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On the occurrence of the Lesser White-fronted Goose *Anser erythropus* in Greece

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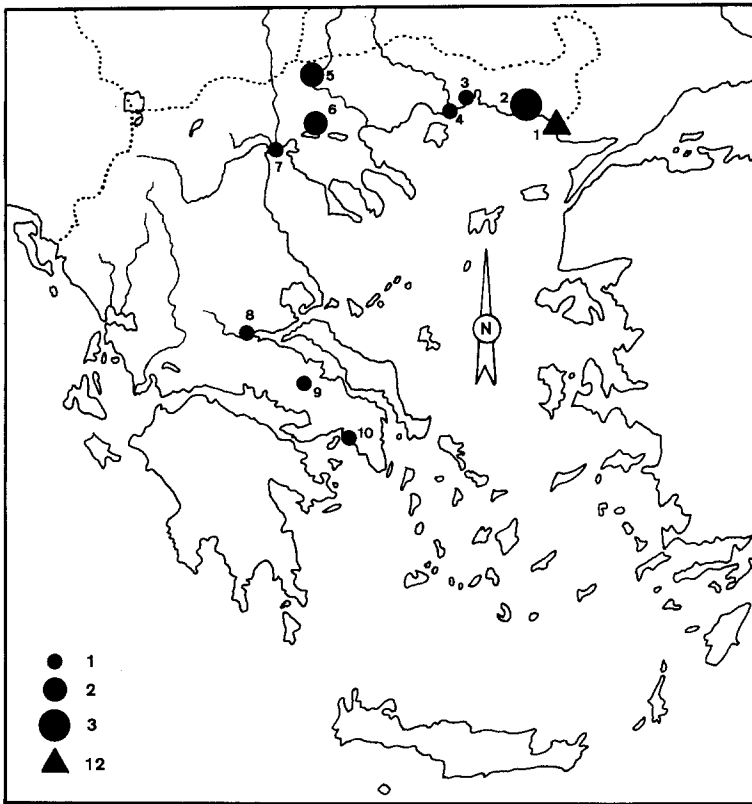
Introduction and Methods

The Lesser White-fronted Goose *Anser erythropus* has in recent years become rare all over its Western Palearctic range, particularly in the western parts of it (CRAMP & SIMMONS 1977, OWEN 1980). The species breeds in a narrow zone along the Arctic Circle, from the Central Sweden and Norway east to Anadyr in Northeastern Siberia (USPENSKI 1965, CRAMP & SIMMONS 1977, OWEN 1980).

Lesser White-fronted Geese migrate from the western parts of their range, Fennoscandia and perhaps Northwest USSR (STERBETZ 1985) to several separate wintering areas some of which are not yet clearly known (BAUER & GLUTZ 1968, CRAMP & SIMMONS 1977, OWEN 1980). As far as is known, the Pannonic plains in eastern Hungary hold the largest concentrations of the species, though the overall numbers have now seriously declined (STERBETZ 1978, 1982, 1985). Southeastern Balkans and particularly Greece seem to be the second important European area for wintering Lesser White-fronted Geese.

The purpose of this paper is to present all available information on the occurrence, numbers and distribution of the species in Greece as a contribution to the knowledge and conservation of this declining species.

Data on the occurrence of this species in Greece were systematically collected from a) published literature, particularly old papers, b) unpublished information, mostly bird-watching reports kindly supplied by foreign ornithologists visiting Greece, c) the International Waterfowl Research Bureau (IWRB) midwinter waterfowl censuses; for the last 20–25 years, these censuses have been the main source of information about the species (HANDRINOS 1989 a, b, in press) and d) our own observations.



Distribution of Lesser White-fronted Geese records ($n \pm 25$). Dots indicate the number of records per area. The numbers denote the names of the sites as following: 1. Evros Delta, 2. Lake Mitrikou, 3. Lafrouda lagoon, 4. Nestos Delta, 5. Lake Kerkini, 6. Lake Koronia and Strymon valley, 7. Axios Delta, 8. Spercheios Delta, 9. Lake Kopais (now drained), 10. Attica.

Results

Lesser White-fronted Geese were recorded for the first time in Greece on 18 February 1859 in Attica when two birds (σ and q) were collected, presumably at the Phalericon Delta. The mounted specimens are kept in the collection of the Zoological Museum of Athens University, but REISER (1905) failed to record them.

Further records in the 19th century were confusing, poorly documented and generally difficult to accept: KRÜPER (VON DER MÜHLE 1844) is said to have killed a probably nesting female at Lake Kopais, Boetia, a statement appearing possible to NAUMANN who suspected that the origin of that bird might be Asiatic (REISER 1905). KRÜPER (in REISER 1905) suggested that the geese which have been occasionally seen by LINDERMAYER (1860) on sale in Athens meat market were in fact White-fronted Geese *Anser albifrons* and not Lesser White-fronted, as suspected. VON HELDREICH (1878) also reported that Lesser White-fronted Geese were common in winter in Greece, but again REISER (1905) suspected confusion with the White-fronted.

The first well documented record in this century was of two birds collected during the severe winter of 1902 in Spercheios Delta, Lamia, the skins later given to the Sarajevo Museum (REISER 1905). Within the first half of the present century, Lesser White-fronted Geese were recorded on three occasions, all in Macedonia and Thrace.

There was a paucity of records for about three decades, but since the 1960's, especially because of start of the IWRB midwinter censuses, the species has been seen on 15 occasions ranging from single birds to the astonishing record of 1630 birds on 21 and 22 February 1963 in the Evros Delta (NISBET & SWIFT 1963), which still remains the largest concentration in Greece (Table 1) and one of the largest in the Balkan Peninsula (HANDRINOS, in press).

Among all Greek areas where Lesser White-fronted Geese have been seen, the Evros Delta is most prominent with 12 (63 %) records obtained within the second half of this century

Total records of Lesser White-fronted Geese in Greece (1859—1989). Numbers of localities correspond to those in the fig; + shot specimen, * IWRB Midwinter Census.

Locality	Date	Numbers	References
1. Evros Delta	March 1954	+	COOMBES (1957)
" "	21—22 Febr. 1965	1 630	NISBET & SWIFT (1963)
" "	15 Jan.—17 Febr. 1965	155	BAUER & MÜLLER (1969)
" "	Jan. 1966	+	This study
" "	23—24 Jan. 1968	20	KONING & VISSER (in litt)*
" "	Dec. 1971	+	This study
" "	17—21 Jan. 1972	+	VAN TOL, VAN ALPHEN & KRUYT (in litt)*
" "	18—19 Jan. 1973	480	JOHNSON & CARP (1973)*
" "	21—23 Jan. 1974	2	HAFNER & HOFFMANN (1974)*
" "	21—22 Jan. 1982	2	HALLMANN & HANDRINOS*
" "	28—29 Jan. 1983	32	HALLMANN & HANDRINOS*
" "	20—21 Jan. 1988	116	HALLMANN, JERRENTROP, NASIRIDIS & ROESSLER (in litt)*
2. Lake Mitrikou	24 Jan. 1974	40	HAFNER & HOFFMANN (1974)*
" "	19 Jan. 1984	70	JERRENTROP (in litt)*
" "	13 Jan. 1989	2	This study
3. Lafrouda lagoon	15 Jan. 1985	1	HALLMANN (in litt)*
4. Nestos Delta	22 Jan. 1968	1	KONING & VISSER (in litt)*
5. Lake Kerkini	14 Jan. 1973	7	JOHNSON & CARP (1973)*
" "	22—25 Jan. 1988	26	HALLMANN, JERRENTROP, NASIRIDIS & ROESSLER (in litt)*
6. Strymon Valley & Lake Koronia	winter 1918	"many"	HARRISSON (1918)
" "	Febr. 1921	3 +	CHASEN (1921)
7. Axios Delta	Dec. 1931	1 ♂, 1 ♀ +	KATTINGER (1935)
8. Spercheios Delta	25—26 Dec. 1902	1 ♂, 1 ♀ +	REISER (1905)
9. Lake Kopais	June (?)	1 ♀ +	"
10. Attica	18 Febr. 1859	1 ♂, 1 ♀ +	"

(48 % of the 25 total) and also with the largest concentration of birds. Apart from the Evros Delta, these geese have been recorded in four other wetlands of Macedonia and Thrace again the most important being the lake Mitrikou.

Discussion

Apart from the four mounted specimens the validity of records from the last century remains open due to lack of proper documentation. However all acceptable records have come from very southern areas in Greece (Attica, Sterea Hellas), a fact which suggests that the distribution was more southerly and indeed wider than today (HANDRINOS, in press). After 1950, and especially within the last two decades, the increase of records was due to the increased surveys in the wetlands especially those of northern Greece. During this period there are no records of Lesser White-fronted Geese from southern of central Greece suggesting that their distribution had already shrunk before this period.

The records presented here are rather few, most of them (72 %) coming from the last 25 years and consequently it is difficult to draw a complete picture of the exact long-term changes in distribution and population size. However, within the most recent period the data reflect the true pattern of occurrence even if a part of the population remained unnoticed. This may have resulted either from the difficulty to detect Lesser White-fronted Geese in mixed goose flocks (STERBETZ 1982), or their tendency to use more steppe-like or natural grass habitats than other geese (CRAMP & SIMMONS 1977, OWEN 1980, STERBETZ 1982) which may not have been surveyed during the January counts.

More data are needed on the origin of the Greek wintering population of the species. A winter recovery of a bird shot in Macedonia and ringed in summer in Swedish Lappland (HÖGLUND 1960) suggests that like the Hungarian (STERBETZ 1978, 1982) part of the Greek population is of Fenno-Scandian origin.

In the Evros Delta conservation of wintering population strongly depends on management practices. The area, an internationally important wetland (BAUER & MÜLLER 1969, HANDRINOS in press) has undergone a dramatic destruction and decline of its natural habitats through drainage, land reclamation, overgrazing and other mismanagement practices (MORGAN et al. 1978). Thus, the habitats suitable for geese have diminished and this may also affect the presence of the Lesser White-fronted Geese there.

Another problem, affecting waterfowl in Greece in general, is hunting (JOENSEN & MADSEN 1989, HANDRINOS 1989 a, b, in press). As Lesser White-fronted Geese frequently share the same habitats with other geese they are often shot (although their hunting is prohibited by law) both due to misidentification or on purpose.

In view of the increasing rarity of the species in the W. Palearctic, including Greece, the Lesser White-fronted Goose has been included in the forthcoming Red Data Book of Greek Vertebrates (category E: endangered). Much more data are, however, needed on the winter ecology of the species in Greece, its movements etc., while a regional analysis of its population trends in all the Balkan countries is essential for conservation reasons.

A proper conservation plan for the Lesser White-fronted Goose in Greece is a necessity. As an urgent measure, however, it is proposed that hunting of all goose species in the Evros Delta should be banned, since not only Lesser White-fronted but all geese have seriously declined in this wetland and, in fact, in all of Greece.

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Summary

Since 1859, wintering Lesser White-fronted Geese have been recorded 25 times in Greece. Of the records obtained in the second half of the 19th century only two, based on museum specimens, are valid. There were four records in the first half of the present century, while all the others come from the second half due to increased coverage mostly during IWRB mid-winter censuses. Their distribution had been more southerly in the past, but in recent years only northern Greek wetlands hold the bulk of the wintering population, with the Evros Delta being the most important area (12, or 48 % of all records). The wintering population of the species in the Evros Delta is threatened by habitat destruction and shooting.

Zusammenfassung

Zum Vorkommen der Zwerggans in Griechenland. — Seit 1859 wurden in Griechenland 25mal Zwerggänse festgestellt; aus dem 19. Jh. liegen nur 2 sichere Nachweise vor. 4 Nachweise fallen in die erste Hälfte des 20. Jh., die restlichen alle in die zweite Hälfte. Die Verteilung der Funde scheint in der Vergangenheit weiter nach Süden gereicht zu haben; heute liegen nur aus dem Norden Beobachtungen vor. Der wichtigste Platz ist das Evros-Delta (12 von 25 Nachweisen; einmal 1630 Ind. im Februar 1963). Die Winterpopulation ist durch Biotopzerstörung und Abschluß bedroht.

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Breeding success and behaviour of a pair of House and Tree Sparrow (*Passer domesticus*, *Passer montanus*) in the wild

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Hybrids of House × Tree Sparrows are often reported (e.g. NYHOLM 1966, SUMMERS-SMITH 1988, p. 267) but instances in which the behaviour of mixed pairs were described in the wild are lacking (see PACCAUD 1966, ALBRECHT 1983).

A pair of ♂ House and ♀ Tree Sparrow occurred in “Finca la Ricarda”, Prat de Llobregat (province of Barcelona, Spain, for details see CORDERO & SALAET 1989, SALAET & CORDERO 1988). The pair occupied a box which formed part of a set of twenty-four, all the rest occupied by Tree Sparrows (subcolony B). In another set of twenty-four nestboxes 100 m apart (subcolony A), House and Tree Sparrow coexisted occupying contiguous boxes.

Table 1. Some reproduction parameters of ♂ House Sparrow (HS) × ♀ Tree Sparrow (TS) and nestling phenotypes. ?*, nestling dead before plumage development.

Brood	Onset	Clutch size	N hatching	Nestling phenotype				N fledgings (13th day)
				hybrid	HS	TS	?*	
I	3.V	4	4	4	0	0	0	4
II	5.VI	4	3	1	0	2	0	3
III	7.VII	4	4	3	0	0	1*	3