YELLOWHAMMER. Does not appear to be common above 2000 feet, i.e. above Rotoaira, though I have found it breeding at c. 2,700 feet near National Park. On 12/5/53 I noted a small flock on the Desert Road at c. 3,000 feet. On Egmont I have not found it above c. 1,700 feet. On 27/1/56 Yellowhammers were singing up the old Gisborne Road, Waikaremoana, at c. 2,200 feet.

HOUSESPARROW. A colony is attached to The Chateau village. Some breed in the beech forest nearby, but they do not wander far. There were none at Dawson's Falls in mid-January, 1955.

STARLING. A few pairs breed near The Chateau. In January, 1954, the greatest number seen together was six; but on 25/1/57 I counted 15 homing to roost in a beech copse just behind The Chateau. None noted near Dawson's Falls in January, 1955.

MYNA. In recent years I have several times travelled over the Mamaku. It was not till January, 1957, that I saw Mynas along the highest stretch of the road at a little over 2,000 feet.

WHITE-BACKED MAGPIE. A few have frequented the golf course at The Chateau for some years. They do not increase. I saw four on 17/1/54 and two on 23/1/57.

THE DISTRIBUTION OF *DIOMEDEA* IN EASTERN AUSTRALIAN WATERS: NORTH OF SYDNEY

By L. AMIET

It would appear that there is some scope for field observations on the movement of oceanic birds during the different seasons; especially those species breeding in high latitudes and wandering far from their breeding islands after rearing their young.

Between April, 1954, and October, 1956, I made some 22 return voyages between Sydney and Mackay, Townsville or Cairns, and during that period a comprehensive log was kept of all oceanic birds identified through 7X binoculars. For many months of each year the different species of albatross following the ship were a feature, and as for the most part they were readily identified, detailed notes were taken on their distribution.

Some four species of *Diomedea* were identified with certainty, and on the description of D. L. Serventy and H. M. Whittell (1951; 112) it was considered that a fifth, *D. chrysostoma,* was seen on two occasions. Though it is difficult to differentiate between this species and *D. chlororhynchos* in the field, the two birds observed differed from the normal adult Yellow-nosed Mollymawk to such a degree that it seems highly probable that they were Grey-headed Mollymawks.

The northern distribution of the species under consideration seems to be primarily controlled by the general weather conditions, air and sea temperatures and the breeding season. It is doubtful if natural food would be a governing factor of those birds ranging farthest north as they followed and fed on the ships' refuse.

Marshall Laird (1956; 226) advances from his own observation, the highest tolerated sea and air temperatures of 71° and 70° respectively, for both *D. exulans* and *D. melanophris.* Except for isolated instances in the case of the former species, this air temperature is roughly in accordance with my findings, while the sea temperature would be some two to four degrees higher in the present case. The air temperature toleration of *D. chlororhynchos* would be five degrees below Laird's reading for the previous species, and that of *D. chrysostoma* and *D. cauta* apparently lower by a further three to five degrees. All species were sighted farthest north during strong south-easterly or south-westerly winds, usually during or immediately

after a polar cyclone with consequent strong gales, further south in Bass Strait and the Tasman Sea. In calm weather, even in June or July, on occasion no albatross would be seen during a voyage through an area where they were plentiful in a moderate south-easterly gale even as late in the season as October. The northern movement must also be effected by the breeding cycle of these species. Apart from the Shy or White-capped Mollymawk, they breed well to the south of the area of this survey. L. E. Richdale (1952; 101) tabulates the various dates of apparent arrival at breeding stations of all species under review. If the controversial question of the breeding cycle of the Wandering Albatross is dismissed for the time and only the Mollymawks are considered, breeders of one or other of these species are at their breeding stations between August and the following June according to this table.

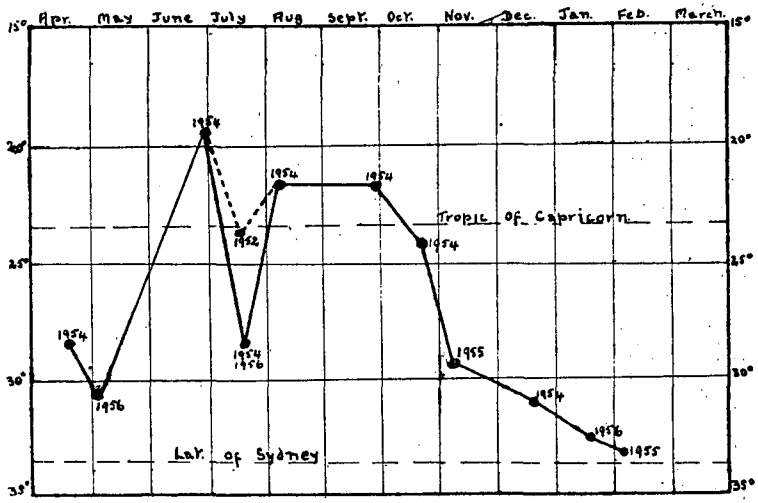
During the period of my log it was found that most oceanic birds breeding in sub-Antarctic and Antarctic waters moved furthest north during 1954. Such findings are in agreement with facts published by K. A. Hindwood and A. R. McGill (1955; 148) and by J. C. Davenport and R. B. Sibson (1955; 155). The former authors reported the recovery of southern breeding oceanic birds rarely seen in Australian waters, from the beaches of central New South Wales; the latter writers discuss the recovery of rarely seen species from the west coast of New Zealand, near Auckland. Both articles stress the apparent irruption of great numbers of the more commonly seen species and their many casualties on the beaches after storms during the winter of that year. In 1954, apart from the different species of *Diomedea*, upwards to 20 Cape Petrels *(Daption capensis)* followed the ship as far north as Brampton Island (Lat. 20° 35' S) on July 28, and a Prion (Pachyptila sp.) was seen off Green Island (Lat. 16° 45' S) near Cairns on August 22. This was many degrees to the northward of the usual range of these birds.

WANDERING ALBATROSS *(Diomedea exulans)*

This species was observed in the area under observation during every month of one year or another, except March. In a review of the seabirds off Malabar, Sydney, K. A. Hindwood (1955; 213) makes mention of hundreds of this species present between May and mid-November, with the December population seldom exceeding 30 or 40 birds; while only a few or none at all were present during January and February; birds again returning by the end of April. It will be noted that no mention was made of the species during March. In January and February I did not record the species north of Newcastle (Lat. 32° 55' S), and then it was seen on only one occasion in each month. R. B. Sibson (1951; 158) on a voyage from Sydney to Wellington first noted the species in the vicinity of Lat. 36° S on February 10, 1951. Thus it would appear that Lat. 33° S is about the northern limit of the species under the usually prevailing conditions in those two months and that the northerly range is further restricted in March. My most northerly sighting was on June 29, 1954. The previous day four birds had followed as far north as Brampton Island. Apparently one of these, an immature bird, followed the ship through the Whitsunday Passage and finally left at Holbourne Island (Lat. 19° 43' S). It must be mentioned that my vessel anchored for several hours in the Whitsunday Passage during the night. This was by far the most northerly observation, and even under conditions most suitable to the species, birds were on no other occasion seen north of High Peak (Lat. 21° 57' S). Several birds followed as far as that island on both August 6 and September 28, 1954. There would appear to be a sequel to my most northerly observation. I quote Marshall Laird (1956; 223): the parentheses are his. 'It was pointed out by the second officer that the ship's log carries an entry to the effect that an "albatross" was following behind on the previous southward voyage from Singapore (June 30, 1954) in 19° 34' S, 148° 06' E (75 miles E.S.E. of Townsville). Some of those on board remembered the occurrence quite well

and from their descriptions it would appear that the bird was almost certainly a Wandering Albatross.' This ship, the M.V. *Wairimu,* was south bound and on the day following my observation from a north-bound ship, it sighted this albatross some nine miles north of the point where such a bird had left our vessel; probably it was the same individual. The fact that a log entry was made on the M.V. *Wairimu* would indicate that an albatross in these waters was an unusual occurrence. Another episode, which tends to bear out that it was a stranger thereabouts, was an attack made on the bird by a pair of ospreys in the Whitsunday Passage. They made a combined stoop on it. The albatross immediately sat on the water and with neck and bill upturned prepared to defend itself. It apparently looked formidable to its attackers, as after circling closely for about a minute they flew off towards land, about a mile distant.

L. E. Richdale (1952; 119) suggests that the Wandering Albatross breeds every two years; W. R. B. Oliver (1930) and others state that it is a yearly breeder; all seem to agree though that nesting begins about the same time of the year, in December and January. In either case, whether it is an annual or biennial breeder, the breeding season would have a definite effect on the northern distribution of the species, and would be one of the factors governing the small numbers seen north of Sydney between late November and February. As no birds were seen during March and if Richdale's assumption, on the authority of others, that birds breeding the previous year have all left their breeding stations by mid-January (1952; 101) and that fledglings have left by early February (1952; 98) is correct, it would seem that some other factor retards the northern movement at this time of the year. My notes show that young birds in dark plumage were commonly seen during the late autumn and early winter months. Such birds seldom ranged north of Cape Moreton (Lat. 27° 02' S), nor in any part of the area later than September. W. B. Alexander (1955; 7) describes the female as having a dark cap on the crown. It was seldom that birds marked in this manner were observed in the survey area and when seen were always towards its



Northerly Distribution Wandering Albatross April 1954/October 1956

southern limits. Possibly adult females do not usually wander far from breeding stations. It was the adult male and immature of unknown sex that ventured farthest north, though old males in the 'Snowy' phase were not seen north of Lady Elliott Island (Lat. 24° 07' S). Those birds whose

upper wings contained more dark than white feathers, in accordance with Alexander's drawing (1955; pl. 4), were considered immature. It was birds in this phase that were commonly seen between October and February. The only bird seen in the last-mentioned month was in this plumage phase. Whether birds in this plumage breed is a debatable question; more data is required from the breeding stations before the effect of the breeding cycle and season on the northern dispersal of this species can be satisfactorily explained.

The graph of the distribution of this species explains the fluctuation of northern movement during the time under review. It must be stated, though, that the voyage made during July, 1954, was under unusually calm conditions following cyclonic weather experienced off the central New South Wales coast between July 11 and 14 and reported by K. A. Hindwood and A. R. McGill (1955; 148), and the steep drop in the distributional curve for that month is hardly a true indication. The inserted broken line representing a former observation in 1952 is indicative of a more northerly movement in that month.

Hereunder are tabulated some definite distributional information appertaining to the northern movement of the species, together with my most northerly observation for each month present in the survey area. It will be noted that the only records available for north of the Tropic of Capricorn are those for the eastern coast of Australia and inside the Great Barrier Reef.

DISTRIBUTIONAL DATA ON NORTHERN LIMITS OF RANGE OF WANDERING ALBATROSS

Month & Year	Position	Authority
January 1956	32° 55' S 151° 54' E	Own Observation
February 1955	33° 48' S 151° 20' E	Ditto
*February 1951	36° 00' S 156° 30' E	R. B. Sibson (1951)
March 1951	36° 52' S 143° 43' W	Marshall Laird (1956)[1]
April 1954	28° 37' S 153° 47' E	Own Observation
May 1956	30° 55' S 153° 08' E	Ditto
May 1955	31° 25' S 152° 57' E	Ditto
June 1954	19° 24' S 148° 06' E	Marshall Laird (1956)[1]
June 1954	19° 43' S 148° 24' E	Own Observation
June 1956	26° 23' S 153° 38' E	Ditto
June 1955	27° 02' S 153° 39' E	Ditto
July 1952	24° 03' S 152° 48' E	Ditto
July 1954	28° 16' S 153° 46' E	Ditto
July 1956	28° 16' S 153° 40' E	Ditto
July ——	28° 18' S 177° 00' E	P. Jespersen (1933)[2]
July ——	31° 48' S 144° 55' W	C. A. Fleming (1950)[2]
July 1955	32° 24' S 152° 36' E	Own Observation
August 1954	21° 57' S 150° 15' E	Ditto
August 1955	29° 25' S 153° 39' E	Ditto
*September 1926	20° 00' S 149° 00' E	W. MacGillivray (1927)
September 1954	21° 57' S 150° 15' E	Own Observation
September 1956	25° 04' S 153° 28' E	Ditto
September 1951	25° 30' S 169° 00' W	J. D. MacDonald & P. A. Lawford (1954)[2]
*September 1941	27° 00' S 166° 00' E	Own Observation
*September 1954	27° 20' S 154° 00' E	Marshall Laird (1956)
September 1955	30° 55' S 153° 10' E	Own Observation
September ——	32° 00' S 125° 00' W	C. A. Fleming (1950)[2]
October 1954	24° 07' S 152° 50' E	Own Observation
October 1955	27° 02' S 153° 43' E	Ditto
October 1956	27° 27' S 153° 43' E	Ditto
October ——	29° 20' S 136° 45' W	C. A. Fleming (1950)[1]
November 1955	29° 30' S 153° 31' E	Own Observation
November 1954	33° 48' S 151° 20' E	Ditto
December 1954	30° 55' S 153° 16' E	Ditto

*Position approximate but correct to 30'
1. Authorities quoted by Marshall Laird (1956; 226)
2. Authorities quoted by J. D. MacDonald & P. A. Lawford (1954; 14)

BLACK-BROWED MOLLYMAWK (*Diomedea melanophris*)

This species was observed in the area under review in all months except February and March. Except for January, May and November, the most northerly sightings were in 1954. In 1956 the species was rather poorly represented, though it was seen as far north as Breaksea Spit light vessel

(Lat. 24° 24' S). The absolute northern limit during this survey was off Lady Elliott Island, some 40 miles south of the Tropic of Capricorn. There is some similarity between the distributional curve of this species and that of the Wandering Albatross, particularly in the gradual downward incline between August and the end of the year.

L. E. Richdale (1952: 101), on the authority of Sorensen, states that this species, a yearly breeder, arrives at the breeding stations during early October and departs in early June. My observations show that a very high percentage of birds in immature plumage were present between August and December; this would tend to illustrate that most of the adult population had left for their breeding stations by August. Again, it was the immature birds that were usually seen furthest north in any season. Possibly a greater percentage of the young of the season, said to leave their nests in early June, and others that have not yet attained full sexual maturity wander further from the breeding stations than fully adult birds.

It would appear that at least some birds undergo a form of moult during August and September. During those months individuals were seen with wing primaries missing. This was the only albatross heard. When disputing with skuas the possession of refuse thrown overboard, a bird uttered a harsh call which could be described as 'Yarr-rak'. On another occasion a bird of this species, with much wing flapping, totally submerged when attempting to feed on ship's scraps.

The northern limits of *D. melanophris* as observed under different months of the survey, together with some observations of other field workers, is tabulated below.

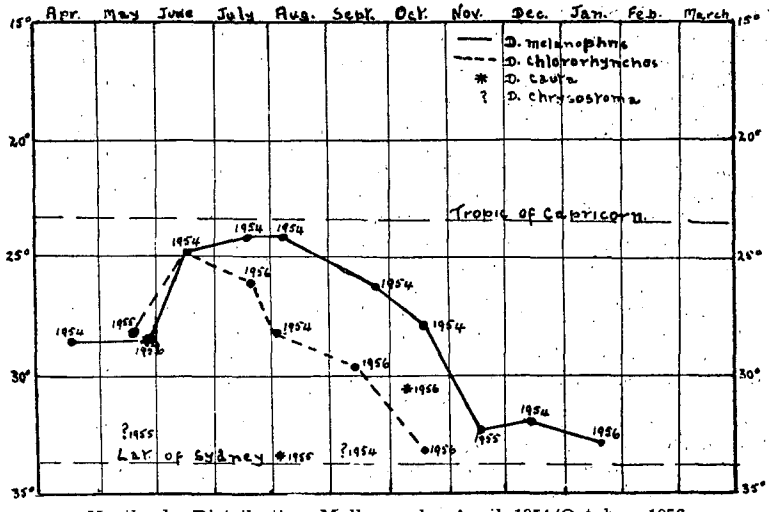
DISTRIBUTIONAL DATA ON NORTHERN LIMITS OF RANGE OF BLACK-BROWED MOLLYMAWK

Month & Year	Position	Authority
January 1956	32° 56' S 151° 53' E	Own Observation
January ——	44° 23' S 176° 40' E	P. Jespersen (1933)[2]
*February 1951	35° 30' S 156° 15' E	R. B. Sibson (1951)
March ——	39° 52' S 156° 50' W	Marshall Laird (1951)[1]
April 1954	28° 37' S 153° 45' E	Own Observation
May 1956	28° 37' S 153° 42' E	Ditto
May 1955	28° 50' S 153° 42' E	Ditto
May ——	33° 32' S 153° 04' W	C. A. Fleming (1950)[1]
June 1954	24° 24' S 153° 15' E	Own Observation
June 1955	28° 11' S 153° 42' E	Ditto
June 1956	30° 50' S 153° 10' E	Ditto
July 1954	24° 07' S 152° 48' E	Ditto
July 1956	24° 24' S 153° 15' E	Ditto
July 1955	27° 02' S 153° 39' E	Ditto
July 1951	28° 48' S 169° 26' E	J. D. MacDonald & P. A. Lawford (1954)[2]
July ——	36° 00' S 156° 50' W	C. A. Fleming (1950)[2]
August 1954	24° 07' S 152° 48' E	Own Observation
August 1955	29° 25' S 153° 30' E	Ditto
September 1951	25° 30' S 179° 00' W	J. D. MacDonald & P. A. Lawford (1954)[2]
September 1954	25° 57' S 153° 18' E	Own Observation
September 1955	28° 51' S 153° 38' E	Ditto
September 1956	29° 25' S 153° 26' E	Ditto
October 1954	28° 02' S 153° 38' E	Ditto
October 1956	31° 25' S 153° 06' E	Ditto
October 1955	31° 51' S 152° 48' E	Ditto
October ——	38° 00' S 145° 00' W	C. A. Fleming (1950)[2]
November 1955	32° 45' S 152° 18' E	Own Observation
November 1954	33° 51' S 151° 20' E	Ditto
December 1954	31° 51' S 152° 48' E	Ditto

*Position approximate but correct to 30'
1. Authorities quoted by Marshall Laird (1956; 226)
2. Authorities quoted by J. D. MacDonald & P. A. Lawford (1954; 14)

YELLOW-NOSED MOLLYMAWK *(Diomedea chlororhynchos)*

A glance at the graph reveals that this species had a more limited distribution within the surveyed area than either of the two species already considered. It was not seen prior to May and never later than October, though it was observed in all intervening months. It was most prevalent in 1956, but in



Northerly Distribution Mollymawks April 1954/October 1956

1954 ranged furthest north, reaching Breaksea Spit light vessel. A number of immature birds of this species was seen during 1956. Their bills were darker than those of the immature Black-browed Mollymawk and with the sharply defined and more extensive area of white on the under wing were diagnostic. L. C. Richdale (1952; 98), on the authority of Broekhuysen and Macnae, gives mid-April as the time of departure of fledglings from breeding stations. Those in immature plumage seen by me in late winter and early spring could possibly have been first-year birds. Again referring to Richdale (101), his authority being again Broekhuysen and Macnae, he advises that breeding birds depart from breeding stations in mid-April and probably return by the end of August. There was a sharp decline in the number of adult birds each year of the survey during August, though this species was never numerous. The greatest number ever observed following the ship at one time was seven on July 24, 1956, when off Byron Bay (Lat. 28° 37' S). Such adults as was seen by me in October were possibly birds that had not reached sexual maturity, as this species appears to breed yearly, and by that date intending breeders should have been at the nesting localities far to the south.

Most information of the northern range of this species to hand is of a general nature, but D. L. Serventy and H. M. Whittell (1951; 112) refer to birds attending fishing boats in the northern part of Sharks Bay, Western Australia (approximately 24° 44' S); this is almost as far north as my most northerly observation. Thes above authors also, on the authority of Dr C. A. Gibson-Hill, relate the finding of a dying bird at the Cocos-Keeling Islands (approximately 12' S, 97° E) in July, 1941. Surely a remarkable record for any of the mollymawks. K. A. Hindwood (1940) makes mention of sightings and of specimens taken from the vicinity of Sydney during autumn and winter months. Where dates were included, the approximate position of these birds has been included in the table below.

DISTRIBUTIONAL DATA OF NORTHERN RANGE OF YELLOW-NOSED MOLLYMAWK

Month & Year	Position	Authority
*March 1933	34° 00' S 151° 15' E	K. A. Hindwood (1940)
May 1955	26° 16' S 153° 38' E	Own Observation
May 1956	28° 37' S 153° 42' E	Ditto
June 1954	24° 24' S 153° 14' E	Ditto
June 1956	30° 56' S 153° 16' E	Ditto

June 1955	32° 45' S	152° 17' E	Ditto
*June 1940	33° 35' S	151° 23' E	K. A. Hindwood (1940)
*July 1941	12° 00' S	97° 00' E	D. L. Serventy & H. M. Whittell (1951)
July 1956	25° 56' S	153° 15' E	Own Observation
July 1955	27° 55' S	153° 43' E	Ditto
August 1954	28° 16' S	153° 38' E	Ditto
August 1955	29° 25' S	153° 27' E	Ditto
*August 1927	33° 50' S	151° 15' E	Kinghorn (1928)[1]
September 1956	29° 22' S	153° 27' E	Own Observation
October 1956	33° 16' S	151° 39' E	Ditto

*Position approximate but correct to 30'
1. Authority quoted by K. A. Hindwood

WHITE-CAPPED MOLLYMAWK *(Diomedea cauta)*

This would appear to have the most localised distribution of any of the species of albatross frequenting eastern Australian waters. Although it breeds on Albatross Island (Lat. 40° 22' S) in Bass Strait, it was seen north of Sydney on only two occasions: once some miles south of Newcastle on August 8, 1955, and again on October 10, 1956, when 15 miles north of Tacking Point in Lat. 31° 10' S. As this species does not follow ships in these waters, more may have been in the area under review, but if it had been common it would have come within the range of binoculars more often.

W. R. B. Oliver (1930) describes its general distribution as Southern Indian and Pacific Ocean from the Cape of Good Hope to South America. L. E. Richdale (1952; 101), quoting Oliver and also Armstrong, states that birds are at the breeding stations from about the end of August to mid-April. The only useful data to hand regarding northerly distribution is tabulated below, together with the two lone individuals seen by myself and are not sufficient to give any indication of the breeding season on the northern limit of the species' range.

DISTRIBUTIONAL DATA: RANGE OF WHITE-CAPPED MOLLYMAWK

Month & Year	Position		Authority
*January 1925	35° 32' S	138° 40' E	H. T. Condon (1946)
*April 1924	25° 31' S	138° 47' E	H. T. Condon (1946)
August 1955	33° 00' S	151° 53' E	Own Observation
October 1956	31° 10' S	152° 57' E	Ditto
*October 1926	38° 39' S	144° 53' E	W. MacGillivray (1927)
*November 1895	34° 00' S	151° 10' E	K. A. Hindwood (1940)

*Position approximate but correct to 30'

GREY-HEADED ALBATROSS *(Diomedea chrysostoma)*

If one is to use the description of Serventy and Whittell (1951; 112) as a guide, two birds of this species were seen: the first off Newcastle on September 20, 1954, and the other off Sugarloaf Point (Lat. 32° 26' S) on May 29, 1955. The head and neck of the birds in each case were of a slaty grey colour and the under-wing was white, fringed with a narrow margin of black. It was also noted that there was a yellow stripe along the ridge of the black upper mandible. W. B. Alexander (1955; 11) states: 'This species can only be distinguished with certainty from the Yellow-nosed Albatross by the form of the culminicorn (superior plate of the bill), which is rounded posteriorly. Its head is usually grey, and the bill dark grey with a yellow line along the lower mandible. Its range is more southerly than that of the Yellow-nosed Albatross so that it is rarely seen on the routes of passenger steamers.' This latter description leaves some doubt as to the correct identification of these two birds.

Like the other mollymawks, this is said to be a yearly breeder. L. E. Richdale (1952; 101), on the authority of Sorensen, states that the time spent at the breeding stations is from early October to early June. My observations just fell within the period adult birds would be ranging over the ocean.

Little seems to have been written of the northerly range of the species. W. R. B. Oliver (1930) does mention that specimens have been taken off Great Barrier Island (Lat. 36° 10' S), and at other points south, in New

Zealand waters, and that observations have been made in sub-Antarctic seas to the south of New Zealand; no dates were furnished. K. A. Hindwood (1940) states that the only definite record for New South Wales was of a bird collected in Port Jackson in 1931.

DISTRIBUTIONAL DATA: RANGE OF GREY-HEADED MOLLYMAWK

Month & Year	Position	Authority
April 1931	33° 51' S 151° 15' E	K. A. Hindwood (1940)
May 1955	32° 26' S 152° 35' E	Own Observation
September 1954	32° 53' S 151° 52' E	Ditto
*—— ——	36° 10' S 175° 18' E	W. R. B. Oliver (1930)

*Position approximate but correct to 30'

SUMMARY

This paper constitutes a survey of *Diomedea* along the eastern coast of Australia, north of Sydney. The northern limits of the five species during the different months of the year have been emphasised by means of graphs and tables; the possible effect of the reputed breeding seasons on their northerly dispersal has been discussed, and comments have been made on some unusual occurrences within the area of review.

REFERENCES

1927 MacGillivray, W. 'Birds from a Coastal Boat.' The Emu, vol. 27, pp. 93-99.
1930 Oliver, W. R. B. New Zealand Birds.
1940 Hindwood, K. A. 'The Sea-birds of Sydney.' Presidential Address. Proceedings of the Royal Zoological Society of New South Wales. 1939-40, pp. 6-22.
1946 Condon, H. T. 'South Australian Birds.' The South Australian Naturalist, vol. 24, pp. 1-9.
1951 Serventy, D. L., & Whittell, H. W. 'Birds of Western Australia.'
1951 Sibson, R. B. 'A Tasman Bird Log.' Notornis, vol. 4, pp. 158-161.
1952 Richdale, L. E. 'Post-egg Period in Albatrosses.'
1954 MacDonald, J. D., & Lawford, P. A. 'Sight Records of Birds in the Pacific: Compiled from the Bird Log Kept During the Recent Cruises of H.M.S. Challenger.' The Emu, vol. 54, pp. 7-28.
1955 Alexander, W. B. 'Birds of the Ocean.'
1955 Davenport, J. C., & Sibson, R. B. 'Notes on Two Rare Petrels.' Notornis, vol. 6, pp. 115-117.
1955 Hindwood, K. A., & McGill, A. R. 'Sea-bird Mortality in Coastal New South Wales During July, 1954.' The Emu, vol. 55, pp. 148-156.
1955 Hindwood, K. A. 'Sea-birds and Sewage.' The Emu, vol. 55, pp. 212-216.
1956 Laird, Marshall. 'Biological Notes on a Sea Voyage from Auckland to Singapore.' Notornis, vol. 6, pp. 221-227.

THE WESTLAND PETREL

By R. JACKSON

During the three seasons 1954 - 56 I had the opportunity to study the Westland Petrel *(Procellaria westlandica)* in the colony at Barrytown, 22 miles north of Greymouth. This petrel (1), closely related to *P. parkinsoni* and *P. aequinoctialis,* is pecular in that it begins nesting in the autumn.

BREEDING CYCLE: In late March and early April the petrels return to the colony, occupy and clean out the burrows. The extent of this preliminary cleaning work may be gauged by the example of a burrow which was opened to gain access to the nest in 1955 and which was extended four feet in 1956. Another burrow was extended two feet in May, 1956. On 8/4/56 half the burrows could be recognised as occupied by the fresh soil at the mouth; and in many of them a single petrel or a pair could be found resting during the day.

Every evening during April many petrels noisily return. Throughout the night birds may be heard on the wing, and many, single or paired, wander about the colony. This activitiy reaches its peak in early May. At 8 p.m. on 5/6/56, two hours after dark, I saw coition take place, and I now think I can interpret events which I noted on 30/4/55 as those of a similar night. Calls and cackling from across the valley and the cries of petrels in