

THE BREEDING BIOLOGY OF MEDITERRANEAN GULL AT L'ALBUFERA DE VALENCIA (WESTERN MEDITERRANEAN)

LA REPRODUCCIÓN DE LA GAVIOTA CABECINEGRA EN LA ALBUFERA DE VALENCIA (MEDITERRÁNEO OCCIDENTAL)

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The Mediterranean Gull *Larus melanocephalus* is a monotypic species breeding on the Black Sea coast and scattered localities throughout Europe, with a recent spread to the north Caucasian plains and Azerbaijan, and to Western Europe (Del Hoyo *et al.*, 1996). The breeding range expansion of the species to the western Mediterranean took place through colonisation of the Camargue (France) in 1962, the Valli di Comaccio (Italy) in 1978 and the Ebro Delta (Spain) in 1987 (Goutner & Isenmann, 1993). The breeding population at the Ebro Delta has maintained one or two nesting pairs over the subsequent 14 years (Martínez-Vilalta, 1997; Molina, 2003). Occasional breeding in Spain has also occurred in both the southeast (two pairs in 1998 at the Santa Pola salt pans; Ramos & Fidel, 1999) and the Balearic Islands (one nest in 1984 at Dragonera Island; Capella *et al.*, 1985). The Mediterranean Gull is a migrant and winter visitor to l'Albufera de Valencia (East Spain; 39° 20' N, 00° 20' W) where individuals ringed in the Ukraine have been recorded (Dies & Dies, 1990, 1991; Dies *et al.*, 1999). In this note we describe the recent breeding by Mediterranean Gull at this western Mediterranean location.

Observations were carried out during the breeding season from 1993 to 2003, since the implementation of a restoration plan at the Racó de l'Olla until the first successful breeding by the species. The Racó de l'Olla is a 60 ha salt marsh reserve of the barrier island-lagoon complex of l'Albufera de Valencia, where habitat management and access limitations have lead to the regular breeding of up to 26 waterbird species (Dies, 2000). Fieldwork met-

hods and observers were consistent over the study period and an average of 107 days (corresponding to 321 hours) was spent every year from March to September. Only records of Mediterranean Gull within the Racó de l'Olla reserve were considered. All individuals recorded were separated into age-classes following Baker (1993) and using calendar year (CY) terminology until adult plumage was attained. Nests were visited in a single occasion, when clutch was completed. Eggs were measured (length and width) to the nearest 0.1 mm using a Vernier calliper. The outcome of each nest was recorded with telescope, without disturbing the colonies.

The presence of Mediterranean Gulls in the Racó de l'Olla extended from late March to early August. The maximum number of individuals in the reserve during the breeding season is given for each year and age-class (Fig. 1). The maximum counts for every age-class group were low during the study period, scoring 0-10 birds per year and showing no significant trends. Individuals engaged in terrestrial courtship were recorded from 1998 onwards. Courtship was performed by single birds, couples or small groups, and usually carried out among other courting species, particularly Black-headed Gull *Larus ridibundus*. Courting behaviour was recorded in 1998 (one 3CY on 22 May), 2000 (one 3CY on 3 April), 2001 (two adults on 15 May), 2002 (two adults and two 3CY from 22 April to 19 June) and 2003 (six adults and six 3CY from 1 April to 2 May).

One nest was built in 2001, two in 2002 and six in 2003 (Table 1). Nest building dates ranged from April 30 for the earliest and May 27

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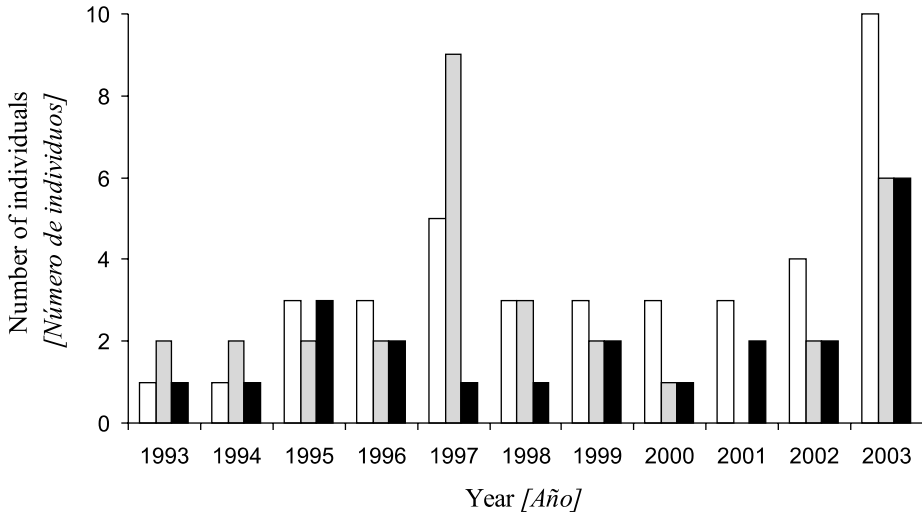


Fig. 1.—Maximum number of Mediterranean Gull in the Racó de l'Olla reserve during the breeding season (March to September) for each year (1993-2003) and age-class group. Open bars: 2CY birds; grey bars: 3CY birds; black bars: adult birds.

[Número máximo de Gaviotas Cabecinegras en la reserva del Racó de l'Olla durante la temporada reproductora (marzo a septiembre) para cada año (1993-2003) y grupo de edad. Barras blancas: aves de 2.º año calendario; barras grises: aves de 3.º año calendario; barras negras: aves adultas.]

for the latest. Nests were placed on one or several islands and were built among sparse halophytic vegetation and usually placed close to thickets of *Arthrocnemum fruticosum* or among clumps of *Salicornia herbacea*. They were distinctly lined with straw-coloured plant material. Other species nesting at close range (< 1 m radius) were always Black-headed Gull and Sandwich Tern *Sterna sandvicensis*. In 2003, distances among conspecific nests were 0.4 m in Eixaloch Island (nest *h* to *i*), 5.3 m in Ponent Island (nest *d* to *g*) and 5.8 m in Nord Island (nest *e* to *f*). Breeding birds were either adults or 3CY birds, and pair bonds were always formed within the same age-class group. Egg laying took place immediately after nest building. Clutch size was 3 in five cases and 2 in two other cases. Mean egg length was 54.26 ± 2.44 mm (range 50.1-57.5; $n = 14$) and egg width was 37.64 ± 1.02 mm (range 35.6-39.5; $n = 14$). Young were fledged only in 2003, one at each nest belonging to adult birds (nests *d* and *f*).

Although the Mediterranean Gull was recorded within the Racó de l'Olla reserve during the breeding season since 1993, courts-

hip behaviour was not observed until 1998 and nest-building did not take place until 2001. Islands used for breeding are managed in order to encourage the breeding of gulls, terns and waders (Dies, 2000) and the vegetation cover is artificially kept low and sparse. During the study period, the reserve hosted increasing breeding numbers of other Charadriiformes that could have induced the Mediterranean Gull to nest. In contrast with other gull species breeding in the reserve (Dies & Dies, 2000) the nests of Mediterranean Gull were distributed in a rather scattered way, the six nests of 2003 being in three different islands. The breeding at this new site seems to continue the overall range expansion of the species in the recent decades.

RESUMEN.—Se estudió la presencia y posible reproducción de la Gaviota Cabecinegra *Larus melanocephalus* en la Albufera de Valencia durante las temporadas reproductoras de 1993 a 2003. La especie frecuentó las colonias de Larolímicos en bajo número todos los años desde finales de marzo a principios de agosto. El desarrollo de cortejos se pudo observar a partir de 1998. Un primer nido se

TABLE 1

Building date, age-class group of breeders, location, content details and outcome of the nests of Mediterranean Gull at the Racó de l'Olla reserve.

[Fecha de construcción, grupo de edad de los reproductores, situación, detalles del contenido y resultado de los nidos de Gaviota Cabecinegra en la reserva del Racó de l'Olla.]

Nest [nido]	Building date [fecha de construcción]	Age of breeders [edad reproductores]	Island [isla]	Clutch size [tamaño de puesta]	Egg measurements (length × width) [medidas del huevo (largo × ancho)]	Outcome [resultado]
a	16 May 2001	ads.	Nord	3	50.3 mm × 38.0 mm 51.2 mm × 37.7 mm 53.8 mm × 38.6 mm	incubation ceased after 1 June
b	23 May 2002	3CY	Nord	—	—	eggs were not laid
c	27 May 2002	ads.	Llevant	—	—	eggs were not laid
d	30 April 2003	ads.	West	3	Not measured	one young fledged on 3 July
e	2 May 2003	3CY	Nord	3	55.3 mm × 37.1 mm 54.2 mm × 36.7 mm 53.1 mm × 36.4 mm	chicks died after hatching on 4 June
f	7 May 2003	ads.	Nord	3	57.0 mm × 37.6 mm 55.0 mm × 35.6 mm 56.5 mm × 36.9 mm	one young fledged on 15 July
g	8 May 2003	3CY	Ponent	3	50.1 mm × 37.7 mm 56.9 mm × 38.2 mm 55.4 mm × 38.4 mm	chicks died after hatching on 3 June
h	9 May 2003	3CY	Eixaloch	2	57.5 mm × 39.5 mm 53.4 mm × 38.5 mm	deserted after 2 June
i	20 May 2003	3CY	Eixaloch	2	Not measured (one malformed egg)	incubation ceased after 26 May

instaló en 2001, dos en 2002 y seis en 2003. La nidificación sólo tuvo éxito en 2003, volando un pollo en dos de los nidos. La reproducción en esta nueva localidad parece continuar con la expansión del área de cría descrita para la especie durante las últimas décadas.

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