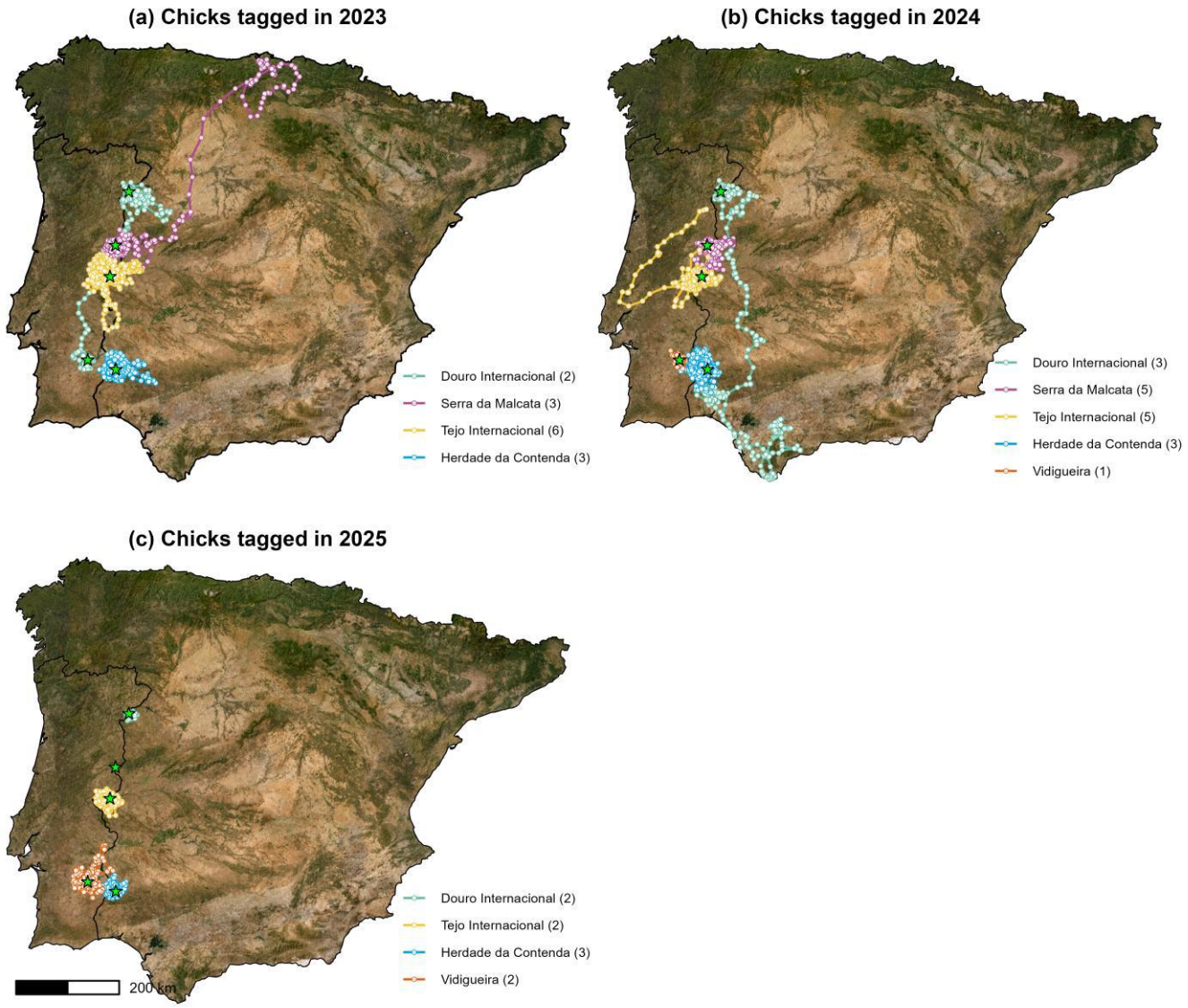

Fig. 24. Movements of juvenile Cinereous Vultures tagged in the nest in (a) 2023, (b) 2024, and (c) 2025 with tracks coloured by colony of origin. Number of chicks tagged in each colony show in parenthesis. For purposes of comparing across years, movements shown are from the day of tagging to 15 December of the respective tagging year.

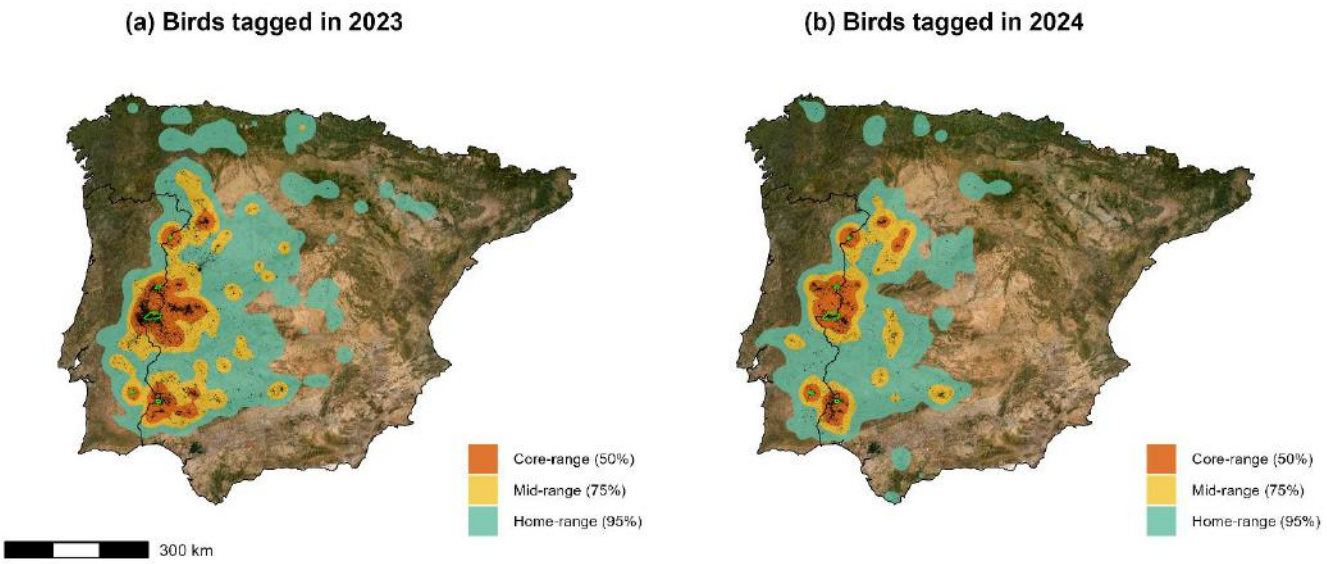

Fig. 25. Annual Utilization Distribution of Cinereous Vultures tagged in (a) 2023 (n = 14 individuals) and (b) 2024 (n = 16 individuals), showing the core range (50% Kernel Utilization Distribution - KUD), mid-range (75% KUD), and home range (95%) within an annual-cycle in the Iberian Peninsula (locations in France not shown). All tracking data available from each individual was used (black dots), excluding months with < 10 days of data (see details in Annex II).

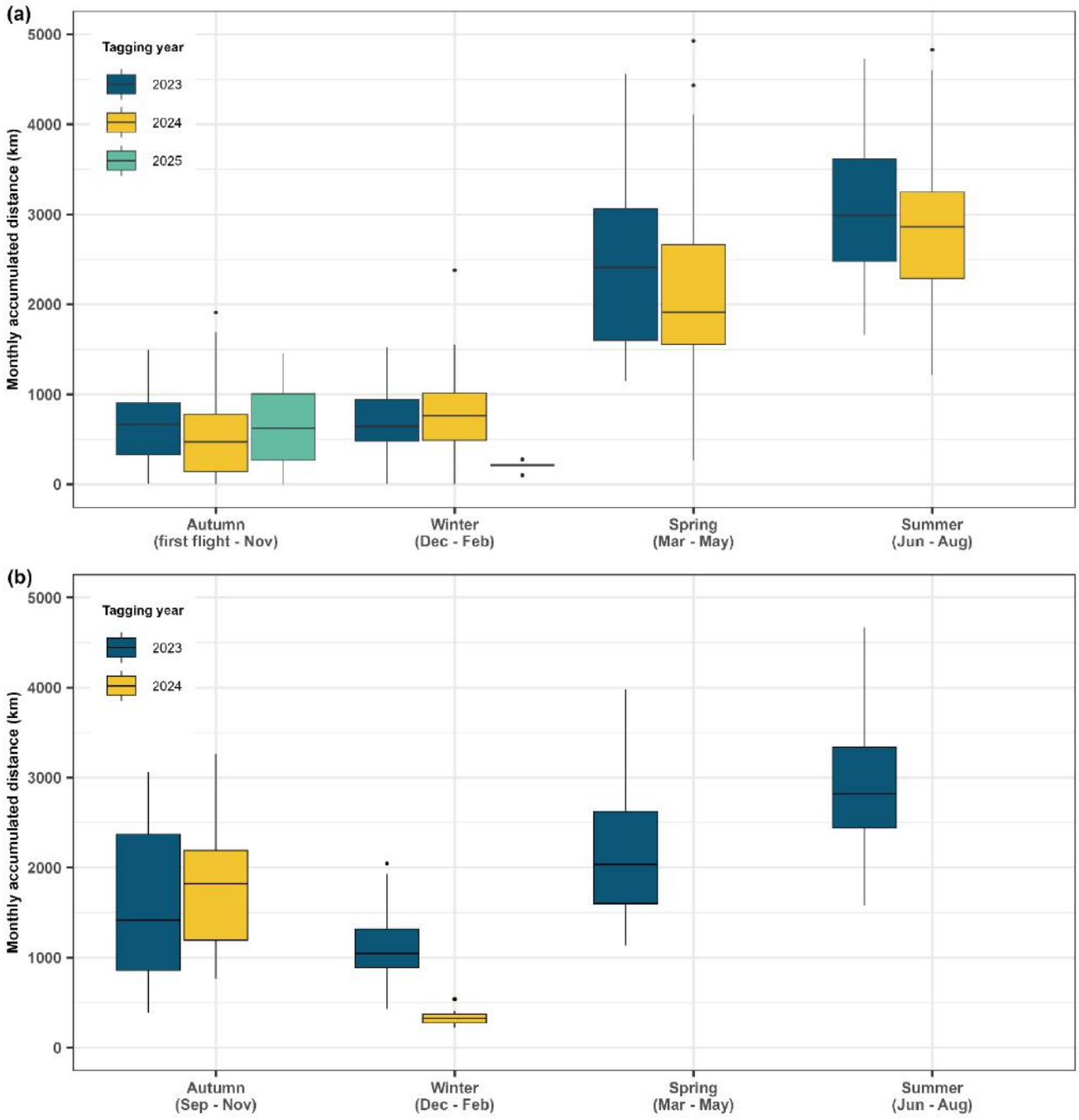

Fig. 26. Distance travelled by Cinereous Vultures tagged in the nest in 2023, 2024, and 2025, showing boxplots of monthly accumulated distances by season in (a) the first and (b) the second year of life. In panel (a) the Autumn of the first year of life of each individual was considered to start on the date of the first flight (range: 23 July – 19 September). Note that the winter of the first year of birds tagged in 2025, and the winter of the second year of birds tagged in 2024 only contain data up to 15 December.

As juveniles disperse and explore unknown territories, they may become more exposed to threats or experience difficulties in finding food. It is relatively common to find Cinereous Vulture juveniles in a weakened or disorientated state far away from any known colony – for example, in coastal areas (see sections 5.3. and 5.4. for more details). Juvenile birds from unknown origins are typically rescued, rehabilitated, and subsequently integrated into the soft-release programme. However, tagged chicks for which nest locations are known are not exempt from this behaviour, and remote monitoring allows for identifying patterns and threats.

In Matos *et al*. (2024) a detailed report was presented for the chick *5J*, a 2024 chick from Tejo Internacional that travelled several hundred kilometres before ultimately dying in northern Portugal. This bird is now confirmed to have died from poisoning with fipronil (the main active ingredient in topical antiparasitic treatments used on pets), which it ingested at an unknown location during its dispersal.

Another 2024 chick from Tejo Internacional, *Aravilinho* (offspring of the captured adult *Aravil*), did not disperse far from the natal area but died from drowning approximately 40 km from its nest.

Chick *2S*, hatched and tagged in 2024 in Serra da Malcata, initially wandered within the cross-border region before flying to the vicinity of Acehúche (Extremadura, Spain; approximately 60 km from the nest), where it entered a walled structure resembling a large tank on a farm. Although it was physically possible for the bird to leave the structure, it did not do so, possibly due to a weakened condition of unknown origin. The individual was rescued but, despite rehabilitation efforts, died at CRFS Los Hornos.

Zelha, a 2024 chick from Douro Internacional, dispersed over 400 km to the area near Cabezas Rubias (Andalusia, Spain), where it died in May 2025 from suspected poisoning. Necropsy and toxicological analyses are still pending.

Of the nine chicks tagged in the nest in 2025, two died.

Chick *2U*, hatched in Herdade da Contenda, fledged on 08/09/2025 and died approximately one month later within the same estate after falling into a firefighting water tank. The circumstances surrounding the fall were considered suspicious; therefore, the carcass was sent for necropsy and toxicological analyses, the results of which are still pending.

Acer died on 20/08/2025 following a collision, after developing respiratory complications associated with the massive wildfire that affected the region during that period (Fig. 14). It had not venture far from its colony (Fig. 27).

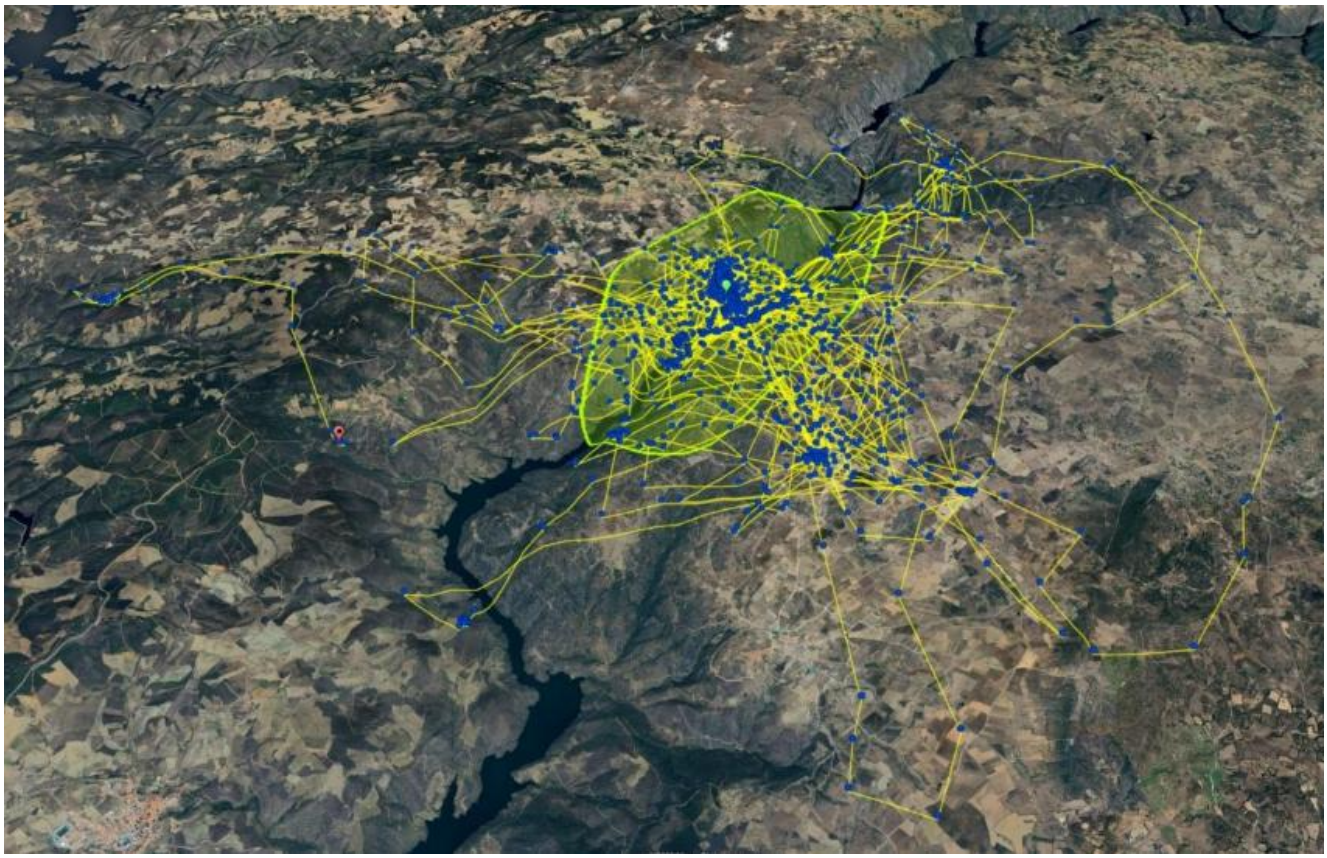

Fig. 27. Movements of *Acer*, a juvenile Cinereous Vulture tagged in the nest in the Douro Internacional Natural Park (green pin), since it fledged (25/07/2025) until it died (20/08/2025 - red pin) following the wildfire that engulfed the area of the breeding colony (green polygon) the days before.

4.3. Captured Cinereous Vultures

As mentioned above, so far two wild individuals were successfully captured as a result of attempts to catch adult Cinereous Vultures: the adult *Aravil* and the subadult *Aventuras*.

During 2024, ***Aravil*** stayed in the same general area in Tejo Internacional, where it successfully bred (see Matos *et al*., 2024 for a full report). In 2025, its offspring died with about 10 days, and a few weeks after that, *Aravil* took an impressive flight north, crossing river Douro, and returning crossing Serra da Malcata. It also ventured a bit south to river Tejo, returning to the colony area, where it remains (Fig. 28).

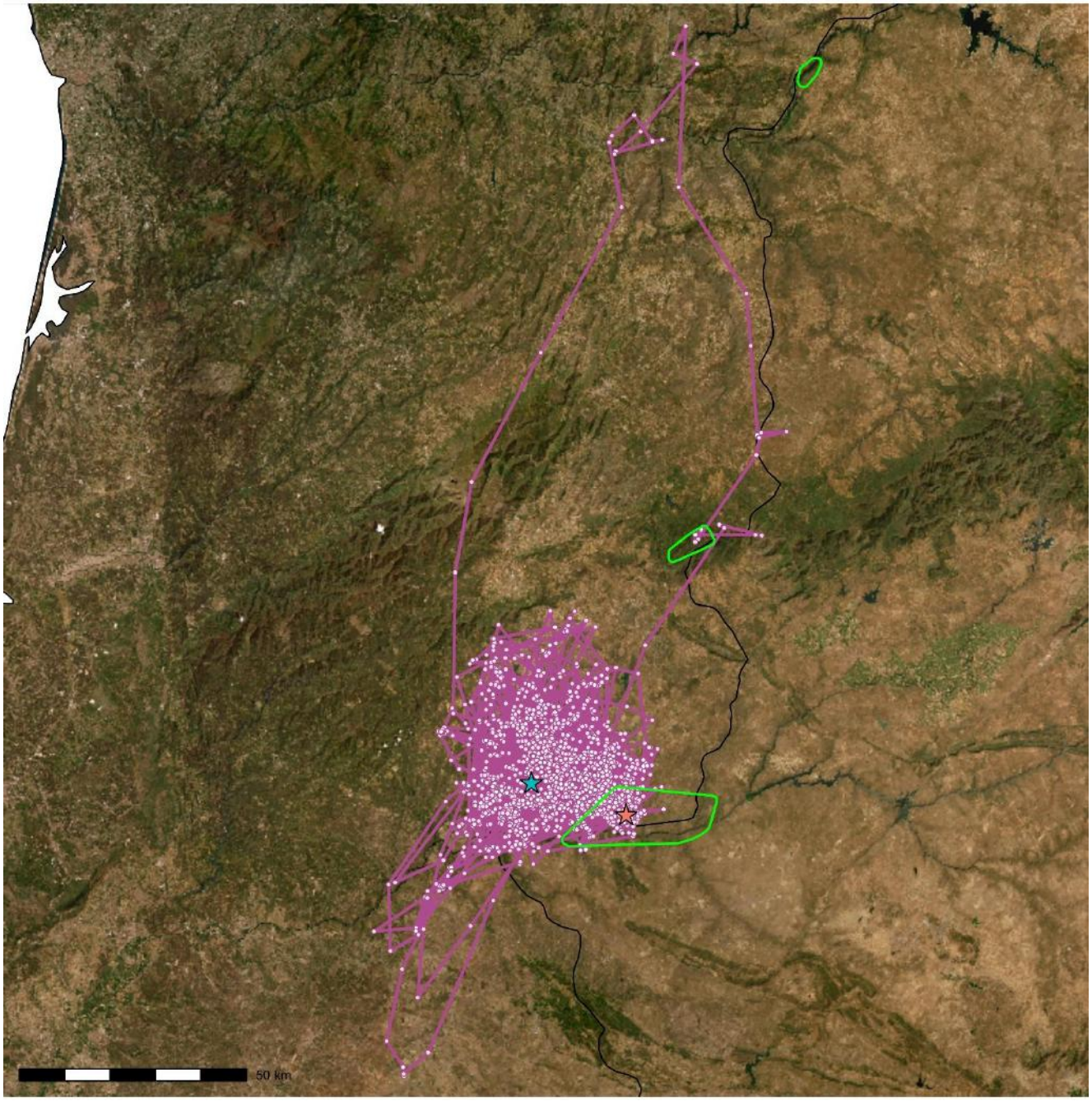

Fig. 28. Movements of *Aravil*, an adult Cinereous Vulture hatched in 2010 in Tejo Internacional and captured in the same colony on 09/12/2023, from 15/12/2024 (blue star) to 15/12/2025 (red star). The green polygons mark the colonies of Douro Internacional, Serra da Malcata and Tejo Internacional, from North to South.

Aventuras was captured and tagged on 26/11/2025 in Herdade da Contenda. Between tagging and 15/12/2025, it did not leave the cross-border region, and returned several times to Herdade da Contenda, including to roost on known Cinereous Vulture nests (Fig. 29). Given that this individual is estimated to be in its fifth calendar year, special attention will be paid to its monitoring, as it is approaching reproductive maturity and may soon initiate breeding activity.

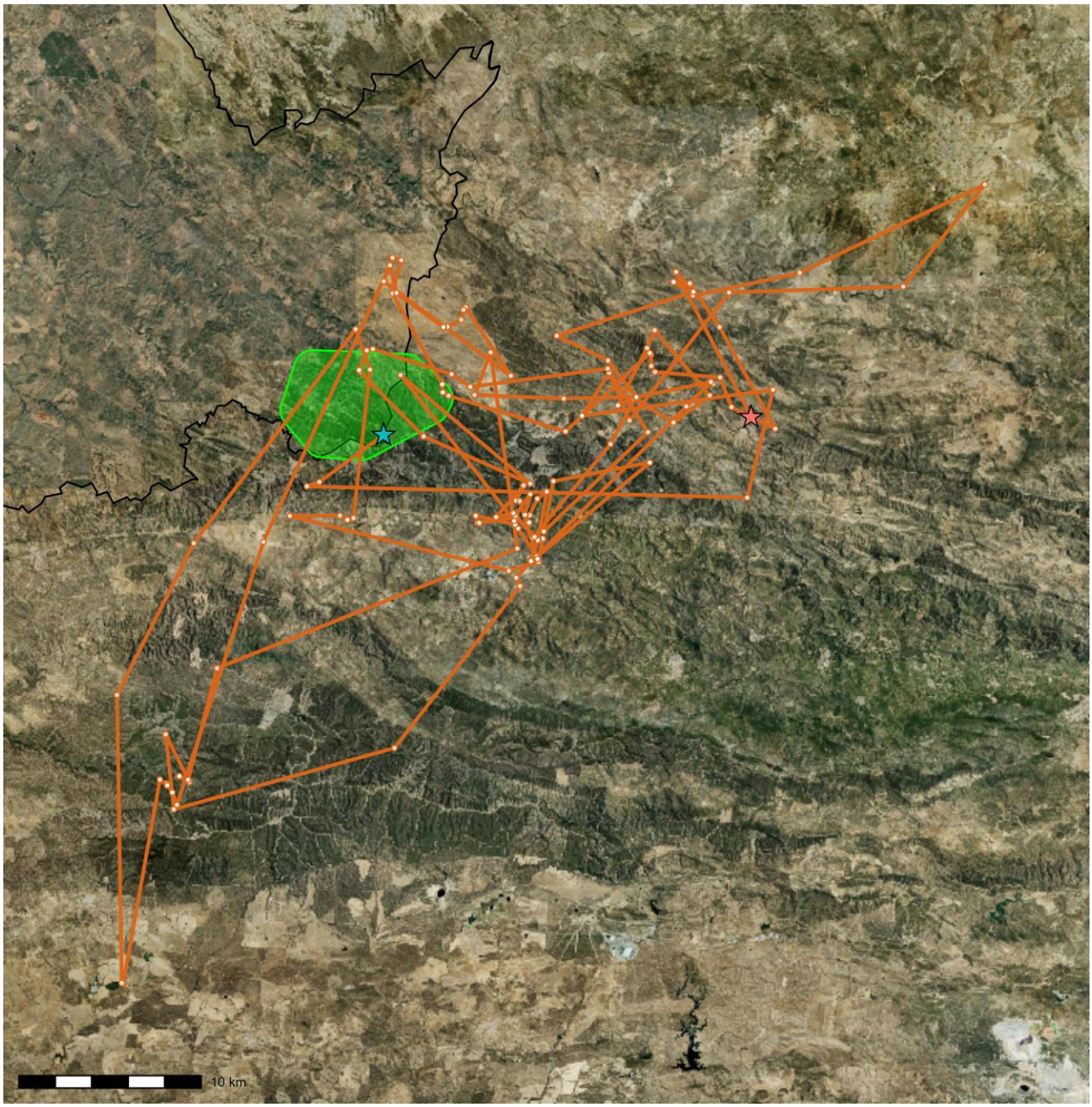

Fig. 29. Movements of *Aventuras*, a subadult captured and tagged on 26/11/2025 in Herdade da Contenda (blue star), with most of its movements in Spain up to 15/12/2025 (red star). The green polygon marks the colony of Herdade da Contenda.

4.4. Rehabilitated Cinereous Vultures

So far, within the LIFE Aegypius Return project, three juvenile Cinereous Vultures were rehabilitated but, for different reasons, did not enter the soft-release programme: *Zimbro*, *Gerês*, and *Brava*.

Gerês, a chick hatched in 2022, died on 16/08/2023 within Douro Internacional Natural Park from unknown reasons. This occurred shortly after its release from rehabilitation on 10/08/2023, where it had been admitted due to gunshot injuries (see Matos *et al*., 2024 for further details).

Zimbro hatched in 2021 at an unknown location and was found in a weakened condition in central Portugal later that same year. It underwent a prolonged and challenging rehabilitation process and was released on 21/03/2023 in the Douro Internacional Natural Park. Following its release, in 2024 it carried out remarkable movements across the Iberian Peninsula, reaching as far as northern France (see Matos *et al*., 2024 for further details).

In recent months, the bird has remained in Spain, mainly in the regions of Salamanca and Zamora, also spending some time in Monfragüe National Park (Fig. 30). More recently, *Zimbro* appears to be settling in the Cinereous Vulture colony of Quilamas, the colony nearest to Douro, within the Natural Park of Las Batuecas – Sierra de Francia.

In both 2024 and 2025, Zimbro visited the URBASER Waste Treatment Centre in Zamora, where it was observed foraging on waste (Fig. 31), as well as another landfill site near Salamanca. This behaviour highlights the need for close monitoring of its movements, as a proxy for its health status.

As mentioned above, ***Brava*** was rescued in southern Portugal, rehabilitated and released at Herdade da Contenda on 02/09/2025. Following her release, *Brava* undertook extensive movements across southern Iberia, including long-distance eastward movements and wide-ranging exploratory flights from Murcia in Spain to Sagres in Portugal. These movements highlight an excellent dispersal capacity shortly after release, with the bird remaining active and mobile until at least 15/12/2025, when the last recorded location was in Doñana National Park (Fig. 32).

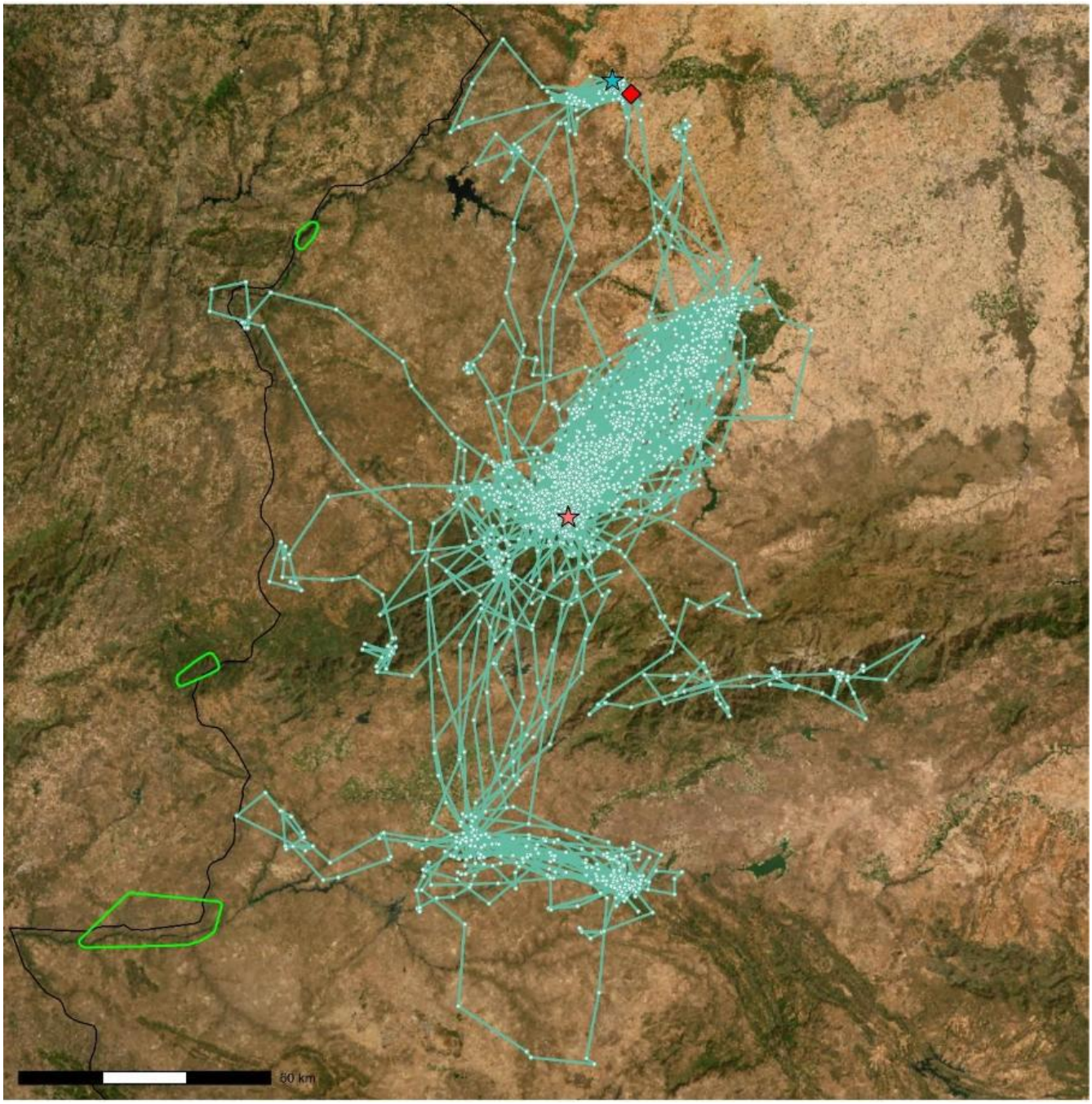

Fig. 30. Movements of *Zimbro*, a rehabilitated Cinereous Vultures released in 21/03/2023 in Douro Internacional, showing all movements between 15/12/2024 (blue star) and 15/12/2025 (red star). Zimbro actively foraged in Waste Treatment Centre in Zamora (red diamond). The green polygons mark the colonies of Douro Internacional, Serra da Malcata and Tejo Internacional, from North to South.

Fig. 31. *Zimbro* (and other birds) foraging on waste at the URBASER Waste Treatment Centre in Zamora on different occasions. @José Barrueso Franco/Palombar

Fig. 32. Movements of *Brava* since its release on 02/09/2025 in Herdade da Contenda (blue star), showing the extraordinary travel crossing southern Iberia up to 15/12/2025 (red star). The green polygons mark the five Cinereous Vulture colonies known in Portugal.

A fourth juvenile, ***Pousio***, was rehabilitated and released. This individual was not eligible for the soft-release programme, as it originated from a known breeding colony – Vidigueira/Portel. *Pousio* is the first known offspring of the most recent Cinereous Vulture colony in Portugal, discovered in June 2024 at Herdade do Monte da Ribeira (HMR), in Vidigueira, Southern Portugal. It was tagged in the nest on 19/07/2024.

Remote monitoring indicated that the bird started flying on 03/09/2024, remaining strongly faithful to the territory of its natal colony. On 26/01/2025, *Pousio* was shot at dawn while roosting in a tree at HMR. Radiographic examinations revealed 16 pellets and fragments in one leg, six in the other, and an additional pellet lodged in the pectoral muscle. The bird underwent a prolonged and complex rehabilitation process at LxCRAS and CRAS-HVUTAD, including surgery that required the removal of a claw.

Following rehabilitation, *Pousio* was deemed fit for release and was released on 30/09/2025 at HMR, following an awareness-raising event. However, one week later, the bird made a large flight and was found in a weakened condition in the city centre of Serpa and was again rescued (Fig. 35). It was admitted for a new rehabilitation period at LxCRAS, where it currently remains. Blood lead levels are being regularly monitored.

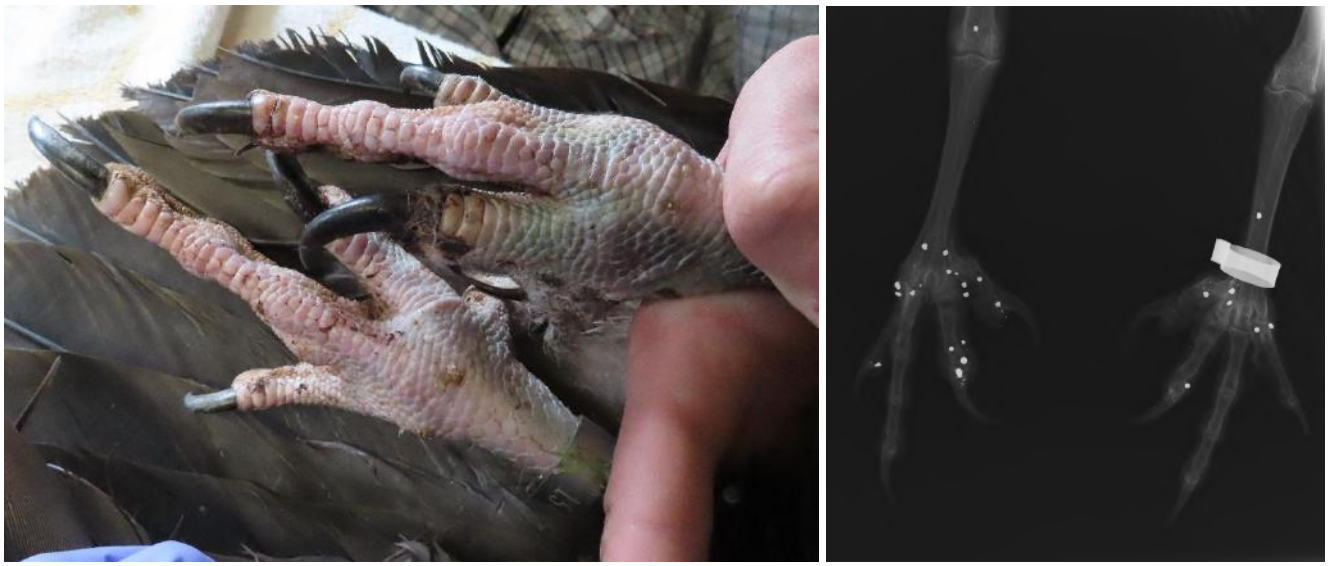

Fig. 33. Injuries observed on *Pousio*'s feet following gunshot, and X-ray images revealing the presence of multiple shotgun pellets lodged in both legs. ©LxCRAS

Fig. 34. *Pousio*, a juvenile Cinereous Vulture, after its release at Herdade do Monte da Ribeira, on 30/09/2025. ©Eduardo Santos/LPN

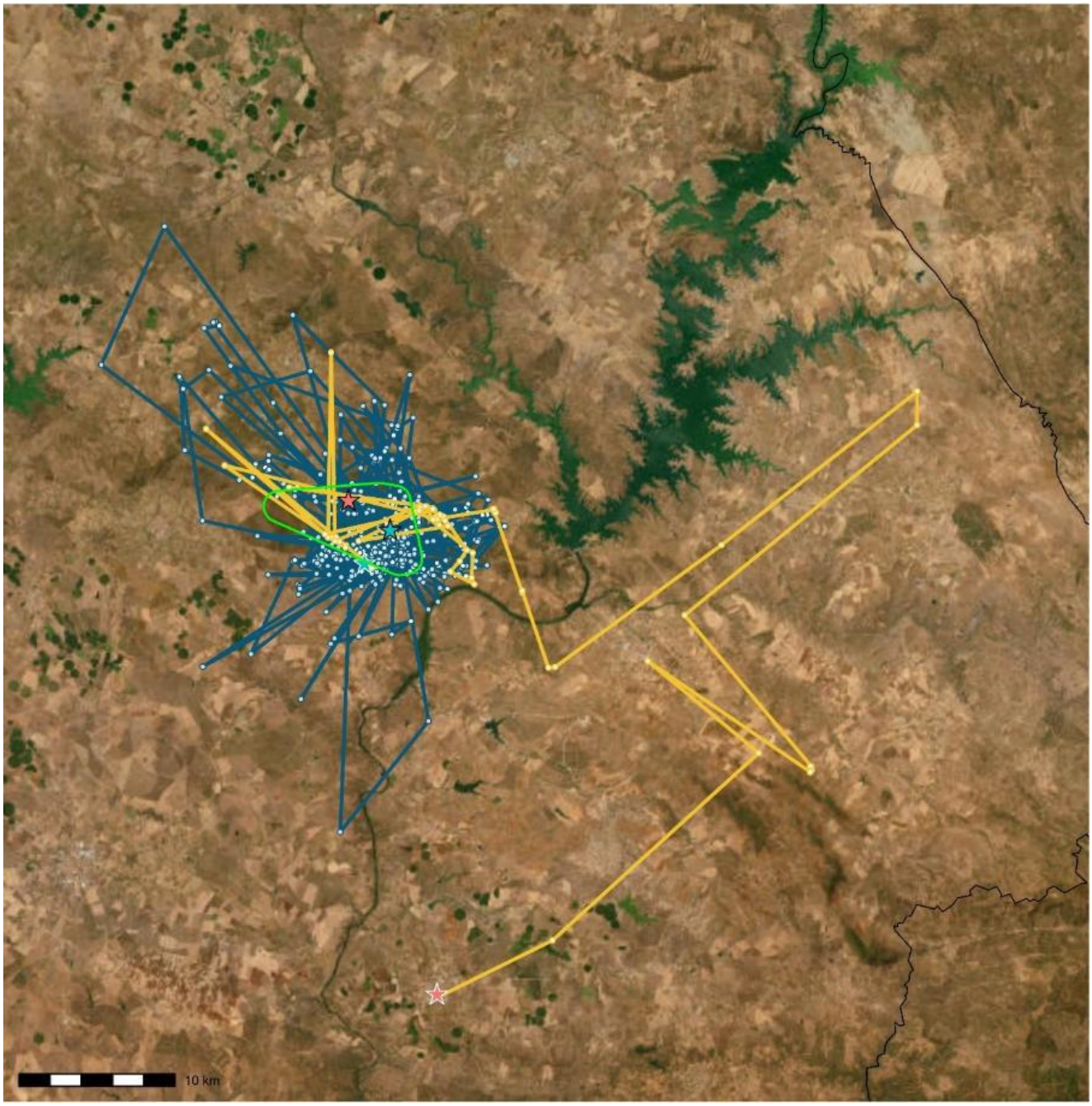

Fig. 35. Movements of *Pousio*, a juvenile Cinereous Vultured tagged in the nest in Vidigueira/Portel colony in 2024. The bird left the nest on 03/09/2024 (blue star, black outline) and mostly stayed within the area of the colony until 25/01/2025 (blue track), when it was rescued due to a gunshot wound (red star, black outline). On 30/09/2025 the bird was released (blue star, white outline) in the colony area, but after a few days made a large flight ending up in the city centre of Serpa, on 06/10/2025 (red star, white outline). Again, *Pousio* was rescued and is still in rehabilitation.

4.5. Identification of roosts

In their dispersive movements, Cinerous Vultures move and feed in areas far from their colonies, but they also need to find safe places to spend the night. Identifying these roosting sites is important as they may indicate locations where other conspecifics are and, possibly, breeding sites that remain undiscovered. This analysis may also inform and prevent potential threats such as electrocutions, collisions, poisoning events or others.

The main roosting sites for the tagged Cinereous Vultures were mapped following the methodology described in Annex I.

As expected, the areas where most Cinereous Vultures spent most nights were within the known colonies in Portugal and in Spain (Fig. 36). Notably, the colony discovered in Vidigueira/Portel in 2024 has been used for roosting by birds already tagged in 2023. Other heavily used areas include forested areas to the north of the Herdade da Contenda colony, the Monsaraz-Alqueva area, Penha Garcia - Vale Feitoso, and, in Spain, Parque Nacional de Monfragüe, Sierra de San Piedro, and the region of Zamora, for example.

These data will inform field searches to more efficiently prospect new possible breeding colonies.

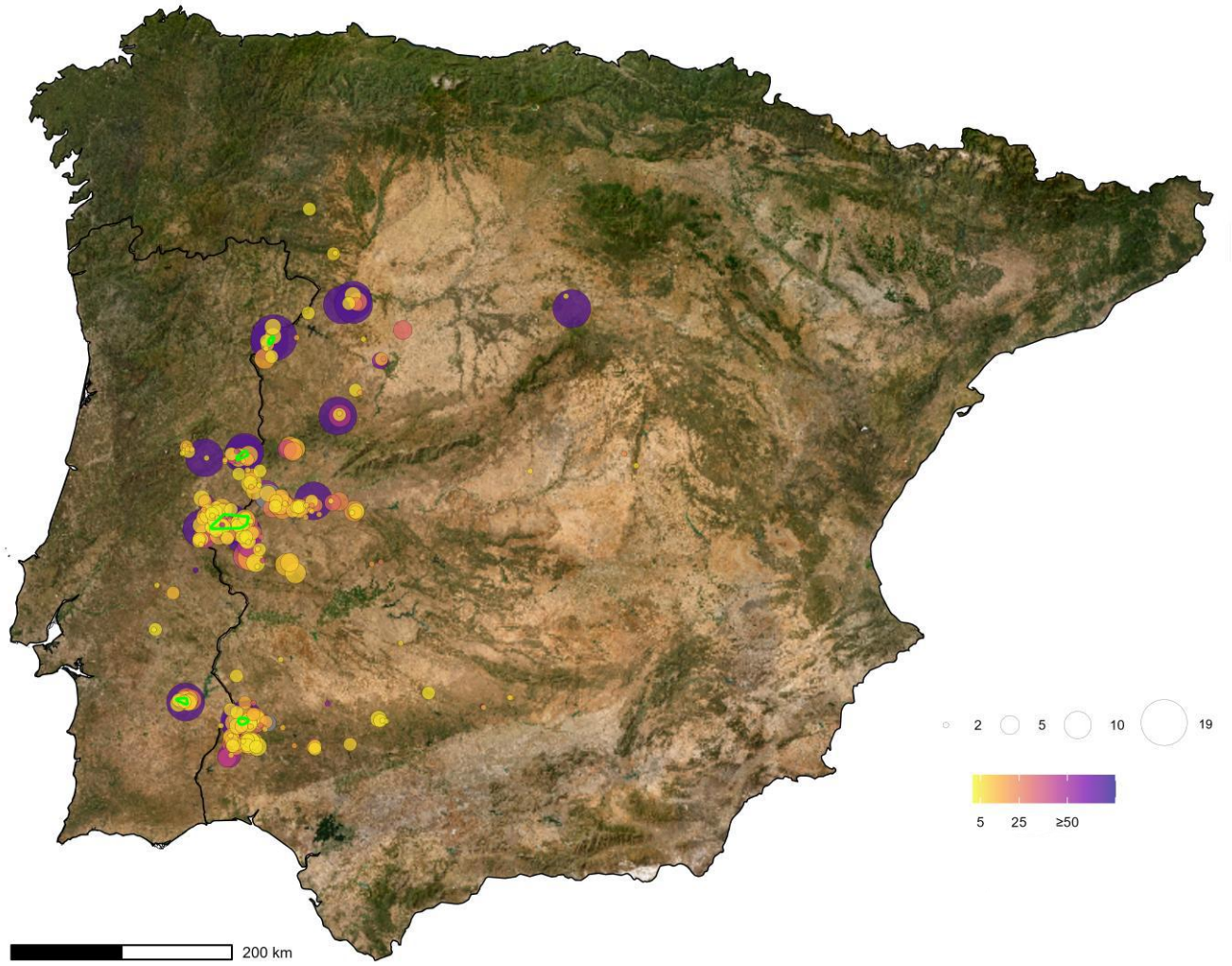

Fig. 36. Roosts of tagged Cinereous Vultures, showing sites where at least two birds spent five or more nights in locations less than 250 m apart (based on 3787 individual nights). Larger dots indicate a higher number of individuals roosting at the site, while purple reflects locations where vultures accumulated more nights spent therein.

5. ASSESSMENT OF THE MONITORING SYSTEM

The remote monitoring system implemented for tagged birds has demonstrated high effectiveness, enabling the regular collection and analysis of key data such as movement patterns, flight corridors, feeding areas, dispersal zones and roosting sites. These data substantially improve knowledge of the species' ecology and ongoing range expansion, while directly supporting conservation planning and the identification and mitigation of potential threats.

5.1. Technical opinions

One way the project contributes to minimizing mortality risks is through the issuance of technical opinions for public consultations and direct inquiries, under project action *T.7.3. Promotion and technical contribution to national and international Plans and Strategies related to Cinereous Vulture conservation*. These contributions cover a range of strategic areas, such as land-use planning, management of protected areas, environmental impact assessments, and renewable energy infrastructure plans.

The continued expansion of powerlines, windfarms, and solar farms, represent a significant challenge to the conservation of vultures and other soaring birds around the world (Katzner *et al.*, 2019). There is a need to balance the increasing demand for renewable energy with national and international commitments to biodiversity conservation (Bounas *et al.*, 2025; Morant *et al.*, 2024). In this scope, individually or collectively, the LIFE Aegypius Return project partners have already issued 43 technical opinions or comments on projects, plans or initiatives that may impact the territory, biodiversity, and especially the Cinereous Vulture. 27 of these opinions are related to renewable energy production or transportation from across the country (Fig. 37). All the opinions issued are based on scientific data such as the location of breeding, feeding and resting areas for scavenging birds, as well as the analysis of the movements and behaviour of vultures equipped with GPS/GSM transmitters, which reveal flight corridors and dispersal areas. These data also allow the calculation of home ranges and core areas (where juveniles concentrate 50% of their activity during the first months of life) around nests, supporting recommendations for minimum safety distances to infrastructures that pose collision risks (power lines, wind turbines) or electrocution risks (poorly insulated pylons).

For species with isolated and relatively small breeding colonies, the loss of a single individual can compromise the long-term viability of the colony and, consequently, the sustainability of the national population. This is particularly damaging in the case of relatively rare and threatened species such as the Cinereous Vulture.

The report "*Spatial Guidelines for Safeguarding Cinereous Vulture Colonies from Wind Farm Expansion*" (Guilherme, 2025) produced within the LIFE Aegypius Return project, presents clear data and practical recommendations to guide the planning of new wind farms, reducing risks for the Cinereous Vulture, and has been a cornerstone in informing opinions tackling risks of collision (windfarms and powerlines mostly).

Active participation in public consultations, participatory sessions, and open meetings has resulted in numerous invitations to discussion forums, technical workshops, and requests for preliminary assessments. The consortium remains dedicated to providing technical expertise and is fully committed to identifying solutions that reconcile biodiversity conservation with renewable energy development. This includes supporting the designation of Renewable Acceleration Areas and fostering cross-sectoral cooperation.

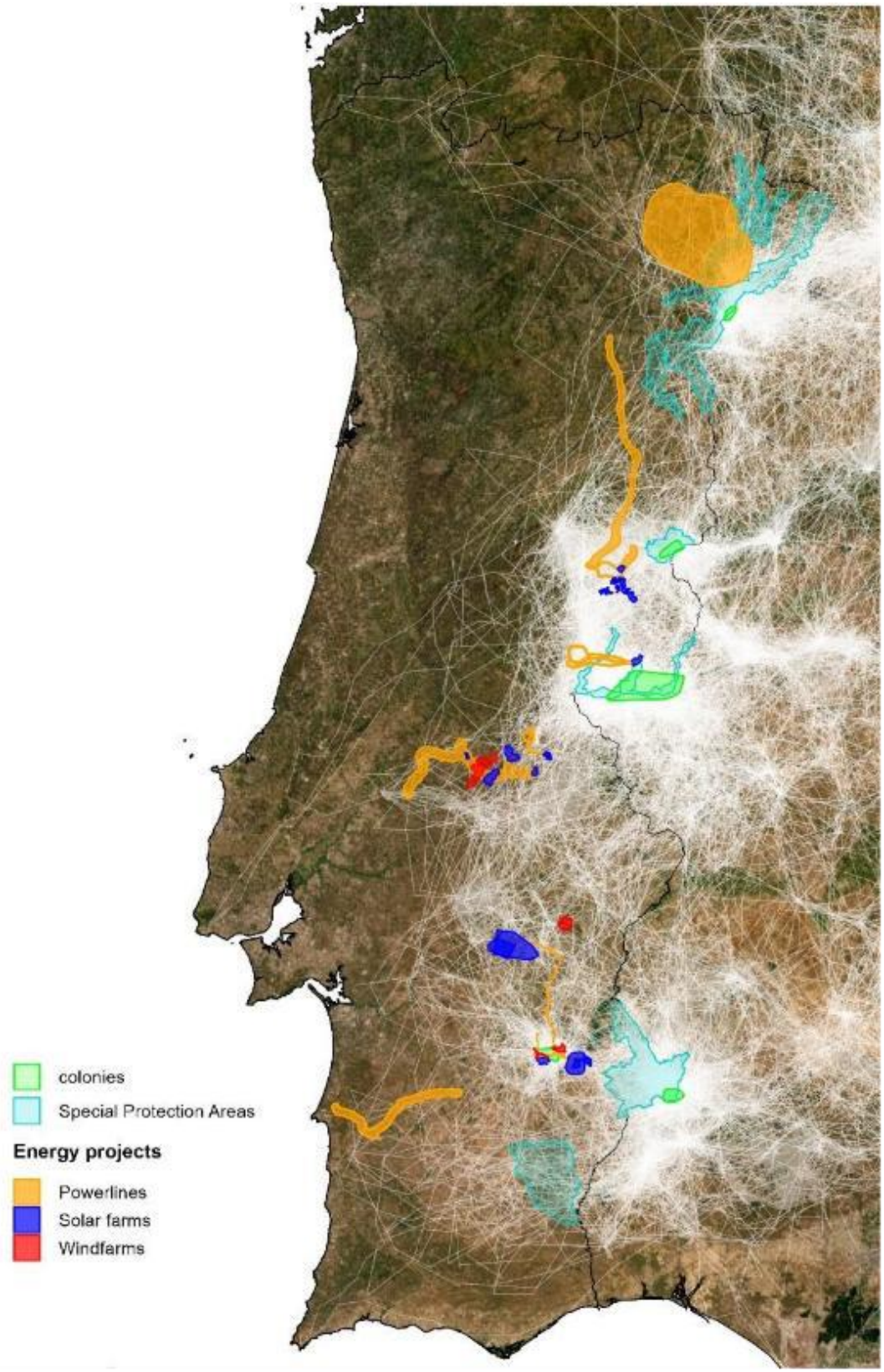

Fig. 37. Distribution of renewable energy projects in Portugal on which reasoned opinions were issued under LIFE Aegypius Return – action T.7.3. White lines represent the movements of all Cinereous Vultures tagged during the project.

5.2. Integration of data and academic cooperations

The established remote monitoring system plays a key role in integrating veterinary science with ecology to promote Cinereous Vulture conservation. By combining behavioural and geographical data with samples currently being analysed across various research institutions, the project adopts a holistic perspective that will strengthen the knowledge of the species' ecology and boost long-term conservation efforts.

These are the current academic cooperations within the LIFE Aegypius Return project:

- Biochemistry, haematology, and parasitology: UTAD
- Haemoparasitology: Portalegre Polytechnic University
- Genetics: Centre for Research and Conservation - Royal Zoological Society of Antwerp
- Toxicology: Institute of Environmental Assessment and Water Research (IDAEA-CSIC)
- Microbiology: CIBIO/University of Porto
- Stress/Glucocorticoids: CIBIO/University of Porto
- Animal welfare: Universitat Autònoma de Barcelona
- Foraging distances: University of Évora
- Diet, use and risk assessment of farm feeding stations: École Nationale Vétérinaire de Toulouse
- Spatio-temporal movements and habitat use: University of Coimbra
- Selection of nesting tree species: University of Coimbra
- Treefall susceptibility and micro-habitat selection: University of Lisbon
- Scavengers' response to fire events: University of Salamanca

5.3. Rescuing Cinereous Vultures in distress

Both field and remote monitoring of Cinereous Vultures are essential for taking swift action upon detecting poisoned, injured, or otherwise debilitated birds. Abnormal movement patterns are promptly flagged by project teams, facilitating an immediate response.

Since the project's inception, field teams have been deployed on numerous occasions to rescue injured vultures or retrieve carcasses. This rapid intervention either prevents mortality through successful rescue and rehabilitation or, if death is confirmed, ensures the mobilization of authorities and the determination of the cause of death. In cases of suspected wildlife crime, this process guarantees a thorough forensic investigation, leading to a deeper understanding of the threats facing the species.

During the 2024 breeding season, several tagged chicks showed signs of distress, for example by falling from the nest before fledging, or, after leaving the nest, by staying stationary for several days in one place. A thorough report was presented in Matos *et al*. (2024).

In 2025, similar cases took place.

The proactive monitoring of the Tejo Internacional colony enabled the successful rescue of an unfledged Cinereous Vulture chick. Following routine monitoring at Herdade da Cubeira, SPEA technicians recorded a well-developed individual (approx. 80 days old) exhibiting incipient flight behaviour on 9 July. However, on 17 July, the chick was found to be absent from the nest. Given the individual's developmental stage – at which sustained flight is not yet possible – a ground search was initiated. The chick – then named *Charneco* – was located approximately 60 meters from the nest tree (a holm oak), having likely fallen from the nest. Following established protocols, ICNF was notified, and promptly provided rangers to help capture *Charneco* (Fig. 38) and transport it to CERAS rehabilitation center. The bird remained under veterinary care until it reached the necessary physical maturity for tagging and subsequent release.

As previously noted, the juvenile *Pousio* was rescued in Serpa just one-week post-release, following its initial recovery from gunshot wounds. Similarly, the juvenile *2S* was recovered alive near Acehúche (Fig. 40) but subsequently succumbed at the Los Hornos recovery center. In Montemor-o-Novo, a rapid intervention led to the successful rescue, rehabilitation (in CARAS), and release of *Brava*. Additionally, a non-tagged juvenile

Cinereous Vulture was located near Tercena, Lisbon (Fig. 39). The bird exhibited lethargy and polydipsia (excessive water consumption), symptoms highly consistent with intoxication. Following a rapid rescue by GNR, the bird was admitted to the LxCRAS rehabilitation center on the same day; however, despite clinical intervention, it succumbed to its condition that evening. Necropsy and toxicology results are pending.

Finally, four other juvenile Cinereous Vultures rescued across central Portugal were admitted to the CERVAS rehabilitation center. These individuals are currently undergoing recovery and meet the criteria for inclusion in the 2026 soft-release programme.

Fig. 38. Rescue of *Charneco*, a Cinereous Vulture chick that had fell from the nest in Tejo Internacional Natural Park, 17/07/2025. ©João Esteves/SPEA

Fig. 40. The juvenile Cinereous Vulture 2S rescued from a walled structure near Acehúche, 06/05/2025. ©Junta de Andaluzía

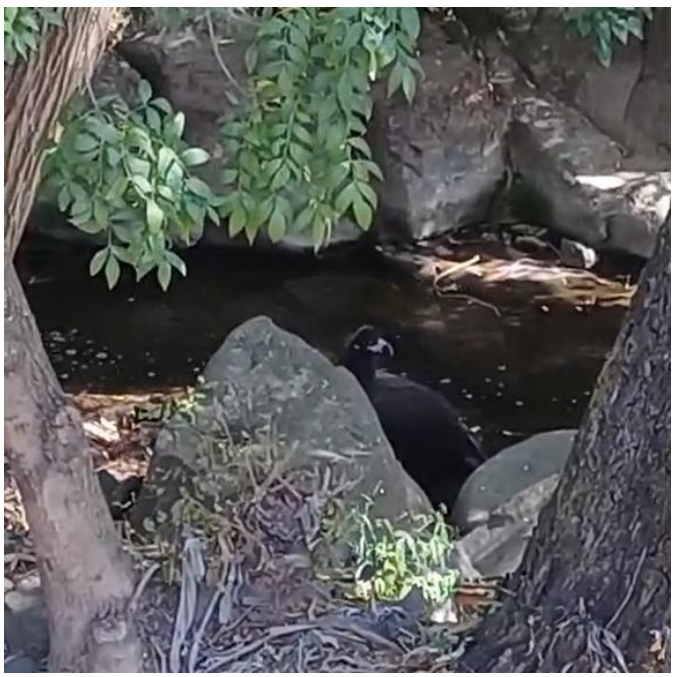

Fig. 39. A juvenile Cinereous Vulture rescued from near a stream in Tercena, 26/09/2025. ©IUAtlântica

5.4. Assuring proper forensic investigation to dead Cinereous Vultures

In 2024, five tagged juvenile Cinereous Vultures (*Freixo, Mirante, 5E, 5J*, and *Aravilinho*; Table 3) and six additional non tagged Cinereous Vultures (Table 6) died under different circumstances.

In 2025, detected mortality was of four tagged juvenile Cinereous Vultures (*Zelha*, *2S*, *Acer*, and *2U*), and four non tagged individuals (Table 6), which died for different reasons.

The project teams made sure all individuals were or will be subjected to necropsy and, where applicable, proper forensic / toxicological analysis were performed. When criminal activities were suspected, the teams articulated with the authorities and relevant stakeholders, making sure all applicable protocols were followed. When the carcass or samples formally took part in the Portuguese Antidote Programme, the protocol and chain of custody was fully respected; this included analysis performed in CAD within the protocol, for which special permits were required. When a carcass did not enter the Antidote Programme, the project ensured forensic analysis in CAD, in Málaga, whose team is closely cooperating with the project teams regarding the detection and understanding of threats posed to vultures.

Table 6. Non tagged Cinereous Vultures that died in 2024 and in 2025, subjected to necropsies and adequate forensic investigation where applicable. Dates are presented in the DD/MM/YYYY format.

Hatching year	Region of collection	Date of death/ collection	#Metal ring	#PVC Ring	Circumstances of collection / death	Necropsy center	Tox. Analysis	Results /Obs.
2024	Pombal	23/09/2024	-	-	Died in CERVAS with neurological symptoms.	CERVAS	CAD	Traumatic Brain Injury. No toxics found.
2024	Tejo Internacional	17/09/2024	1686	5T	Found drowned in a pond.	CERAS	CAD	Cause of death: inconclusive. No desease or toxics found.
2024	Tejo Internacional	03/08/2024	-	-	Found dead under the nest.	CERAS	CAD	Cause of death: inconclusive.
2024	Herdade da Contenda	28/10/2024	-	-	Found dead on the ground.	U.Évora	CAD	Death from gunshot while flying.
2024	Lagos	18/11/2024	-	-	Found dead on the beach.	RIAS	-	Died from exhaustion. No analysis done.
2024	Bobadela, Loures	11/11/2024	-	-	Found wounded by gunshot.	LxCRAS	CAD	Died from gunshot lesions.
2024	Funchalinho, Almada	23/01/2025	-	-	Found weakened; suspected poisoning.	CAD	CAD	Liver desease. Detection of p,p'-DDE.
2025	Herdade da Contenda	03/04/2025	-	-	Found dead in the nest.	CAD	CAD	Cause of death: inconclusive. Detection of p,p'-DDE.
2025	Tercena, Lisbon	26/09/2025	-	-	Found weakened; suspected poisoning.	FMV	FMV	Results pending.
2025	Flor da Rosa	06/10/2025	-	-	Found weakened; suspected poisoning.	-	-	Waiting for authorization to send to CAD.

5.5. Limitations

Despite the high quality and efficiency of the technology and procedures in place, no system is entirely flawless. In many remote areas frequented by vultures, poor or non-existent GSM network coverage often prevents the tags from transmitting location and accelerometer data, hindering the project's efforts. When birds eventually enter areas with good reception, it is often possible to retrieve data retroactively. However, this may occur only after critical events, such as fatalities or the bird becoming irrecoverable.

In other occasions, such as some birds tagged in Malcata, data could never be retrieved (birds *1X*, *1V*, and *Brutus;* Table 3). Although the logger was properly fitted to the chick, the prolonged absence of signal may have caused the tag to fail by the time the bird fledged.

Additional challenges include battery depletion when birds remain in deep valleys or shaded areas for extended periods.

These technical issues are routinely reported to *Ornitela*, the tag manufacturer, and are actively being discussed within the scientific and conservation communities. Efforts are ongoing to develop solutions, early warning systems (e.g. EarthRanger) and mitigate potential risks to the monitored birds.

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ANNEX I – Data analysis methodology

Kernel Utilization Distribution (KUD)

To estimate the spatial distribution of juvenile Cinereous Vultures home ranges, we applied kernel density estimation to GPS movement data of all birds tagged in the nest, to estimate Kernel Utilization Distributions (KUD). KUDs are probability density surfaces (or 'maps') that show the areas where each vulture spends most of their time in terms of the likelihood of finding a given individual across the landscape. For each tracked vulture, we estimated monthly home ranges (95% KUD), mid-ranges (75% KUD), and core ranges (50% KUD; i.e., the most frequently used areas) and respectively isopleths for mapping. We used tracking data available for each bird since they left the nest (Table 3) up to 15 December 2025. Months with less than 10 days of data were excluded, while for months with data available in different years, the maximum KUD values across years were used. For each bird, we overlaid all the estimated monthly isopleths to produce individual maps of annual-cycle home ranges (Annex II). KUD were estimated using the reference method to estimate the smoothing parameter and were implemented with the function *hr_kde* in the amt package (Signer *et al*., 2019) in R (R Core Team, 2024). We produced two maps showing the annual Utilization Distribution of Cinereous Vultures tagged in 2023 (Fig. 25a) and of those tagged in 2024 (Fig. 25b).

Accumulated distance

We estimated the monthly accumulated distance travelled (in km) by each Cinereous Vulture tagged in the nest (following García-Macía *et al*. 2023, 2024). We used tracking data available for each bird since they left the nest (Table 3) up to 15 December 2025, with months with less than 10 days of data excluded from the analysis. Monthly accumulated distance provides information on the mobility and flight energetic effort (Morant *et al*., 2023), and was calculated by summing the Euclidian distance between all locations in each month using the function *step_lengths* in the amt package (Signer *et al*., 2019) in R (R Core Team, 2024). For plotting, we pooled the estimated monthy accumulated distances by season across individuals and year, allowing the inclusion of all available data despite unequal tracking periods among individuals.

Identifying Roosts

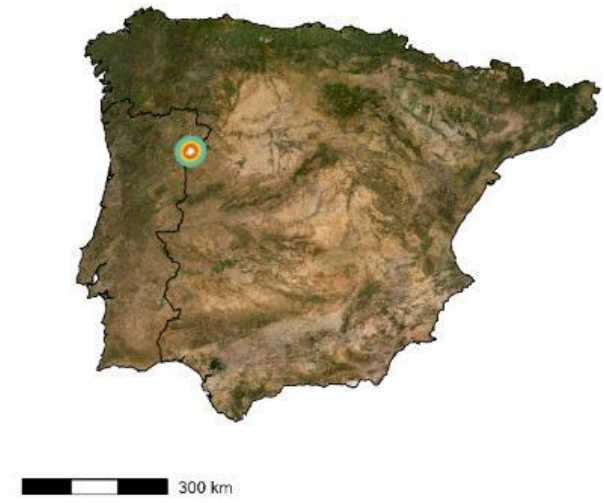
We defined roosts as sites where a minimum of two Cinereous Vultures spent at least five nights. To map roosts, we extracted all nighttime locations across all tagged individuals (total of 3787 nights identified), using the function *time_of_day* in the amt package (Signer *et al*., 2019) in R (R Core Team, 2024). We applied a 250 m buffer to each nighttime location and clustered overlapping buffers to delineate roosts. As this approach occasionally produced spatially extensive roosts of up to 1.5 km, to facilitate visualization each roost was represented for mapping by the centroid of the merged nighttime locations (Fig. 36). This approach was intentionally simpler than that adopted in the previous year report (Matos *et al*., 2024), to enable the inclusion and identification of a broader set of potentially important roosts.

ANNEX II – Individual movement maps

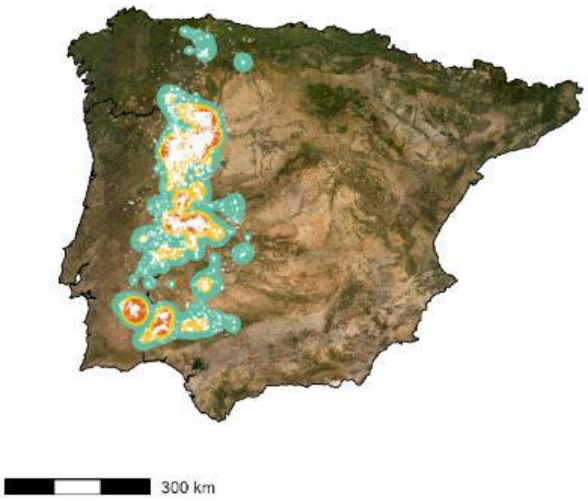
In this section, individual Kernel Utilization Distribution (KUD) of all Cinereous Vultures tagged during the project are presented. For birds tagged in 2023 and 2024, the core-range (50% KUD), mid-range (50% KUD), and Home-range (95%) in the Iberian Peninsula and respective daily locations of each individual, were mapped. For birds tagged in 2025, hourly locations were mapped as not enough data were available to estimate home ranges.

Douro Internacional (birds tagged in 2023)

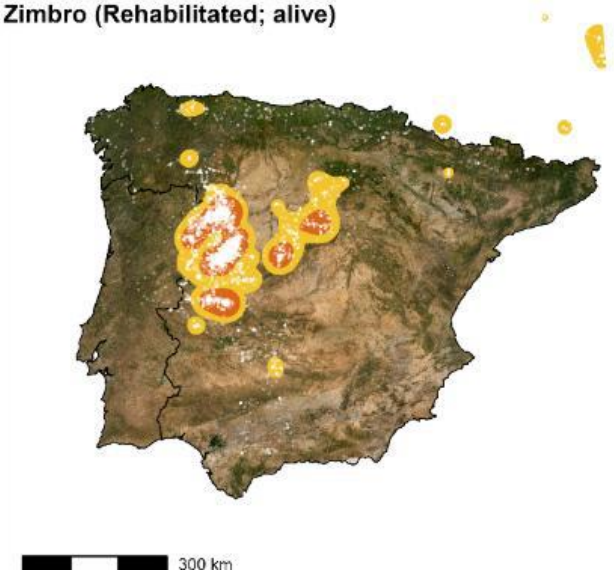
Freixo (Chick on nest; dead)



Juniperus (Chick on nest; alive)

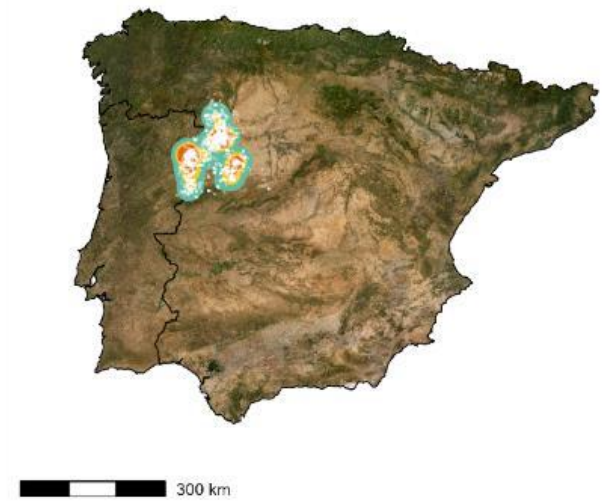


Zimbro (Rehabilitated; alive)

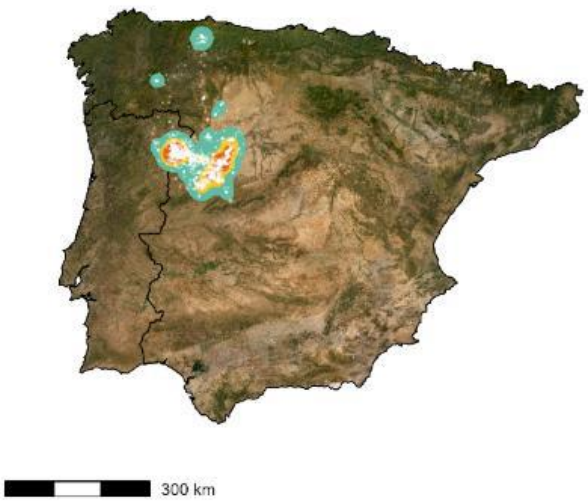


Douro Internacional (birds tagged in 2024)

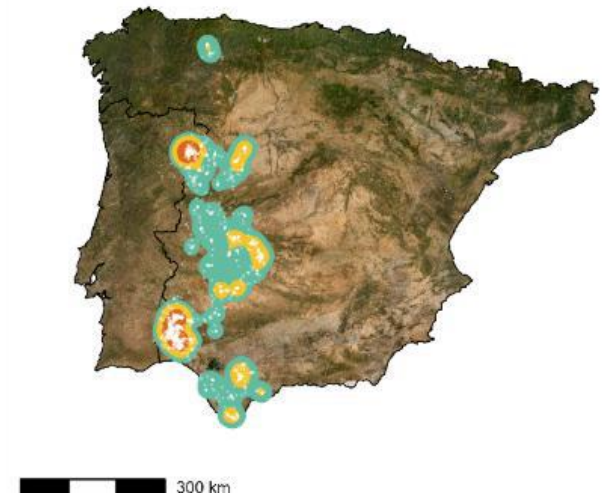
Arribes (Chick on nest; alive)



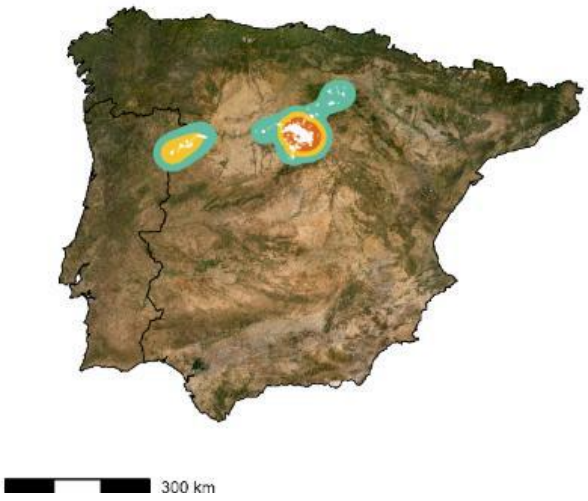
Celtis (Chick on nest; alive)



Zelha (Chick on nest; dead)

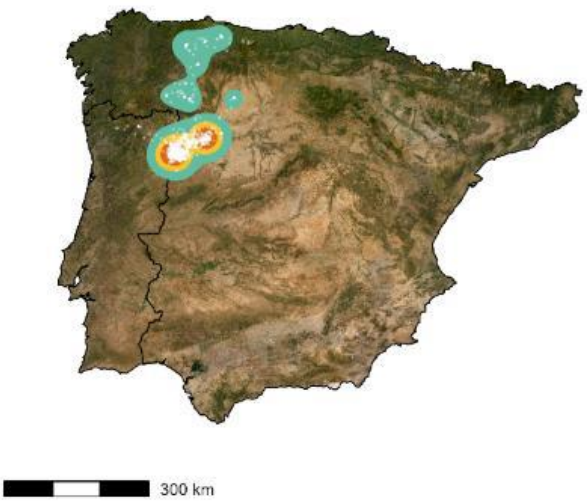


Alfavaca (Soft release; alive)

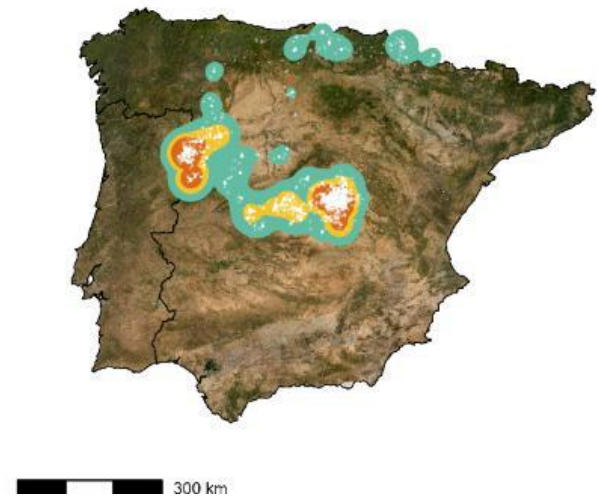


Almeirão (Soft release; alive)

Arçã (Soft release; alive)



Azedinha (Soft release; alive)

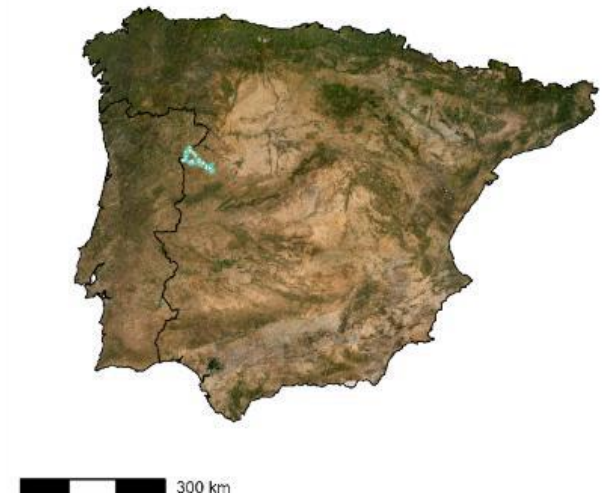


Douro Internacional (birds tagged in 2025)

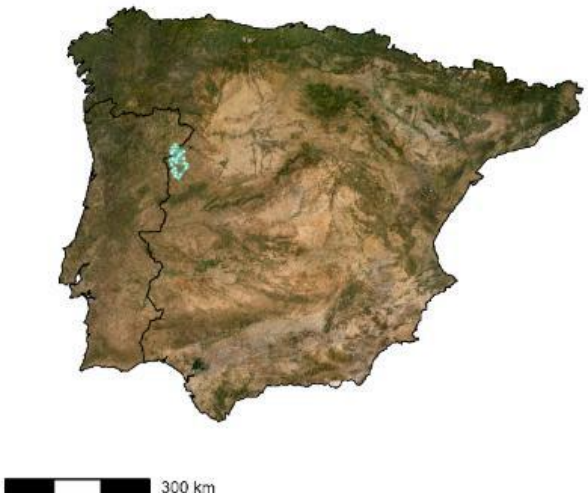
Acer (Chick on nest; dead)

Duero (Chick on nest; alive)

Baga (Soft release; alive)



Bolacha (Soft release; alive)



Branco (Soft release; alive)

Brisa (Soft release; dead)

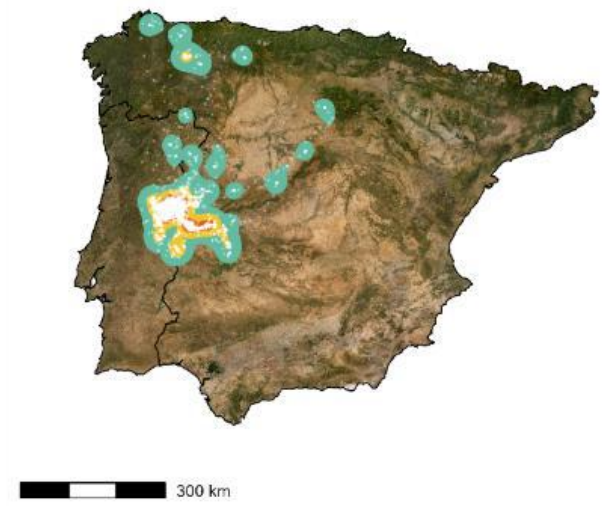
Bruçó (Soft release; alive)

Bétula (Soft release; dead)

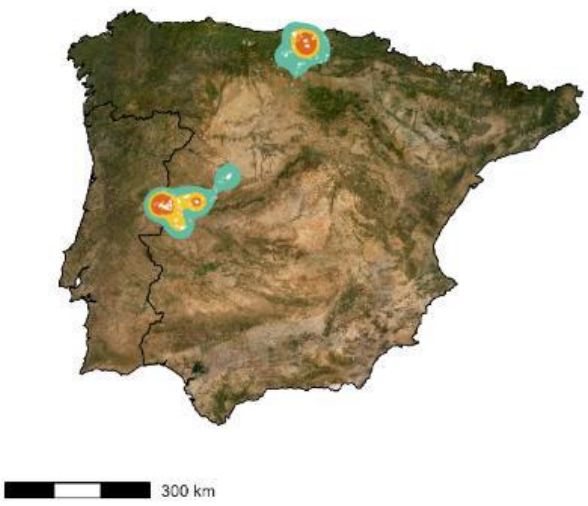
Serra da Malcata (birds tagged in 2023)

The transmitter from chick *1V* never connected to the GSM network, so it was not possible to retrieve data.

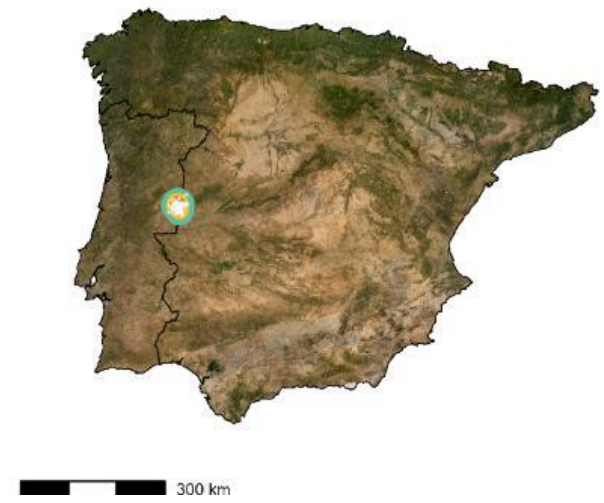
1T (Chick on nest; alive)



1U (Chick on nest; dead)



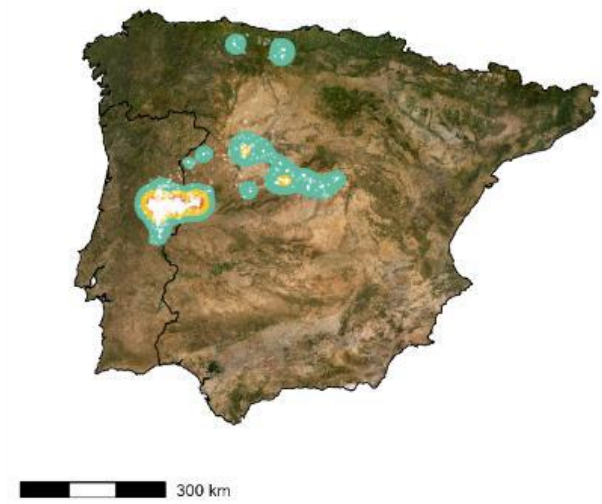
1X (Chick on nest; unknown)



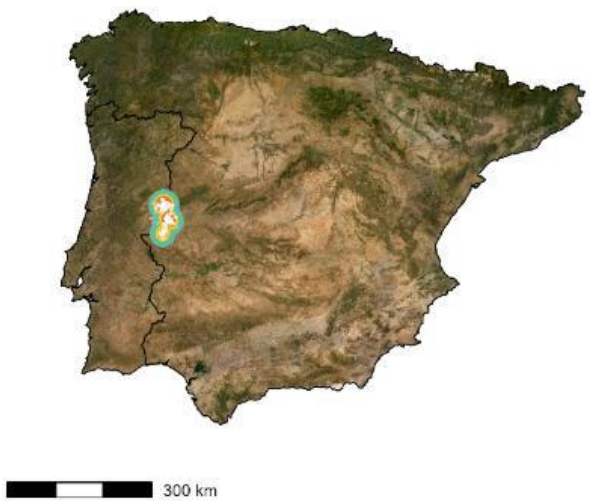
Serra da Malcata (birds tagged in 2024)

The transmitter from chick *2M* did not connect to the GSM connection since 16/08/2024.

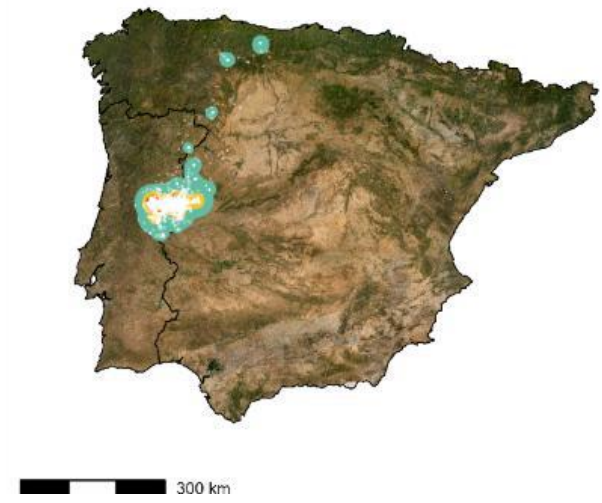
2C (Chick on nest; alive)



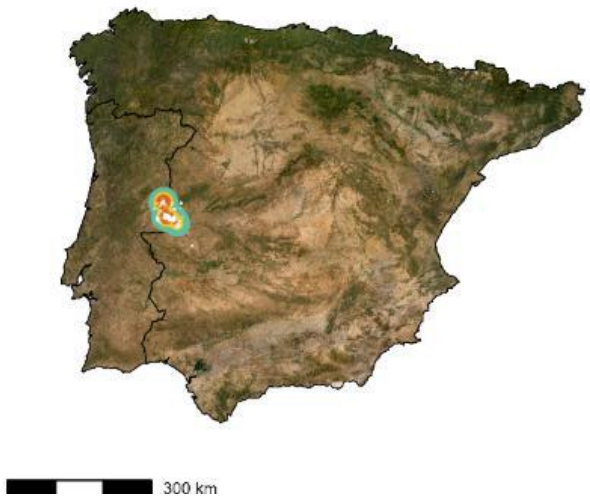
2E (Chick on nest; unknown)



2M (Chick on nest; alive)

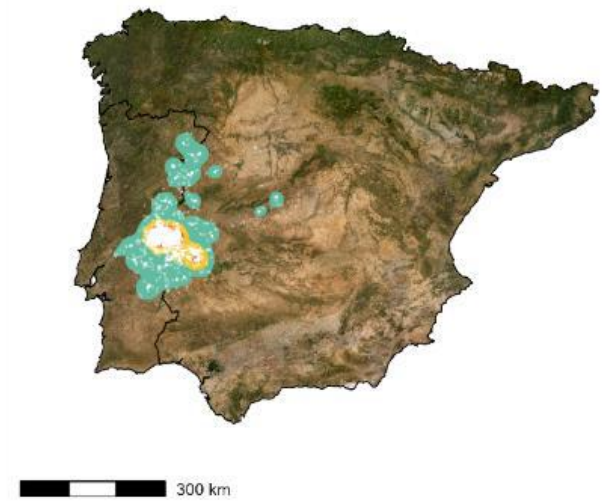


2S (Chick on nest; dead)

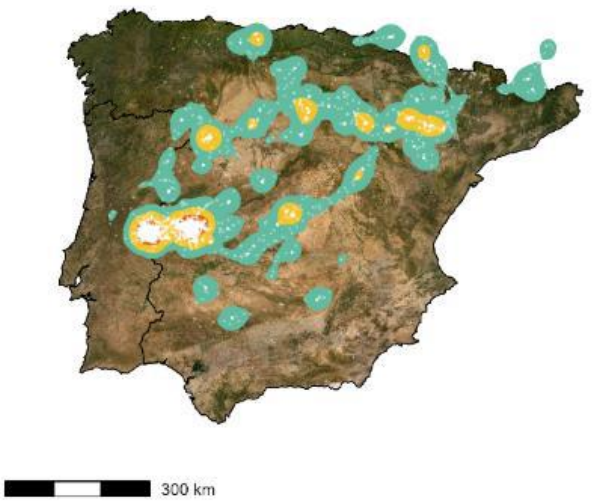


Tejo Internacional (birds tagged in 2023)

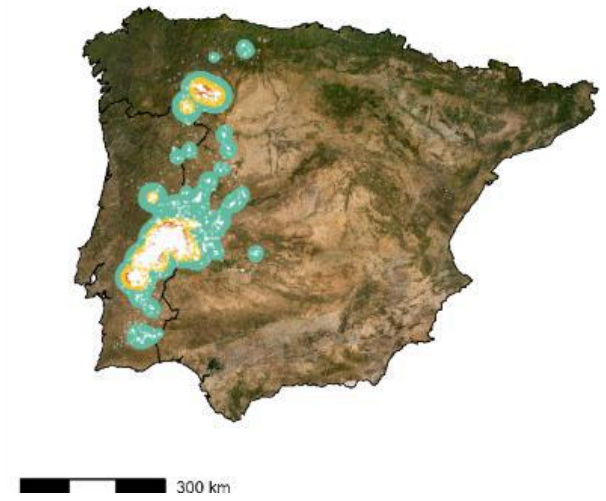
Aquis (Chick on nest; alive)



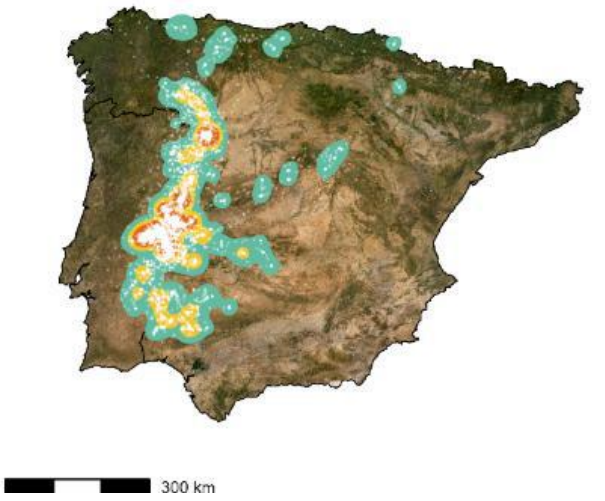
Aroeira (Chick on nest; alive)



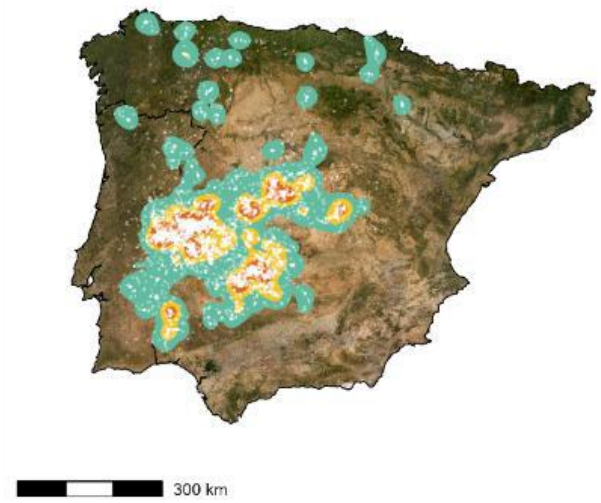
Rosa-albardeira (Chick on nest; alive)



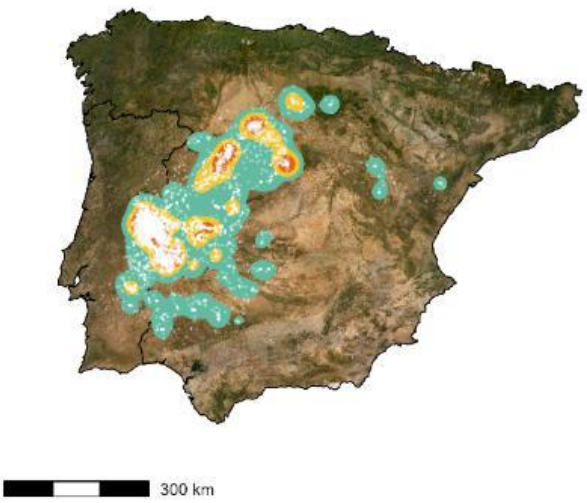
Roselha-grande (Chick on nest; alive)



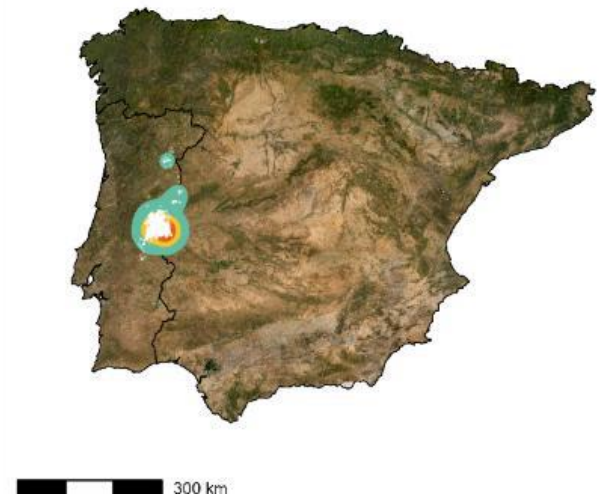
Rosmaninho (Chick on nest; alive)



Sérgio (Chick on nest; alive)



Aravil (Captured adult; alive)

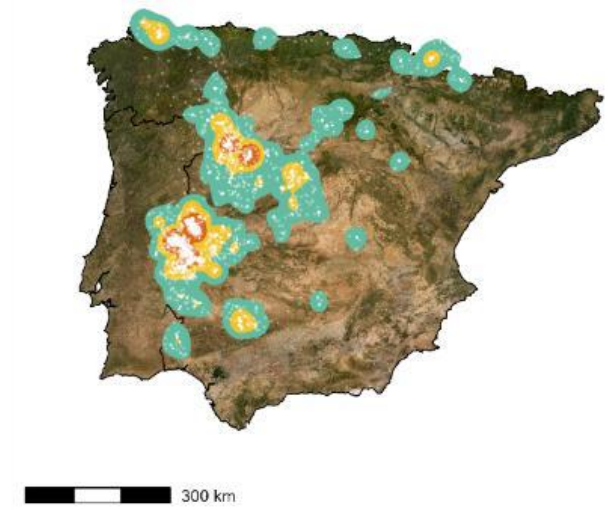


Tejo Internacional (birds tagged in 2024)

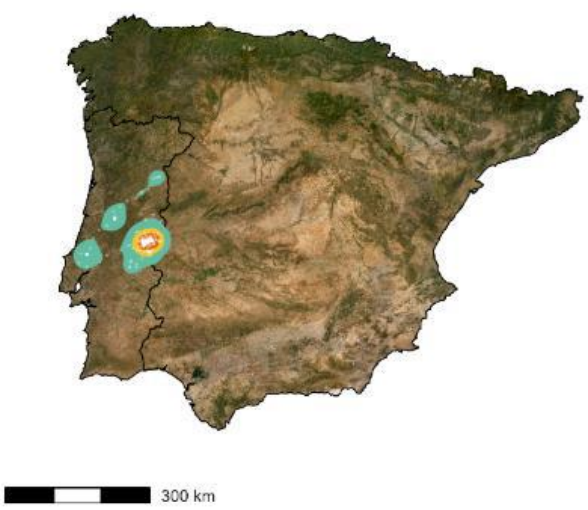
Due to technical reasons, it was not possible to retrieve *Aravilinho*'s logger's data and produce maps. This bird fledged on 29/08/2024 and died on 23/09/2024, and never left the Tejo Internacional area.

The chick 5E died from nest fall 11/08/2024 without fledging.

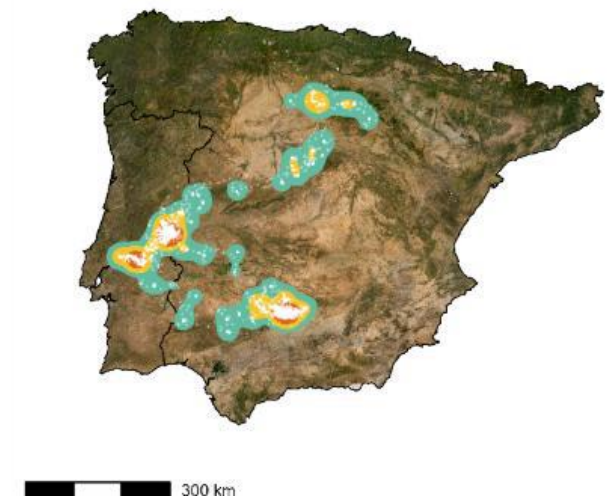
5H (Chick on nest; alive)



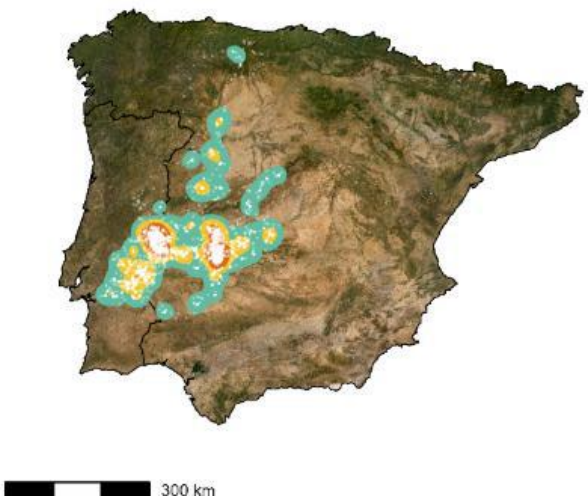
5J (Chick on nest; dead)



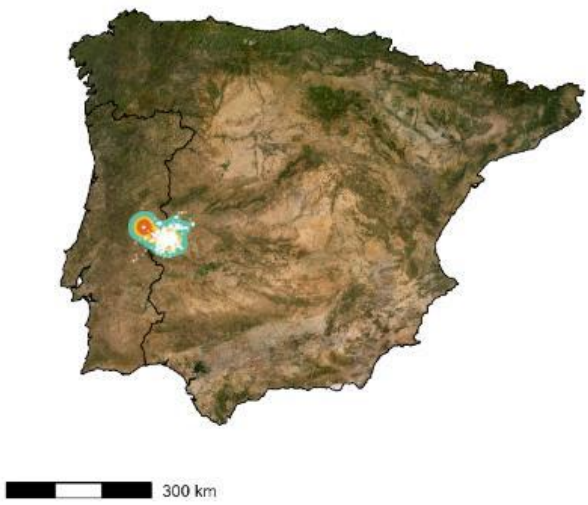
5X (Chick on nest; alive)



Bela-Luz (Chick on nest; alive)

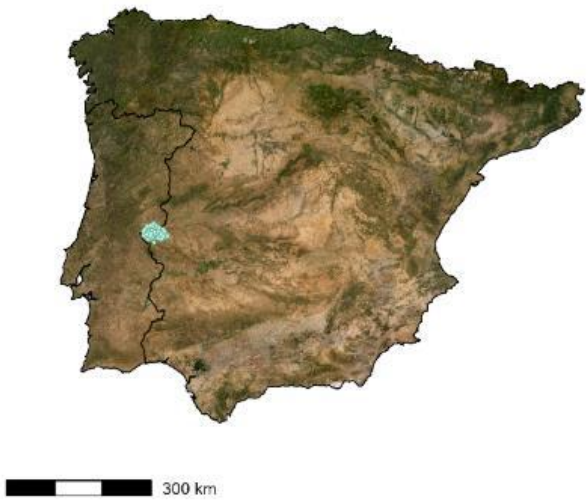


Natator (Chick on nest; alive)



Tejo Internacional (birds tagged in 2025)

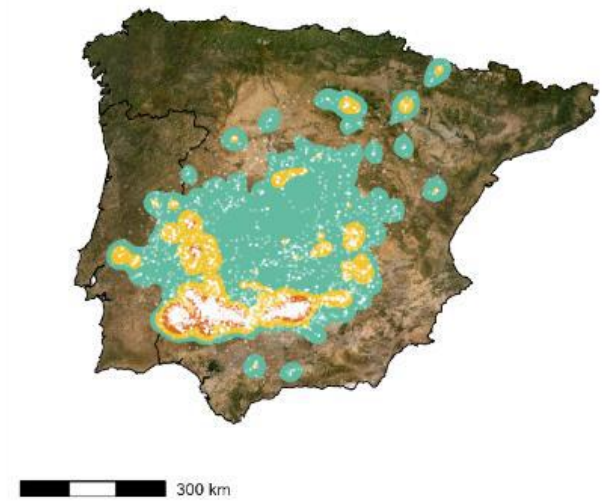
9 (Chick on nest; alive)



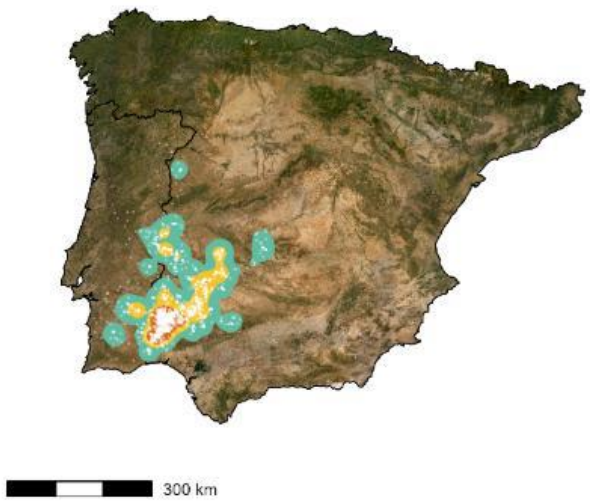
Charneco (Chick on nest; alive)

Herdade da Contenda (birds tagged in 2023)

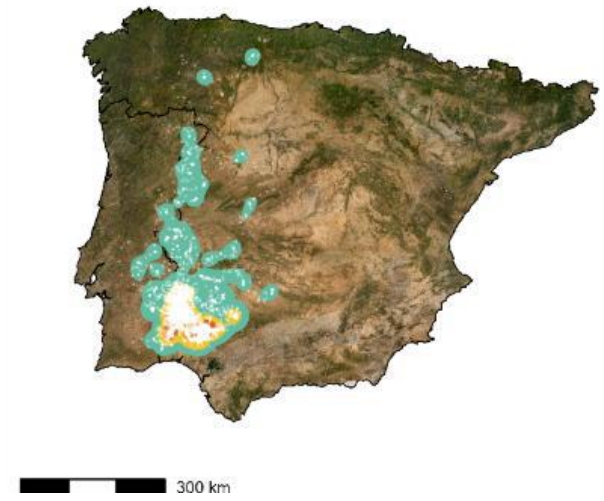
Bolota (Chick on nest; alive)



Mirante (Chick on nest; dead)

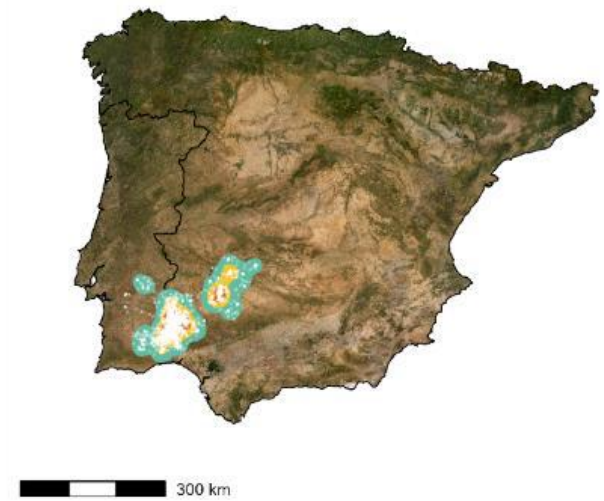


Raia (Chick on nest; alive)

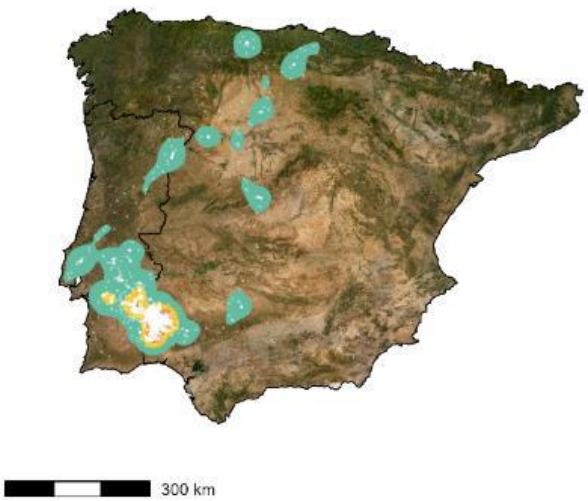


Herdade da Contenda (birds tagged in 2024)

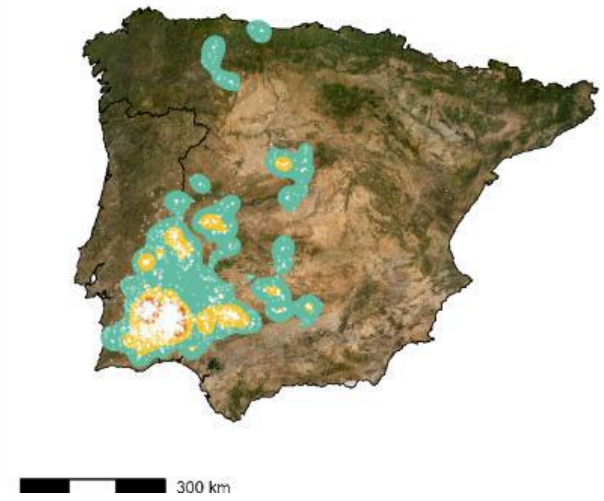
Arroio (Chick on nest; alive)



Medronho (Chick on nest; alive)

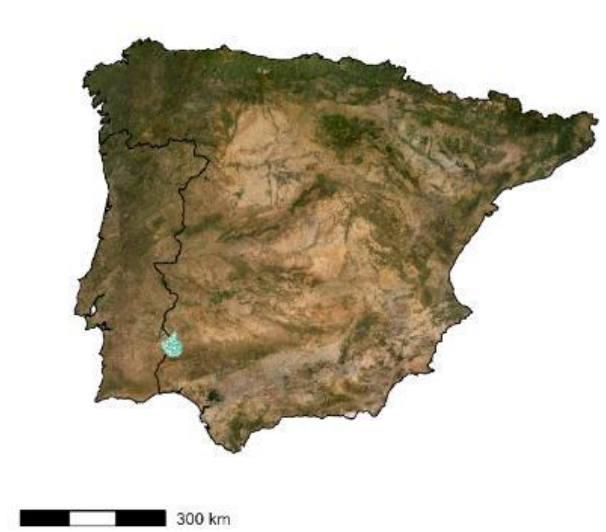


Touril (Chick on nest; alive)

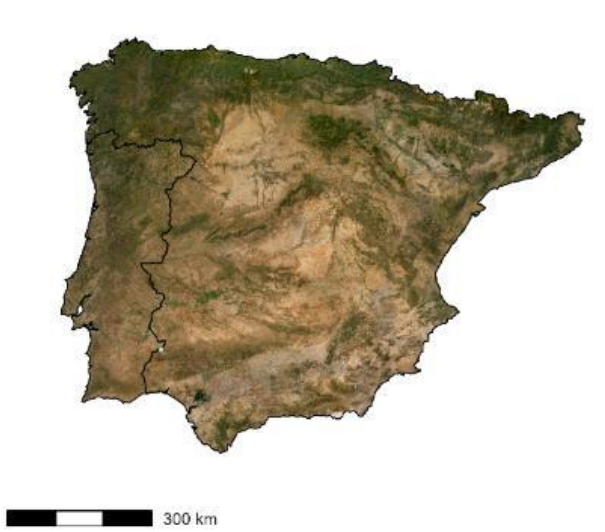


Herdade da Contenda (birds tagged in 2025)

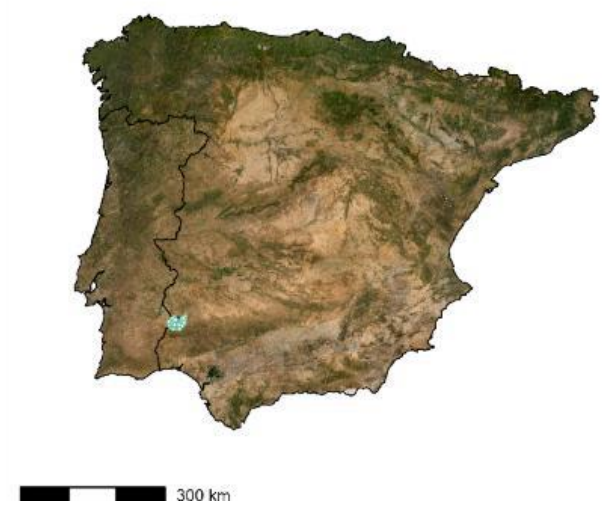
2N (Chick on nest; alive)



2U (Chick on nest; dead)



2V (Chick on nest; alive)



Brava (Rehabilitated; alive)

Aventuras (Captured subadult; alive)

Vidigueira/Portel (bird tagged in 2024)

Pousio (Chick on nest; alive)

Vidigueira/Portel (birds tagged in 2025)

Farrobo (Chick on nest; alive)

Vidigueira (Chick on nest; alive)

ANNEX III – Breeding results in 2025

Monitoring in Portugal

The LIFE Aegypius Return project began in late 2022 with the goal of improving ecological conditions to consolidate the return of the Cinereous Vulture to Portugal, four decades after its extinction as a breeding species.

In 2022, it was estimated that the four colonies known at the time – Douro Internacional, Serra da Malcata, Tejo Internacional and Herdade da Contenda – held only around 40 breeding pairs. LIFE Aegypius Return set out to double this number, aiming for at least 80 pairs across five colonies by 2027.

In 2023, a rigorous protocol was established to monitor the reproduction of the species and a new reference situation was established. That year, 78 to 81 nesting pairs were recorded, with a breeding success of 0.47 (this means that 47% of the eggs laid resulted in offspring recruited into the population). The substantial increase from 2022, although partially reflecting real population growth, likely resulted from extensive coordinated monitoring across several regions of the country, including regular searches for new nesting sites.

In 2024, the increase compared to 2023 was real and significant: 108 to 116 nesting pairs produced 48 or 49 fledglings, with a breeding success of 0.51. A fifth breeding colony – the westernmost known for the species – was discovered that year, in the municipality of Vidigueira, which has now expanded to the neighbour municipality of Portel.

In the 2025 breeding season, the increase in the number of nesting pairs was rather timid: 119 to 126 pairs were recorded, which produced 56 fledglings recruited into the population. It is important to note that 25 to 26 of these pairs and 16 fledglings belonged to nests located in Spain, as the colonies of Douro Internacional, Tejo Internacional and Herdade da Contenda are transboundary.

Breeding success in 2025 dropped slightly, to 0.50. This decline may be linked to poor weather during winter and heat waves in summer, highlighting the species' vulnerability to extreme meteorological events – exacerbated by climate change – as well as to other uncontrollable factors.

	Pairs	Total No. Fledglings	Tagged No. Fledglings	Breeding success	No. Colonies in Portugal
2022	44	20	-	0,38	4
2023	78-81	35-37	15	0,47	4
2024	108-116	48-49	19	0,51	5
2025	119-126	56	9	0,50	5

Fig. III-1. Evolution of the Cinereous Vulture population in the five breeding colonies in Portugal, and number of fledglings tagged under LIFE Aegypius Return, 2022-2025. The Douro Internacional, Tejo Internacional, and Herdade da Contenda colonies are transboundary; the data presented include records from both Portugal and Spain.

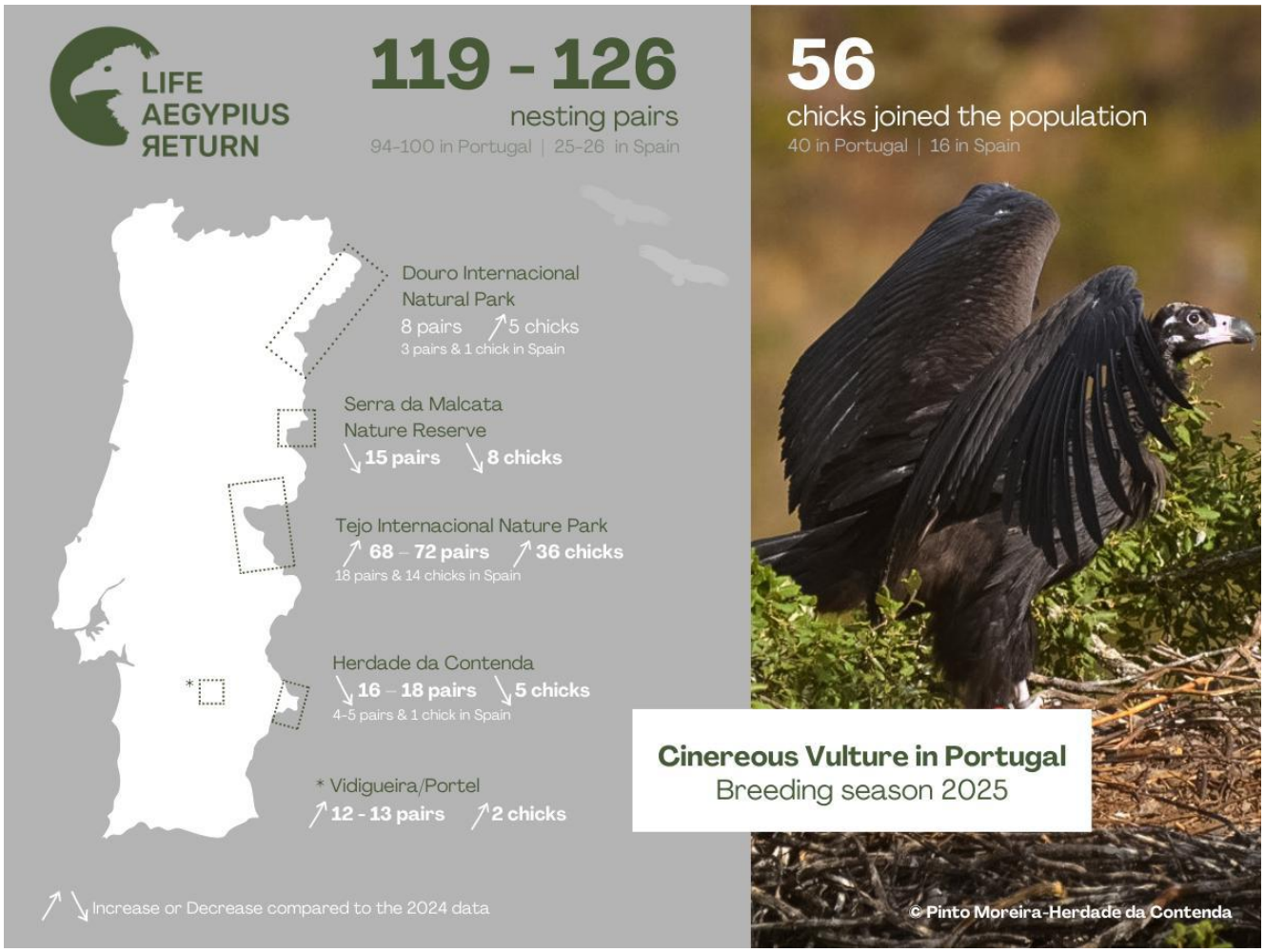


Fig. III-1. Results of the Cinereous Vulture 2025 breeding season in the five known Portuguese colonies.

Monitoring in Spain

LIFE Aegypius Return also includes monitoring of the Cinereous Vulture in the SPAs Sierra de Gata y Valle de las Pilas (SGVP; ES0000370) and Canchos de Ramiro y Ladronera (CRL; ES0000434). The Campo de Azaba SPA (ES0000202) is also surveyed, but no nesting has yet been recorded. Actions in this region, including management and feeding stations, are led by local partner Fundación Naturaleza y Hombre (FNYH).

In 2023, the two occupied SPAs recorded 157 breeding pairs, producing 103 fledglings. In 2024, the number of pairs remained relatively stable (153), but fledgling numbers dropped to 90.

In 2025, total breeding pairs again numbered 153, reflecting an increase in CRL and a decrease in SGVP. During winter and early spring – already within the breeding season – SGVP was hit by severe storms and strong winds, which damaged or collapsed several nests, inevitably causing reproductive failures.

The LIFE Aegypius Return project has already achieved its initial objectives regarding the number of breeding pairs and breeding colonies of the Cinereous Vulture in Portugal, but breeding success, connectivity, and ongoing threats to the species remain a concern. With two more years of work ahead, the partners remain firmly committed to achieving the best possible results to ensure a sustainable future for the species.