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The El Jable desert (Lanzarote Island) protection aspects on the base of the birds inventory

1. Introduction

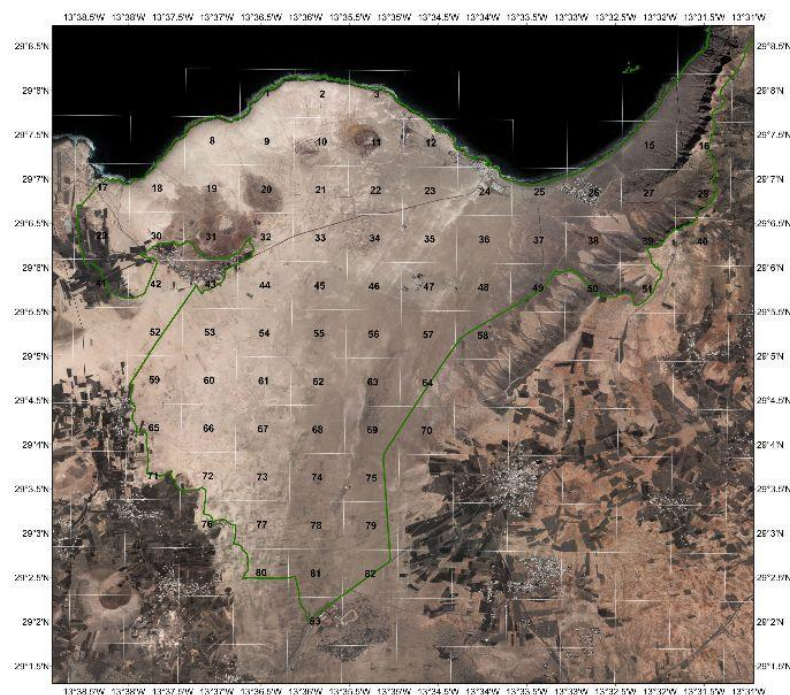
El Jable desert separates the mountain ranges of Famara and Montañas del Fuego in the northern part of Lanzarote Island. It is one of the most valuable natural areas not only on Lanzarote, but all Canary Islands, especially because of its unique character and endemic flora and fauna. That fact was the base of the enactment of NATURA 2000 area, which should be protected in any possible way. Unfortunately, the touristic impact on the island provokes various kinds of activities linked to the desert exploration and, consequently, increasing threats for various animals, especially birds. One of the most common and dangerous at once are the quads tours or motocross, often organised for tourism purposes, but also just like the form of enjoyment for locals. Other basic threat for the birds is connected with use of pesticides in agricultural fields within the desert. Those kinds of activities are especially dangerous for some unique bird species, inhabiting El Jable desert. Since the more severe forms of the area protection seem to be introduced, but in the spirit of sustainable development. Undoubtedly the precise, accurate inventory of natural elements of the desert is necessary. The birds are most valuable (or one of most valuable) part of the desert community, since the necessity of their precise inventory seemed to be the burning issue. The students of Warsaw University of Life Sciences – under the authority of professional ornithologist - took part in the environmental investigations of the large part of El Jable – with the precious help of the

institutions from Lanzarote – which resulted in the moderately full inventory of the birds and their numerical amounts.

2. The methods

For the inventory purposes the desert area was divided into 83 sectors. The detailed observations were carried out in 21 (numbers: 1, 2, 3, 8, 9, 10, 11, 12, 17, 18, 19, 20, 21, 22, 23, 24, 29, 30, 31, 32, 33) in the northern part. Such coverage of the large investigation area of rather homogenous character is qualified as sufficient for general estimations. The quantitative methods were being used, mainly the transects observations (counting all the birds seen or heard on the both sides of the transect route, mixed with longer observations from the points). The 11x40 binoculars were used, also the photographs were shot. The professional guides were used to identify some species (for example lesser short-toed lark). All the birds seen by the routes were noted on the map. The presences of chicks and youths were noted as well, since the breeding statuses of all species were determined (breeding, probably breeding, migrating)

The numerical amounts of all the species on the investigated area were used for the estimation of the probably ones on all the desert, with higher probability of inaccuracy, certainly.



3. The results

Sixteen species of birds were noted in the study area. The list and the densities (numerical amounts) are listed in Table 1. Also the estimated numerical amounts for all El Jable desert was included, with – mentioned before – higher probability of inaccuracy.

Table 1.

Species	Numerical amount in the investigated area	Estimated numerical amount in El Jable desert
Southern grey shrike <i>Lanius meridionalis koenigi</i>	37	150
Berthelot's pipit <i>Anthus berthelotii</i>	114	460
Barbary partridge <i>Alectoris barbara</i>	120	480
Canarian houbara <i>Chlamydotis undulate fuertaventurae</i>	15	60
Cream-coloured courser <i>Cursorius cursor</i>	8	35
Stone curlew <i>Burhinus oedicephalus</i>	39	160
Kestrel <i>Falco tinnunculus</i>	15	60
Lesser short-toed lark <i>Alaudala rufescens</i>	58	240
Raven <i>Corvus corax</i>	6	25
Trumpeter finch <i>Bucanetes githagineus</i>	20	80
Linnet <i>Carduelis cannabina</i>	5	20
Hoopoe <i>Upupa epops</i>	5	20

Kentish plover <i>Charadrius alexandrinus</i>	3	Impossible to estimate, the observation should be treated as accidental (the species connected with the seaside)
Spanish sparrow <i>Passer hispaniolensis</i>	4	16
Spectacled warbler <i>Sylvia conspicillata</i>	1	Impossible to estimate, the observation should be treated as accidental
Barbary falcon <i>Falco pelegrinoides</i>	1	Impossible to estimate, the observation should be treated as accidental

All noted species may be divided into the three groups: the ones typical for the desert habitat (endemic), the ones of wider ecological adaptability (occurring in various habitats) and the accidental visitors. The division of that kind is shown in Table 2.

Table 2.

The endemic species	The species of wider ecological adaptability	Accidental visitors
Barbary partridge* <i>Alectoris barbara</i>	Southern grey shrike <i>Lanius meridionalis koenigi</i>	Kentish plover <i>Charadrius alexandrinus</i>
Canarian houbara <i>Chlamydotis undulate fuertaventurae</i>	Berthelot's pipit <i>Anthus berthelotii</i>	Spectacled warbler <i>Sylvia conspicillata</i>
Cream-coloured courser <i>Cursorius cursor</i>	Barbary partridge* <i>Alectoris barbara</i>	Barbary falcon <i>Falco pelegrinoides</i>
Lesser short-toed lark* <i>Alaudala rufescens</i>	Stone curlew <i>Burhinus oedicephalus</i>	
	Kestrel <i>Falco tinnunculus</i>	
	Lesser short-toed lark*	

	<i>Alaudala rufescens</i>	
	Raven <i>Corvus corax</i>	
	Trumpeter finch <i>Bucanetes githagineus</i>	
	Linnet <i>Carduelis cannabina</i>	
	Hoopoe <i>Upupa epops</i>	
	Spanish sparrow <i>Passer hispaniolensis</i>	

*difficult to precise definition

The bird species of highest importance for the protected area and Lanzarote as a whole are the ones of endemic status (or difficult to precise definition - might be seen in other areas, but connected with the type of habitat represented by El Jable desert). There are – in the order of “environmental importance” and rarity – Canarian houbara, cream-coloured courser, Barbary partridge and lesser short-toed lark. Also the stone curlew – because of its unique environmental status – is absolutely worth taking into consideration. Below the description of their estimated status on Lanzarote, behavioural demands and habits in the light of possible anthropogenic threads.

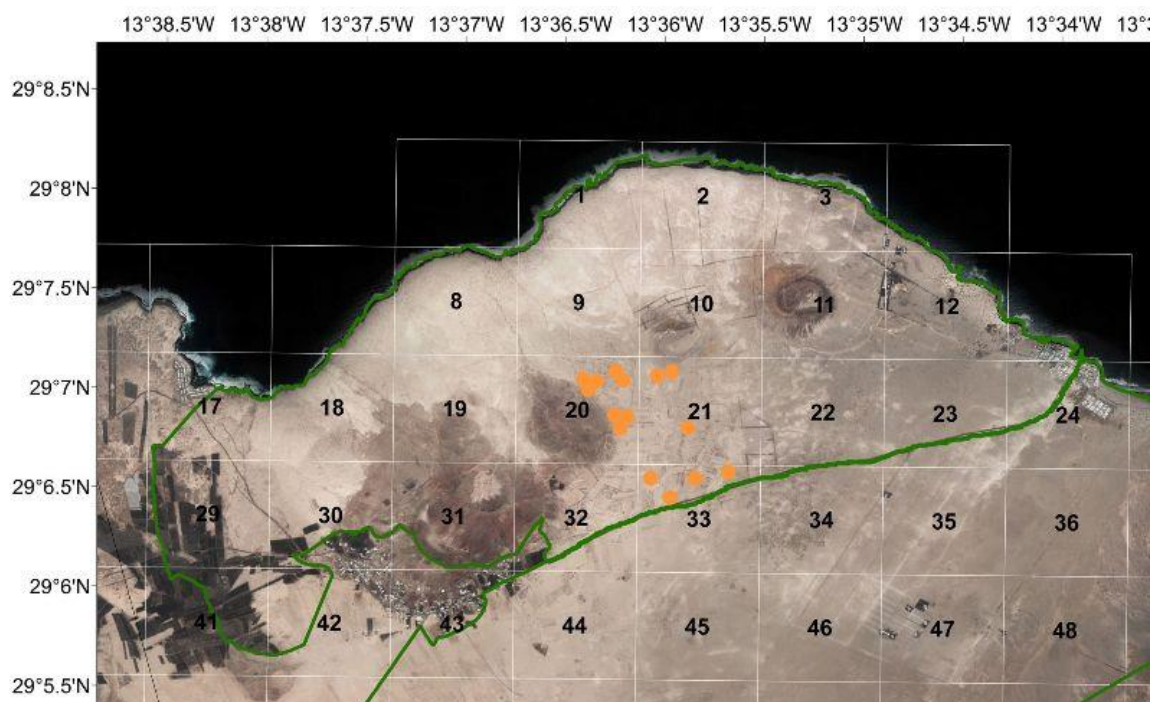
- Canarian houbara (*Chlamydotis undulate fuertaventurae*)

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The main threat for the Canarian houbara is undoubtedly the quad raids, especially during the breeding season (December to April), when the birds tend to be solitary (coming together only for mating) and are especially nervous. Houbara is generally rather shy and frequent flushing may strongly impact the specimen, provoking stresses and – for example – disturbing in laying eggs.

The distribution of houbaras in the investigated area is shown below.

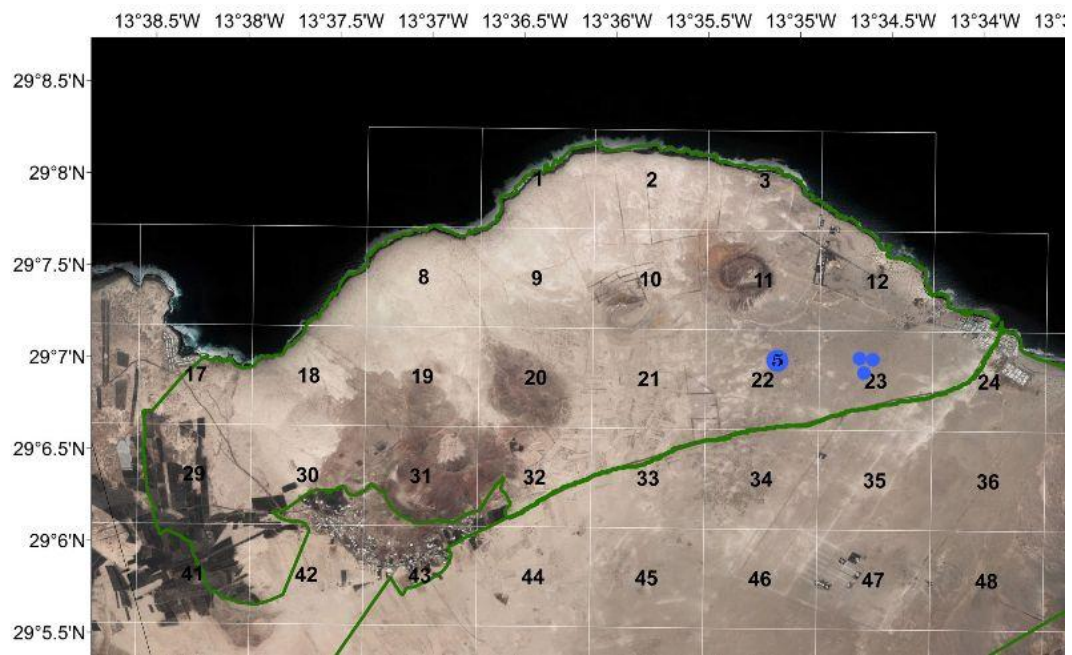


- Cream-coloured courser (*Cursorius cursor*)

There is lack of the data (only the results of individual observations) which may be applied to the density of the species in El Jable area in the previous periods, but with high probability it has decreased in numbers (taking into account the frequency of former and newest observations). The main threats for the species are again quad raids and mushrooms collection – even more significant that in the case of the houbara because of longer breeding period of the cream-coloured courser, which lasts from February to September (sometimes the birds may breed also in winter when local conditions are favourable). The birds lay eggs in the ground scrapes – the nest may be destroyed by the quads – and the youths (of very camouflaged plumage) feed in the ground, also being vulnerable for the collisions.



The coursers stick to peculiar sites, since there are the possibilities to ban the quad access after former inventory. The distribution of the species in the investigated area is shown below.

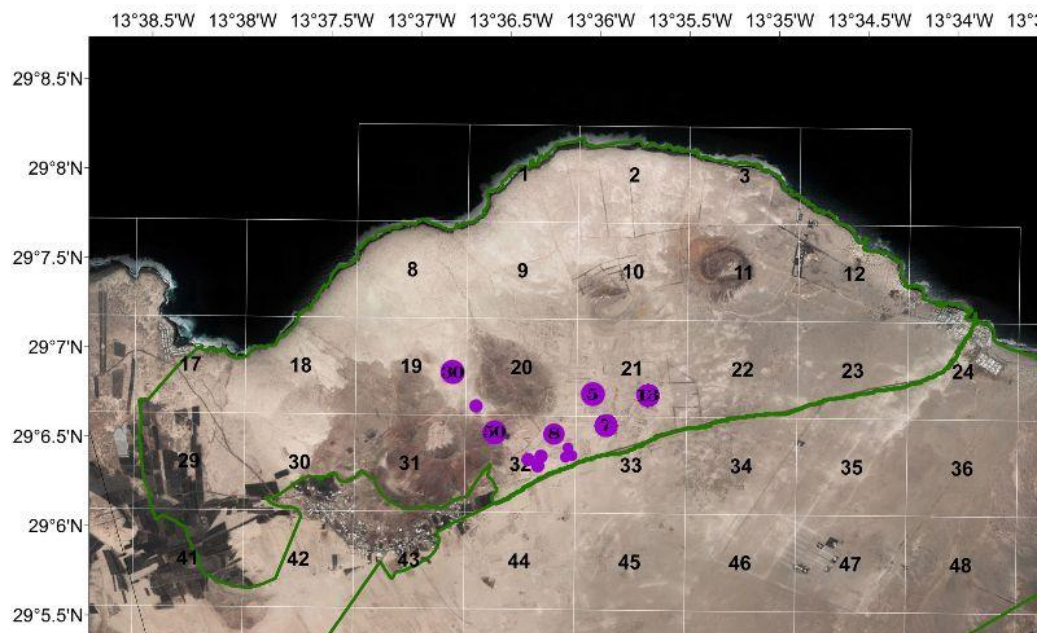


- Barbary partridge (*Alectoris barbara*)



The species of wider ecological spectrum than the former two, which seems to be less threatened, mainly because of the higher density. The basic threats are similar than in the case of cream-coloured courser – the chicks are also well-camouflaged

and feed on their own shortly after hatching. The distribution of Barbary partridge in the investigated area is shown below.



- Lesser short-toed lark (*Alaudala rufescens*)

The species nesting on the ground (from March till July), since also threatened by the quad raids. The adults are not especially vulnerable because of their tendency to avoid dangers by quick springing up.



The distribution of lesser short-toed lark in investigated area is shown below.



Very similar behaviour and the threads characterise more common species of El Jable desert - Berthelot's pipit (*Anthus berthelotii*) and stone curlew (*Burhinus oediconemus*)





The threats for other bird species noticed on El Jable seem to be similar, but not such serious, mainly because of the fact that there are not ground-breeders.

4. The discussion and conclusions

The uniqueness of El Jable desert determines its importance for Lanzarote island itself and all Canary Islands. The area should be treated as the natural treasure and protected in all possible ways. Observed alarming tendencies of decreasing in numbers of most valuable bird species, such as Canarian houbara, are especially unsettling. It is worth emphasizing that the bird species, such as houbara, cream-coloured courser or – in a lesser degree - lesser short-toed lark or stone curlew, have got the very unique, specific environmental demands, being the results of their evolutionary development. The deserts are the types of ecosystems which were developing for a very long time without any human impacts and are especially vulnerable for the activities which take place nowadays. Since the desert bird species react in very dramatic ways – abandon their nests or even hatchlings, show the dramatic stress reactions etc. Taking into consideration the fact of basic species' decreasing in numbers the necessity of more strict, rigorous protection seems to be absolutely clear.

The houbara population growth would have another positively aspect – avoiding of inbreeding, what could be the inhabiting factor for small, isolated populations.

One of the most worrying element of the El Jable desert touristic exploitation is the increasing of the untreated roads' number, which are being used by quad riders, uncontrolled bird watchers, poachers and “ordinary” tourists. Such activity should be immediately banned, what is linked to increasing in control frequency and their tightening. All the drive-in entries should be prearranged and controlled (tabled at the entry points). It will enable the proper monitoring of touristic activity, especially in the most “vulnerable” periods. Also the most frequent patrolling will buoy the birds safety.

El Jable desert remains very important and valuable natural reserve, but it's proper functioning – in the aspect of sustainable development - is threatened and requires close cooperation of many institution standing by Lanzarote future.

