

The lost cranes of the island of Lampedusa (Italy)

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Riassunto - Le gru dell'Isola di Lampedusa (Italia).

La ricchezza dell'avifauna migratoria di Lampedusa (Canale di Sicilia, Italia) è nota a partire dal XV secolo, ma è soprattutto nel corso dell'Ottocento che sulla piccola isola è stata documentata la presenza regolare di gru. I resoconti ufficiali riferiscono della diffusione di questi uccelli per lo meno a partire dal secolo XVIII, indicandone il periodo di sosta su Lampedusa (ogni anni fra maggio ed agosto), la loro regolare nidificazione, e perfino il tipo di vegetazione di cui si nutrivano finendo spesso per arrecare notevoli danni alla povera agricoltura locale. Ciò nonostante, la letteratura scientifica non è riuscita a diagnosticare l'identità tassonomica di questi uccelli; alcuni autori li hanno, infatti, descritti come *Gru cenerina*, *Grus grus*, mentre per altri si sarebbe trattato di Damigelle di Numidia, *Anthropoides virgo*, se non addirittura di Gru coronate, *Balearica pavonina*. Scopo del presente lavoro è tentare di indagare su questa incongruenza tassonomica e zoogeografica.

Parole chiave: Mediterraneo centrale, Gru cenerina, Gru coronata, Damigella di Numidia, isole Pelagie.

Abstract - The abundance of migratory birds on Lampedusa (Sicilian Channel, Italy) has been documented since the fifteenth century, but during the nineteenth century, this small island was particularly noted for the regular presence of cranes. Official reports documented the occurrence of these birds from as far back as the eighteenth century, recording the period of their presence on Lampedusa (every year between May and August), their regular nesting, and even the crop plants they fed on, a habit often resulting in a major damage for to the island's subsistence farming. In spite of all this documentary information, scholars did not, however, succeeded in assigning them to a well-defined species and while several authors described them as Common cranes, *Grus grus*, others identified them as Demoiselle Cranes, *Anthropoides virgo*, or even as Black crowned Cranes, *Balearica pavonina*. The paper is an attempt to investigate this taxonomic and zoogeographic puzzle, while inclining towards an identification of the crane in question in the morphological and ecological characters of the Demoiselle Cranes.

Key words: Central Mediterranean basin, Common Crane, Black crowned Crane, Demoiselle Crane, Pelagian islands.

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Received: 12 September 2015

Accepted for publication: 5 March 2016

INTRODUCTION

The island of Lampedusa (35°30'N - 12°31'E) lies in Italy, in the Sicilian Channel only some 113 km off the North-African coast, and about 205 km from Sicily (Fig. 1). It is the main island of the Pelagian archipelago, which also includes the isles of Linosa and Lampione. The surface of Lampedusa covers about 20 km² and reaches its highest altitude at 133 m above sea level. Lampedusa has little water, and during the summer has to be supplied by tankers. Its vegetation is today poor and scantily represented by a low, thorny Mediterranean garigue. In fact, according to several authors, such as Avogadro di Vigliano (1880), Sommier (1908), Riggio (1976), and Fragapane (1993), the original Mediterranean forest was burnt out, over few years, in the 19th century for the production of charcoal that was exported to the mainland and to other islands, such as Sicily, Malta and Pantelleria (Masseti & Pasta, 2002). This coincided with the definitive human colonisation brought about by the King of Naples, in the eighteenth-forties/fifties. Historically, terrestrial vertebrates were represented by Red Deer, *Cervus elaphus* L., 1758, Wild Rabbits, *Oryctolagus cuniculus* (L., 1758), and tortoises of the genus *Testudo*, while the caves along the coast were inhabited by the Monk Seal, *Monachus monachus* (Hermann, 1779). These animals vanished soon after the advent of human colonisation of the island following direct persecution and rapid environmental changes (Masseti & Zava, 2002a, 2002b, and 2002c).

The abundance of migratory birds on Lampedusa is documented since the fifteenth century (Fragapane, 1993) but, as Baccetti *et al.* (1995) observed, even in the nineteenth century the principal curiosity of the island "was represented by the regular presence of Cranes ... that sojourned on the island between May and June, wreaking havoc on the crops". Numerous writers have described the island as a spring-summer stop-over site for these birds, and observed their feeding habits (Smith, 1824; Gussone, 1832; Schembri, 1843; Calcara, 1846, 1847 and 1848; Sanvisente, 1849; Avogadro Di Vigliano, 1880; Giglioli, 1886 and 1907; Sommier, 1906; Gibilaro, 1991). According to the Commander of the English fleet W.H. Smith (1824), for example, who visited the Pelagian archipelago several times around 1813, the cranes would arrive in droves in May, and would amuse themselves "by banqueting among the legumes, always keeping a senti-



Fig. 1 - Map of North Africa with the location of the island of Lampedusa, in the Sicilian Channel, the Tunisian salty basins of the Sebkhha of Sidi el Hani and of Kelbia, in the area between Kairouan, Sousse and El Djem, and other localities mentioned in the text.

nel on guard during their raids". The botanist Gussone (1832), who visited Lampedusa in 1828, observed that the birds spent the summer on the island, causing "*non poco danno alle messi*" (= "*no little damage to the harvest*"), while Calcara (1846) noted that, in the western territories, "*the cranes live here for two months, destroying the already meagre harvest*". Sanvisente (1849) for his part, observed: "*The Cranes arrive from Numidia towards the end of April, and depart again in July after the harvest. They feed on Beans, Wheat and Snails; they deposit their chicks in the woody maquis of the west; some of these have been reared and fed by us, and many of them domesticated; they have grown large and become a source of great interest on account of their slender form and majestic beauty*". Finally, Avogadro Di Vigliano (1880) noted that: "*As regards the cranes, I would say that this bird visits the island in flocks towards the end of May and the beginning of June, sometimes wreaking havoc on the harvest*". Schembri (1843a) and Giglioli (1886, 1907) also refer to the story according to which the island had been transformed "*into a Crane park*!". However, in spite what they reveal about the migratory and feeding habits, these authors does not agree about the identity of the birds.

LITERARY REFERENCES AND MUSEUM SPECIMENS

There is historical evidence for the presence on Lampedusa, both random and habitual, of at least two different species of crane. It is important to emphasise the fact that the zoological nomenclature used by the nineteenth-century authors, as observed by Zavattari (1960), does not correspond to a large extent to the modern, nor

to the validity of its definitions. According to the descriptions of Calcara (1846, 1847, 1848), Sanvisente (1849), Avogadro Di Vigliano (1880) and Sommier (1908), the birds which lived on the island in spring and summer were Common Cranes, *Grus grus* (L., 1758), while for Smith (1824), Schembri (1843a) and Giglioli (1886 and 1907), they were Demoiselle Cranes, *Anthropoides virgo* (L., 1758), from Numidia, an ancient region in what is now Algeria and a smaller part of Tunisia, in North Africa. Various archival documents dating to the eighteenth century support the presence of this latter species. For example, in a letter from Fra. Luca Tommasi to the Prince (Palermo, 22 June 1764), we read: "*Luca Tommasi informs the Prince, among other things, that Des Pennes delivered to him 'two demoiselles' for the Prince 'as a tribute from the small colony of Lampedusa'*". Smith (1824) was more explicit, referring to: "... the Crane from Numidia, known as the demoiselle on account of its graceful movement: these birds arrive in great numbers in May and amuse themselves by banqueting among the legumes, always keeping a sentinel on guard during their raids". Up to the first half of the last century, both the Common Crane and the Demoiselle Crane were regularly recorded among the nesting birds of the continental areas of nearby Tunisia. Both species bred on the islands of the salty basins of the Sebkhha of Sidi el Hani and of Kelbia, in the area between Kairouan, Sousse and El Djem (Whitaker, 1905; Lavauden, 1924; Schembri, 1943a; Blanchet, 1955; Heim de Balsac & Mayaud, 1962; Etchécopar & Hùe, 1964; Meine & Archibald, 1996; La Mantia, 2001). Therefore, it seems likely that until Lampedusa was permanently colonised (Masseti & Zava, 2002a, 2002b), the birds also found on the island a favourable environment for their

seasonal visit, especially in the western part where it appears they could nest relatively undisturbed. As regards the other islands in the Sicilian channel, there is evidence of the previous presence of this crane only in the Kuriate, while it is regarded as a regular winter visitor on the Kerkennah, where it disperses during the day to feed in small groups in market gardens, particularly crops of peas (Isenmann *et al.*, 2005). In the Maltese archipelago, Common Cranes are numbered among the migratory species, too (Schembri, 1843b; Wright, 1869; Salvadori, 1872; Despott, 1932-1934). Sultana and Gauci (1982) reported that the Common Crane is a rare autumn passage migrant in Malta, where it can be seen between the end of August and November: during the winter and the spring its presence is generally very irregular. On Zembra too, the species is irregularly observed during the autumn passage (Pierre Fiquet, pers. comm.). **Nesting birds from northern Europe** migrate via the Italian peninsula and Sicily to arrive in Tunisia from the second half of October and early November (Blotzheim *et al.*, 1973; Isenmann *et al.*, 2005). The species is also a winter visitor to Sicily (Benoit, 1840), where the Lentini lake in Catania is regarded as the most important Italian site for its overwintering (Ciaccio, 1993; Ciaccio & Priolo, 1997; Iapi-

chino & Massa, 1989; Iapichino, 1993; Corso, 2005). Only in the years 1999-2000, for example, the constant presence of an adult individual has been recorded in the Trapani salt-marshes in western Sicily (Fig. 2). Conversely, only occasional data from shot specimens confirm the presence of the Demoiselle Crane in Sicily up to the 1970s (Doderlein, 1869-1874; Giglioli, 1886, 1907, 1912; Arrigoni Degli Oddi, 1929; Salvadori, 1872; Sorci *et al.*, 1973; Massa, 1976; Iapichino & Massa, 1989; Salvo, 1998; Corso, 2005; Masseti, 2002; La Mantia & Massa, 2008) (Fig. 3). Among the most recent known killings is that of a Demoiselle Crane shot in September 1964 in the vicinity of Birgi (Trapani) (Cernigliaro, 1965). In Malta too, this latter species was considered an occasional visitor (Schembri, 1843a).

Returning to the presence of cranes on Lampedusa, there are no specimens kept in the Italian museum collections that document the presence of either of the species. Only two museums currently hold specimens of cranes originating from Lampedusa, or at least considered as such, and these most inexplicably prove to be example



Fig. 2 - In the years 1999-2000, the constant presence of an adult specimen of common crane has been recorded in the Trapani salt-marshes, in western Sicily (photo by Anna Giordano).



Fig. 3 - Demoiselle crane captured in the surroundings of the town of Girgenti (Agrigento, Sicily) in the second half of the nineteenth century and preserved in the Zoological Museum "La Specola" of the University of Florence (MZUF). The zoologist E. H. Giglioli obtained it from the "Museo del R. Liceo di Girgenti" (Giglioli, 1912) (photo by Saulo Bambi, courtesy MZUF).

of the Black crowned Crane, *Balearica pavonina* (L., 1758), a species of Ethiopian, sub-Saharan distribution, very rarely recorded on the Mediterranean coasts (Cramp & Simmons, 1980). One of these, collected on the island between 1862 and 1894, is still kept at the Museo di Zoologia of the University of Palermo (MZUP, av225, ex-collection Doderlein) (Massa, 1976; Di Palma, 1979). The other is in Pavia, at the Museo di Zoologia of the University, and is labelled simply as originating from Lampedusa, without further details. It probably dates to before 1870 (Carlo Violani, pers. comm.) (Fig. 4). According to Swainson (1836), this species was not rare on Lampedusa, from where - while he was in Malta - he obtained several individuals: "*We were the first, we believe, who detected this genus in Europe; specimens of the Ardea pavonina, L. having been brought to us, when in Malta, from the little island of Lampedusa, where they are by no means scarce*". Malherbe (1843) was also to number the taxon among the vagrant species of Sicily, although here effectively the extremely rare sightings of the bird have generally been attributed to individuals which have escaped from captivity (Giglioli (1886, 1907; Salvadori, 1872; Savi, 1874; Arrigoni Degli Oddi, 1929; Orlando, 1935 and 1936; Moltoni, 1970; Massa, 1976).



Fig. 4 - This specimen of black crowned crane of the Zoological Museum of the University of Pavia is labelled simply as originating from Lampedusa, without other details. It probably dates to before 1870 (photo by Edoardo Razzetti; courtesy Zoological Museum of the University of Pavia).

CONCLUDING REMARKS

There is a revealing passage in the *Ornithological Catalogue of the Malta Group* published by Schembri (1843a) which helps to elucidate the identity of the Lampedusa cranes. The Maltese ornithologist identified the bird categorically as the demoiselle crane (cf. La Mantia, 2001), providing detailed information of its nesting on Lampedusa, including a description of a single egg which was laid in the nest, which was "*white speckled with yellowish patches*". The fact that this species normally lays two eggs, and only rarely one or three, leads one to think that Schembri may not have directly verified the nesting of the Demoiselle Crane on Lampedusa, but merely limited himself to describing the appearance of the egg, which he could have obtained without setting foot on the island. Nevertheless, in favour of the nesting of the species on the island, there is also the ornithologists' documentation of the nesting of the Demoiselle Crane in central-eastern Tunisia, regularly reported up to the 1950s, albeit in a discontinuous manner, in the region between Kairouan, Sousse and Sfax (Whitaker, 1905; Schembri, 1843a; Lavauden, 1924; Blanchet, 1955; Heim de Balsac & Mayaud, 1962; Etchécopar & Hüe, 1964; Meine & Archibald, 1996). According to Whitaker (1905) and Blanchet (1955), on the other hand, even prior to this date, cases of the nesting of the Common Crane in the same geographical area were unknown. At the same time Lavauden (1924) confirmed the nesting of both species on the densely vegetated islands of the Sebhka of Sidi el Hani, less than 200 kilometres from Lampedusa. In addition, La Mantia (2001) and La Mantia *et al.* (2002) suggest that it cannot be excluded that Demoiselle Cranes have nested on Lampedusa in historical times, at least up to the mid-19th century.

In any case, whatever species of crane it actually was that breeding on Lampedusa, by the early twentieth century the cranes were still observed in passage, but no longer remained on the island to nest. Sommer (1906), in fact, observed: "*Gussone, Calcara and Sanvisente lamented the serious damage which the cranes (Grus communis Bechst.) wreaked upon the harvest during their sojourns on Lampedusa between late May and early June. Nowadays, however, I am told that they are to be seen in passage but that they no longer cause damage*". It would appear that human colonisation of Lampedusa, which was carried out at the command of the King of Naples around the first half of the nineteenth century, irreversibly altered the island's habitats (La Mantia, 2001; Masseti & Zava, 2002a; Masseti, 2002; Pasta & La Mantia, 2002), even "*in the western region, high above the sea*" (Calcara, 1847), which up until a few decades before had been the undisputed domain of the cranes.

Acknowledgements

I would like to express my appreciation and gratitude to the following friends and colleagues for their suggestions and assistance: Pierre Fiquet and Jean-Denis Vigne, Museum national d'Histoire naturelle, Paris; Maurizio Sarà, Museo di Zoologia of the University of Palermo; Bruno Zava, Wilderness - Studi ambientali, Palermo. Thanks are also due to Fausto Barbagli, Museo di Zoologia "La Specola" of the University of Flo-

rence, and Tommaso La Mantia, Istituto di Coltivazioni Arboree of the University of Palermo for enjoyable and stimulating discussions on the lost cranes of Lampedusa. Special thanks are due to Anna Maria Nistri, for having allowed me to study the collection material held at the Museo di Zoologia "La Specola" of the University of Florence, and to Carlo Violani, Dipartimento di Scienze della Terra e dell'Ambiente of the University of Pavia, for the critical reading of the manuscript and for his suggestions. Edoardo Razzetti kindly provided the photo of black crowned crane of the Zoological Museum of the University of Pavia.

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