FIRST CONFIRMED NESTING RECORD OF EGYPTIAN NIGHTJAR *CAPRIMULGUS AEGYPTIUS* IN SAUDI ARABIA: KING ABDULAZIZ ROYAL RESERVE

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Abstract. The Egyptian Nightjar (*Caprimulgus aegyptius*) is a rare desert species in Arabia, with previously unconfirmed breeding in Saudi Arabia. In 2025, a comprehensive survey in the King Abdulaziz Royal Reserve documented the first verified nesting, with a clutch of two eggs at Umm Al Thiyabah, a seasonal wetland. Eggshell remains confirmed a successful breeding attempt, expanding the known breeding range of the species within the Arabian Peninsula, following recent records from the United Arab Emirates. Nationally, the species remains rare, with records concentrated in western, northern, and central regions and along the Arabian Gulf coast. The finding underscores the ecological importance of KARR for desert-adapted avifauna and highlights the need for ongoing monitoring to understand the species' breeding ecology and population status.
Keywords: *desert-adapted birds, ground-nesting, nocturnal surveys, Arabian Peninsula*

Introduction

The avian family Caprimulgidae is distributed worldwide and comprises 19 genera and 89 species (Gill et al., 2024), which are mostly nocturnal and insectivorous. In Saudi Arabia, five nightjar species have been recorded, each showing different patterns of migration and breeding. The European Nightjar (*Caprimulgus europaeus*) is an uncommon passage migrant. The Egyptian Nightjar (*Caprimulgus aegyptius*) exhibits multiple patterns: an uncommon passage migrant, a local winter visitor, an uncommon summer visitor, and a potential breeding migrant. The resident species include the Nubian Nightjar (*Caprimulgus nubicus*), which is an uncommon resident breeder, and the Montane Nightjar (*Caprimulgus poliocephalus*), which is a rare resident breeder. Finally, the Plain Nightjar (*Caprimulgus inornatus*) is a rare breeding migrant (Ghamdi et al., 2020). Together, these species illustrate the diversity of migratory and resident strategies within Saudi Arabia's nightjar assemblages reflecting adaptation to desert and semi-desert ecosystems, and highlighting the importance of the region for monitoring nightjar breeding activity.

The Egyptian Nightjar is a polytypic desert species occurring mainly in open desert habitats with scattered trees and bushes, often near water sources. Its cryptic plumage provides excellent camouflage against the sandy substrate, rendering it difficult to detect during the day when it typically roosts under low bushes. This nocturnal species forages

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at night, feeding primarily on moths and other flying insects. Two subspecies are recognized: *C. a. saharae*, distributed from Morocco to western Egypt, and the nominate *C. a. aegyptius*, which breeds disjunctly from northeastern Egypt and Iraq through Arabia to eastern Iran and southern Kazakhstan (Cramp, 1985; Holyoak, 2001; BirdLife International, 2018; Cleere, 2020; Gill et al., 2024).

This study aims to document, for the first time, the breeding of the Egyptian Nightjar in Saudi Arabia, identify its nesting site within the King Abdulaziz Royal Reserve, and assess its ecological significance for desert-adapted birds to better understand its breeding behavior and population status.

Material and methods

Study area

In recent decades, Saudi Arabia has established several protected areas to conserve its unique biodiversity, among which the King Abdulaziz Royal Reserve (KARR) stands out as one of the most significant. Designated in 2018 and included on the IUCN Green List in 2025, KARR is located approximately 70 km north of Riyadh and spans about 28,345 km² across the Riyadh and Eastern Provinces (*Figure 1*). The reserve experiences an arid, hot desert climate, characterized by extremely hot and dry summers (June–September) and mild, relatively wetter winters (November–April), occasionally interrupted by intense rainfall events (Almazroui et al., 2012). Mean annual precipitation averages 66 mm (Climate Data, 2025), with temperatures ranging from 6.7 °C in winter to 42.8 °C in summer, and occasionally exceeding 50 °C (Weather Spark, 2025). According to the Köppen–Geiger classification, the region is categorized as hot desert (World Bank, 2024). Despite these harsh climatic conditions, KARR plays a vital ecological role in the central Arabian landscape. Its complex topography—comprising sandy plains, rocky outcrops, ephemeral wadis, and artificial dams—creates a mosaic of microhabitats that support a wide range of wildlife, including migratory and vagrant birds. The combination of environmental gradients and seasonal fluctuations underscores the reserve's importance as a key stopover and wintering site for numerous Palearctic migrants, as well as a potential refuge for vagrant species traversing the Arabian Peninsula (Al-Asmari et al., 2025; Al-Qahtani et al., 2025; Altalhi et al., 2025).

As part of the avian diversity survey in the King Abdulaziz Royal Reserve (KARR) and to determine the phenological status of the species, we conducted a regular seasonal monitoring program covering all habitat types within the reserve. Occurrence records collected during this survey were supplemented with verified data from the Global Biodiversity Information Facility (GBIF; www.gbif.org) to map and update the current distribution range of the species. Our observation was made in spring, during the month of April.

Results

In 2025, we conducted a comprehensive survey of avifaunal diversity within the King Abdulaziz Royal Reserve (*Figure 1*), encompassing all major habitat types to document species richness and determine their phenological status. On 15 April 2025, an active Egyptian Nightjar clutch containing two eggs was discovered at Umm Al Thiyabah (26.758602°; 45.389626°), one of the most ecologically diverse wetland areas in the

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region. This site is sustained solely by seasonal runoff from Shaib Al-Suhimi, which generally retains water for several months following above-average rainfall. The wetland covers approximately 200 ha at an elevation of 560 m above sea level (Al-Qahtani et al., 2025). The eggs were oval, pale sandy to grayish in color, and finely mottled with brown and gray markings that blended seamlessly with the substrate. They were laid directly on bare ground without any constructed nest, relying entirely on camouflage for protection (*Figure 2A,B*). After one-week, eggshell remains were found, confirming a successful breeding attempt. In addition, the species was recorded repeatedly at four different sites between April and the first half of October.

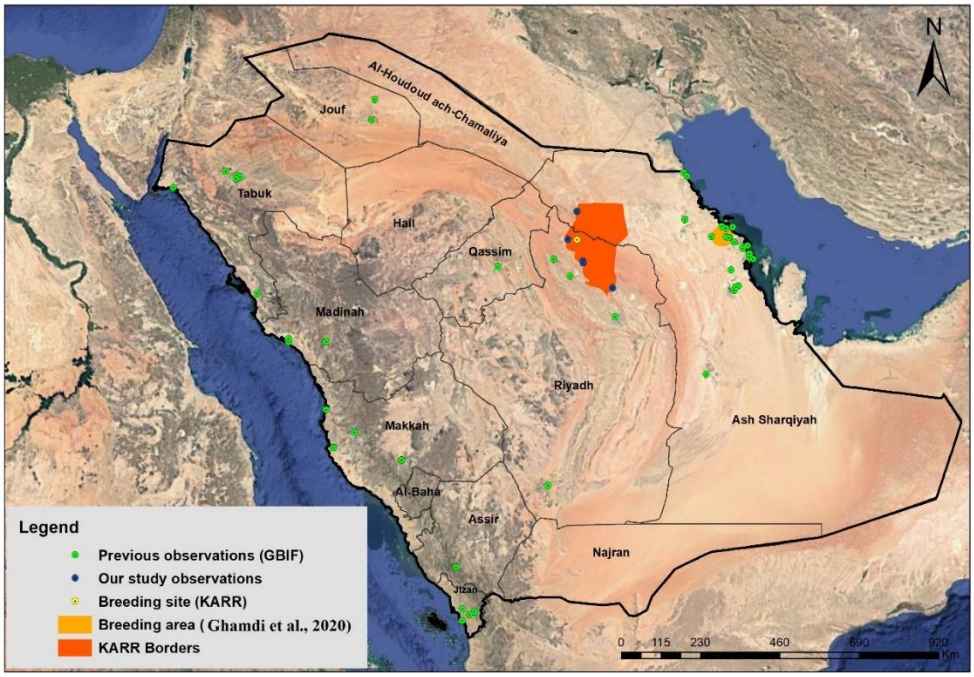

Figure 1. *Geographic location of the study area, Saudi Arabia, showing previous and new record of the Egyptian Nightjar (Caprimulgus aegyptius)*

Figure 2. *A: An Egyptian Nightjar individual in a resting position; B: An Egyptian Nightjar clutch with two eggs*

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Discussion

At the national scale, the species has been recorded 135 times throughout Saudi Arabia. Most observations are concentrated in the western regions of the country, including Tabuk, Madinah, Makkah, ʿAsir, and Jizan, as well as in the north at Al-Jouf and centrally around Riyadh. Additional records are clustered in the Ash Sharqiyah region, mainly along the Arabian Gulf coast. However, no previous records have been reported within the King Abdulaziz Royal Reserve (GBIF, 2025). The species has been observed throughout the year, particularly during the pre- and post-breeding migration periods, which suggests a certain level of regular movement across suitable habitats. Nevertheless, no data or published records confirm its breeding activity, except for a few isolated observations in the eastern part of Saudi Arabia. The lack of breeding evidence may be explained by the limited number of targeted studies, the species' partially nocturnal behavior, and its remarkable ability to remain well camouflaged in its natural habitat, all of which make its detection particularly challenging. The Egyptian Nightjar remains rare in Arabia. Western Palearctic populations winter in northeastern Africa and migrate across the Arabian Peninsula during autumn (September–November) and spring (March–May) (Cramp, 1985). According to Jennings (2010), the species is a rare migrant and winter visitor, but its numbers are increasing in the northern Arabian Gulf, with summer records since the early 21st century in areas associated with freshwater. Prolonged summer presence in Kuwait and the Eastern Province of Saudi Arabia suggests possible local breeding, as noted by Gregory (2005) and Meadows (2005).

This species typically lays its eggs directly on the ground without constructing a conventional nest. Eggs are often deposited in shallow depressions or lightly scraped areas of soil, giving the appearance of being "scattered" on the ground. This ground-laying behavior is a natural reproductive strategy for the species and should be considered when interpreting field observations of eggs in their habitats.

Our study confirms the first verified nesting record of *Caprimulgus aegyptius* in Saudi Arabia, expanding the known breeding range of the species within the Arabian Peninsula, following the recent confirmation of a successful breeding attempt in the United Arab Emirates. Previous records from the country described the species only as an uncommon passage migrant, a local winter visitor, or a rare summer visitor, or suggested the possibility of breeding without confirmed evidence (Jennings, 2010; Babbington, 2014; Campbel and Smiles, 2017; Ghamdi et al., 2020). The confirmed nesting within the King Abdulaziz Royal Reserve (KARR), a protected area with diverse and undisturbed desert microhabitats, highlights the ecological importance of this site for desert-adapted avifauna. This observation also indicates that suitable breeding conditions may exist elsewhere in central and eastern Saudi Arabia. Continuous monitoring, including nocturnal surveys and camera traps, is recommended to better understand the breeding ecology and population status of this species in the region.

Conclusion

The first confirmed nesting of the Egyptian Nightjar in Saudi Arabia shows that the species has more breeding potential in the Arabian Peninsula than was previously thought. The find at a seasonal wetland in the King Abdulaziz Royal Reserve shows how important protected desert habitats are for rare and nocturnal birds. Because the species is only found in a few places and there aren't many national records, regular systematic monitoring, such as nocturnal surveys and habitat assessments, is very important to learn

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more about its breeding ecology, population dynamics, and habitat needs. This discovery lays the groundwork for future conservation efforts and shows how important it is to protect good nesting sites all over the area.

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REFERENCES

[1] Al-Asmari, H. A., Chedad, A., Al-Qahtani, A. M., Alshammari, N. M., Altalhi, M. H., Alzahrani, A. S., Alkhamis, H. H., Alowaifeer, A. M., Alrefaei, A. F. (2025): First evidence of breeding and eastward range expansion of the Mediterranean short-toed lark (*Alaudala rufescens*) in King Abdulaziz Royal Reserve, Saudi Arabia. – Biodiversitas 26: 4048-4056. https://doi.org/10.13057/biodiv/d260834

[2] Almazroui, M., Islam, M. N., Jones, P. D., Athar, H., Rahman, M. A. (2012): Recent climate change in the Arabian Peninsula: seasonal rainfall and temperature climatology of Saudi Arabia for 1979–2009. – Atmospheric Research 111: 29-45. https://doi.org/10.1016/j.atmosres.2012.02.013

[3] Al-Qahtani, A. M., Chedad, A., Alshammari, N. M., Altalhi, M. H., Al-Asmari, H. A., Alzahrani, A. S., Alkhamis, H. H., Alowaifeer, A. M., Alrefaei, A. F. (2025): First confirmed record of *Calidris melanotos* Vieillot, 1819, Pectoral Sandpiper (Charadriiformes, Scolopacidae), at King Abdulaziz Royal Reserve, Saudi Arabia. – Check List 21(4): 750-754. https://doi.org/10.15560/21.4.750

[4] Altalhi, M. H., Chedad, A., Alshammari, N. M., Al-Qahtani, A. M., Al-Asmari, H. A., Alzahrani, A. S., Alkhamis, H. H., Alowaifeer, A. M., Alrefaei, A. F. (2025): Breeding Range Expansion of the Black-winged Kite (*Elanus caeruleus*): Evidence from the King Abdulaziz Royal Reserve, Saudi Arabia. – Zoology and Ecology, in press.

[5] Babbington, J. (2014): The changing status of Egyptian Nightjar in Eastern Saudi Arabia. – Birds of Saudi Arabia.

[6] BirdLife International (2018): Species factsheet: Egyptian Nightjar *Caprimulgus aegyptius*. – Downloaded from https://datazone.birdlife.org/species/factsheet/egyptian-nightjar-*caprimulgus-aegyptius* on 16/11/2025

[7] Campbell, O., Smiles, M. (2017): The discovery of a breeding population of Egyptian Nightjars *Caprimulgus aegyptius* in the United Arab Emirates. – Sandgrouse 39(2): 182-186.

[8] Cleere, N. (2020): Egyptian Nightjar (*Caprimulgus aegyptius*), version 1.0. – In: del Hoyo, J., Elliott, A., Sargatal, J., Christie, D. A., de Juana, E. (eds.) Birds of the World. Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.egynig1.01

[9] Cramp, S. (1985): The Birds of the Western Palearctic. – Vol 4. Oxford University Press, UK.

[10] GBIF.org (05 September 2025): GBIF Occurrence. – Download https://doi.org/10.15468/dl.5fq23r

[11] Ghamdi, S., Bouzaid, A., Adarbeh, M. (2020): Birds of Saudi Arabia I. – Saudi Aramco.

[12] Gill, F., Donsker, D., Rasmussen, P. (eds.) (2024): IOC World Bird List (v 15.1). – DOI: 10.14344/IOC.ML.15.1. http://www.worldbirdnames.org/

[13] Gregory, G. (2005): The Birds of the State of Kuwait. – Gregory, Skegness, UK.

http://www.aloki.hu ● ISSN 1589 1623 (Print) ● ISSN 1785 0037 (Online)
DOI: http://dx.doi.org/10.15666/aeer/2402_34693474

[14] Holyoak, D. T. (2001): Nightjars and Their Allies: The Caprimulgiformes (Bird Families of the World, No. 7). – Oxford University Press, Oxford, UK. 773 pp.
[15] Jennings, M. C. (2010): Atlas of the Breeding Birds of Arabia. – Fauna of Arabia 25.
[16] Meadows, B. S. (2005): Breeding season records of Egyptian Nightjars. – Phoenix 21: 11.
[17] Weather Spark (2025): Average weather in Tumayr, Saudi Arabia year-round. – https://weatherspark.com/y/103714/Average-Weather-in-Tumayr-Saudi-Arabia-Year-Round. Accessed 2025-08-03.
[18] World Bank (2024): Climate Change Knowledge Portal. – https://climateknowledgeportal.worldbank.org/. Accessed 2025-05-03.

http://www.aloki.hu ● ISSN 1589 1623 (Print) ● ISSN 1785 0037 (Online)
DOI: http://dx.doi.org/10.15666/aeer/2402_34693474