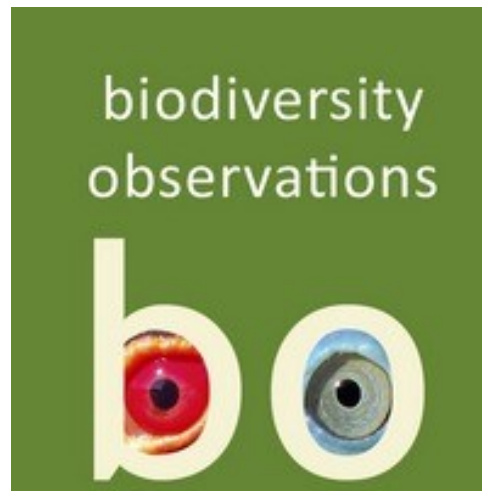


# Seasonality of breeding by Chukar Partridge *Alectoris chukar* on Robben Island

Les G Underhill



**Underhill LG** 2024. Seasonality of breeding by Chukar Partridge *Alectoris chukar* on Robben Island

Biodiversity Observations 14: 67-70

7 June 2024

DOI: 10.15641/bo.1573

## Observation

### Seasonality of breeding by Chukar Partridge *Alectoris chukar* on Robben Island

Les G Underhill

Department of Biological Sciences, University of Cape Town, Rondebosch 7701, South Africa

Biodiversity and Development Institute, 25 Old Farm Road, Rondebosch 7700, Cape Town, South Africa

les.underhill@uct.ac.za

#### Abstract

Eight records suggest that the timing of breeding of the introduced Chukar Partridge *Alectoris chukar* on Robben Island can tentatively be described as from September to November.

#### Observation

The history of the successful introduction of the Chukar Partridge to Robben Island, and the failed introductions elsewhere in southern Africa, are dealt with by Siegfried (1971), Brooke (1997) and Vernon & Dean (2022). In brief, customs staff in Cape Town confiscated a consignment of six aviary-bred Chukar Partridges; they were released on Robben Island in April 1964. The size of the population has fluctuated widely, inversely proportional to the size of the population of feral cats *Felis catus* Sherley et al. 2011, Underhill et al. 2023). In 2023, the cat population was thought to be about four (Chris Wilke pers. comm.) and the partridges were abundant (Underhill et al. 2023).

Maree (2005) listed 26 items of missing information in the species text for Chukar Partridge in Hockey et al. (2005). One gap is the timing of start of incubation. There is a single record of the timing of breeding of Chukar Partridges on Robben Island; Crawford & Dyer (2000) reported finding a nest containing 10 eggs in September 1999. The actual date in September is not known.

This paper investigates the extent to which the BirdPix section of the Virtual Museum (Underhill & Navarro 2023) can help fill this gap. BirdPix contains 42 photographic records of Chukar Partridge on Robben Island, with records in 10 of the 12 months of the year (none in July or August) (Table 1). Inspection of the photographs revealed



**Figure 1:** Nearly full grown Chukar Partridge chick on 19 December 2018. The chick was c. 56 days old, so incubation would have started c. 80 days earlier, c. 30 September. Photo: Joshua Azaki. BirdPix record [67453](#).



that six of the 42 records included photographs of juveniles distinctly smaller than adults, and one notes that two broods of chicks were observed to have merged (Table 1, Figures 1 to 6).

Alkon (1982) developed visual criteria for 19 age classes of juvenile Chukar Partridges from hatching to 18 weeks, when they become indistinguishable from adults in the field. For our purposes, the criteria based on percentage of adult size and a series of line drawings in Alkon (1982) were the most useful for estimating chick age. They reach 85% of adults size at c. 56 days, and the 11 age classes used here were those below this age. The mean incubation period is 24 days (Machie & Buechner 1963). The likely date of start of incubation for each record was estimated by subtracting, from the date of BirdPix record, the likely age of the chick using Alkon's (1982) size criteria,



**Figure 2:** Five 25% grown Chukar Partridge chicks on 3 January 2020. Chicks were c. 21 days old. Start of incubation therefore estimated to be c. 19 November. Photo: Les Underhill. BirdPix record [101579](#).



**Figure 3:** Three Chukar Partridge chicks which have almost replaced the down with feathers on 27 November 2021. They would be aged c. 14 days. Incubation would have started on c. 20 October. Photo: Itxaso Quintana. BirdPix record [195408](#).

minus the incubation period of 24 days. The estimates are provided in the captions to Figures 1–6. On 17 November 2023, a Chukar Partridge was observed near the lighthouse on Robben Island with one downy chick (Figure 1). The down is replaced by feathers within seven days of hatching, and the incubation period averages 23 days. Thus the estimated number of days since incubation started is c. 27 days, putting the start of incubation at around 21 October.

Taking the sample size to be eight (counting the merged brood of Figure 5 as two, and assigning the date 15 September to the nest found with eggs) the incubation start dates ranged from 15 September to 19 November, with a median of 19 October. This suggests that the timing of breeding of the Chukar Partridges on Robben Island can





**Figure 4:** The notes to the photo state that two broods merged, so that there were, in total, four adults and about 15 chicks. The record was made on 21 December 2021. The chicks from both broods appear to be about one-third grown, so their ages would have been c. 28 days, and the date of start of incubation for both broods estimate to be c. 30 October. Photo: Les Underhill. BirdPix record [198330](#).

tentatively be September to November. This is similar to that of the two indigenous Galliformes on the island: Helmeted Guineafowl *Numida meleagris* and Cape Spurrow *Pternistis capensis* (Little 1997a, b).

### Acknowledgements

Logistical support from Robben Island Museum is acknowledged. Two of the 42 records were submitted by citizen scientists while on Robben Island Museum tours (Lia Steen and Nico Vromant). The remainder were submitted by researchers making observations during their fieldwork: Joshua Azaki, Melisa Bel, Jon Blanco, Michael Brooks, Karis Daniel, Felicity Ellmore, Dieter Oschadleus, Josu Melendez, Dane Paijmans, Itxaso Quintana, Les Underhill and Salome Willemse.



**Figure 5:** Five two-thirds grown Chukar Partridge chicks on 28 December 2022. The estimated age of the chicks is c. 50 days, so that the tentative estimated date for the start of incubation would have been c. 15 October. Photo Felicity Ellmore. BirdPix [243930](#).

**Table 1.** The monthly distribution of 42 photographic records of Chukar Partridges on Robben Island. The number of records in each month including chicks is shown. The records are in the BirdPix section of the Virtual Museum

Month	Jan	Feb	Mar	Apr	May	Jun
Records	2	2	4	3	3	3
Chicks	1					

Month	Jul	Aug	Sep	Oct	Nov	Dec	Total
Records			4	4	8	9	42
Chicks			1		2	2	7





**Figure 6:** Adult Chukar Partridge and down-covered chick near the lighthouse on Robben Island on 17 November 2023. The estimated age of the chicks is c. 5 days, so that the tentative estimated date for the start of incubation would have been c. 19 October. Photo: Les Underhill. BirdPix record [267769](https://birdpix.org/record/267769).

## References

- Alkon PU** 1982. Estimating the age of juvenile Chukars. *Journal of Wildlife Management* 46: 777–781.
- Brooke RK** 1997. Chukar Partridge *Alectoris chukar*. In: Harrison JA, Allan DG, Underhill LG, Herremans M, Tree AJ, Parker V, Brown CJ (eds). *The Atlas of Southern African Birds. Vol. 1: Non-passerines*. BirdLife South Africa, Johannesburg: 766.
- Crawford R, Dyer B.** 2000. *Wildlife of Robben Island*. Avian Demography Unit, Cape Town, South Africa.
- Hockey PAR, Dean WRJ, Ryan PG (eds)** 2005. *Roberts Birds of Southern Africa*. 7th ed. John Voelcker Bird Book Fund, Cape Town.
- Little RM** 1997a. Cape Francolin *Francolinus capensis*. In: Harrison JA, Allan DG, Underhill LG, Herremans M, Tree AJ, Parker V, Brown CJ (eds). *The Atlas of Southern African Birds. Vol. 1: Non-passerines*. BirdLife South Africa, Johannesburg. 290–291.
- Little RM** 1997b. Helmeted Guineafowl *Numida meleagris*. In: Harrison JA, Allan DG, Underhill LG, Herremans M, Tree AJ, Parker V, Brown CJ (eds). *The Atlas of Southern African Birds. Vol. 1: Non-passerines*. BirdLife South Africa, Johannesburg. 308–309.
- Mackie RJ, Buechner HK** 1963. The reproductive cycle of the Chukar. *Journal of Wildlife Management* 27: 246–260.
- Maree S** 2005. Unknown and little known information in Roberts Birds of Southern Africa, 7th edition. Unpubl. Report, FitzPatrick Institute of African Ornithology. Available online at [https://science.uct.ac.za/sites/default/files/content\\_migration/science\\_uct\\_ac\\_za/925/files/unknowns.pdf](https://science.uct.ac.za/sites/default/files/content_migration/science_uct_ac_za/925/files/unknowns.pdf)
- Sherley RB, Dyer BM, Underhill LG, Leshoro TM** 2011. Birds occurring or breeding at Robben Island, South Africa, since 2000. *Ornithological Observations* 2: 69–100. Available online at <https://journals.uct.ac.za/index.php/BO/article/view/132>
- Siegfried WR** 1971. Chukar Partridge on Robben Island. *Ostrich* 42: 158.
- Underhill LG, Wilke C, Hattingh B** 2023. Non-colonial ground-nesting birds on Robben Island: positive impact of the removal of feral cats on the abundance of Chukar Partridge and Fiery-necked Nightjar. *Biodiversity Observations* 13: 282–286. Available online at <https://journals.uct.ac.za/index.php/BO/article/view/1484>
- Vernon CJ, Dean WRJ** 2022. The introduction of the Chukar Partridge *Alectoris chukar* to southern Africa. *Ostrich* 93: 157–159.