

## Breeding Data of Collared Pratincole (*Glareola pratincola*) Population of Boğazkent/Antalya (Southwest Turkey) in 2016

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### ABSTRACT

Collared Pratincoles (*Glareola pratincola*) have a large, fragmented breeding distribution throughout the Palearctic. Turkey is in migration road where it has Collared pratincole population as both breeding area and transition region. Research area was in Boğazkent/Antalya, Southwest Turkey. In this study, breeding biology of Collared pratincole were investigated in 2016. Boğazkent was transiting region for Collared pratincole, while some individuals transit, some others stay and breed there. Average of 370 birds transited during spring migration and 35 of which stayed and bred in Boğazkent at the end of the May.

### Research Article

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## Bataklık Kırlangıcı (*Glareola pratincola*)'nın Boğazkent/Antalya (Güneybatı Türkiye) Populasyonunun 2016 Üreme Sezonu Verileri

### ÖZET

Bataklık kırlangıcı (*Glareola pratincola*)'nın Palearktik boyunca, geniş ve parçalı bir üreme yayılışı vardır. Göç yolları üzerinde olan Türkiye, Bataklık kırlangıcının hem transit göçer hem de üreme populasyonlarına sahiptir. Araştırma alanı, Türkiye'nin Güneybatısında yer alan Boğazkent/Antalya'dır. Çalışmada 2016 sezonu Bataklık kırlangıcı'nın üreme biyolojisi araştırılmıştır. Boğazkent, Bataklık kırlangıcı için daha çok geçiş bölgesidir. Bununla birlikte geçiş yapan bireylerin yanında bazı bireyler alanda kalır ve ürer. İlkbahar göçü boyunca ortalama 370 birey geçiş yapmış, bunların 35'i ise Mayıs sonuna kadar Boğazkent'te kalmış ve üremiştir.

### Araştırma Makalesi

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### INTRODUCTION

Collared Pratincoles have a large, fragmented breeding distribution throughout the Palearctic (Cramp and Simmons 1983, Del Hoyo et al., 1996). Range from South Europe to Pre Asia as summer visitor and wintering in Africa (Collins, 2009). In North Africa, Collared Pratincole have breeding population in Morocco, (Cramp and Simmons 1983) and Algeria (Isenmann and Moali 2000). Especially Spain and France have large population and many studies have been undertaken on the breeding ecology of the species (Calvo and Alberto, 1990; Calvo and Furness, 1995; Tajuelo and Manez, 2003; Vincent-Martin, 2007) in Europe. Also Turkey has Collared pratincole population as both breeding area and transition region in migration road (Onmuş and Sıkı, 2011). Compared

with North Africa population arrival, departure and breeding time of Turkey population is different.

### MATERIALS and METHODS

Research area is Boğazkent/Antalya where is located Southwest Turkey. Boğazkent that is between two rivers are Acısu and Koprucay is located of Mediterranean Sea (Figure 1). In this study, we investigated breeding biology of Collared pratincole in 2016 breeding season. The species have been determined by Line transect and Point counts method (Dobinson, 1976; Bibby and Burgess, 1992). Observation started at the beginning of March in three times a week to determine migration phenology. We also continued our observation all of the breeding season. We determined to arrival and departure time of Collared pratincole in Boğazkent. We counted

individuals, nests numbers, eggs number, hatchlings and determined incubation period.

Laying date was determined either by knowing the date the first egg was laid or by backdating from the known hatching date (Cramp and Simmons 1983; Feduccia 2001). The hatching and fledging success was calculated in relation to the eggs laid. The fledging success was also calculated in relation to the eggs hatched (Makrigianni et.al., 2008). Statistical analyses were performed using SPSS 17.



Figure 1. Boğazkent/Antalya from Google Earth

**RESULTS AND DISCUSSION**

A dispersed breeding colony of Collared Pratincole (*Glareola pratincola*) was observed on Boğazkent/Antalya in 2016 (Figure 2). Especially Boğazkent is transiting region for this species. Besides, while some individuals transit, some others stay and also breed there. Firstly, observed 60 birds that transited from Boğazkent in April 24 and last transition was June 12. Average 370 birds (Figure 3) transited during spring migration and 35 of them stayed in Boğazkent at the end of the May. Mating behaviours observed during the May, egg laying started in late May and followed by end of the August. Collared pratincole nested sand and grassland. We found 16 nest belong to them. In total 30 eggs were laid in 16 nests. Clutch size mostly was 2 (50%) also 1 (31.25%), 3 (18.75) and mean  $1.88 \pm 0.72$  (Table 1).

Incubation period was 17 days. 26 chicks hatched, and 12 fledged successfully. According to hatchling, we calculated breeding success 86.7% and 46.2% for fledgling (Figure 4). Departure from the colonies started in end of August and continued until middle of the September.



Figure 2. Collared pratincole (*Glareola pratincola*) in Boğazkent

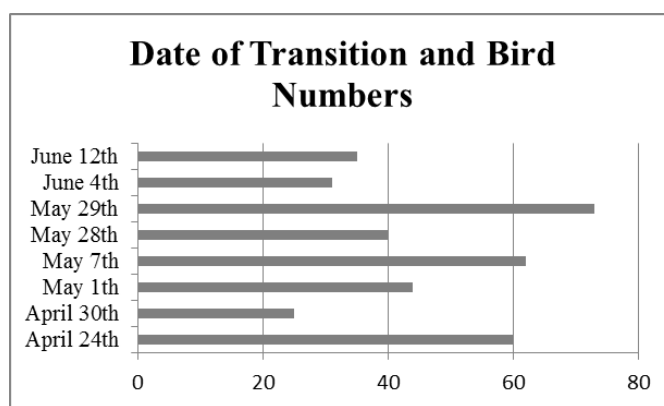


Figure 3. Transit bird numbers of Collared pratincole

Table 1. Clutch size distribution of Collared Pratincole in the Boğazkent/Antalya.

Clutch size (number of eggs per nest)	Number of nests	Percentage of nests (%)
1	5	31.25
2	8	50
3	3	18.75
Total	16	100

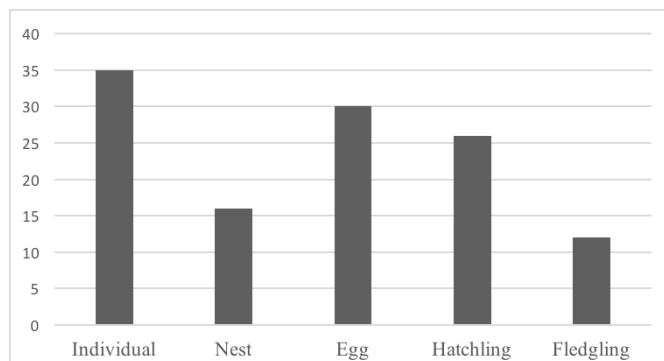


Figure 4. Parameters about Boğazkent population of Collared pratincole.

Hanane et al., (2010) state that arrival date of Collared pratincole to breeding area was March 8 in 2003 and March 10 in 2004. However, egg laying started in the first half of April (April 7 in 2003 and April 16 in 2004), Departure from the colonies started in mid-July and Average clutch size was 2.28 in 2003 and 2.14 in 2004 about population of Northwest Morocco from two different habitats. According to Bensaci et al., (2014), arrival time end of the March, first egg laying was April 28 and clutch size was 2 in Algeria. Compared with North Africa population arrival, departure and breeding time of Turkey population is different. Turkey population breeding activity start late as different from North Africa. We think that temporal differences result from weather condition. Weather getting warmer after April in Turkey as different from North Africa. On the other hand, other breeding data like similar other research.

Black-winged Stilt (*Himantopus himantopus*), Pied Avocet (*Recurvirostra avosetta*), Eurasian Thick-knee (*Burhinus oedipnemus*), Common Ringed Plover (*Charadrius hiaticula*), Little Ringed Plover (*Charadrius dubius*) and Spur-winged Lapwing (*Vanellus spinosus*) are other migratory wader birds in Boğazkent (Karaardıç et al., 2017).

Common Ringed Plover and Spur-winged Lapwing are also breeding waders in there (Özkan et al., 2017). Compared to others Spur-winged Lapwing has the most crowded breeding population in Boğazkent. It is known as summer migrant species but some individuals of Boğazkent population hasn't return to Africa in fall and winter period in recent years. According to compare Turkey and Africa, temperate increase more fast Africa than Turkey (Özkan and Koç, 2017).

## CONCLUSION

While both Spur-winged lapwing and Collared pratincole globally are listed as LC (Least concern) in IUCN Red List, they are categorized as VU (Vulnerable) in Turkey (Kılıç ve Eken, 2004). They need similar habitat type and share Boğazkent that is 2170 ha to breeding. Last years they bred different part in Boğazkent from each other (Özkan, 2012; Özkan et al., 2012; Karaardıç and Özkan, 2017). But according to our data spur-winged lapwing nests surround Collared pratincole nests. Habitat destruction, lost and any other factors narrow their breeding site and close each other in Boğazkent (Figure 5).

When examining predation factor for breeding success of Collared pratincole in Boğazkent, The predation risk is very high during both breeding and post breeding period for this species. Hooded crow (*Corvus corone*), fox (*Vulpes vulpes*) and dogs are the most predators. Besides, human activities like agriculture, tourism are negative effect for breeding success in area.

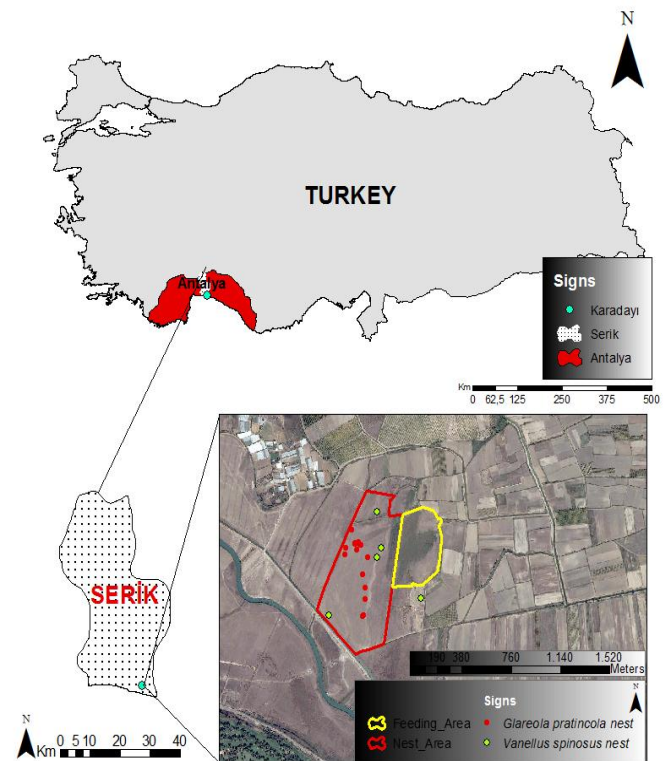


Figure 5. Comparison of Collared pratincole and Spur-winged lapwing nest site.

As a result of this study revealed the Collared Pratincole's first breeding data for turkey. It is important to determine the distribution of animals by starting to see the effects of climate change in the world and in our country. This varies depending on different factors. The data in this study are important for determining the change. In future studies, reproductive data at different times should be compared and the changes of this species should be monitored.

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