

## NOTES

### CONSPECIFIC COLLISION MORTALITY IN CASPIAN TERNS

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Many species of birds fly in flocks numbering in the hundreds or even thousands of individuals. Such flocks make highly coordinated maneuvers when flying to or from feeding grounds and roosts or even during panic flights to escape aerial or terrestrial predators. How movements within a flock are coordinated, preventing collisions and possible injury to flock members, remains largely unknown. Although collisions of migrating birds with buildings and television towers result in mortality of thousands of birds annually (Stoddard 1962, Kemper 1964, Banks 1979, Gill 1990:587), fatal collisions among conspecifics are reported much less commonly. We report here a case of a fatal collision between two Caspian Terns (*Sterna caspia*) in southern California.

During June and July 2001, we made weekly visits to the nesting colony on North Island at the Bolsa Chica State Ecological Reserve in coastal Orange County, California. In addition to 92 pairs of Caspian Terns, the breeding species at Bolsa Chica included 459 pairs of Elegant Terns (*S. elegans*), 18 pairs of Royal Terns (*S. maxima*), 259 pairs of Forster's Terns (*S. forsteri*), and 89 pairs of Black Skimmers (*Rynchops niger*). On 14 July most of the Caspian Tern pairs were tending half-grown chicks and made repeated aggressive flights at us, calling loudly, during the time we were near their nests or chicks. While checking nests and recording their contents we observed a wing-to-wing collision between two of the adult Caspian Terns, one of which was making a diving attack on us. The collision was accompanied by a sharp snap not unlike the breaking of a dry stick, and one of the two individuals fell to the water at the edge of the island. This tern appeared to be injured and unable to fly. When we captured it, we found it to have a compound fracture of the distal ulna and radius of the right wing, a fatal injury. The other participant in the collision did not show any sign of injury and flew away apparently unharmed. As no similar collision has occurred during our regular breeding-season visits to this colony from 1985 to 2004 this has to be considered a rare event and not a significant source of mortality in Caspian Terns or the other species nesting at Bolsa Chica. We have not found mention of a similar collision in any other tern species.

Similar fatal collisions of conspecifics have been reported for the Common Swift (*Apus apus*; Joy 1930), Chimney Swift (*Chaetura pelagica*; Conner 1981), Laysan Albatross (*Phoebastria immutabilis*; K Larson pers. comm.), and Long-tailed Duck (*Clangula hyemalis*; Abraham and Wilson 1997). Larger-scale collision mortality involving hundreds of individuals has been recorded for the Eared Grebe (*Podiceps nigricollis*; Jehl 1998). This last case was associated with the start of nocturnal migration flights by masses of birds or when they were disoriented by bright lights while in flight. Unlike grebes, swifts and terns are particularly agile flyers. Evidently even strong flyers may, on rare occasions, be subject to conspecific collision mortality.

We are indebted to the California Department of Fish and Game for permission to study the birds nesting at Bolsa Chica.

## NOTES

### LITERATURE CITED

- Abraham, K. F., and Wilson, N. 1997. A collision of Oldsquaws. *Ont. Birds* 15:29–33.
- Banks, R. C. 1979. Human related mortality of birds in the United States. U. S. Fish & Wildlife Serv. Sci. Rept. Wildlife 215.
- Conner, R. N. 1981. Fatal aerial collision and stomach contents of a Chimney Swift. *Bull. Tex. Ornithol. Soc.* 14:25.
- Gill, F. B. 1990. *Ornithology*, 2<sup>nd</sup> ed. W. H. Freeman, New York.
- Jehl, J. R., Jr. 1998. Conspecific collisions can precipitate mortality in migrating Eared Grebes. *Wilson Bull.* 110:409–411.
- Joy, N. H. 1930. Fatal collision of Swifts. *Br. Birds* 24:161.
- Kemper, C. A. 1964. A tower for T.V.: 30,000 dead birds. *Audubon* 66(2):86–90.
- Stoddard, H. L. 1962. Bird casualties at a Leon County, Florida, television tower. *Tall Timbers Res. Sta. Bull.* 1.

Accepted 15 November 2004

## FIRST RECORD OF THE MANX SHEARWATER FOR MEXICO

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On 6 February 2003 we observed a Manx Shearwater (*Puffinus puffinus*) from a promontory at La Bufadora, Baja California, Mexico. We had set up our spotting scopes approximately 50 meters above the Pacific Ocean and were looking west with the sun at our backs at a few northbound Black-vented Shearwaters (*Puffinus opisthomelas*) approximately 400 meters from shore. San Miguel noticed a different looking shearwater and brought it to McGrath's attention. Both observers jointly identified the bird as a Manx Shearwater. The bird was visible for about a minute before disappearing to the north. San Miguel sketched it immediately following our observation (Figure 1). The following description combines the field notes from both observers.

The shearwater appeared identical in size and flight behavior to the accompanying Black-vented Shearwaters. Its flight was direct with few arcs and was characterized by quick wing beats and brief intermittent gliding. The dorsal surface was uniformly black, except for two small white ovals on the sides of the rump and a small white crescent that ran up the neck to the auricular area. The ventral areas were completely white, except for narrow black wing margins. While looking through San Miguel's scope (Swarovski EL 80 mm, 20–60× zoom), McGrath observed the bird as it banked and showed completely white undertail coverts. The contrast between the black dorsal surface and the ventral surface was pronounced, and there was no visible mottling between these two areas. The black crown and face extended to about the eye line,