

SHORT NOTE

Predation of lizards by black-fronted terns (*Sterna albostrata*)

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Black-fronted terns generally feed on aquatic invertebrates and fish over river channels on gravel rivers of the South I and occasionally take worms and other invertebrates in terrestrial environments (Lalas 1977; Robertson *et al.* 1983). The aim of this paper is to describe observations of systematic predation of lizards by black-fronted terns from a terrestrial habitat in the Eglinton Valley, Fiordland, New Zealand.

We studied a small colony of black-fronted terns that nests annually in the Eglinton Valley. During summer 2008-2009, about 25 pairs nested on shingle islands near Mirror Lakes (167°58' E, 45°58' S). An early nesting attempt was washed away by flooding in Nov, but a second bout of nesting in early Dec was relatively successful with many pairs raising young to fledging. These fledglings were being fed on the colony until early Feb.

Between Nov and Jan we studied common skinks (*Oligosoma polychroma*) in a 1.5 km² area of valley-floor grassland adjacent to the nesting colony (Hoare *et al.* 2009). While trapping skinks daily between 27 Nov and 5 Dec 2008, and 9 and 17 Jan 2009, about 20-40 black-fronted terns fed over these grasslands throughout the day. Terns circled over the entire grassland area, often hovering 1 – 4 m above the ground and were frequently observed by all 13 field workers catching live skinks and returning with them to the breeding colony. We made casual observations at the breeding colony and watched terns feeding their chicks with the skinks. During 12 timed (5 minute) observations at the colony between 1600 and 1700 hrs in Jan, terns were observed returning with skinks in their beaks and feeding their young at an average rate of 4.5 skinks

± 1.0 SD (range 3 – 6) per 5-min period. Daylight is long at this time of year in the Eglinton Valley (getting light at approximately 0500 hrs and dark as late as 2230 hrs). If this catch rate was typical, then terns would be catching skinks at a rate of 36 – 73 lizards per hr and potentially >800 could be caught over a 12 hr period.

Common skinks have become abundant in parts of the Eglinton Valley since the removal of grazing stock and the establishment of valley-wide predator control in 1998. Before 1998, we only made 2 sightings of common skinks, despite one of us (CO'D) working in the valley since 1990. Contemporary density estimates for skinks range between approximately 3000 and 8000 skinks per ha (based on density estimates from pit-fall trapping grids in Dec 2007; M. Lettink, *pers. comm.*). Skinks occur at this high density in a c.100 ha area of grassland adjacent to the black-fronted tern colony.

There have been anecdotal observations of black-fronted terns eating skinks in the past (Oliver 1955; Lalas 1977). However, this appears to be the first record of systematic predation of lizards by members of a breeding colony. The local black-fronted terns in the Eglinton Valley appear to have learnt to exploit this new and abundant food source. The longer term consequences for the population of common skinks are unknown.

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