

# Status and Distribution of Red-wattled Lapwing *Vanellus indicus* (Boddaert, 1783) (Charadriiformes: Charadriidae) in Turkey

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**Abstract:** The status and distribution of the red-wattled lapwing, *Vanellus indicus* (Boddaert, 1783) in Turkey as well as observations on a breeding population at Garzan Stream, South-eastern Anatolia, are described. Despite the records of some wintering individuals, the species is a summer migrant for Turkey. It arrives to the breeding grounds in mid-February. The breeding period starts at end of March and the incubation period is between mid-May and mid-June. In addition, all available records of the species are analysed in order to determine its distribution range in Turkey. Our results indicate a change in the distribution range of *V. indicus* in Turkey while there is not an increase of the number of records based on the available literature. The most important breeding areas of this species in Turkey are threatened by the Ilisu dam project. The loss of the current suitable habitats may affect the occurrence of this species in the region. This species has shown a moderate expansion of its range and probably this is to continue in future if the suitable habitats are protected. Accurate population assessment is required together with an ecological study to determine the key factors in the main areas for conservation of the red-wattled lapwing in Turkey.

**Key words:** Red-wattled lapwing, *Vanellus indicus*, distribution, status, South-eastern Anatolia, Turkey

## Introduction

The red-wattled lapwing, *Vanellus indicus* (Boddaert, 1783), is classified in the Least Concern category by IUCN (IUCN 2013) and in the SPEC 3 category as a provisionally vulnerable species in Europe (BIRDLIFE 2004). It is known as a polytypic species and has four subspecies. The subspecies *V. indicus aigneri* (Laubmann, 1913) has a distribution from south-east of Turkey to north-east of Syria, Iraq, east of Arabia, Iran, south-east of Turkmenistan to Pakistan. It is mainly found in open areas such as agricultural fields close to the fresh waters (CRAMP 1998, MURDOCH, BETTON 2008, BALMER, MURDOCH 2009a, 2009b). Despite the extremely large range of this species, its distribution in Turkey is restricted to some parts of the south-east of the country, with a breeding population estimated at 10-20 (KASPAREK, BILGIN 1996) or 40-80 pairs (BIRDLIFE 2004). KILIÇ, EKEN (2004) recognised this species as endangered

for Turkey, which, including wintering birds, does not exceed 50 individuals.

The species was recorded for the first time in 1983 for the south-east of Turkey around Cizre (MURPHY 1984) but there are no previous studies on the status, distribution and ecology of red-wattled lapwing in the country except a few surveys mentioning records (e.g. BEAMAN 1986, MARTINS 1989, KIRWAN, MARTINS 1994, KASPAREK, BILGIN 1996, KIRWAN *et al.* 2003, 2008a, WELCH 2004). Therefore, information on status and distribution of species is unclear. Due to ecological changes related to big dam projects together with the agricultural regime and habitat changes in this part of the country, it is essential to understand the status and distribution of this species.

The aim of the present study is to contribute to understanding the current status and distribution

of the red-wattled lapwing in Turkey on the basis of new observations and analysis of literature.

## Material and Methods

Surveys were carried out between June 2012 and June 2013 along some parts of Tigris River and its main tributaries (Garzan Stream, Botan Stream, etc.), South-eastern Anatolia, Turkey, on behalf of a DSI (General Directorate of State Hydraulic Works) project entitled ‘‘Ilisu Dam’s Biodiversity Conservation, Use and Monitoring Project’’. Totally, 15 field excursions have been performed (Table 1, Fig. 1). Most of the fieldwork was conducted at areas close to the river banks and observed individuals were evaluated together with breeding categories (HAGEMEIJER, BLAIR 1997). Red-wattled lapwings were observed during six field surveys. During surveys, individuals were counted at each location and signs of breeding activities were registered. The observations were taken without disturbing individuals. In addition, all of the available records of red-wattled lapwings from Turkey, together with records that were obtained during the above-mentioned

project, were used to determine the distribution and status of the species in the country. Records were obtained from all published studies on distribution of birds in Turkey, including Turkey Bird Reports and KuşBank (internet based Turkish bird data) database (KUŞBANK 2014).

## Results

A breeding population of red-wattled lapwings (Table 2) was observed during 2013 at three locations situated close to each other along Garzan Stream (Garzan I, Garzan II and Garzan III) after Beşiri district (Batman Province).

### Observations

**14 February 2013:** One individual was observed flying northwards along Garzan Stream at Garzan I station (UTM: 37.705233°E / 41.99291°N; 534 m a.s.l.). About one hour later, four individuals were observed at Garzan II station (37.708902°E / 41.96256°N; 516 m a.s.l.) feeding on the ground between the stream and field.

**24 February 2013:** Two individuals were observed as a pair while they were feeding on the shore

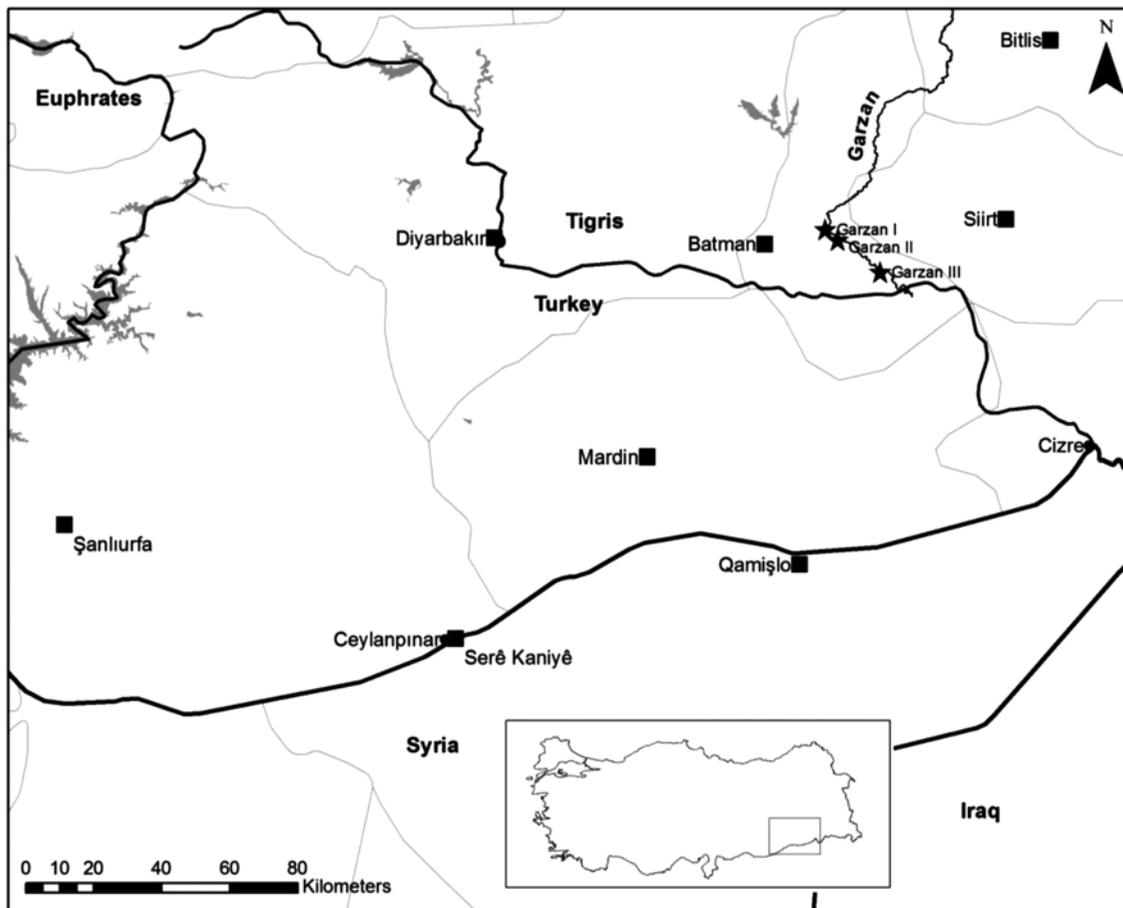


Fig. 1. Map of the study area (stars indicate the main stations)

**Table 1.** Number of observations per period

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
2012						2	2	1	1	1			7
2013		2	2	1	1	2							8
<b>Totals</b>	-	2	2	1	1	4	2	1	1	1	-	-	15

**Table 2.** Maximum number of individuals at stations for each month in 2013

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
Garzan I		1	3										4
Garzan II		4	4		2								10
Garzan III				2	3	5*							10
<b>Totals</b>		5	7	2	5	5							24

\* : At least 5 individuals were observed while they were nesting concurrently.

of Garzan Stream at Garzan II station (37.708902°E / 41.96256°N; 516 m a.s.l.). They were recorded together twice.

**15 March 2013:** Three individuals were observed at Garzan I station, two of them behaving as a pair. This pair had copulation, which lasted 5-6 seconds in sandy area on the shore of Garzan Stream. Probably, the copulation took place away from the nest (nest not observed).

**26 April 2013:** One individual was observed squatting on a dune island in the riverbed (37.721336°E / 41.86902°N; 485 m a.s.l.) at Garzan Stream at Garzan III station near Meydancık (37.721420°E / 41.86731°N; 504 m a.s.l.). The individual was observed for c. 15 min and there were no other acts except head and neck movements; 55 min later, the same area was checked again and it was observed that this bird remained in the same position. Meanwhile, another individual came to the near shore and then the squatting individual stood up and moved at least one meter away from its initial position. The two individuals made eye contact for about 15 min. Because the incubation cannot be abandoned for more than 15 min, probably nest site selection was performed by these individuals.

**18 May 2013:** One individual was observed at a gravel area in the riverbed while another individual was flying at Garzan II station (37.708902°E / 41.96256°N; 516 m a.s.l.). Subsequently, Garzan III station was checked and an individual was observed at the same island in the riverbed (37.721336°E / 41.86902°N; 485 m a.s.l.) where one individual was observed while squatting on the potential nesting area. The squatting individual tried to remove a little-ringed plover (*Charadrius dubius*) from the territory, which, probably, was a nesting area and should have started the spawning period.

**7 June 2013:** Although no individuals were observed at the potential nesting site on the island in the riverbed, five individuals were observed while they were nesting at Garzan III station. At least three of the nests were located at sandy riverbed while two others were located behind reeds on the soil ground, near the same area. One unsuccessful attack of long-legged buzzard (*Buteo rufinus*) to a nest that was located behind the reeds was observed. The nesting individual started the alarming call and started deterring the raptor by flapping wings. One individual that was nesting at the sandy riverbed stood up and walked away to the Garzan Stream. No one waited on the nest and eggs. Regardless of the distance, at least three eggs were observed; their colour was compatible with that of sand and gravel. The nest was a simple shallow scrape on the gravel.

Migrating individuals arrived to the breeding grounds in mid-February. Although courtship behaviour was not observed, it could be stated that breeding period started at end of March as evidenced by copulations. Incubation period started from mid-May and lasted until mid-June. The hatching and the breeding success were not characterised.

In total, 26 individuals were recorded during breeding season (February – June 2013) around the Garzan Stream. The available records from the country (Table 3) were evaluated to determine the distribution of red-wattled lapwing. All areas where the species was observed had similar habitat characteristics: river beds and sandy areas. The distribution of this species in Turkey is restricted to this part of the country. Garzan I station is the most northern point of the distribution of this species in Turkey.

No individuals of this species had been observed at Botan Stream and Tigris River close to Hasankeyf area. Since southern part of Tigris River

**Table 3.** Records of red-wattled lapwing in Turkey in 1983-2013

Location	Dates	Individual Number	Source / Observer
Cizre	15 Jun 1983	5	MURPHY (1984)
Cizre	May-Aug 1984/86	56	MARTINS (1989)
Çatalca (Ceylanpınar)	28 Apr 2001	1	KUŞBANK (2014), G. WELCH
Garzan Stream, near Başarı	15 May 2001	1	KUŞBANK (2014), G. WELCH
North of Cizre	11 Jun 2001	1	KUŞBANK (2014), G. WELCH
Doğancık /West of Cizre	10 May 2002	2	KUŞBANK (2014), G. WELCH
İdil Dam	13 May 2002	1	BALMER & BETTON (2002), KUŞBANK (2014), G. WELCH,
Ortaköy /South of Silopi	03 Jun 2002	2	KUŞBANK (2014), G. WELCH, T. KILIÇ
Kavallı / South of Silopi	03 Jun 2002	2	KUŞBANK (2014), G. WELCH, T. KILIÇ
Bostancı /Southeast of Cizre	04 Jun 2002	3	KUŞBANK (2014), G. WELCH
Between Kavaközü-Bostancı/ Southeast of Cizre	04 Jun 2002	1	KUŞBANK (2014), G. WELCH
Kavaközü /Southeast of Cizre	4 Jun 2002	1	KUŞBANK (2014), G. WELCH
North of Cizre	30 Jun 2004	5	BALMER & BETTON (2005)
Cizre	27 Jul 2004	5	BALMER & BETTON (2005)
Cizre	04 Mar 2007	6	K. ÖZKAN, S. BEKİR, BALMER & BETTON (2008), KUŞBANK (2014),
Batman	26 Apr 2009	3	BALMER & MURDOCH (2009A), C.ÖZSEMİR,
Bismil	05 Feb 2011	3	KUŞBANK 2014, D. CIRANO
Şanlıurfa-Harran Plain	13 Aug 2011	1	KUŞBANK 2014, B. BILGEN, M. BOZDOĞAN,
Kocahöyük /Savur	23 Apr 2012	1	M. SINKIL, KUŞBANK (2014)
Şanlıurfa - Akçakale	11 Jun 2012	1	KUŞBANK (2014), B. BILGEN, E. YOĞURTCUOĞLU,
Mardin	13 May 2012	1	HARRISON & GRIEVE (2012)
Akçakale	17 May - 24 Jun 2012	2	HARRISON & GRIEVE (2012)
Ceylanpınar	21 May 2012	3	KUŞBANK (2014), K.BEKKELI, H.HVEDING, K.OLSEN, T.OLSEN, E.S.NILSEN.
Cizre	21 May 2012	2	KUŞBANK (2014), K.BEKKELI, H.HVEDING, K.OLSEN, T.OLSEN, E.S.NILSEN.
Dirsekli Göleti / İdil	21 May 2012	4	KUŞBANK (2014), K.BEKKELI, H.HVEDING, K.OLSEN, T.OLSEN, E.S.NILSEN.
Kocahöyük /Savur	01 Jan 2013	4	HARRISON I & LAMSDALL (2013), KUŞBANK (2014)
Garzan I	14 Feb 2013	1	R.KARAKAŞ
Garzan II	14 Feb 2013	4	R.KARAKAŞ
Garzan II	24 Feb 2013	2	R.KARAKAŞ
Garzan I	15 Mar 2013	3	R.KARAKAŞ
Garzan II	31 Mar 2013	4	R.KARAKAŞ
Garzan III	26 Apr 2013	2	R.KARAKAŞ
Garzan II	18 May 2013	2	R.KARAKAŞ
Garzan III	18 May 2013	3	R.KARAKAŞ
Garzan III	07 Jun 2013	5	R.Karakaş

close to Şırnak and Cizre were not visited, it is difficult to make an exact assessment related to species population size.

Comparing the number of records between 1983-1993; 1994-2004 and 2005-2013, it was found that there is no increase in the number of records.

However, comparison of the historic and recent distribution of red-wattled lapwings in Turkey revealed a change in their distribution. In the past, the distribution range of this species in Turkey was reported as confined to parts of Tigris River near Cizre (WELCH 2004). However, recent records suggested

that the distribution range was larger than previously believed.

The breeding population of red-wattled lapwings can be estimated as 20-30 pairs. Despite some wintering individuals, species should be characterised as a summer migrant to Turkey.

## Discussion

In Turkey, the red-wattled lapwing is recorded as a local resident or summer visitor (KIRWAN *et al.*, 2008b) and listed as locally endangered. The presence of this species in Turkey was detected in 1983 (MURPHY 1984) but there was no detailed study for Turkey.

The species richness of the South-eastern Anatolia Region is related to its geographical location and geological history (DEMIRSOY 1996). One of the most striking patterns of the region is the presence of natural corridors. Two major river systems, Tigris and Euphrates, form natural corridors in this region (WELCH 2004, KARAKAŞ 2010). Despite the increase of the birdwatching activities throughout Turkey, including in South-eastern Anatolia, there is no information on the occurrence of the red-wattled lapwing from Euphrates River and its tributaries. There are some records from Tigris River and eastern part of the Syrian border. The available records of this species of Asian origin indicate that its distribution is restricted to a few localities, mainly near the eastern part of Turkish and Syrian border between Şanlıurfa and Cizre. The red-wattled lapwing has been reported from the more northern areas along the Tigris River (WELCH 2004). It could be stated that this species is spreading to the north along Tigris on the basis of the breeding records from localities near Garzan Stream. In addition to the earlier breeding records from the Tigris River and its tributaries, there were breeding records from sites away from this river during last years (HARRISON, GRIEVE 2012), westwards to Mardin, Nusaybin and Ceylanpınar. The breeding records from North-eastern Syria (BALMER, MURDOCH 2009a) and those away from Tigris River during last years may reflect the expansion of the species in the western Palearctic, initially in Syria (MURDOCH, BETTON 2008) and later in Turkey. These

records support an expansion hypothesis. Birds observed in Turkey and Syria may have originated from Iraq where this species is native and common (SALIM *et al.* 2012). Also, there is probability of expansion of the red-wattled lapwing in suitable habitats to the northern areas as a result of its dispersal activities. In South-eastern Anatolia, there are frequent recent records of several species formerly considered as rare or vagrant (KARAKAŞ 2012). The ecological consequences of this expansion are poorly understood and deserve careful studies.

Many threats to birds originate from habitat loss and degradation throughout the world, including in Turkey (TUCKER, HEATH 1994, BIRDLIFE 2004, ŞEKERCIOĞLU *et al.* 2011). The population trends of avian species in Turkey are not well known but currently red-wattled lapwing is probably a rare breeding bird for the country. It is clear that sandy riverine habitats provide basic conditions for many species, including for the red-wattled lapwing. This species is ground-nesting and threatened by degradation of sandy shores. The breeding sites around Garzan Stream are not protected.

The species is summer migrant in Turkey where the north-western margin of its breeding range is situated. This is the first detailed study on the distribution and breeding ecology of the red-wattled lapwing in Turkey. The most preferred nesting sites are riverine habitats near agricultural fields providing abundant food resources. The increase in dams and irrigation canals may lead to an enormous increase of agricultural areas and, therefore, feeding ground while main breeding areas become negatively affected. It is known from previous studies that some bird species are threatened by local extinction due to the construction of dams (ŞEKERCIOĞLU *et al.* 2011), either due to the inundation of important habitats or because of the intensive agricultural activities (KARAKAŞ 2010, BIRICIK, KARAKAŞ 2012). Ecological studies on this species are crucial for planning future conservation activities.

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## References

- BALMER D., K. BETTON 2002. Around the region. – *Sandgrouse*, **24** (2): 156-160.
- BALMER D., K. BETTON 2005. Around the region. – *Sandgrouse*, **27** (1): 90-96.
- BALMER D., K. BETTON 2008. Around the region. – *Sandgrouse*, **30** (1): 14-21.
- BALMER D., D. MURDOCH 2009a. Around the region. – *Sandgrouse*, **31** (1): 91-103.
- BALMER D., D. MURDOCH 2009b. Around the region. – *Sandgrouse*, **31** (2): 208-222.
- BEAMAN M. 1986. Turkey Bird Report 1976-81. – *Sandgrouse*, **8**: 1-41.

- BIRDLIFE INTERNATIONAL 2004. Birds in Europe: population estimates, trends and conservation status. (BirdLife Conservation Series 12). – BirdLife International, Cambridge, UK.
- BIRICK, M., R. KARAKAŞ 2012. Birds of Hasankeyf (South-eastern Anatolia, Turkey) Under the Threat of a Big Dam Project. – *Natural Areas Journal*, **32** (1): 96-105.
- CRAMP S. 1998. The Complete Birds of the Western Palearctic. – Oxford University Press. (On CD-ROM).
- DEMİRİSOY A. 1996. Genel ve Türkiye Zoocoğrafyası (General Zoogeography and Zoogeography of Turkey). Meteksan, Ankara, Turkey.
- HAGEMELER E.J.M, M.J BLAIR (eds) 1997. The EBCC atlas of European breeding birds; their distribution and abundance. – T&AD Poyser, London.
- HARRISON I., A. GRIEVE 2012. Around the region. – *Sandgrouse*, **34** (2): 189-203.
- HARRISON I., C. LAMSDALL 2013. Around the region. – *Sandgrouse*, **35** (2): 175-186.
- IUCN 2013. Red List of Threatened Species. Version 2013.2. <www.iucnredlist.org>. Downloaded on 27 December 2013.
- KARAKAŞ R. 2010. Bird diversity in Bismil Plain IBA's with new records for South-eastern Anatolia, Turkey. – *Eur J Wildl Res*, **56**: 471-480.
- KARAKAŞ R. 2012. Does Black-Winged Kite *Elanus caeruleus* (Desfontaines, 1789) Have an Expansion in its Range in Turkey? – *Acta Zoologica Bulgarica*, **64** (2), 209-214.
- KASPAREK M., C.C. BILGIN 1996. Kuşlar (Aves). – In: KENCE A. & C.C. BILGIN (Ed.): Türkiye Omurgalılar Tür Listesi (Species List for Vertebrates of Turkey), Tübitak, Ankara, Turkey. 27-87.
- KILIÇ D.T., G. EKEN 2004. Türkiye'nin Önemli Kuş Alanları – 2004 Güncellemesi [Turkey's Important Bird Areas – 2004 Update]. Doğa Derneği-BirdLife International, Ankara, Turkey.
- KIRWAN G., R.P. MARTINS 1994. Turkey bird report 1987-1991. – *Sandgrouse*, **16**: 76-117
- KIRWAN G.M., M. ÖZEN, B. KURT, R.P. MARTINS 2003. Turkey Bird Report 1997–2001. – *Sandgrouse*, **25** (1): 8-31.
- KIRWAN G.M., M. ÖZEN, B. DEMİRCİ (compilers) 2008a. Turkey Bird Report 2002–2006. – *Sandgrouse*, **30**:166-189.
- KIRWAN G.M., K. BOYLA, P. CASTELL, B. DEMİRCİ, M. ÖZEN, H. WELCH, T. MARLOW. 2008b. The birds of Turkey. - Christopher Helm, London.
- KUŞBANK 2014. Erciyes Üniversitesi, RSPB, Birdlife International & Doğa Derneği. – Erişim tarihi: 13 Ekim 2014. www.kusbank.org
- MARTINS R.P. 1989. Turkey Bird Report 1982-86. – *Sandgrouse*, **11**: 1-41.
- MURDOCH D.A., K.F. BETTON 2008. A check list of Birds of Syria. – *Sandgrouse*, (suppl. 2): 1-48.
- MURPHY C. 1984. Recent Trips to Eastern Turkey 1983. – *OSME Bulletin*, **13**: 8-2.
- SALIM M.A., A.F. AL-SHEIKHLY, K.A. MAJEED, R.F. PORTER 2012. An annotated checklist of the birds of Iraq, – *Sandgrouse*, **34** (1): 4-43.
- ŞEKERCİOĞLU Ç.H., S. ANDERSON, E. AKÇAY, R. BILGIN, Ö.E. CAN, G. SEMİZ, Ç. TAVŞANOĞLU, M.B. YOKEŞ, A. SOYUMERT, K. İPEKDAL, İ.K. SAĞLAM, M. YÜCEL, H.N. DALFES 2011. Turkey's globally important biodiversity in crisis – *Biological Conservation*, **144** (12): 2752-2769.
- TUCKER G.M., M.F. HEATH 1994. Birds in Europe: their conservation status. – Birdlife International, Cambridge.
- WELCH H.J. (Ed.) 2004. GAP Biodiversity Research Project 2001-2003 / Final Report. DHKD (Doğal Hayatı Koruma Derneği). İstanbul, Türkiye.

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