

# supernormal

## Clutches in Hartlaub's Gulls



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Most gulls usually lay two or three eggs, but clutches of four to six eggs have been recorded in many species, including the Kelp Gull (Ryan et al. 2013, *Ostrich* 84: 157–160). Such 'supernormal' clutches typically occur as a result of female–female pairs, although they might also result from two females mating with one male. Experimental removal of males from populations of California *Larus californicus* and Ring-billed *L. delawarensis* gulls confirm that supernormal clutches occur when there is a shortage of adult males.

Hartlaub's Gulls *Chroicocephalus hartlaubii* are unusual among gulls in typically laying only two eggs. Although a few pairs lay three eggs, the average clutch size is between 1.7 and 1.9 eggs. There is only one record of a supernormal clutch in this species: a nest containing five eggs on Shark Island, Namibia, in the 1970s. I was therefore surprised to observe several four-egg clutches of Hartlaub's Gull nests in a colony near Hermanus in the Western Cape on 27 February 2020.

The gulls were breeding on a series of low-lying islets in a flooded area on the south side of Kleinriviersvlei. To limit disturbance, I only recorded the contents of 30 nests on the most densely populated islet, which supported some 120 pairs. Among these nests there were three four-egg clutches, 12 three-egg clutches, nine two-egg clutches and six one-egg clutches, giving an average of 2.4 eggs per nest. In addition to the four-egg clutches, the proportion of three-egg

clutches was much higher than normal. Clutch size among all 32 nests on an adjacent peninsula was more typical for the species: three three-egg clutches, 22 two-egg clutches and seven one-egg clutches (average 1.9 eggs). Smaller numbers of gulls were also breeding on two other islets that were not visited.

Nests were densely packed at the main colony and several loose eggs were lying along the shoreline, presumably having been displaced from the shallow nests. It is thus possible that some of the four-egg clutches may have resulted from an extra egg having rolled into the nest from an adjacent nest. Such inadvertent intra-specific brood parasitism can be quite common in colonial waterbirds that breed in trees (for example, in egrets, where chicks falling out of higher nests often find refuge – and parental support – in nests lower down). However, all three supernormal gull clutches were on the top of the island and thus unlikely to have received eggs lost from adjacent nests.

If the supernormal clutches result from multiple females laying together, why should this colony contain so many unusually large clutches? In most birds, females tend to disperse farther than males. It is tempting to speculate that there is an unusually high proportion of females in this colony because it is a new breeding location for Hartlaub's Gull and it is towards the eastern edge of the species' breeding range, where its numbers are increasing.

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*Variation in egg colour may help to indicate whether more than one female laid the eggs in a single clutch because each female tends to lay eggs with a similar blotching pattern and ground colour. In two of the four-egg clutches (top two images), one egg stood out as different from the other three eggs, whereas in the third (middle image), there appeared to be three egg 'types'. Some three-egg clutches also appeared to have been laid by two females (fourth image), but even some two-egg clutches were quite different (bottom image). More information is needed about within-female egg variation to understand such differences.*



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# shrinking returns

## Long-term changes in Northern Cape coastal birds

Much of the Northern Cape coast comprises exposed rocky shores and parts have been severely disturbed by diamond mining. There are, however, areas of gently shelving rocky shoreline teeming with marine life, thanks to the upwelling of cold, nutrient-rich bottom water. In addition, large amounts of kelp and other seaweeds wash ashore in the many bays and coves, providing food for a host of sandhoppers, sea-lice and kelp flies. These rich resources stand in stark contrast to the semi-arid scrub in the interior, making the coast an oasis for birds.

*A survey conducted along the Northern Cape coast reveals that the numbers of smaller Palarctic waders, such as Ruddy Turnstone, have decreased markedly in the past 40 years. Several species' populations have fallen by more than 90 per cent.*

A survey of the Northern Cape coast in January 1980 (Ryan and Cooper 1985, *Bontebok* 4: 1–8) found that it had the highest density of shorebirds along the southern African coast, with roughly 100 waders per kilometre of shoreline. Most of these were Palarctic migrants, with Sanderlings (43 per cent of all waders), Curlew Sandpipers (26 per cent) and Ruddy Turnstones (15 per cent) being the most abundant species. Among the resident waders, only White-fronted Plovers contributed significantly (11 per cent). In February 2020, I revisited several sites along the Northern Cape coast. Although my main focus was to record the amounts and sources of marine litter, I was intrigued to see how the coastal bird populations have changed in the 40 years since the previous survey.

Almost a decade ago, I repeated a series of counts of shorebirds along the Western Cape coast, 30 years after this

area was surveyed in 1980/81 (Ryan 2013, *Austral Ecology* 38: 251–259). The results were striking; the numbers of birds were more or less the same, but there had been a marked shift from migrant to resident species and from small to larger species, resulting in an increase in the biomass of birds along the coast. Most worrying was the collapse in numbers of the smaller migrant waders, with several species' populations having fallen by more than 90 per cent.

Perhaps unsurprisingly, the same patterns were evident in the Northern Cape. There were still some migrant waders, but their numbers were greatly reduced. Curlew Sandpipers have been particularly hard hit, with fewer than 50 seen across sites that had more than 1000 in 1980. Sanderlings had also greatly decreased, with fewer than 200 whereas previously there were close to 1500, and Ruddy Turnstones had fallen to less than 100, dropping from 750 previously. By comparison, numbers of larger migrants, such as Whimbrels, Grey Plovers and Greenshanks, had changed little during the past four decades.

On a positive note, there were marked increases in African Oystercatchers, with more seen in 20 kilometres of coast in 2020 than in the entire survey area (170 kilometres) in 1980. Other resident birds that have greatly increased in the area are Blacksmith Lapwings and Sacred and Hadeda ibises (neither ibis was recorded at all in 1980).

And it's not just resident waterbirds getting in on the act. In the Western Cape, Common Starlings now frequently forage on beaches littered with abundant stranded seaweed. A few also occurred on the Northern Cape beaches, but they were greatly outnumbered by Pied Starlings, a species not previously reported to forage along the shoreline. And at some sites the starlings were joined by flocks of Cape Weavers and Red Bishops. Together with the ibises, these birds presumably are at least partly filling the niche of the now rare migrant waders.

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