Cairns (1942, p. 132) analysed the stomach contents of 8,332 examples of *Anguilla dieffenbachii* and *A. australis schmidtii*. From his data, *Gobiomorphus* must be considered an important eel food. Cairns stated (p. 139) that in "rivers and streams with a gravel bottom" . . . "bullies are poorly represented in the food". Although Cairns did not identify the bullies to species, this statement implies that *G. huttoni*, inhabiting as it does, rocky streams, is not an important eel food. Cairns' further comment that in "lake areas, the food of eels consists mainly of *Gobiomorphus*, eels, worms, etc.", implies that *G. basalis*, the predominant lake-dwelling bully, is the more important food species. Failure to identify *G. huttoni* in the food of 62 eels (15–90 cm length) from the Makara Stream, suggests that *G. huttoni* is unimportant as a food for eels.

Other possible predators on *G. huttoni* in the Makara Stream are *Galaxias argenteus* and *G. fasciatus*, the white-faced heron *Notophoyx novaehollandiae*, the kingfisher *Halycon sanctus vagans*, the black-backed gull *Larus dominicanus* and the black shag *Phalacrocorax carbo*.

Of these, the white-faced heron and the kingfisher were found to be rare in the Makara area and can be discounted as *G. huttoni* predators of any significance. The two species of *Galaxias* mentioned readily take *Gobiomorphus huttoni* as food when in captivity, but data from the feeding habits of *Galaxias fasciatus* in the Makara Stream suggest that this is not generally the case in the natural habitat of the species. Nothing is known of the feeding habits of *G. argenteus* as this species was uncommon in the Makara Stream and was therefore not sampled for determination of food types. Marked habitat differences between these species of *Galaxias* and *Gobiomorphus huttoni* make predation unlikely.

Analysis of the stomach contents of about 100 *Larus dominicanus* (Fordham, 1963) showed that there is no evidence suggesting predation by this gull on *G. huttoni*. The occurrence in the stomachs and castings of the gull, of both species of freshwater eel, of a species of *Tripterygion*, of Ephemeroptera and of Neuroptera (*Archichaulioides chaulioides*) indicates that *L. dominicanus* feeds successfully in streams and estuaries, but predation on *G. huttoni* has not been found to occur.

Dickenson (1951, p. 245) considered *Gobiomorphus* (probably including *Philypnodon*) an important food organism for the black shag. Data from Williams (1945), Falla and Stokell (1945), Boud and Eldon (1960) showed that 458 bullies occurred in the stomachs of 2,947 *Phalacrocorax carbo* examined by these authors. Most of the shags were examined by Williams (2,883) from Otago and Southland watersheds where *G. huttoni* is present and may be significant, but positive identification of *G. huttoni* as a food of the black shag has not been made.

The natural enemies of *Gobiomorphus huttoni* appear to be few; predation on the species seems insignificant and the importance of *G. huttoni* as a food for other animals small.

## Summary

*Gobiomorphus huttoni* (Ogilby) occurs in rocky lowland streams; it has not been found above obstructions to the sea and does not inhabit lakes. Adult *G. huttoni* are not known from the sea. Characteristic habitat type is rapid water in boulder stream where the stream bed is made up of loose aggregations of boulders, but range of adult *G. huttoni* extends into lowland water, where most juveniles are also found.