

SOME INSECT FOOD OF NESTLING RED-BILLED GULLS (*Larus novaehollandiae scopulinus*).

By L. Gurr, Nelson.

Two red-billed gulls, both nestlings from the same nest, while being ringed at a colony on the Boulder Bank, Nelson, on 14 January 1951, regurgitated their recently ingested meals which consisted of:—

Diptera:—		Calliphoridae (Blow-flies).	
	<i>Calliphora hortona</i> Walk.	.....	5 larvae
	<i>Calliphora quadrimaculata</i> Swed.	.....	3 larvae
	<i>Calliphora icela</i> Walk.	.....	1 larva
		Syrphidae (Hover-flies).	
	<i>Eristalis tenax</i> L.	.....	1 larva
Lepidoptera:—		(Butterflies.)	
	Head of one adult, probably <i>Pieris rapae</i> L., the White Butterfly.		
Coleoptera:—		Scarabaeidae (Chafer Beetles).	
	<i>Pyronota edwardsi</i> Sharp	.....	1 adult
Hemiptera:—		Cicadidae (Cicadas).	
	<i>Melampsalta cruentata</i> Fabr.	.....	4 adults
Orthoptera:—		Mantidae (Praying Mantises).	
	<i>Orthodera ministralis</i> Fabr.	.....	3 adults
	Tettigoniidae (Long-horned Grasshoppers).		
	<i>Xiphidium semivittatum</i> Walk.	.....	25 adults

In addition there were several small pieces of flesh.

The volume of the food was:—

Blowfly larvae	.....	0.5 ccs.
Cicadas	.....	1.5 ccs.
Praying Mantises	.....	2.0 ccs.
Grasshoppers	.....	3.0 ccs.
Hover Fly, Beetle and Butterfly	.....	0.5 ccs.
Flesh	.....	1.5 ccs.
Total	.....	9.0 ccs.

The Boulder Bank at Nelson is a ridge of rocks ten miles long and some two chains wide rising out of the sea about ten feet. It is joined to the land at its northern end but is separated from it for the rest of its length by reclaimed land for about two miles and thereafter by tidal flats about one mile wide. Vegetation on the Boulder Bank itself is sparse but the reclaimed land is in pasture and supports dairy cattle.

The various insect habitats that this area provides had all been worked to provide these meals. Of the blowfly larvae, *Calliphora hortona* is a species which is more or less confined to the seashore, breeding in rotting seaweed (Miller 1939) while the other two species *C. quadrimaculata* and *C. icela* are common everywhere and breed in rotten flesh and probably came from the corpse that provided the flesh in the food contents. The vegetation on the reclaimed land, about two miles away from the nesting colony, would be worked for the mantids, grasshoppers, butterfly and beetle while stagnant freshwater pools on this area would supply the hover-fly larva (a rat-tailed maggot).

The adult birds are quite catholic in their tastes and take insects when they are available. Turbott (1951) records that red-billed gulls were regularly taking cicadas, *Melampsalta cingulata* (Fabr.), on the wing and from the tree tops on Great Island of the Three Kings Islands. To collect the insects recorded in this paper would involve a good deal of foraging as none of these insects occur in swarms and they come from a diversity of habitats. It is not surprising, therefore, that although 57 birds were ringed that day, a number of which regurgitated, except for the two nestlings mentioned above, none of these had been fed insects, all had had marine food, small fish or planktonic crustacea. Neither have I noted insects, other than blowfly larvae which commonly occur, in the food of the nestlings during the five seasons that I have been ringing these birds at the Boulder Bank. Small fish seem to constitute the principal food of the nestlings. It is interesting to note, therefore, that the parent bird had

exploited the less usual food material, adult insects, and apparently very efficiently.

REFERENCES.

- Miller, D. M., 1939: Blow-flies (*Calliphoridae*) and their associates in New Zealand. Cawthron Institute Monographs No. 2 : 1-68.
Turbott, E. G., 1951: Notes on the birds of the Three Kings Islands. 4 : 141-143.
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THE BREEDING AGE OF THE BLACK-BILLED GULL: RESULTS OF RINGING.

By Elliot W. Dawson, Christchurch.

Some information is now available about the breeding age of the black-billed gull (*Larus bulleri*) from ringing work carried out in the breeding seasons of 1950, 1951, 1952 and 1953 at a colony in the Ashley River, Canterbury.

Stead (1932) mentions that the black-billed gull takes two years to reach breeding age. Observations which I have been making on the plumage changes of this gull suggest that there is a pre-nuptial moult, of the body plumage only, prior to the adoption of the second nuptial plumage. This nuptial plumage seems to be found in about October of the bird's second year. From a consideration of the time taken to acquire "adult" plumage, it seems theoretically probable that breeding takes place for the first time during November-December of the bird's second year. According to Dwight (1925) this is what would be expected in a gull of this size and of such a plumage cycle.

During the 1952 breeding season, several ringed black-billed gulls were seen in and around the colony at the Ashley. On November 7 1952 amongst the hundreds of gulls in the colony, I saw three birds bearing 1950 rings and one bird with a 1951 ring. Several other 1950-ringed birds were also seen on this day by my companions. A bird ringed in 1950 with ring 10261 was seen to be sitting on a nest in one group of the colony while two other 1950 birds were seen sitting in another group. On November 15 a bird bearing ring 9909 was seen sitting on a nest with a clutch of three eggs and on the same day, a bird with ring 10114 was seen over a clutch of two eggs. It seems probable that 10114 was sitting on the same nest as 10261, but, although 10261 was seen again during the rest of the season, I was unable to associate it with any one particular nest. It is possible that there were other ringed birds present but owing to the size of the colony (approx. 1075 nests) and the destruction of some groups by floods before observations were complete, all the adult birds were not able to be observed closely.

Early in 1953 a report was received that a gull with ring 10206, ringed as a chick on December 3, 1950, was "found nesting, 11/1/53, incubating two eggs. No other nests in the vicinity," Waipara River, Canterbury, about two miles from the coast (see Bull, 1953).

Thus, while these observations may not be conclusive evidence of the time of sexual maturity of the black-billed gull, they are at least indications although all that may safely be said is that, during the 1952 season, a number of birds ringed as chicks in November-December of 1950 were seen to be sitting on eggs.

REFERENCES.

- Bull, P. C., 1953: Ringing Operations (Recoveries). *Notornis*, 5 (5) : 140.
Dwight, J., 1925: The Gulls of the World. *Bull. Am. Mus. Nat. Hist.*, 52.
Stead, E. F., 1932: *Life Histories New Zealand Birds*, p. 53.