Silent predators in the city:
Quantifying the conservation impact of domestic cats on urban wildlife in Greece

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INTRODUCTION

Free-ranging domestic cats (*Felis catus*) constitute one of the most globally widespread and ecologically disruptive invasive predators, exerting disproportionate pressure on native vertebrate populations, particularly within fragmented and human-dominated environments such as urban and peri-urban ecosystems. While their impact has been extensively documented elsewhere, empirical data from Mediterranean Europe remain scarce, despite the region's growing urban biodiversity vulnerabilities.

MATERIALS & METHODS

In this study, we conducted a systematic assessment of cat-induced wildlife injuries using admission records from a licensed rehabilitation center (ANIMA) in Greece over a three-year period (2022–2024). A total of 981 confirmed cat-related cases were analyzed in relation to species identity, age class, seasonality, geographical origin, and rehabilitation outcome. Descriptive statistics were used to assess temporal and seasonal trends, while a generalized linear model (binomial error distribution) was implemented to evaluate the influence of age class, season, and region on release probability.

RESULTS & DISCUSSION

Results showed that most admissions involved small-bodied urban-adapted birds, primarily *Streptopelia decaocto*, *Passer domesticus*, and *Turdus merula* (**Figure 1**). Cat-related injuries peaked during spring and summer, coinciding with key reproductive and fledging periods (**Figure 2**). Only 42% of individuals were ultimately deemed suitable for release (**Figure 3**), reflecting high levels of mortality or permanent impairment. Statistical modelling identified age and season as significant predictors of outcome ($p < 0.001$), with juveniles and nestlings exhibiting markedly lower survival odds (**Figure 4**).

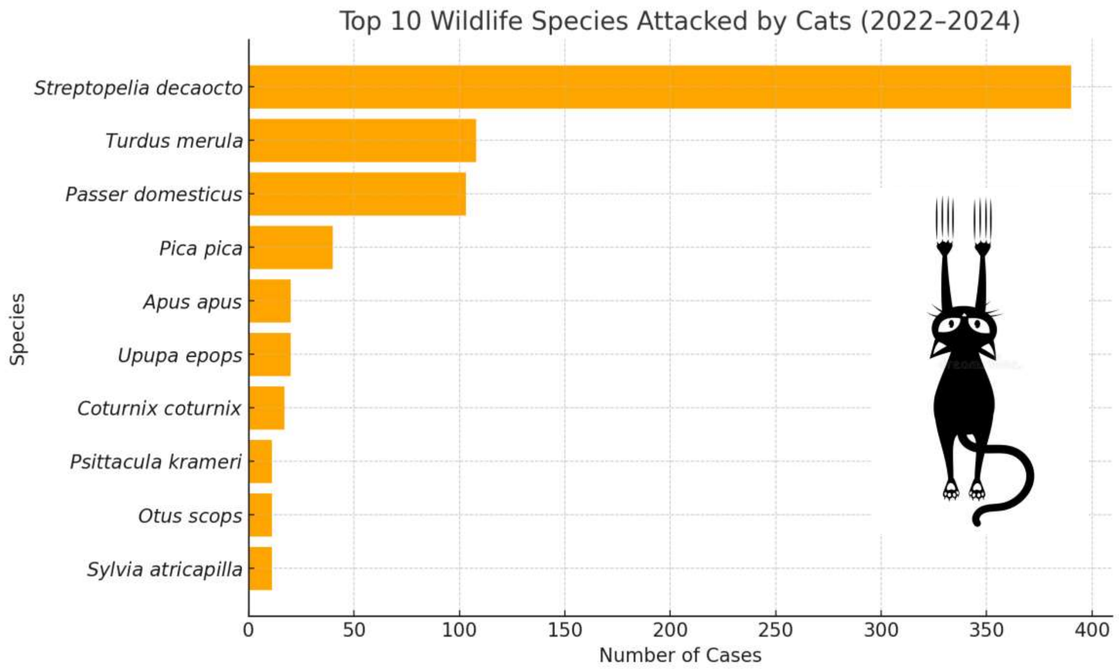

Figure 1. The ten most frequently admitted wildlife species due to confirmed cat attacks between 2022 and 2024. The majority are urban-adapted bird species, with the Eurasian collared dove being the most affected.

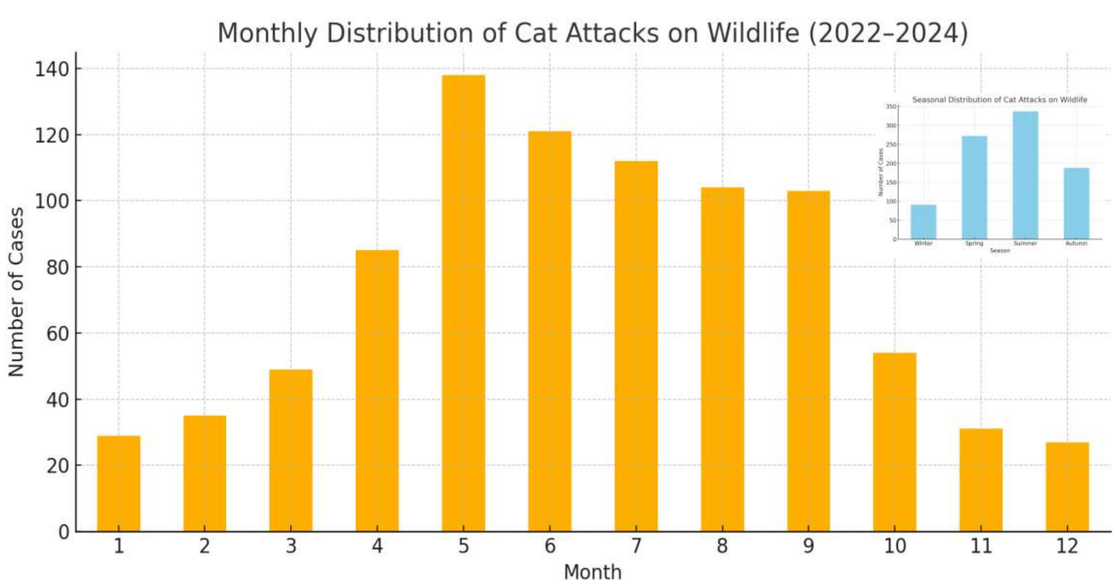

Figure 2. Seasonal variation in cat-induced wildlife admissions, peaking in spring (April–May) and summer (June–August), coinciding with the reproductive and fledging periods of many bird species.

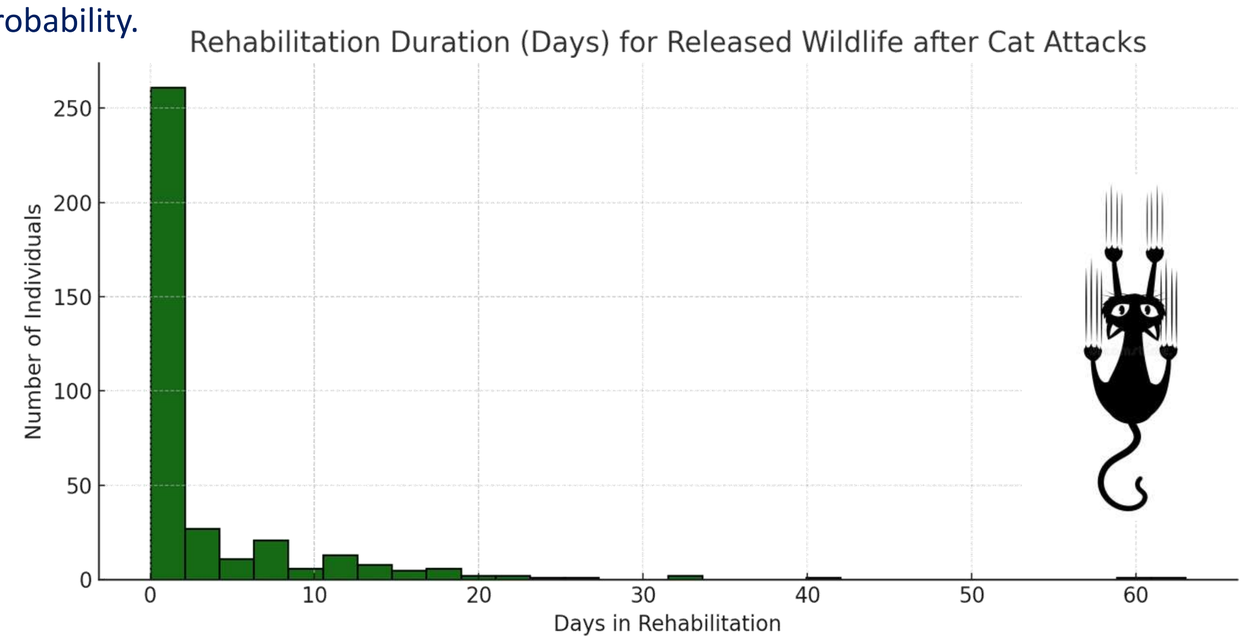

Figure 3. Distribution of rehabilitation duration (in days) for successfully released wildlife following cat attacks. Most individuals were released within the first few weeks, though some required prolonged care.

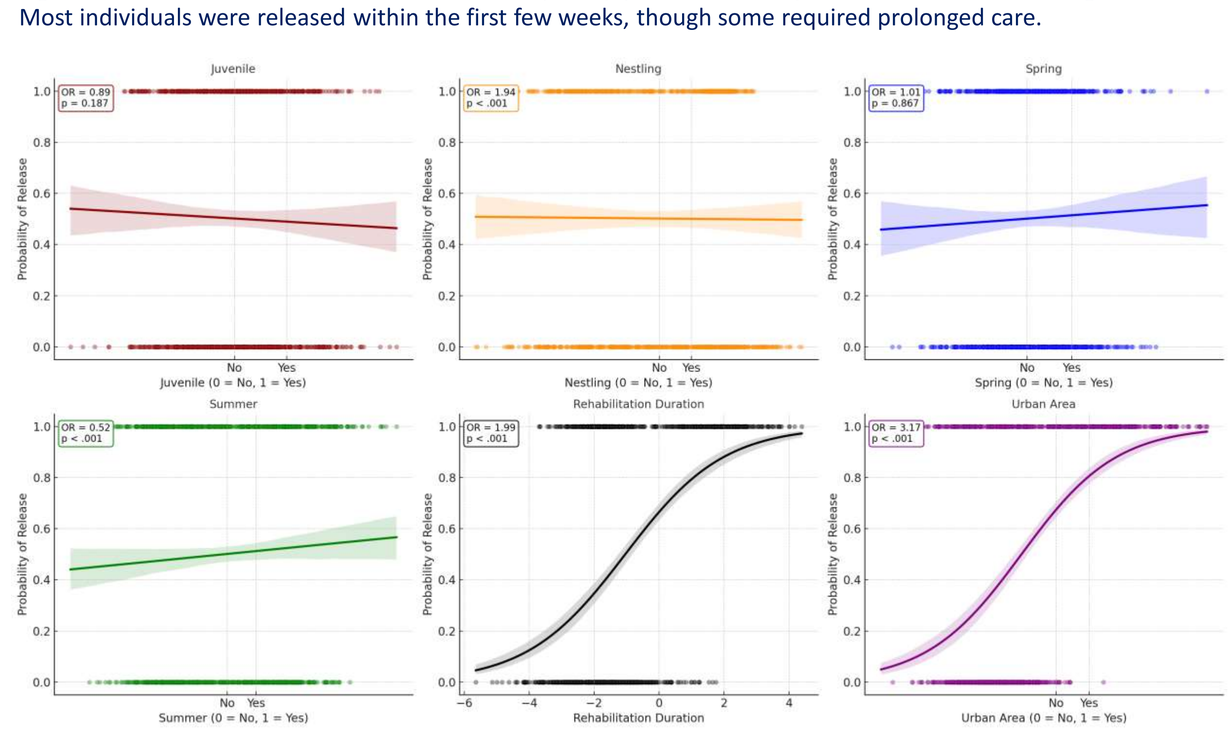

Figure 4. Logistic regression plots showing the effects of biological and contextual predictors on the probability of wildlife release following cat attacks.

These findings reveal a persistent and under-recognized conservation threat in urban Greece and underscore the value of wildlife rehabilitation datasets for quantifying anthropogenic impacts and informing evidence-based biodiversity management in urban environments.

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