POPULATION SIZE OF THE SYRIAN SERIN *SERINUS SYRIACUS* AND OTHER ORNITHOLOGICAL RECORDS FROM LEBANON

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ABSTRACT

This study deals mainly with the status and distribution of 16 bird species. The breeding of three of which (Cream-coloured Cursor Cursorius cursor, Temminck's Horned Lark Eremophila bilopha and Ménétries's Warbler Sylivia mystacea) was confirmed for the first time in Lebanon. Of the globally threatened species, one (Lesser Kestrel Falco naumanni) returned to breed and the other (Marbled Teal Marmaronetta angustirostris) reappeared following negative records respectively for 31 and 24 years. An endemic species to the Middle East (Syrian Serin Serinus syriacus) that is considered a key species for nature conservation was monitored. Its population was estimated in four protected areas (Qammouha, Horj Ehden, Tannourine and Arz Al-Chouf), from a random sample survey of 25 1-km squares, at 3503 pairs.

Keywords: avifauna, Syrian Serin, Lebanon

INTRODUCTION

During 2000 and 2001, and on behalf of the National Council for Scientific Research, regular bird monitoring activities in four nature reserves and irregular bird surveys in remote areas that are usually of difficult access and/or away from roads or tracks, especially in the semi-arid Anti-Lebanon mountainous range, were conducted. The latter is ornithologically very seldom explored. Over the course of forty-eight field visits, some incidental observations on occurrence and breeding of 15 species were made (Ramadan-Jaradi, G. & Ramadan-Jaradi, M., 1999; Beale, 2000; Ramadan-Jaradi, G. & Ramadan-Jaradi, M., 2001). The following notes deal largely with the breeding of one of the monitored Middle Eastern endemic species, the Syrian Serin *Serinus syriacus*, and briefly with the status of uncommon and/ or scarce local species or those where the status is uncertain in Lebanon. Records of the majority of more common and widespread species are not given and those

interested in their status should consult the above articles in addition to that of Thierry Bara (Bara, *in prep.*). The main localities mentioned in the text are shown in Figure 1.

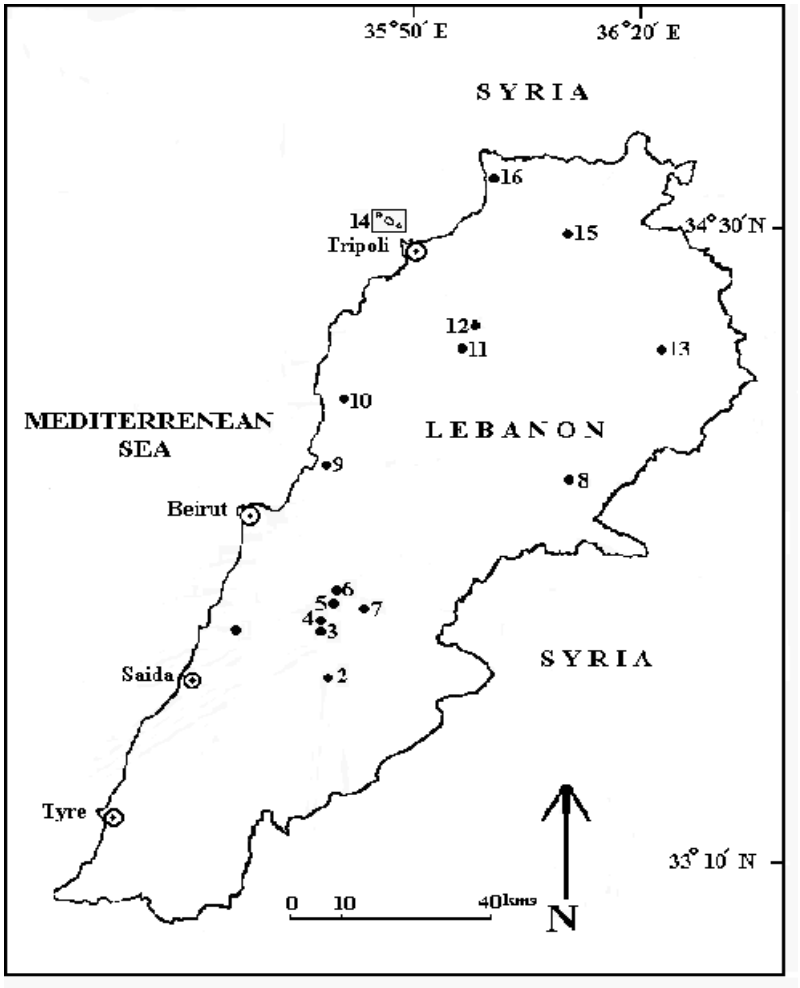

Figure 1. Lebanon Map showing the main localities mentioned in the text.
1: Dalhoun, 2: Qaraoun Lake, 3, 4, 5 and 6: Arz Al Schouf Cedar Nature Reserve, 7: Aammiq, 8: Baalbek, 9: Jounieh, 10: Bentael, 11: Tannourine Cedar Reserve, 12: Horj Ehden Nature Reserve, 13: Fakiha, 14: Palm Islands Nature Reserve, 15: Qammouha Reserve, 16: Sheik Zennad.

POPULATION SIZE OF THE SYRIAN SERIN IN FOUR PROTECTED AREAS

Among other species, the Syrian Serin was monitored between beginning April-end June of the springs 2000-2001. The method used is the 20 minute point count (Blondel, 1975; Blondel *et al.*, 1981) with the single difference that its every 10 points are within one randomly selected 1-km square, whereby the number of breeding pairs of the species is recorded, in one of three distance categories (Figure 2), during this time period at different places and different times of the breeding season. The study area encompassed the following reserves: Qammouha (34º 29´ N 36º 15´E), Horj Ehden (34º 17´ N 35º 89´E), Tannourine (34º 13´ N 35º 80´E) and Al-Chouf Cedar Reserve (33º 41´ N 35º 42´E). They contain the following forests and woodlands: cedar, fir, juniper, pine, oak and cypress trees.

RESULTS AND DISCUSSION

Syrian Serin was recorded in 171 (71.5%) of the studied counting points. The mean population size in all random 1-km squares was 13.26 ± 5.74 couples, with a minimum of eight and a maximum of 21. Extrapolation from the surveyed squares gave estimation for the four protected areas of 3503 pairs (Table 1).

TABLE 1

Summary of Sites and Syrian Serin *Serinus syriacus* Data Collected During the Springs 2000-2001

Reserve	**Qammouha**	**Horj Ehden**	**Tannourine**	**Al-Shouf cedar**
Area	c.20000 ha.	1700 ha.	600 ha.	15000 ha.
Altitude	1500-1900 m.	1200-2000 m.	1600-1700m	1300-1940
No. of counting points	85	60	30	67
Mean number of breeding pairs/ counting point.	1.2	1.46	2.07	0.86
No. of breeding pairs/ 100 ha	9.44	14.6	20.7	8.29
Estimated total number of breeding pairs/ reserve	1888	248	124	1243

The highest mean number of breeding couples per counting point (2.07) is found in Tannourine Reserve, followed by that of Horj Ehden Reserve (1.46) (the difference is not significant, $p < 0.05$), Qammouha Reserve (1.2) and finally Al-Chouf Cedar Reserve (9.4). The mean differences proved to be significant ($p > 0.05$) between Tannourine on one side and Qammouha and Al-Chouf Cedar on the other side; and to a lesser extent between Ehden and Al-Chouf Reserves. These results reflect, among others, the heterogeneity of the samples

taken in Qammouha and Al-Chouf Cedar and by extension the heterogeneity of these two habitats in comparison with the more homogeneous Ehden and Tannourine. Both, Ehden and Tannourine are apparently the most climactic and complex and may offer the same quality of breeding sites to the Syrian Serin (Ramadan-Jaradi, *in prep*.). Therefore, they should theoretically attract about the same number of couples per 1-km square. However, observations do not support this. The number of breeding couples in Horj Ehden is 15. This number is even lower than the 21 recorded in Tannourine. The interpretation of these results should however be viewed under the theory of island bird communities (MacArthur and Wilson, 1967; Lack, 1969; MacArthur, 1972; Blondel, 1979; 1987; Ramadan-Jaradi, 1989). In fact, Tannourine which is an isolated forest, showed already some main traits that are tied to continental insularity: species impoverishment, increased habitat breadth, smaller body-size, increased densities and decreased correlation to vegetational complexity (Ramadan-Jaradi, *in prep*.). In such places, several authors claim that the mean number of couples per species per unit-area is higher than in non-insular communities (Crowell, 1962; MacArthur, Karr and Diamond, 1972; Wright, 1980; Stamps and Buechner, 1985; for adverse comments see Vassalo and Rice, 1981). This means that the increased number of individuals or couples of the recorded species in a habitat compensate the species impoverishment in it (Ramadan-Jaradi, 1989). This is however the case of the birds of Tannourine and probably the isolated breeding population of Syrian Serin at Dana Reserve of Jordan where the average number (24) of couples per km2 (Andrews *et al*., 1999) is also high. It is beyond our scope here to explain selective factors governing the density and the pattern of distribution of the Syrian Serin between the different reserves. A requirement for such analysis is the recognition of the correlation that may be found between the birds and the different elements of the ecological niche.

OTHER SIGNIFICANT OBSERVATIONS

Marmaronetta angustirostris **Marbled Teal**
One on 3 October 2000 at Sheikh Zennad (34º 36´ N 35º 96´E). This is the second accidental record of this globally threatened species in Lebanon since the one of the Qaraoun Lake (33º 35´ N 35º 44´E) in September 1978 (Tohmé & Tohmé 1986).

Circaetus gallicus **Short-toed Eagle**
A couple found breeding in a *Quercus sp*. tree at Dalhoun (33º 38´ N 35º 28´E) between mid April and early September during 2000 and 2001. Electricity pylons were the preferred post for the male to detect preys. It seems that the date of departure (9 September) of these migrant breeders is anticipated due to the pressure of illegal hunting. With these records and the evidence of a breeding pair in the hills above Aammiq (33º 44´ N 35º 47´E) (Beale and Sprenger, 2000), the species should not be anymore considered as localized breeder in the southernmost areas of Lebanon (Ramadan-Jaradi, G. & Ramadan-Jaradi, M., 1999), but in the southern half of the country. Further observations may reveal its breeding elsewhere in the northern half of Lebanon.

Falco naumanni **Lesser Kestrel**
Three square cavities out of six in Tyre Roman Monuments (33º 16´ N 35º 13´E) were found with chicks on 22/5/2000. The parents used the surrounding high trees for observing intruders. The other three cavities that were also used by parents as a transit stop point before

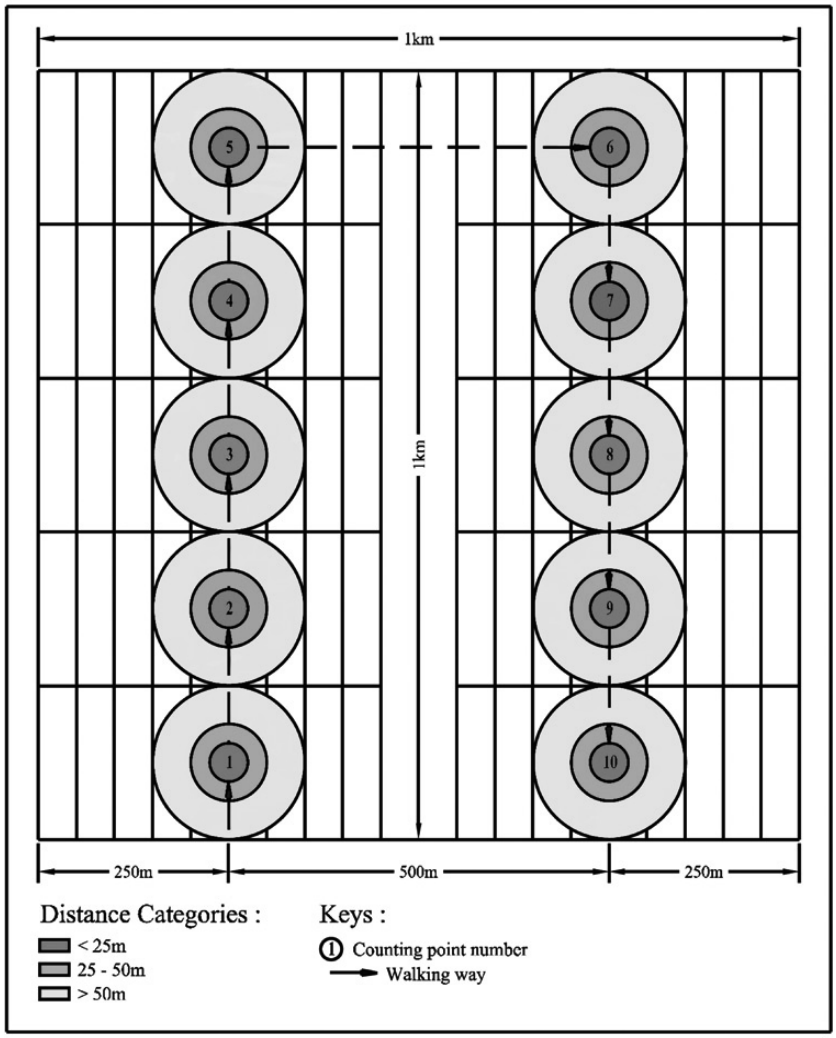

Figure 2. Numbered counting points and distance categories for 1-km square in the Syrian Serin Breeding Survey/ Lebanon.

Figure 3. Temminck's Lark, a breeding species in Lebanon that once was considered a vagrant.(Photographed by G. Ramadan-Jaradi).

gaining their nests showed signs of fresh previous occupation. These breeding records are the first in Lebanon since 31 years (Benson 1970).

Falco subbuteo **Hobby**

The occurrence of one individual on 14 December 2000 in Arz Al Schouf Reserve and two on 17 December 2000 in Bentael Nature Reserve (34º 09´ N 35º 41´E) suggests that this migrant breeder (Ramadan-Jaradi, G. and Ramadan-Jaradi, M., 1999) is also a scarce winterer, while the presence of one young individual between 30 June-12 July 2000 on Palm Islands reserve (34º 29´ N 35º 46´E) suggests also a non-breeding summer visitor.

Alectoris chukar **Chukar**

The indigenous species in Lebanon is intermediate between *Alectoris chukar cypriotes* and *A. c. synaica* (Vaurie, 1959 and 1965). Whereas, the several individuals that were identified on the strings as *A. c. cyprotes* indicate a recent introduction of an alien sup-species that may become invasive.

Grus grus **Common Crane**

The recent discovery of the routes of migration of the species along the wetlands of the Beqaa and the western slopes of the Mount-Lebanon Range (Ramadan-Jaradi, *in prep*.) confirms a common and regular passage, especially in the spring, with peaks up to 250.

Cursorius cursor **Cream-coloured Coursor**
Breeding confirmed: one nest with two eggs found on 6 April 2000 near Al Fakiha (34º 15´ N 36º 24´E) in northern Beqaa. One adult at Sheikh Zennad on 14 April 2000 and one juvenile in the same area on 17 April 2000.

Phalaropus lobatus **Red-necked Phalarope**
One individual at Palm Islands Nature Reserve on 17 August 2000 (RJ), and one at Sheikh Zinnad on 22 July 2001 seen and photographed by Nidal Issa (*pers. Comm.*). Previously, only one record on 3 August 1996 (Ramadan-Jaradi, G. & Ramadan-Jaradi, M., 1999).

Stercorarius pomarinus **Pomarine Skua**
One 20 February 2001 near Palm Islands Nature Reserve that followed our boat along the way to the port of El Mina in Tripoli, and two over the sea facing the American University of Beirut on 17 April 2001. These records, together with those mentioned in Ramadan-Jaradi, G. & Ramadan-Jaradi, M. (1999), indicate rather a scarce passage migrant and winter visitor than vagrant species.

Larus ichthyaetus **Great Black-headed Gull**
One on Bellan Island (34º 28´ N 35º 48´E) near El-Mina/ Tripoli 19 October 2000 and one at Sheikh Zennad on 2 November 2000. The previous records on five and 15 March (Macfarlane, 1978) and on 15 December 1996 (Bara in Ramadan-Jaradi, G. & Ramadan-Jaradi, M., 1999), and on 31 January and 9 February 1998 (Bara, *in prep*.) suggest that the species is rather scarce passage and winter visitor than vagrant.

Columba palumbus **Wood Pigeon**
63 at Bentael Nature Reserve on 24 September 2000 and a total of c.3000 visited the same reserve and its surrounding during 14-25 December 2000, of which an average of 70 individuals was shot daily by local hunters. These records indicate that the species was either underestimated in Lebanon or the wintering population was affected by severe climatic conditions further north.

Eremophila bilopha **Temminck's Horned Lark**
First one seen injured by a local hunter on 27 April 2000 at Baalbek city in the Beqaa. On 21 May a small active flock of c.15 individuals was found in a semi arid area at Ras Baalbek (34º 15´ N 36º 31´E). Returning to the site on 4 May 2001, several callings were heard and one nest with two fledged young was found on the main track. This first sight after 44 years constitute at the same time the first breeding record of this species in Lebanon that was once considered as vagrant (Ramadan-Jaradi, G. & Ramadan-Jaradi, M., 1999).

Sylvia mystacea **Ménétries's Warbler**
One brooding female was caught by a mist net at Dalhoun on 7 May 2000. The breeding was confirmed at the same site during the spring 2001 with at least four pairs in a degraded garrigue area of c.500 hectares. This is the first confirmed breeding record for Lebanon.

Phylloscopus collybita **Chifchaff**

Several couples found breeding during the springs 2000-2001 at Tannourine Cedar Nature Forest Reserve on the northern western slopes of Mount-Lebanon. These records support the breeding of the species that was confirmed earlier in 1998-1999 by Thierry Bara at Horj Ehden Nature Reserve (Bara, *in prep.*), which lies few kilometers away from Tannourine.

Pica pica **Magpie**

Despite the fact that there are three previous records: several reported in the south of the country in October 1967 and August 1968 by 4–5 observers (Benson 1970), and one in woodland north of Baabda on 15 April 1984 (Khairallah 1986); the one individual seen on 4 September 2000 flying with difficulty over the main road Beirut-Tripoli, near Jounieh city is most probably originated from escapes.

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