

# A hybrid pair *Larus audouinii* × *L. melanocephalus* brooding an egg in the Llobregat Delta, Barcelona

Ferran López & Maria Cabau

A hybrid breeding gull pair consisting of Audouin's and Mediterranean gulls *Larus audouinii* × *L. melanocephalus* was found during 2014 in the gull colony on the Illa del Molí, Llobregat Delta, Barcelona (NE Spain). The brooding behaviour is described and a picture of the egg is shown. It remains unknown whether the pair formed as a hybrid initially or formed after the desertion of one or other of the original pair members.

Key words: Audouin's Gull, *Larus audouinii*, Mediterranean Gull, *Larus melanocephalus*, hybridization, Llobregat Delta.

Ferran López\* & Maria Cabau. *Consorci per a la Protecció i la Gestió dels Espais Naturals del Delta del Llobregat*. Avda. Onze de Setembre 73-75, 01234 El Prat de Llobregat, Spain.

\*Corresponding author: ferranlopez@hotmail.com

Received: 06.01.15; Accepted: 20.02.15 / Edited by O. Gordo

Since 2010, the Audouin's Gull *Larus audouinii* breeding colony in the Llobregat Delta has become the second most important such breeding colony in Catalonia (Herrando *et al.* 2011) and in 2014 had a record number of 608 nests.

The *Consorci per a la Protecció i la Gestió dels Espais Naturals del Delta del Llobregat*, the management body in charge of this natural protected area, has managed and monitored this colony since 2010. Its work consists of the removal of plastic and other garbage washed up by the sea into the breeding area; the cutting of vegetation and weeds; the removal of predators such as rats in February; the individual identification of Audouin's gulls by reading Darvic rings three times per week in March–July; chick-ringing in June; and the protection of the breeding area from human disturbance (e.g. fishermen).

On 24 April 2014, whilst reading colour rings, an adult Mediterranean Gull *Larus melanocephalus* was found occupying an Audouin's Gull nest. Initially, we assumed that this was simply a single Mediterranean Gull nest because

a group of this species had been observed in 2013 in the study colony. This group consisted mainly of second- and third-calendar-year birds and remained in the colony until the end of June without any indication of reproduction.

However, during the following days we observed that the Mediterranean Gull constantly alternated incubation duties with an Audouin's Gull (see videos in the next links: <http://youtu.be/JwXkOVwFmTg> and <https://youtube.com/watch?v=YABus32oi74>), thereby confirming that it was actually a hybrid breeding pair. Subsequently, the Mediterranean Gull showed remarkable aggressiveness to any gull approaching the nest and competed fiercely for nesting material. For this reason, we decided to place some cut weeds around the breeding area.

We entered the breeding colony on 23 May 2014 to census the breeding pairs. We found a single egg in the nest of the hybrid pair that was quite similar to an Audouin's Gull's egg in colour and size (Figure 1). Unfortunately, this nest –along with most of the Audouin's Gull



**Figure 1.** **a** Picture of the nest with the hybrid pair *Larus audouinii* × *Larus melanocephalus*. **b** Detail of the egg. (Photos by Ferran López)

**a** *Parella mixta* *Larus audouinii* × *Larus melanocephalus* al niu. **b** *Detall de l'ou* (Fotos: Ferran López).

nests in the colony— failed to withstand a heavy gale a few nights later and therefore we do not know whether or not the egg hatched.

According to our observations, Mediterranean and Audouin's Gulls can form breeding pairs. There are two hypothetical origins for the observed mixed pair: either the Mediterranean Gull replaced one of the members of a pair of Audouin's Gulls after egg laying or hybridization occurred between the two species. The latter option seems plausible taking into account the phylogeny of both species (Crochet *et al.* 2000). The Mediterranean Gull belongs to the same clade as the Audouin's Gull, Sooty Gull *L. hemprichii* and Great Black-headed Gull *Larus ichthyaetus* and thus all these species are closely related from an evolutionary point of view.

Several mixed pairs or cases of hybridization have been described in the Mediterranean Gull, in most cases mixed pairs formed with the Black-headed Gull *Chroicocephalus ridibundus*, a morphologically very similar species. Five cases have been reported from the Czech Republic (Poprach *et al.* 2006) and one from La Salina de Comacchio in Italy (Borghesi & Costa 2008). There was also an apparent case of hybridization with a Common Gull *L. canus* in Northampton-

hire (United Kingdom) but the resulting hybrids were initially attributed to a Franklin's Gull *Larus pipixcan* (Pullan & Martin 2004). To date, the only previously reported case of hybridization between an Audouin's Gull and a Mediterranean Gull is from Na Moltona on Mallorca (González *et al.* 2009). In this case, a hybrid individual was observed in June, which supports the hypothesis that both species can interbreed and produce offspring.

### Acknowledgements

The authors are very grateful to Carles Carboneras and Albert Cama, experts in the Mediterranean Gull, for their helpful comments during the fieldwork and other stages of the study. We would also like to thank José Luis Copete and Maties Rabassa for help with the bibliographical references and other aspects of the writing of this note.

### Resum

**Parella mixta de *Larus audouinii* × *Larus melanocephalus* covant un ou al delta del Llobregat, Barcelona**

Es va trobar una parella híbrida de gavina corsa i gavina capnegra durant l'any 2014 a la colònia re-

productora de gavina corsa de l'Illa del Molí, delta del Llobregat, Barcelona. Es descriu el comportament durant la incubació i es mostren les fotografies del niu. Es desconeix si la parella es va formar des d'un inici o posteriorment després de l'abandonament d'un dels membres de la parella pura original.

## Resumen

### **Pareja mixta de *Larus audouinii* × *Larus melanocephalus* incubando un huevo en el Delta del Llobregat, Barcelona**

Se encontró una pareja híbrida de gaviota de Audouin y gaviota cabecinegra durante el año 2014 en la colonia reproductora de gaviota de Audouin de Illa del Molí, Delta del Llobregat, Barcelona. Se describe su comportamiento durante la incubación y se muestran fotografías del nido. Se desconoce si la pareja se formó desde un inicio o posteriormente tras el abandono de uno de los miembros de la pareja pura original.

## References

- Borghesi, F. & Costa, M.** 2008. Hybridization between Mediterranean Gull *Larus melanocephalus* and Black-headed Gull *Larus ridibundus* in the Comacchio Saltworks (FE). *Picus* 34: 57–58.
- Crochet, P.A., Bonhomme, F. & Lebreton, J.D.** 2000. Molecular phylogeny and plumage evolution in gulls (Larini). *J. Evol. Biol.* 13: 47–57.
- Herrando, S., Brotons, L., Estrada, J., Guallar, S. & Anton, M. (eds.)** 2011. *Atles dels ocells de Catalunya a l'hivern 2006-2009*. Barcelona: Institut Català d'Ornitologia/ Lynx edicions.
- González, J.M., Suárez, M., Rebassa, M., López-Jurado, C., Martínez, O., Pons, A., de Pablo, F., Escandell, R. & Florit, J.** 2009. Registres Ornitològics 2009. *Anuari Ornitològic de les Balears* 24: 101–226.
- Poprach, K., Haluzik, M. & Chytil, J.** 2006. Distribution and numbers of the Mediterranean Gull (*Larus melanocephalus*) population breeding in the Czech Republic. *Sylvia* 42: 66–80.
- Pullan, G. & Martin, J.** 2004. From the Rarities Committee's files: presumed hybrid gull resembling adult Franklin's gull. *British Birds* 97: 264–269.