

MIGRATORY BEHAVIOUR OF SILVEREYES RETURNING TO TASMANIA FROM SOUTHERN VICTORIA

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The Tasmanian Silvereye *Zosterops lateralis* undergoes migration each autumn and spring (Blakers *et al.* 1984). At Wilson's Promontory in Victoria, it has been seen to fly in from the Bass Strait from early March through to mid-June (Garnett *et al.* 1991). The bird then remains in mainland Australia through the winter until the return migration. Information on the dates and duration of this return migration, however, is largely lacking. In this paper, we report the time of migration, flock size, and other observations on the migratory behaviour of the Tasmanian Silvereye as observed at southern coastal Victoria.

Data on the annual duration of migration were obtained from monthly observations carried out at Wilson's Promontory Lightstation (hereafter referred to as the Lightstation) (39°08'S, 146°25'E) from the first half of 1988 to January 1992. Garnett *et al.* (1991) provided a physical description of the area. Additional behavioural data were obtained from a cliff top (100 m above sea level) at Cape Liptrap (38°55'S, 145°55'E), also on the coastal mainland of Victoria, from 28 October to 4 November 1991. Owing to the low vegetation (dominated by Coastal Tea Tree *Leptospermum laevigatum*) at this site, silvereyes could be seen all around the observer as they gathered into flocks before taking off.

The Tasmanian Silvereye began its return migration from this part of Victoria as early as late June, and completed this 'spring' migration by as late as January. The exact dates of commencement and completion varied from year to year (Table 1), though migration appeared to be heaviest from about mid-September to at least mid-November. The last silvereye flock to leave

for Tasmania in the return migratory season of 1989 was 11 January 1990, only seven weeks before the first arrival of silvereyes from Tasmania on 3 March in the same year! Thus late-returning birds must have either delayed breeding or performed no breeding at all for that year in Tasmania.

Silvereyes at the Lightstation may take off toward the sea at any time of the day, and migratory flocks were seen later than 1700 h in the afternoon. Throughout the study period, no migration was observed at Cape Liptrap after the morning session (Table 2). At both locations, peak migration time usually occurred from one hour before sunrise (when light was available) to about 1000 h. Silvereyes have been considered to be a mainly nocturnal migrant (Lane and Battam 1971) but we have clearly observed large-scale migrations during daylight hours. Although observer bias for daytime migration could occur because birds could not be seen on most nights, we believe that most flocks set out to sea when

TABLE 1

Dates on which first and last flocks were observed at Wilson's Promontory Lightstation for four return migration seasons.

Season	First flock	Last flock
1988–89	3 Aug.	early Dec.
1989–90	18 Aug.	11 Jan.
1990–91	25 June	2 Jan.
1991–92	22 July	Jan.*

*Flocks were observed on 8 January and 24 January but there was uncertainty as to whether they headed south.

TABLE 2

Time of last flocks seen to take off over the sea from Cape Liptrap.

Date	Time of observation	Last flock seen
28 Oct.	0630-1600 h	1055 h
29 Oct.	0510-1300 h	0900 h
30 Oct.	0340-1200 h	0900 h
	1600-2000 h	none
31 Oct.	0600-1130 h	none
1 Nov.	0410-1600 h	0750 h
2 Nov.	0410-1030 h	1000 h
	1620-1030 h	none
3 Nov.	0500-1030 h	0540 h
4 Nov.	0500-1130 h	none

some light is available. Evidence of this includes southbound migrating silvereyes not being heard at night over the Lightstation and silvereyes not being present at Cape Liptrap in the evening.

Before take-off, silvereyes at Cape Liptrap could be heard calling actively. These were not individual calls, but were collective. At night when the birds could not be seen, migratory activity was easily detected by the collective calling. Although such vocal activity was heard each time the observer arrived at Cape Liptrap in the early (dark) hours of the morning (except on rainy days on which no migratory activity was recorded), less was heard during these hours than later when light was available. This indicates that some migrations did take place in the dark but these were comparatively few. The observation lends further support to the suggestion that silvereyes are not typical night migrants.

Premigratory flocks often circled and landed and re-circled a number of times before departing over the sea. When landing, the birds invariably dived down simultaneously into the bushes below like falling stones (see also Dorst 1962; Gauthreaux 1972 for similar landing behaviour in northern temperate migrants). While among the bushes (mostly foraging), the birds were often silent, and the collective calls were always made when the birds set off together into the air. The observations suggest that such vocalisation was not only to induce, but also to maintain, flock organisation since the same calls were uttered during migratory flight.

Migratory flocks could contain from three to about 500 individuals. Flock sizes of 30-50 birds were frequently observed at Cape Liptrap and during the peak migratory period at the Lightstation, although larger flocks were also common. Small flocks comprising 6-20 birds were common outside the peak period at the Lightstation. The larger flocks usually occurred after poor weather.

All silvereyes seen flying overhead at the Lightstation appeared to head directly south and not in the direction of Deal Island or Rodondo Island, although it is possible that the birds may change course. Of more than 100 flocks observed at Cape Liptrap, all except three (which flew along the coastline) headed off over the sea in a southerly direction. Many flocks returned to land after taking off toward the sea. Sometimes this involved only a few individuals from a flock, other times a large proportion of the flock returned, while at still other times the whole flock returned to land after being out to sea. Flocks returning to land after setting off were seen less often at the Lightstation.

The information provided here is noteworthy not only in reporting a long duration of vernal migration in the silvereye, but also in the take-off behaviour rarely reported for a small land bird about to cross a large body of water.

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REFERENCES

- Blakers, M., Davies, S. J. J. F. and Reilly, P. N. (1984). 'The Atlas of Australian Birds'. (Melbourne University Press: Carlton.)
- Dorst, J. (1962). 'The Migration of Birds'. (Houghton: Boston.)
- Garnett, S. T., Sutton, P., Lowe, K. and Gray, S. (1991). Land bird movements across north-east Bass Strait, autumn 1988. *Corella* 15: 1-7.
- Gauthreaux, S. A., Jr. (1972). Behavioural responses of migrating birds to daylight and darkness: a radar and direct visual study. *Wilson Bull.* 84: 136-148.
- Lane, S. G. and Battam, H. (1971). Silvereye movement in eastern Australia. *Aust. Bird Bander* 9: 80-82.